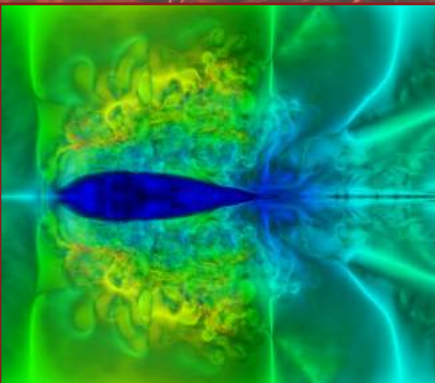


2013 - 2015: A CUMULATIVE REPORT

UT Austin | Portugal

INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB

New Knowledge Frontiers in Science and Technology

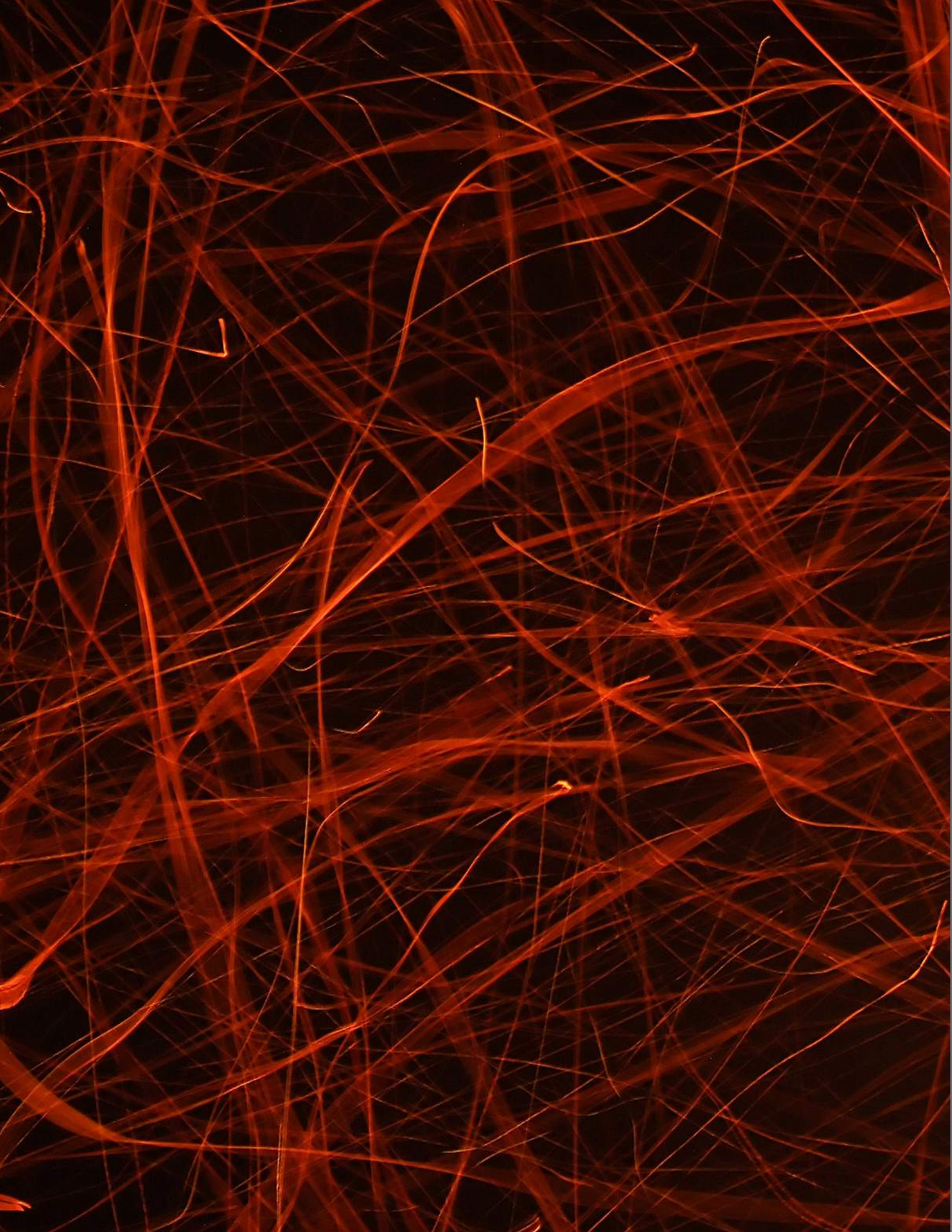


The University of Texas at Austin  
IC<sup>2</sup>Institute  
Office of the Vice President for Research



Fundação para a Ciência e a Tecnologia  
INSTITUTO DE CIÊNCIA, TECNOLOGIA E GESTÃO







## Foreword

Supported by the Portuguese Foundation for Science and Technology, FCT, and in close collaboration with the Council of Rectors of the Portuguese Universities, CRUP, the UT-Austin|Portugal Program was established in 2007 and involves hundreds of Portuguese and American students, researchers, and entrepreneurs. It combines two main initiatives, one in research – the International Collaboratory for Emerging Technologies, CoLab – and the other fostering the commercialization of technology – the University Technology Enterprise Network, UTEN. The program has a strong focus on the valorization of scientific knowledge, innovation, and entrepreneurship and building capacity for new graduate education efforts, strengthening academic and research development through networking of international scholars and researchers, enabling a critical mass of Portuguese students in Austin, as well as an increasing international recognition of Portuguese scientists.

CoLab has facilitated collaboration between institutions in Portugal and The University of Texas at Austin in three academic areas: Advanced Computing, Digital Media, and Applied Mathematics. Since 2013, CoLab added a fourth academic initiative in the emerging area of nanotechnology.

The program has fostered new dynamics for the areas providing a significant cross-collaboration of academics and researchers in doctoral programs and in scientific and dissemination events that have reached important public recognition, examples include Future Places and, for three years in the first phase, the much acclaimed International Summer School on Digital Transformation – ISDT.

Important capacity building has been achieved by Portuguese institutions mainly through summer institute series of intensive short courses and workshops, professional internships, consulting for startups and joint research projects of Portuguese companies and Austin-based businesses. The program has been expanding its educational settings to include the ZON laboratory in Austin and by offering multiple internships and exploratory visits of Portuguese faculty and students to Austin.

Along with research and public outreach, education is one of the core activities of the UT-Austin|Portugal Program. The program offers a variety of educational opportunities for Portuguese students and industry professionals, ranging from lectures and workshops to a dual doctoral program and post-doctoral fellowships. Outreach events include public lectures, film series, workshops and advanced seminars, PhD programs in Digital Media and Applied Mathematics, Master's programs in Digital Media and supplemental programs for Computer Science MSc students, post-doctoral Fellowships in Digital Media and Mathematics, and internships for Digital Media professionals.

This cross-cultural research model provides possibilities that are unthinkable in a traditional insular context, as each researcher brings a unique skillset and personal worldview to work with others toward a common goal with common resources. As diverse international researchers work toward collaborative investigations, new ways of thinking emerge, and solutions often precipitate in new and exciting ways. This is particularly valuable for Portuguese students and faculty, as they form these relationships and new thought processes early in their careers.



**Robert A. Peterson** is Associate Vice President for Research at The University of Texas at Austin, Director of the IC<sup>2</sup> Institute, and Principal Investigator of the UT-Austin|Portugal Program.



**Marco Bravo** is Project Director at the IC<sup>2</sup> Institute, The University of Texas at Austin, and Director of the UT-Austin|Portugal Program and the UTEN | BIZ.pt acceleration program.



CoLab fosters innovation and entrepreneurship through large-scale collaborative research projects that link university and industry efforts. These test-bed projects seek solutions to meet current societal needs. The most promising results are eligible for business incubation through UTEN, which is designed to create jobs and wealth.

The program's pivotal technological goals, supported by academic discipline are to provide a sustainable foundational base for the development of "all things digital" so that Portugal may be among the leading-edge players in global technology innovation.

December 2015



# CoLab by the numbers

## Participating Institutions



**50+** schools and other Institutions

**13** Digital Media Industrial Affiliates companies



## Faculty



**53+** Professors

## Researchers



**34+** (PI)



## Advanced education programs



**3** Doctoral programs:

» Digital Media

University of Porto (UPorto), School of Engineering

University of Porto (UPorto), School of Fine Arts

University of Porto (UPorto), School of Sciences

University of Porto (UPorto), School of Economics

University of Porto (UPorto), School of Humanities

New University of Lisbon (UNL), School of Sciences and Technologies

New University of Lisbon (UNL), School of Social and Human Sciences

» Advanced Computing

University of Minho

University of Porto

Instituto Superior Técnico (IST)

» Applied Mathematics

University of Coimbra (UC)

Instituto Superior Técnico (IST)

- 1 Masters program (multimedia)

## Students



**296+** (total students: **86** Ph.D. students, **163** Digital

Media, **12** Advanced Computing, **11** Applied Mathematics;

**100+** Digital Media MSc students, **10** post-docs)

- **25** students who have already completed a degree

- Other totals:

» **108** (PhD scholarship grantees)

» **11** (Pos-doc scholarship grants)



## 4 Spinoff companies



faceinmotion™

## Industry affiliates



## R & D projects

Phase I (2007-2012): **46** applications, **20** projects funded.

Phase II (2013-present):

- Two calls in 2014:

» FCT call in Portugal: **45** applications, **10** projects funded (**5** exploratory, **5** strategic; **4** Digital Media, **5** Emergent Technologies, **1** Advance

Computing), total funding **\$1.4M**

» UT-Austin RFP call at IC<sup>2</sup> Institute: **32** applications, **6** projects funded, total funding **\$0.65M**

- One FCT joint call in 2015: To be open soon by FCT. (See tables in appendix)

Private funding: **\$57,682.55**



New knowledge frontiers in Science and Technology

<b>I. Digital Media Program</b>	<b>10</b>
Executive Summary	11
1. Introduction and background	11
2. Evolution	15
3. Institutions	18
4. Key people	19
5. Education and training activities	21
6. Research Activities	37
7. Research outreach: innovation, entrepreneurship, and technology commercialization activities	45
8. Visits to Austin	46
9. Post-Docs and Alumni	53
10. Capacity Building Events	54
11. Funding	57
12. Other	59
13. Final Activities for 2015	59
14. Awards	61
15. Looking ahead	63
<b>II. Emerging Technology</b>	<b>65</b>
1. Introduction and background	65
2. Evolution	65
3. Institutions	65
4. Key people	65
5. Education and training activities	66
6. Research Activities	68
7. Research outreach: innovation, entrepreneurship, and technology commercialization activities	68
8. Visits to Austin	68
9. Post-Docs and Alumni	69
10. Capacity Building Events	69
11. Funding	72
12. Other	72
13. Looking ahead	72



New knowledge frontiers in Science and Technology

III. Advanced Computing 75

- 1. Introduction and background 75
- 2. Evolution 75
- 3. Institutions 75
- 4. Key people 75
- 5. Education and training activities 75
- 6. Research Activities 79
- 7. Visits to Austin 79
- 8. Looking ahead 80

IV. Applied Mathematics 83

- 1. Introduction and background 83
- 2. Evolution 83
- 3. Institutions 83
- 4. Key people 83
- 5. Education and training activities 83
- 6. Research Activities 89
- 7. Research outreach: innovation, entrepreneurship,  
and technology commercialization activities 90
- 8. Visits to Austin 91
- 9. Post-Docs and Alumni 92
- 10. Capacity Building Events 93
- 11. Funding 93
- 12. Looking ahead 93

V. Appendix 95





## I. Digital Media Program

// The Digital Media Program supports an innovative doctoral program shared between the University of Porto and the New University of Lisbon and engages in research projects uniting UT-Austin and Portuguese-based researchers and companies. Our priority domains include eHealth, videogames and gamification, and developing new applications and services for education and e-government purposes. We also explore and support open data/open media developments. Our many workshops, conferences, courses and festivals have contributed to increasing capacity and deepening networks within the Portuguese creative, commercial and scholarly communities."

Sharon Strover (2015)  
Co-Director Digital Media Program  
UT-Austin | Portugal



## Executive Summary

The Digital Media program was designed to support the creation of new intellectual capabilities in understanding and creating content, platforms, and applications in the digital arena. As more of our economies, entertainment, services, and education move online, a digitally-skilled workforce is mandatory. Highly proficient university-trained people will lead this sector, and our program has been designed to support and explore creative and sector-specific media opportunities, to develop MA and doctoral students skilled in digital media, and to engage in research in a subset of targeted areas. To that end, we have focused on three types of investments: First, we created a doctoral program shared between our two primary partner institutions, and also support a large Multimedia MA program at the University of Porto. These students have engaged in both long semester and intensive summer courses taught by UT-Austin faculty. We also have invested in bringing Portuguese students and faculty to UT-Austin in order to pursue research and educational endeavors as well as to engage some of the opportunities present in Austin, a city known for its high tech sector; for hosting international conference SXSW, which includes major interactive media activities; for its game development sector; and for a variety of other media-related activities that represent cutting edge developments in areas from health to government. Second, we have supported various capacity-building festivals and symposia to create opportunities for exhibiting new work and for convening and cultivating a peer culture and broader social network in digital media.

Broadening ties within Portugal makes sense inasmuch as it is a small country with limited resources. Third, we have supported various research efforts by linking UT-Austin and Portuguese faculty and graduate students. Working on FCT-sponsored competitive grants as well as other projects funded both in and outside of the program, the emerging corps of digital media researchers promise to add to the knowledge base and to contribute to the international forums addressing digital media issues. Our research and development communities have expanded aggressively into the e-health arena; new relationships with media industries are taking shape through strategic alliances brokered through New Europe Media (NEM). With the program's first doctoral students now graduating and taking various positions, we anticipate the impact of the program will grow and be evident in a variety of settings.

## 1. Introduction and background

In 2007 when the UT-Austin|Portugal partnership began, the transformational scope of digitization and media was anticipated but in its early stages. Since that time, and now well into the second phase of the program (2013-2017), the digital media program has continued to seek meaningful change in order to reshape existing economic activities in publishing, music, news, television and film, retailing, advertising, and research. The UT-Austin|Portugal Digital Media Program continues to build upon a strong foundation of education, research, and capacity-building activities accomplished in its first period (2007-2012) and has expanded its collaborative efforts with top-ranked University of Porto and the New University of Lisbon (UNL). As of 2015, the Madeira Interactive Technologies Institute (M-ITI) has approached joining the program.

The program mission is threefold: (1) cultivate and support research efforts, and seek to explore commercialization and entrepreneurial efforts around that research; (2) develop graduate programs that will grow skills, understanding and expertise in digital media fields; (3) support various aligned activities that will support education and research and bring digital media capabilities into the public arena.

**Mission 1:** Supporting joint research projects on topics that include digital inclusion, multiscreen viewing behaviors among media consumers, video games, health informatics, and media industries. It also supports and promotes the frequent exchange of faculty and graduate students between institutions and has a thriving, multidisciplinary doctoral program for students. Research from this program is published in peer-reviewed scholarly publications and presented at major academic conferences and festivals around the world, and innovation work produced within the partnership is being introduced to broader audiences. New and on-going partnerships with major telecommunications and computer technology companies in the US and Portugal continue to be sought, and we anticipate our new partnership with New Europe Media (NEM), TICE (a non-profit association recognized by the Ministry of Economy as the National Portuguese ICT Cluster), and ADDICT (a not-for-profit membership association recognized by the Ministry of Economy as the manager of the Creative Industries Cluster in Portugal and certified with the Bronze Label by the European Secretariat for Cluster Analysis with headquarters in Praça Coronel Pacheco, 15, Porto) will assist with this goal.

**Mission 2:** Ensuring the education of tomorrow: The Digital Media Ph.D. Degree and beyond . In Phase I, we created a new doctoral program in Digital Media shared by the two major universities, with an opportunity to enroll in parallel doctoral programs at the University of Texas. These UT departments may include Journalism, Information Sciences,



Fine Arts, Music, Radio-TV-Film, or other programs, and most support small and highly selective entering doctoral classes. Students in the Portugal Digital Media doctoral program also have the opportunity to spend semesters at UT-Austin as visiting scholars to work with research teams and faculty. Many people in the Digital Media Program have availed themselves of this opportunity. While at UT, Digital Media graduate students have full access to and readily participate in sponsored festivals, symposia and other outstanding events sponsored by participating institutions. They have full access to faculty and libraries; many have participated in graduate level seminars around the campus in departments including the School of Information, the Business School, Journalism, Radio-TV-Film, Design, and Music.

Only some students have been fully funded with scholarships for their doctoral studies. In 2013 we applied to FCT for support specifically tied to the Doctoral Program in Digital Media, and we were notified in May, 2014 that our application was successful. The actual funding was released in the fall of 2015. This will be enormously helpful to our new cohorts. Our educational programs have prioritized graduate students that include both doctoral and MA students. The Multimedia MA students in Porto, as well as students in the Design MA, also have participated in many of our course and workshop offerings, as have other interested graduate students at our partner universities.



**Mission 3:** Explore and demonstrate some of the possibilities through a variety of capacity-building efforts. When it comes to digital media, the relationship between higher education and the business, economic and cultural environments is complex. Media businesses both reflect and shape public perceptions; news and television institutions, now rocked by online media sites and new options for interactivity, are scrambling to keep up or remake themselves. Government and health services are investigating the possibilities of harnessing new ways to treat patients and to engender improved health practices, particularly through social media. Our program has sought to explore and demonstrate some of the possibilities through a variety of capacity-building efforts involving educational efforts and more. Thus, the program has supported:

- festivals (FuturePlaces in Porto; PLUNC New Media and Digital Art Festival in Lisbon);

- symposia, targeted workshops such as our entrepreneurship workshop;
- continuing professional development efforts (Publico's Director Amilcar Correia, who developed the online site P3, is spending three months in Austin, for example);
- liaisons with entities such as RTP and the business organizations TICE and ADDICT;
- participation in Austin's SXSW, among other actions.

These events and programs have been broad-based and typically facilitated interaction with different institutions such as Lisbon's Cinemateca, the variety of businesses supporting the PLUNC Festival, governmental organizations, and so forth.

**Objectives:** The Digital Media program is co-creating expertise by adapting and creating enhanced capacities, particularly those reliant on broadband connections, to improve productivity and to broaden the reach and efficiencies of digital tools. Education and research work hand-in-hand with capacity building. Our strategy has been to identify a handful of focal areas and to ensure that they are addressed in multiple ways, i.e., in research, in courses, and in other supporting activities. Our focal areas include:

- **Video Games:** Following the trend of video gaming, this industry is a driving force for new technology that is rapidly expanding into other markets (e.g. serious games), most importantly, the medical industry. With access to games readily available and on multiple devices, we actively combine fine arts and technology through our education and research to facilitate new methods, processes, tools, and content. Through UT-Austin's dedicated facility to videogame production, students are already creating new apps for the marketplace. At the University of Porto, computer games have been given special attention in the Computer Science, Engineering, and Multimedia programs. There is a substantial course offering in this area, especially in the development area. At UNL there are several projects that deal with gaming in multiple settings. Games for mobile devices and including augmented reality have been developed as part of MSc and Ph.D. degree programs. Persuasive gaming and interaction with the real world are also part of the current interests of both faculty members and students.

Previous activities in the program related to gaming, such as the Design and Computation series, have led to additional research collaborations and presentations in conferences. UT-Austin has additionally added value to this process by recently appointing a Game Design and Development group, which has faculty members from Computer Science, College of Fine Arts, and Department Radio, Television and Film, and also by creating the Denius-Sams Gaming Academy, led by renowned

game designer Warren Spector. Further, some of our currently funded research projects are directly exploring the implications of serious games.



- **Creating Content:** Creating content for new platforms is a priority in all media industries and the object of a great deal of entrepreneurial activity around the world. How information is accessed changes with the technology. For example, social media campaigns must be carefully orchestrated to master the use of vast amounts of information targeted to a variety of audiences. Joining the College of Communication new Gaming Academy are new studio facilities and curriculum offerings that explore 3D, interactive storytelling, design and entrepreneurship, and new media platforms, among other courses. They offer the chance to provide cutting edge education and opportunities around developing serious games as well as content for new digital environments. One unifying element drawing together all such efforts is the centrality of storytelling. The core collaborating institutions in Portugal, UPorto and the New University of Lisbon, specialize in exploring using digital tools for storytelling. UPorto has focused on web documentary and communication science, sound design for film and new media, and as interactive games; UNL programs have emphasized educational applications and computer-based innovations useful for the evolving profile of media industries. Both universities are poised to work more intensively with industries to deepen these capabilities. M-ITI will bring new capabilities and interests in the health-related applications as well as artistic explorations pertinent to entertainment industries. Specific course- and research-based topics, including our funded e-health



research projects, in this second phase address these as well as broader issues important to the digital environment.

- **Media industries and the new digital literacy:** Online access through mobile devices in Portugal has only increased since Phase I of this collaboration. This rapid diffusion of mobile access to the Internet embodies the challenges many media industries face. Adjusting to the new media consumption modalities entails adopting different ideas about selecting and presenting content as well as new processes for creating and organizing it. The new digital literacy has raised expectations for broadcasters, filmmakers, newspapers, publishers, and advertisers alike, and all these industries are searching for new models and alternative ways of connecting with consumers. The UT|Portugal collaboration realizes this and has spent considerable time and effort to develop training that addresses these issues especially in the areas of:
  - » Narrative structures and interactive content
  - » Multimedia journalism
  - » New media developments in education, analytics, and government
  - » Technologies of global media production, distribution, and consumption.
- **e-health, e-government, education:** Institutions providing healthcare, government services, and education have been evolving under the impetus of digital media. Immersive, game-like environments create attractive and effective learning platforms that are used and shared. Remote health monitoring and diagnostic services have just started to be interfaced with simple, consumer-friendly applications that are run on commercial mobile phones, and offer different populations access to information and care on an unprecedented level. Electronic health or e-health is radically altering the healthcare landscape. As governments are actively exploring this Internet-based technology, they seek to facilitate access, generate new information, and ensure citizen participation.

To answer this need, curricula and symposia addressing these health services through digital media have been sponsored by digital media programs. Earlier in 2015, the Digital Media program produced an e-health research symposium at UNL-FCT, convening researchers from around the Lisbon region for a day of presentations and discussion. Researchers shared research on topics including smartwatches for health tracking and interventions, using messages to increase physical activity in dialysis patients, evaluating consumers' understanding of online health information, improving prenatal health communication with





male consumers, and integrated personal health records. Other presentations addressed techniques for health information retrieval, training and scientific publishing in the field, and opportunities for future research collaborations.



incorporating it into social and economic processes is already of great importance to every communication organization and effort. How user efforts unfold, in what settings, with what outcomes and impacts for constructive collective action are pressing issues for the economy for democracy. Through the UT|Portugal collaboration we offer courses through the Summer Institute to precisely address issues regarding social media, design and assessment; interactivity; policy structures; globalization; network analysis; and social capital.

Our recent weeklong, residential workshop, the Open Institute (2015), harnessed a great deal of collective knowledge and interest to explore how open data, open hardware, and open access issues bear on all of these topic domains.

- Building capital, collaboration, and interaction: Digital media tools have created new work habits and new organizational forms across many industries. The ability to structure information that is accessible, updated and useful for these new organizational and collaborative networks are important skills to foster. As such, user-generated content constitutes a burgeoning significant asset for profit-making and non-profit organizations. Harnessing its value and
- The Digital Divide and social inclusion: Promoting Internet use in Portugal not only for the youth but also to older populations and the less affluent is of great importance to support social inclusion. As social inclusion efforts escalate globally, and are even thought of as a democratic right of citizens, ensuring a reduction in the digital divide and remedying it are high priorities in many nations that seek to broaden

information literacy. Courses building off of the successful Phase I research Digital Inclusion project offer curricula and research addressing the digital divide and design and R&D for social inclusion. Both the ISDT Summer School in Phase I and the ongoing digital media festival futureplaces strengthen the component of citizenship by investing in a series of “citizen labs” that bridge research projects and “bottom up” citizen involvement in socio-cultural environments through the use of digital media.

## 2. Evolution

The Digital Media program continues to deepen its education and research activities even as it has identified other clusters of productive activity to support new initiatives. Some of our newest emphases are:

- Bringing the faculty and students of M-ITI into the program to deepen training and expertise in digital storytelling and in civic participation applications;
- Working with new industry organizations New Europe Media, ADDICT and TICE to coordinate our investigations of the role of ICTs in developing creative clusters. These organizations represent aggregates of several businesses and communities with whom we can partner;
- Using the concept of “open” to leverage Portugal’s development efforts in business, in access, in software and in hardware. We plan to hold annual Open Institutes in various locations to highlight how openness operates to the advantage of business, education, and services. We anticipate working closely with sponsors in order to develop applied projects that can demonstrate openness in operation;
- Supporting student-led initiatives in festivals (such as PLUNC) and installations that can showcase digital media work and create visible, public platforms illustrating its possibilities in art and civil society;
- Continuing to seek funding and research opportunities for doctoral students; our successful grant funding for students is a step in the right direction;
- Cultivating research in e-health initiatives.

Some of our latest efforts are elaborated below.

### Open Data Institute

The inaugural Open Data Institute was held in the first week in August 2015 at The University of Texas at Austin. This one-week intensive and interactive residential program at the Moody College of Communication at The University of Texas at Austin included 22 speakers and participants from all over the world, including faculty and graduate students from The University of Texas at Austin, Universidade Nova de Lisboa,

University of Madeira, and the University of Porto. The goal was to teach and convey the principles of open hardware, software and open data usable for governmental purposes and open access. Open access to government data, health issues, civic hacking, open street mapping, startups, open storytelling and other related topics were discussed among the group, augmented with various field trips to places in Austin – the ATX Hackerspace, Austin city hall to speak with city officials, a prominent downtown co-working space, and UT’s Harry Ransom Center, where some of these ideas were being realized. Catarina Mota, a TED fellow who co-founded Open Materials, Valentina Nisi, professor at the University of Madeira and formerly with Media Lab Europe, James Seppi and Andy Wilson, software developers at Texas Natural Resources Information System and other leading open data scholars including faculty from the participating universities contributed. Graduate students from various majors, including Journalism, Education, Computer Engineering, Political Science, and Graphic Design participated.

Thirteen students from UPorto and UNL attended the intensive residential program, working alongside their UT-Austin graduate student counterparts and exploring different aspects of the “open” movement. The Institute’s leaders included Nuno Correia of UNL, Valentina Nisi of the University of Madeira, Catarina Mota, a recent graduate of the Digital Media Program at UNL, and Pedro Ângelo of UNL, as well as UT speakers Sharon Strover, Phil Doty, Caroline Frick, Liz Gushee and Andrés Lombana Bermudez. UPorto doctoral student Gustavo Magalhães Pereira, a visiting researcher at UT, also served as one of the program’s leaders. Drawing on Austin’s active open technology community, the Institute brought in Chip Rosenthal to speak on civic hacking and James Seppi and Andrew Wilson of Texas Natural Resources Information System to lead two mapping workshops.

The week included trips to the City of Austin offices, ATX Hackerspace, WeWork, a co-working center, and the Harry Ransom Center, an internationally renowned archive and library on the UT-Austin campus.



### M-ITI Joins the Program

The Digital Media program is now working with the Madeira Interactive Technologies Institute at the University of Madeira (M-ITA) on prospects for its new participation in the UT-Austin|Portugal collaboration. Professors Valentina





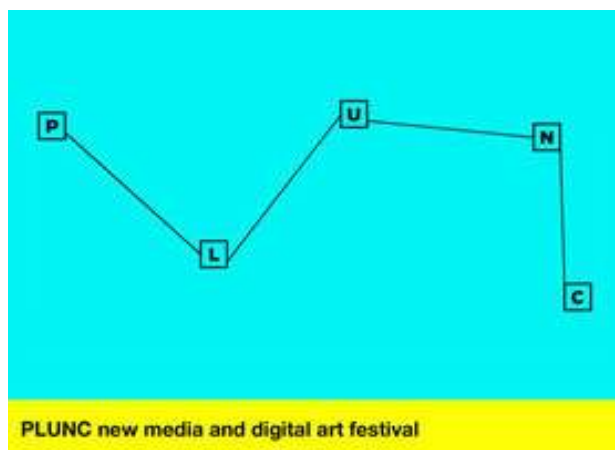
Nisi and Nuno Nunes from M-ITI visited in August 2015 and spoke with several faculty members about possible research and teaching opportunities. This was preceded by a small conference and retreat in Madeira that brought together faculty and graduate students from all four institutions. The Madeira ITI works with and develops various interactive technologies, and will explore new options in media making and design with UT-Austin. Professor Nisi participated in this year's Open Institute and shared her creative work in developing community-based mobile stories; these were designed for various types of platforms, including phones. The dynamics of the sharing community and opportunities for developing interactive stories are among the near term research interests.

#### The New Media and Digital Art Festival: PLUNC

PLUNC had its first successful festival from September 24 to 27, 2015, and was organized in collaboration with the UT-Austin | Portugal Program. The theme was Interactivity. This year's edition focused on different social and cultural approaches to the approximation, proximity and pathways between the two shores of the Tagus River, more specifically the strands of the cities of Almada and Lisbon, where the festival took place. There were innovative projects and experiments that sought to engage the audience, either directly or indirectly. For more information please visit [www.plunc.pt](http://www.plunc.pt) and examine an introduction on vimeo at <https://>

[vimeo.com/142138553](https://vimeo.com/142138553).

#### E-Health Research Initiative



The Digital Media program produced an e-health research symposium on February 6 at UNL-FCT. The meeting, organized by Sharon Stover of UT-Austin and Nuno Correia of UNL, attracted approximately 60 attendees and brought together students and faculty members from UT-Austin and Portuguese universities including UNL, UPorto, and the Lusofona University, among others. The group included












### 3. Institutions





Legal Entity   Institution	Department	Location
 <p>UTA</p>	<p>Telecommunication and Information Policy Institute, TIPI;            Department of Radio, Television and Film,            Moody College of Communication;            Knight Center for Journalism in the Americas            College of Fine Arts            School of Information            College of Fine Arts (Theatre &amp; Dance; Butler School of Music)            School of Journalism</p>	Austin
 <p>UPORTO</p>	<p>Department of Informatics Engineering,            Department of Sociology,            Department of Design            Faculty of Economics            INESC Porto            Communication</p>	Porto
 <p>UNL</p>	<p>Department of Computer Science,            Department of Communication Sciences            Department of Science and Technology            Faculty of Social Sciences and Humanities</p>	Lisbon
 <p>ESMAE</p>	School of Music and the Performing Arts	Porto
 <p>IST Technico-University of Lisbon</p>	Computer Science Department	Lisbon
 <p>IC<sup>2</sup> Institute</p>	International Collaboratory for Emerging Technology, CoLab	Austin
 <p>RTP</p>	Rádio e Televisão de Portugal	Porto
 <p>Público</p>	Portuguese daily national newspaper	Portugal
 <p>Madeira*</p>	Madeira Interactive Technology Institute	Portugal
 <p>FCT</p>	Portuguese Foundation for Science and Technology	Portugal

## 4. Key people



### Portugal



Key People	Associated Institution	Main Event	Associated Courses, etc.
<p>Heitor Alvelos</p> 	<p>UPorto Outreach Program Director, Design</p>	<p>Future Places, SXSW</p>	<p>Futures of Uncertainty</p>
<p>Artur Pimenta Alves</p> 	<p>Department of Electrical and Computer Engineering, Telecommunications Section, U. Porto</p>	<p>Summer Institutes, various workshops</p>	<p>INESC</p>
<p>José Azevedo</p> 	<p>UPorto Academic Director, Department of Sociology</p>	<p>Summer Institutes; futureplaces</p>	
<p>Antonio Coelho,</p> 	<p>UPorto Coordinator, Master of Multimedia Program</p>	<p>Summer Institutes</p>	<p>Summer institute games course; Game Development and Design</p>
<p>Nuno Correia, Director 2013</p> 	<p>FCT-UNL, Computer Science</p>	<p>E-Health, PLUNC, Open Institute</p>	<p>Post-Doc;</p>
<p>João Mário Grilo</p> 	<p>FCSH-UNL Communication Sciences</p>	<p>Summer Institutes</p>	<p>Post-Doc;</p>
<p>Carlos Guedes</p> 	<p>New York University</p>	<p>Future Places; Summer Institute</p>	<p>Fulbright Fellow at UT-Austin Post-Doc</p>



Key People	Associated Institution	Main Event	Associated Courses, etc.
<p>Monica Mendes</p> 	Belas-Arts, University of Lisbon	New Agendas; PLUNC	AZ Labs;
<p>Valentina Nisi</p> 	M-ITI, Vice-President of the Board, Assistant Professor	Open Institute	
<p>Nuno Nunes</p> 	President of M-ITI, Associate Professor, President of ARDITI	UT Austin Portugal retreat and presentation (2015)	
<p>Raul Moreira Vidal</p> 	U.Porto, Dept. of Informatics Engineering		Multimedia MA

### The University of Texas at Austin

Key People	Associated Institution	Main Event	Associated Courses, etc.
<p>Rosental Alves</p> 	Professor and Knight Chair in Journalism; Director, Knight Center for Journalism in the Americas	TICE and ADDICT; Instructor in several courses; numerous talks within PT	Entrepreneurial Journalism
<p>Phil Doty</p> 	Professor, Radio-Television-Film	Open Institute	

Key People	Associated Institution	Main Event	Associated Courses, etc.
Bruce Pennycook 	Professor, Department of Radio - Television - Film; Professor of Composition, Butler School of Music	Summer Institutes; research collaborator	Digital games design
Joseph Straubhaar 	Professor, Radio - Television-Film	Summer Institutes; research collaborator	Research methods
Sharon Strover 	Director Digital Media UT Austin, Director, Telecommunications and Information Policy Institute (TIPI)	Summer Institutes, Open Institute, E-Health	Research methods

## 5. Education and training activities

### Digital Media

The active and on-going collaboration between The University of Texas at Austin and several Portuguese universities has resulted in multiple available degree paths, and enhanced academic relationships and dynamic research opportunities. The sharing of faculty and graduate students has broadened many aspects of programs in both countries and laid a solid foundation on which to deepen pedagogical, research, and practice-based explorations of digital media innovations.

The initial and continuing goal remains the same: To enhance Portugal's graduate programs, research, and entrepreneurship in digital media by ensuring their internationally recognized quality through our active collaboration. The program has already served to identify Portugal as a co-collaborator in this field and a country in which innovation and originality flourish. This collaboration seeks to foster a culture of creativity and entrepreneurship, for example, by working directly with media industries, introducing new festivals and institutes as well as providing academic foundations and training for excellence in the next generation of digital media through both existing and future Portuguese institutions of higher education. Building international networks of scholars and researchers, practitioners, and companies is a principal product of the collaboration, as noted in the Academy of Finland's assessment report. The interdisciplinary strength of UT-Austin

and the collaboration of several renowned departments across the University facilitate this comprehensive approach.

The overall goal through our education and training activities has been to use our collaborative efforts to strengthen and maintain the programs that have been created and to facilitate increased entrepreneurial efforts that are tightly coupled with academic research. Additionally, we continue to build capacity for undertaking interdisciplinary research and graduate education in this field by supporting pertinent graduate degree programs and creating collaborative US-Portugal research opportunities; extending training to include entrepreneurship, and in concert with UTEN, seeking to identify other related opportunities. Cultivating an entrepreneurially driven mass of activities, opportunities and products in the digital media domain is ongoing and reflective in the courses offered and the resulting products introduced into the marketplace.





## 5.1. Academic degrees

### Masters, Ph.D.s, etc.

#### • *Master of Arts Program in Digital Media*

To train the digital media professionals and researchers of the future, the UT-Austin|Portugal Program offers a Master of Arts in digital media. This program enables students to pursue advanced studies in communication and multimedia.

Since its inception in 2009, the digital media program has collaborated with an MA program in multimedia through the University of Porto. This program, currently coordinated by Professor Raul Vidal, differs from the previous MA program by constraining the teaching component to one year, thereby increasing the amount of time dedicated to thesis or project work in Austin. Students can choose between one of four specializations, which are listed below.

- » Arts and Culture
- » Education
- » Interactive Music and Sound Design
- » Technologies

New courses to support the new area of interactive music include: Digital Interactive Systems, Sound Design for Digital Media, Music Information Retrieval, and Automatic Music Generation.

#### • *Doctor of Philosophy Program in Digital Media*

The four-year Digital Media degree program at UPorto and UNL, which began officially in fall 2009, was designed with a multidisciplinary structure supporting four specializations:

- » Production of Audiovisual and Interactive Content, Technology,
- » Journalism and
- » Industry, Publics, and Markets

Students are co-supervised by professors in Portugal and

Austin, and the program includes a research fellowship in Texas. Students are eligible to apply to UT-Austin doctoral programs for a dual degree:

- » Doctorate in Digital Media from FCSH, New University of Lisbon
- » Doctorate in Digital Media from FCT, New University of Lisbon
- » Doctorate in Digital Media from FEUP, University of Porto

The program entails a full year of organized courses, including theoretical, methodological and laboratory-based work. Roughly in the middle of the second year, students present their dissertation research ideas, with the intention of spending their remaining two years working on their original research. Students seek co-supervisors from among the UT-Austin faculty, and they may spend a fellowship year in Austin. UT faculty contribute several courses each semester both by co-teaching and by offering stand-alone courses.

#### • *Post Doctoral Fellowships in Digital Media*

The UT-Austin|Portugal program additionally has an ongoing call for post-doctoral fellowships at The University of Texas at Austin and partner universities in Portugal to study specific areas in digital media. The fellowships are open to Portuguese citizens and other EU nationals residing in Portugal. Applications are accepted on a rolling basis for research in the following areas:

- » Audiovisual and Interactive Content Creation (including film and television, interactive music and sound design, participative media for education and culture);
- » Journalism;
- » Technologies;
- » Industry, Publics, and Markets.

Faculty from the various programs come from a variety of fields and are experts in their respective field. They travel between UT-Austin and the participating Portuguese institutions and regularly teach classes and participate in the various festivals, symposia and media events organized by the associated institutions.



# Digital Media

Name	Institution	Academic involvement
Heitor Alvelos	UPorto	Director, futureplaces; Professor of Design
Artur Pimenta Alves	UPorto	Professor Catedrático, Faculty of Engineering, Department of Electrical and Computer Engineering, Telecommunications Section; researcher, Institute for Systems and Computer Engineering of Porto (INESC Porto)
Rosental C. Alves	UT Austin	Professor and Knight Chair in Journalism; Director, Knight Center for Journalism in the Americas
José Azevedo	UPorto	Professor, Department of Sociology
Jay Bernhardt	UT Austin	Professor and Interim Dean at the Moody College of Communication. Research collaborator.
Randolph Bias	UT Austin	Professor, School of Information
Sam Burns	UT Austin	School of information, Ph.D. Candidate
António Câmara	FCT/UNL	Professor of Environmental Systems Analysis
Teresa Chambal	Univ. of Lisbon	Professor, Computer Science
Wenhong Chen	UT Austin	Assistant professor in the Department of Radio-TV-Film
António Coelho	UPorto	Digital Media, Assistant Professor of Informatics Engineering
Nuno Correia	FCT/UNL	Digital Media, Professor of Computer Science and coordinator of Interactive Multimedia
Manuel Damasio	Lusofona	Research PI – Health applications; Games
Phil Doty	UT Austin	Associate professor in Information Science
Soraia Ferreira	UPorto	Lecturer, Multimedia Masters
Caroline Frick	UT Austin	Assistant Professor, Department of Radio-Television-Film; Assistant Professor, School of Information
Andrew Garrison	UT Austin	Associate Professor, Department of Radio-Television-Film
João Mário Grilo	FCSH/UNL	Digital Media, Associate Professor, Communication Sciences
Carlos Guedes	New York University (Abu Dhabi campus)	Digital Media, Chair of the Department of Music. Research collaborator.
Jacek Gwizdka	UT Austin	Assistant Professor, School of information
Joan Hughes	UT Austin	Associate Professor, College of Education
Stuart Kelban	UT Austin	Assistant Professor, Department of Radio-Television-Film
Karen Kocher	UT Austin	Lecturer, Department of Radio-Television-Film
Matt Lease	UT Austin	Assistant Professor, School of Information; Research collaborator
Richard Lewis	UT Austin	Associate Professor, Department of Radio-Television-Film



Name	Institution	Academic involvement
Michael Mackert	UT Austin	Associate Professor, Advertising and Public Relations
João Magalhães	FCT/UNL	Assistant Professor, Faculty of Science and Technology, Department of Computer Science
Geoff Marslett	UT Austin	Lecturer, Department of Radio-Television-Film
Monica Mendes	FCT/UNL	Professor, School of Fine Arts in Lisbon
Steve Mims	UT Austin	Lecturer, Department of Radio-Television-Film
William Moner	UT Austin	Ph.D student, Department of Radio-Television-Film
Nuno Moutinho	UPorto	Research Collaborator; Visiting Faculty Member
Valentina Nisi	M-ITA	Vice-President of the Board, Assistant Professor; Open Institute
Nuno Nunes	M-ITA	President of M-ITI, Associate Professor, President of ARDITI
Bruce Pennycook	UT Austin	Professor, Department of Radio-Television-Film; Professor of Composition, Butler School of Music
Russell Pinkston	UT Austin	Professor of Composition, Butler School of Music; Director, Electronic Music Studios
Cristina Ponte	FCSH/UNL	Professor, Department of Communication Science
Rui Prada	Univ. of Lisbon	Research Project PI (Video games); Design & Computation Series
Teresa Romão	FCT/UNL	Digital Media, Assistant Professor of Computer Science
Tom Schatz	UT Austin	Professor, Department of Radio-Television-Film; Executive Director, University of Texas Film Institute
Nancy Schiesari	UT Austin	Professor, Department of Radio-Television-Film
Fatima São Simão	UPorto, UPTEC	Coordinator, Science and Technology Park of U Porto
Warren Spector	UT Austin	Director of the Denius-Sams Gaming Academy
Laura Stein	UT Austin	Associate Professor, Department of Radio-Television-Film
Keri Stephens	UT Austin	Associate Professor in Communication Studies
Joseph Straubhaar	UT Austin	Professor, Radio-Television-Film
Sharon Strover	UT Austin	Director Digital Media UT Austin, Professor of Radio-Television-Film, Director, Telecommunications and Information Policy Institute (TIPI)
Paul Toprac	UT Austin	Associate Director of the Game Development Program and Senior Lecturer
Kathleen Tyner	UT Austin	Professor, Radio-Television-Film. Instructor, Research collaborator.
Raul Moreira Vidal	UPorto	Associate Professor, Department of Informatics Engineering
Craig Watkins	UT Austin	Associate Professor, Department of Radio-Television-Film; Associate Professor, Department of Sociology; Associate Professor, Center for African American Studies
Yan Zhang	UT Austin	Assistant Professor, School of Information, UT-Austin

## 5.2. MsC. students

- Participants 2013, 2014, and 2015

UPorto (2013/2014) – 101 students – Master in Multimedia

## 5.3. Ph.D. and MA students

- Participants 2013, 2014, and 2015

Year	UNL	UPorto	Porto's Multimedia Program
2013	4	13	51
2014	9	12	44
2015	14	14	50

- Call for Doctoral Scholarships 2014, 2015

2013	Area
	Digital Media
Number of applicants	26
Number of scholarships approved	10

- No calls for 2014 or 2015
  - » 2014 FCT Doctoral Program
  - No call
  - » 2015 FCT Doctoral Program

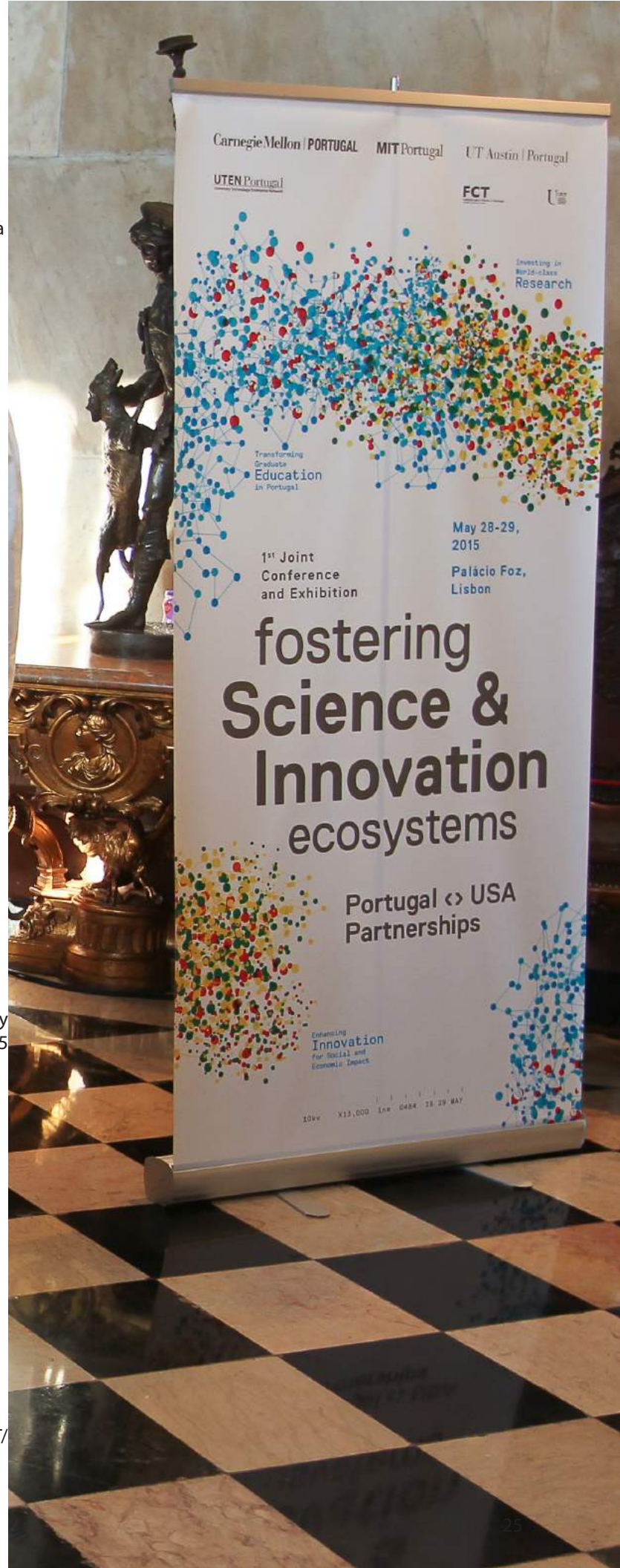
(enrollment/attendees/graduates, and scholars granted)

The Doctoral Program in Digital Media at the University of Porto and Universidade Nova de Lisboa opened the 2015 doctoral program.

2015	Area
	Digital Media
Number of applicants	38
Number of scholarships approved	9

## 5.4. Graduates' dissertations and current positions

- Total of 19 alumni in Digital Media (4 FCSH/UNL; 4 FCT/UNL; 11 UPorto)





Name	Institution	Dissertation	Year	Current position when known
Carlos Manuel Moita de Figueiredo	Uporto	A New Method to Study the Match between the bridging mechanism of Delivery of Novelty and its Perception	2013-2014	R&D manager at TOMI World and coordinator of ZunZum (theater company and other arts)
Cláudia Raquel Marques Martins de Lima	Uporto	LIBRARY NETWORK: Integrated Communication in the Context of Participatory Culture	2014-2015	Professor at Universidade Lusófina
Daniel da Cruz Brandão	Uporto	Museum of Ransom: Towards a System for the Aggregation and Interpretation of Contemporary Participatory Video as Contextual Cultural Heritage	2013- 2014	Invited Professor at Escola Superior de Design do IPCA
Filipe José Pais Ferreira	Uporto	Experience and Meaning-making Process in Interactive Arts	2013- 2014	Broadcast Media Professional
Gilberto Bernardes de Almeida	Uporto	Interactive Exploration of Large Databases of Audio Snippets for Creative Purposes	2013- 2014	
Jasmina Stoyanova	Uporto	Real Time Digital Advertising and Implementation of Augmented Reality in a Context of Increasing Demand for Innovative Ways of Publicity	2014-2015	
Jorge Manuel Lopes Brandão Pereira	Uporto	Communication Design as a Strategic Constituent for the Development of Organizations	2014-2015	Assistant Professor, Design Department, Polytechnic Institute of Cávado e Ave
Nuno Duarte Martins	Uporto	Media Participatory on-line in the Fight against Cancer : The Communication Job of Citizens and Institutions	2012-2013	Assistant Professor, Instituto Politécnico do Cávado e do Ave (IPCA)
Paulo Alexandre Valente de Jesus Rosa	FCT	Minimal Computation Structures for Visual Information Applications based on Printed Electronics	2015/2016	
Pedro Tavares Barata Bastos	Uporto	Easy Facial Rigging and Animation Approaches	2014-2015	3D Artist,Take The Wind
Rita Rodrigues Clemente Falcão de Berredo	Uporto	Evaluation of the Application of E-learning Methodologies to the Education of Engineering	2012-2013	
Soraia Alexandra Mesquita Ferreira	Uporto	Location-based Transmedia Storytelling: Enhancing the Tourism Experience	2014-2015	Lecturer at Multimedia Master (FEUP)

Name	Institution	Dissertation	Year	Current position when known
Ana Margarida Barata	FCSH	Raise Awareness: Activisms and Digital Arts	2013/2014	Lecturer at ISEP Researcher in the "Games, Interaction and Learning Technologies" research centre
António Carvalho Maneira	FSCH	Learning Activities with Semantic Hypermedia in Higher Education	2014-2015	Professor at Universidade da Beira Interior
Sofia Catarina Mósca Ferreira Mota	FSCH	Bits, Atoms, and Information Sharing: New Opportunities for Participation	2014-2015	Founder, OpenMaterials; TED Fellow;
Tiago Videira	FSCH	Instrumental Fado: A Generative Interactive System	2015	
Nuno Paulo Vicente	FSCH	International News Reporting in the Multidimensional Network: The Socio-demographics, Professional Culture and Newswork of Foreign correspondents working across Sub-Saharan Africa	2013-2014	Assistant Professor, FCSH, UNL
Monica Mendes	FCT	ARTiVIS: Arts, Real-Time Video and Interactivity for Sustainability	2013	Assistant Professor, Belas-Artes, University of Lisbon
Diogo Nuno Crespo Ribeiro Cabral	FCT	Video Interaction using Pen-based Technology	2013/2014	Postdoctoral Researcher - Ubiquitous Interaction Group, HIIT, University of Helsinki (HY), Finland.
Rossana Henriques dos Santos	FCT	Augmented Information Sharing and Management using Surveillance Cameras	2014/2015	Professor in Departamento de Sistemas e Informática, Escola Superior de Tecnologia de Setúbal, Instituto Politécnico de Setúbal



## 5.5 Longer courses: Summer Institute

Summer Institutes: Two or three week intensive courses (representing approximately 30-45 contact hours).

Year	2013	2014	2015
	<p>The seventh annual Summer Institute offered students and professionals in Lisbon and Porto the opportunity to explore a variety of digital media topics. Accomplished instructors from The University of Texas at Austin taught intensive short courses.</p>	<p>The eighth annual Summer Institute offered students and professionals in Lisbon and Porto the opportunity to explore a variety of digital media topics. Instructors from The University of Texas at Austin taught intensive short courses from two to three weeks in duration.</p>	<p>The ninth annual Summer Institute offered students and professionals in Lisbon and Porto the opportunity to explore a variety of digital media topics. Instructors from The University of Texas at Austin taught intensive short courses.</p>
Courses	<p>Digital Games Design Research Methods Entrepreneurial Journalism Human-Computer Interaction Interaction Design</p>	<p>Usability and User-Centered Design Teaching and Learning with the Internet Comprehensive Research methods Game Design and Development</p>	<p>Digital Media in Theory and in Culture Media and Information Literacy in a Digital World Game Development and Design Tag You're It: Vernacular Classification of Images, Sound, and Video</p>
Faculty	<p>António Coelho, Multimedia Masters program at U. Porto Bruce Pennycook, Department of Radio-TV-Film and the Butler School of Music Sharon Strover, Professor and Director, Digital Media UT Austin Rosental Alves, Professor and Knight Chair in Journalism William Moner; UT Austin, UNL doctoral students Bruno Nobre and Cláudia Pernencar</p>	<p>Randolph Bias, UT School of Information Joan Hughes, UT College of Education Sharon Strover, Director Digital Media UT Austin Bruce Pennycook, Department of Radio-TV-Film and the Butler School of Music Antonio Coelho, Multimedia Masters program at U. Porto</p>	<p>Chris Lucas, Radio-TV-Film, UT-Austin Kathleen Tyner, Professor, Radio-Television-Film Paul Toprac, UT-Austin, Associate Director of the Game Development Program and Senior Lecturer António Coelho, Multimedia Masters program at U. Porto Rui Rodrigues, FEUP, U. Porto Sam Burns, UT Austin Doctoral Candidate, School of Information</p>

See Appendix 3 for survey results of all years

## 5.5.1 Shorter courses (e.g., workshops, symposiums, etc.)

# 1<sup>st</sup> Meeting on Digital Media Research Methods

**24 de Maio / May 24<sup>th</sup> 2013**  
Faculdade de Engenharia, FEUP  
Sala / Room I-105

- 2013

### Digital Media Research Methods Symposium (DiMe)

The DiMe 2013 meeting in Porto created a forum for discussion and sharing among Digital Media PhD students on research methods topics. Austin Digital Media Director Sharon Stover and Portuguese directors and co-directors Nuno Correia, José Azevedo, Carlos Guedes, Heitor Alvelos, and Artur Pimenta Alves acted as speakers and moderators, opening and closing the daylong session. Ademar Aguiar and Joana Resende of UPorto joined them, also providing presentations. The Symposium featured presentations from 10 advanced PhD students and was created to provide a forum for doctoral students to discuss their projects from the perspective of their respective research methods. The range of approaches addressed in the conference reflected the diversity of the students' interests and included user experience and survey designs, the study of social networking dynamics and innovation, researching marketing and new media, qualitative approaches to film and new media, and

digital media and journalism, among other topics. Eduardo Morais, Gustavo Costa, Jaime Fins, João Miguel Aguiar, and Marisa Silva organized this inaugural meeting. Presenters included Horácio Tomé Marques, Filipe Lopes, Pedro Bastos, Fernando Governo, Paulo Fontes, Jasmina Stoyanova, Bruno Nobre, Carlos Figueiredo, Soraia Ferreira, and Ricardo Batista.

### PROTOS Festival

The Austin Museum of Digital Art presented the PROTOS Digital Art and Prototyping Festival from May 23-26 at the Long Center Rollins Theater. The event featured talks, demos, screenings, workshops, and performances and addressed topics such as motion graphics, gaming and interactive media, film and television, urban and public works, and sound and visual design. Digital Media PhD Student João Beira presented his research in a demonstration titled "3D Sensory/Motion Graphics: Immersive Spaces, Computer Vision, and Spatial Augmented Reality" and also performed with Berlin-based recording artist Emika. Beira is completing his dual degree with UT-Austin and UPorto. His highly interdisciplinary work on real-time mediated digital interaction combines art, media, and technology, and has

**amoda**  
Austin Museum of Digital Art

# PROTOS

DIGITAL ART & PROTOTYPING FESTIVAL

**MAY 23-26, 2013**  
4:30-7:30P / RSVP ON FACEBOOK  
\* Free & Open To The Public

THURSDAY MAY 23	FRIDAY MAY 24	SATURDAY MAY 25	SUNDAY MAY 26
Motion Graphics Interactive   Gaming	Film + Video Creative Process	Urban + Public Works	Sound + Visual Design

**FEATURING**

Annapurna Kumar (Modul8)	Bleep Labs (Synthesizing)	Mikal Hart (GPS Art + Tech)	Rafael Anton Irisarri (Curating)
Brent Dixon (Workshops / Makeathons)	Diego Chavez (Live A/V, Animation, Sound Design)	'RGBA' [A'lante Flamenco + VJ 4th Wall] (Music & Dance / Motion Capture)	Raz Mesinai (Tunnel Vision)
Fared Shafinury (Creative Process)	Gaea Logan (Tech Solutions for International Refugees)	Sabrina Ratté (Film / Video Screening)	C. Mossholder / Twine (Composition for Gaming)
Joao Beira (3D Sensory Tech / Motion Graphics)	Laurel Barickman (Visual Design / Business)	Wheez-ie (DJ Culture / Digital Sampling)	
line upon line + Norma Yancey (Music in Architecture Video Screening +			

**TICKETS + INFO**  
thelongcenter.org / amoda.org



been presented internationally in lectures and performances.

### PaperBots Workshop at the FILE

Isabel Paiva conducted the PaperBots Workshop on July 23 and 24 at the Electronic Language International Festival (FILE) in São Paulo. The workshop combined digital and physical computing and taught participants how to construct PaperBots, interactive devices built with technology from LEGO Mindstorms kits. Paiva worked with faculty at UNL and UT-Austin, specializing in design, engineering, and art, and has been both a registered student and a visiting researcher at UT. The FILE featured exhibitions, roundtables, workshops, and lectures focused on art, technology, and digital culture.

### International Symposium in Online Journalism

This year's panel topics included trends in social media,



innovations in digital platforms architecture and design, mobile journalism, and data visualization. The symposium was followed by a spin-off conference, the 6th Ibero-American Colloquium on Digital Journalism, which focused on sustainability issues challenging online journalism in Latin America and Spain. Doctoral students Cláudia Silva, a visiting researcher at UT, and Daniel Catalão, an exploratory visitor, attended the weekend's events. Catalão found the experience valuable, observing, "My participation in the Ibero-American Colloquium on Digital Journalism made me aware of the ongoing movement to empower new journalism projects with different finance formulas based more on philanthropy than publicity."

### The Captivate Conference

This conference focused on the creative industries of games, mobile technologies, film, and music, and took place in Austin October 6-8, 2013. The conference started with a keynote by Warren Spector, now with the Denius-Sams Gaming Academy.

### Interaction Design Workshop in Porto

Digital Media doctoral students Bruno Nobre and Cláudia Pernencar led a workshop in Interaction Design at FEUP. The course was aimed at both students and professionals focused on practical skills including storyboarding, usability testing, conceptual mapping, prototyping, and project development, and also gave participants a stronger grasp of interactive design theory and the current state of the art.

Both instructors had extensive professional and academic experience in the practice, teaching, and research of interaction design and multimedia.

### Locative Media workshops



UNL doctoral student Cláudia Silva provided a first series of workshops on locative media and storytelling at Latinitas, a Texas nonprofit organization devoted to empowering young Latinas through media and technology. Silva, who has taken classes at UT-Austin, has been a visiting researcher at UT-Austin and has worked with two local community groups, Latinitas and the River City Youth Foundation. Her dissertation project studies the potentials of locative citizen journalism.

### FUTUREPLACES 2013 and Doctoral Symposium

The sixth edition of the FUTUREPLACES Digital Media Festival took place from October 28-November 2 in Porto. The event included a doctoral symposium at UPTEC PINC. Sharon Stover delivered the keynote. Now in its third year, the symposium was a great opportunity for fifteen Digital Media students through the Doctoral Symposium to share their research projects with colleagues and program faculty and to network with their peers. The festival featured a variety of speakers, including a keynote by award-winning documentarian and UT faculty member Nancy Schiesari, who discussed the rise of digital filmmaking and its implications for documentary. Schiesari also took part in a panel on film, with independent UK filmmaker Debbie Anzalone, whose work has appeared on Channel 4, doctoral students André Valentim Almeida and Andreia Magalhães, and actor, musician, and director Bruce Geduldig. This festival additionally offered the popular Citizen Lab workshops and a special workshop titled "Futures of Uncertainty." Professors Heitor Alvelos and Manuel Heitor gave this workshop in cooperation with ALTEC, the Latin Ibero-American Conference on Management of Technology, which ran simultaneously with FUTUREPLACES.

### iDTV Health Seminar and Workshop (November, 2013)

The iDTV Health team organized the seminar and workshop "Smart TV Development" at Lusófona University.



### Renewal Agreement to extend the UT|Portugal program

Top university officials from partner institutions and program directors participated in a ceremony in the fall to celebrate the renewed agreement between the Foundation for Science and Technology and The University of Texas at Austin. The program is expected to proceed through 2017 and will continue academic and research endeavors while putting a new emphasis on entrepreneurship. Prominent members of FCT and the office of the Secretary of State in the Ministry of Education and Science attended the ceremony. They included Professor Miguel Seabra, President of FCT; Emir Sirage, FCT International Partnerships Director; Professor Leonor Parreira, Secretary of State in the Ministry of Education and Science; and assistant Secretary of State for Science cabinet member David Cristina.

- 2014

### Warren Spector's Lisbon Workshop

Renowned game designer Warren Spector visited Lisbon to conduct two days of workshops involving discussions around design issues, including project evaluations. Spector is a UT alumnus and has been in the videogame business since the 1980s, developing critically acclaimed titles including Deus Ex, System Shock, Epic Mickey, and games from the Ultima series during his tenure at companies including Origin, Ion Storm, and Junction Point, which he founded in Austin in 2005. He is currently the Director of the Denius-Sams Gaming Academy, a new professional certificate program at

UT-Austin.

### International Symposium on Online Journalism

Visiting researcher Cláudia Silva took part in the International Symposium on Online Journalism, presenting "Back to the Future of News: Looking at Locative Media Principles in the Pre-News Era." Her talk focused on the need to understand news through maps, applying a historical perspective and focusing on the development of newspapers in 16th and 17th century Europe. Her research offered a new theoretical association between the history of news and locative media principles, one of Silva's areas of expertise. This symposium hosted scholars and media professionals from over 45 countries, including members of major universities and nonprofits, as well as representatives from companies such as Google, The New York Times, and Al Jazeera. The Symposium speakers discussed a variety of emerging topics including online journalism during political conflicts, news and wearable devices, and the use of drones in newsgathering.





## Digital Media Entrepreneurial Boot Camp in Lisbon

This was a free, intensive program that covered product ideation, design, and prototyping, and gave participants real-life experience pitching to investors. Experienced digital media entrepreneurs Lane Becker, co-founder of online customer service community platform Get Satisfaction, and Michael Agustin, co-founder of game design engine maker Game Salad, led the program. The boot camp took place at the Rectorate Building of the Universidade Nova de Lisboa. The two days of the boot camp were packed with activity as participants worked intensively to develop new products and pitches, incorporated feedback from their peers and guidance from program leaders. Teams were given the opportunity for networking and briefly relaxing on Thursday night at a dinner with Becker, Agustin, and UNL faculty members. The following morning, boot camp participants presented their projects to several members of the entrepreneurial community including two representatives of Espirito Santo Ventures, the top venture capital organization in Portugal, one member of the Lisbon Startup Initiative, and two representatives of Portuguese digital media companies.

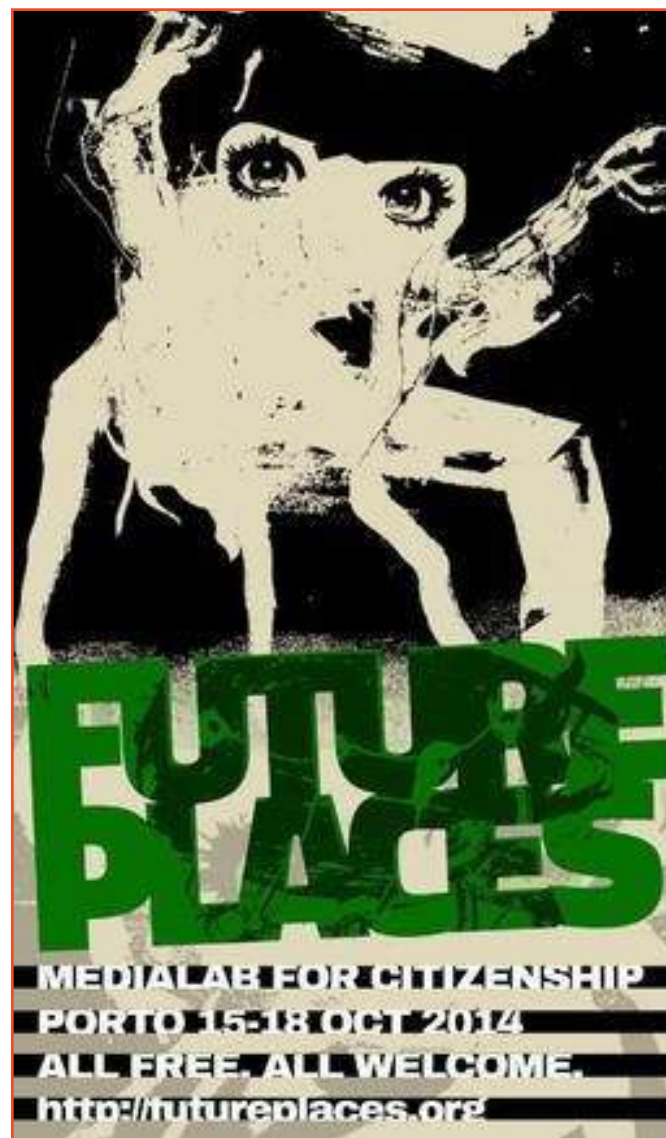
## FUTUREPLACES 2014 and Doctoral Symposium



The fourth annual Digital Media Doctoral Symposium in Porto took place on October 15, followed by the 6th annual iteration of Future Places MediaLab for Citizenship. The symposium, held at UPTec PINC, offered, once again, an opportunity for students to present their research to their peers and faculty and also provided a setting for the students of UPorto and UNL to meet one another in person and exchange ideas. The roster included new and returning speakers Rodrigo Carvalho, Luciano Moreira, Cláudia Silva, Eduardo Morais, André Rocha, Pedro Ângelo, Marcela Canavarró, Horácio Tomé Marques with Francisco Marques-Teixeira, Patrícia Nogueira, Luís Grifu, António Maneira, and alumni Daniel Brandão and Nuno Duarte Martins. Presenters discussed topics included documentary film, digital media and political activism, educational software tools, designing for integration of personal healthcare records, and audiovisual interactive systems, among others.

The 6th edition of FUTUREPLACES followed directly afterwards. Citizen labs, a key component of the program, was again met with a great deal of enthusiasm among students

and members of the arts community. This is a broad group effort led by Professor Heitor Alvelos of UPorto, Anselmo Canha, Fátima São Simão of UPTec, and Dr. Karen Gustafson of UT-Austin, with longtime collaborators including Luís Barbosa, and Riot Films, and strong participation from the local and international academic and creative communities. The FUTUREPLACES MediaLab for Citizenship featured participant-driven labs, performances, panels, and keynote speaker Jillian York, of Global Voices and the Electronic Frontier Foundation's Director for International Freedom of Expression. Other scheduled guests included Diane Peters of Creative Commons and visual artist Len Massey, drawing tutor at the Royal College of Art in London. Additionally, representatives from the office of the Secretary of State for Science and the Foundation for Science and Technology, rectors and faculty members from participating universities, and students gathered at the University of Porto to mark the beginning of the UTA-Portugal's program second five-year phase that commenced in 2014. The occasion created an opportunity for ongoing and new members of the various UTA-Portugal program concentrations to meet and share ideas for the future.



## 2nd Meeting on Digital Media Research Methods (DiMe), Porto

DiMe 2014 was held in Porto, Portugal, in December and aimed at creating a forum for discussion and sharing among Digital Media PhD students on research methods topics. With the participation of 28 people, including students of the doctoral program in Digital Media, faculty and guests, this initiative enabled the sharing of experience at the level of the research methodologies of current and past doctoral



students. The workshop included two invited lectures (Nuno Correia and Francisco Restivo).

The main theme of the meeting was Digital Media Research Methods: Challenges and New Opportunities. New (digital) media have come to dominate social interaction and everyday life. Where as the first decade of the 21st century was still centered on web sites, the second decade seems to be all about social interactions, social networking and its importance in everyday life practices. However, this development raises interesting questions concerning research strategies.

Several research methodology topics were addressed at DiMe 2014, including:

- » Theoretical studies - Empirical studies: Documental studies | Empirical studies | Non-documental studies: Experimental and quasi-experimental studies. Empirical studies | Non-documental studies: Non-experimental studies.
- » Defining data treatment methods according to the following streams: - Quantitative methods - Qualitative methods - Mixed methods

- 2015

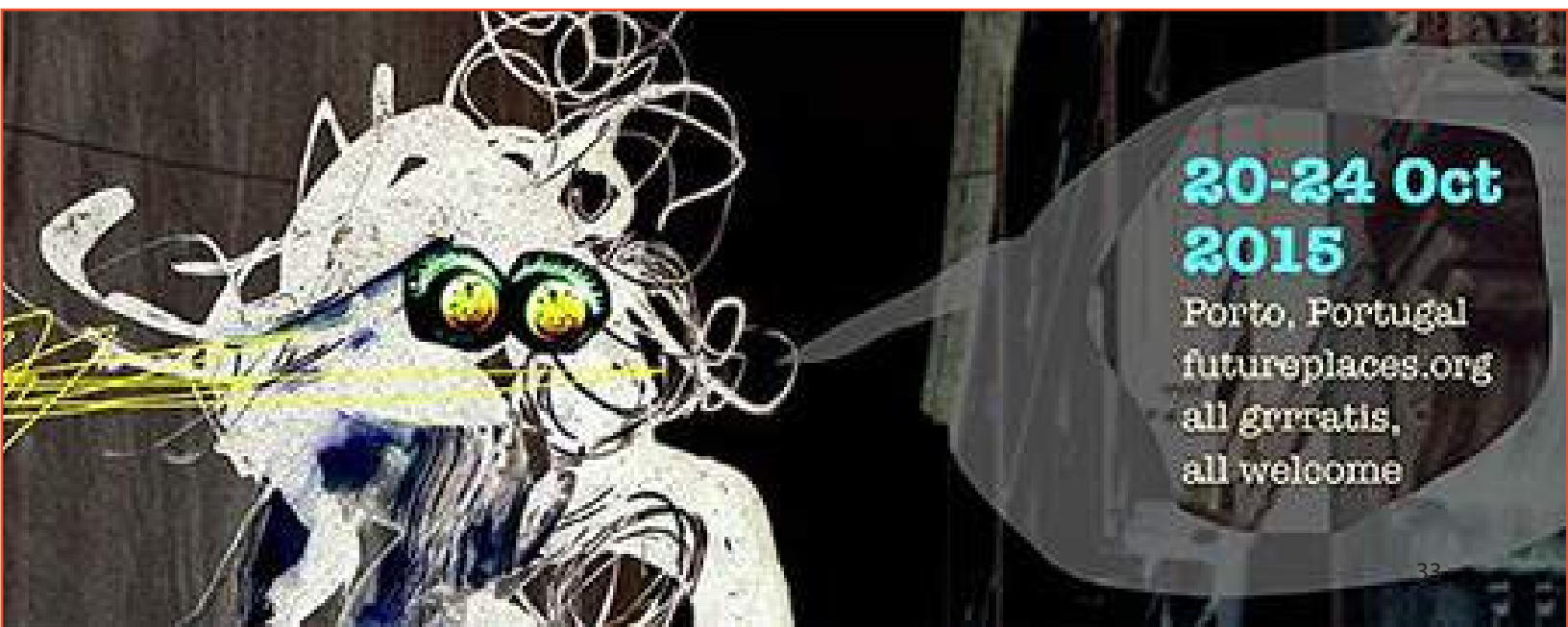
## Open Data Day at World Bank

UPorto doctoral student Gustavo Magalhães collaborated with Joel Gurin, founder of the Center for Open Data Enterprise, to lead a workshop at Open Data Day at the World Bank in Washington, DC. The workshop, "The Business Case for Open Data," gave participants the opportunity to use a draft of Open Data Enterprise Canvas, a tool Magalhães had developed. Using this tool, participants studied how open data can be integrated into new and existing business models. Magalhães, who has previously worked with Code for America and NYU's GovLab during his dissertation research, is a visiting researcher at UT-Austin.

## Open Data Institute



As described earlier, the inaugural Open Data Institute was held in the first week in August 2015 at The University of Texas at Austin. This one-week intensive and interactive residential program at the Moody College of Communication at The University of Texas at Austin included 22 speakers and participants from all over the world, including faculty and graduate students from The University of Texas at Austin, Universidade Nova de Lisboa, University of Madeira, and the University of Porto. The goal was to teach and convey the principles of open hardware, software and open data usable for governmental purposes and open access.





## FUTUREPLACES 2015 and Doctoral Symposium

Celebrating its 8th consecutive edition in Porto, FUTUREPLACES welcomed researchers, citizens and artists to a 5-day extravaganza of on-the-spot possibilities for socio-cultural betterment, with special attention to the topic of sustainability and openness. This year's agenda included a scientific recital, an exhibition marking the inauguration of the participatory project "Porto Pelo Porto" a wealth of Citizen Labs, the digital media doctoral symposium, and keynote addresses by Paul Stacey, Associate Director of Global Learning at Creative Commons and Chris Csikszentmihalyi of the Madeira Interactive Technologies Institute (M-ITI). The Doctoral symposium featured a keynote by Chris Csikszentmihalyi along with 11 presentations by current students from Lisbon, Porto and Madeira as well as two alumni of the doctoral program.

### Designing Open Business Models workshop



In conjunction with Futureplaces 2015, Paul Stacey held a workshop about Designing Open Business Models at UPTEC, the Science and Technology Park of UPorto. The workshop stressed how to adopt an open attitude in business (for example, by openly licensing a product) and still profit from it.

With over 30 participants, from entrepreneurs to freelancers and students, the session started with an overview of the Creative Commons (CC) licenses and a short introduction to the business model canvas, both the original version and an updated version prepared by Paul, which specifically includes CC licenses and social good. There was also a chance to present the brand new Creative Commons Toolkit for Business, conceived and developed by the CC Portuguese affiliate, which will be launched soon on Creative Commons blog. During the workshop, the typical fears of openness were addressed through the presentation of real case studies including examples of open source software, open education resources, museums, authors, large platforms, and other businesses. Cases like the Tribe of Noise, Reijksmuseum, Open Words, The Noun Project, Posiba, Tumuult, Nina Paley, Seats2Meet, 500Px, and Autodesk's training and tutorial materials were analyzed during the session to explain how open business models actually prove to be sustainable and thriving.

## 5.6. Visiting Researchers and Scholars

- Participants 2013, 2014, and 2015

	2013	2014	2015
Number of Participants	10 visiting researchers (usually a semester) UPORTO: 5 FCSH/FCT: 5	15 visiting researchers UPORTO: 8 FCSH/FCT: 4 Other: 3	15 visiting scholars UPORTO: 7 FCSH/FCT: 7 Other: 1
	7 Exploratory visits* (~one week)	9 Exploratory Visits	7 Exploratory Visits
	2 dual degree students	2 dual degree students	2 dual degree students
Number of Faculty	6	8	8

\*The UT-Austin|Portugal Digital Media program offers mobility grants for doctoral students making exploratory visits to UT. These grants were available to students in the UT-Austin|Portugal-associated doctoral programs in Digital Media at the New University of Lisbon and the University of Porto. Students on exploratory visits spent their time meeting with faculty advisors, visiting classes, exploring research opportunities and planning for possible long-term research visits. Support included airfare and housing expenses for up to seven days. Each doctoral student is eligible to apply for one funded exploratory visit.

## 5.7. Selected Talks and Presentations

- 2013

### ImTV conducted a second research workshop

Members of the ImTV research team gathered at INESC TEC in Porto to present recent research and plan future directions for the project. Supported by FCT and initiated in 2010, ImTV explores new trends in media production and consumption with the aim of devising an on-demand immersive framework that will give viewers a personalized, interactive experience while also helping media distributors reach viewers more effectively. The workshop included presentations on connected viewing, immersive video, gesture-based interactions, personalized multiview spaces, and recommendation services. Over a dozen researchers from several institutions participated, including co-principal investigators João Magalhães of the New University of Lisbon and Sharon Stover of UT-Austin.

### Conference on Literacy, Media and Democracy in Lisbon

Kathleen Tyner, Associate Professor in the Department of Radio-TV-Film, presented the opening address at the Conference on Literacy, Media and Democracy in Lisbon on May 10. Her talk, "Trends in Media Literacy: A North American

Perspective," explored the social, historical, economic and cultural contexts of media education in Canada and the United States. Conference participants included film professionals, scholars and representatives from diverse media and education agencies. Tyner is a recognized expert in media literacy and the uses of technology in learning contexts. She consults internationally for a variety of organizations including private businesses and NGOs in addition to teaching and conducting research.



### International Conference Explores Lusophone

UT-Austin's Joe Straubhaar spoke in a plenary panel. The conference addressed a range of study areas including Lusophone media production, migration and identity, and trends in Lusophone culture around the world. Straubhaar, an expert on global media and international communication, contributed to the plenary session titled "Intercultural and representations of the Portuguese language in the media," and was joined by former UT visiting researcher Isabel Ferin Cunha of the University of Coimbra, Maria Manuel Baptista of the University of Aveiro, and Claudia Castle of the Tropical Research Institute.

### Keynote at EdTech Austin

Marta Ferraz, a Digital Media doctoral student doing



research at UT, delivered a keynote presentation at the EdTech meeting in Austin in August. EdTech is an active community of teachers, entrepreneurs, and technologists who study and work in the field of Educational Technology, with the support of leading high tech organizations such as Google. Her presentation, "BioRobotics and Human Development," focused on STEM (Science Technology Engineering and Math) education and young children, drawing upon her highly multi-disciplinary dissertation research, which combines human-machine interaction, bioengineering, and human development, among several other fields. Ferraz, who has been a visiting researcher at UT-Austin since 2011,

completed her dissertation in 2013.

### International Lecture Series "Personal Views"

Professor Heitor Alvelos, outreach director of the



UTAustin|Portugal program in digital media, presented a retrospective of his creative and research work at the International Lecture Series "Personal Views", curated by Designer Andrew Howard since 2004, and featuring leading names in the various fields of Design. The lecture took place at ESAD, Matosinhos School of Art and Design. Included in his presentation, besides an interpretation of 25 years of his own work as a designer and media creative, were various fronts coordinated and curated under the UT-Austin|Portugal flagship, including various FuturePlaces labs, research projects, and prospective developments.

- 2014

### Digital Media Program Members Attend SXSW

Several members of the UT|Portugal program participated



in the Annual music, film and interactive conference (SXSW) held each year in Austin, Texas this year. UT-Austin's Professor Wenhong Chen spoke on the SXSW panel "Gigabit Coming to Austin," which explored the impact of Google Fiber and other gigabit Internet services on the entrepreneurship, education and health of the city. Austin has been chosen as the second city out of 1,100 US communities that applied to experiment with the gigabit broadband network Google Fiber. The panel, which also featured Austin Free-



Net's Juanita Budd, discussed how the private, public, and nonprofit sectors should work together to assure the inclusion of disadvantaged social group in Austin's digital future. Sharon Stover, who collaborates on the project, was in attendance along with Heitor Alvelos and Academic Director José Azevedo, (UPorto), who manage a conference on Innovation in Education and Learning that preceded the festival. Nuno Moutinho of UPorto, Faculty of Economics, was also in Austin to develop a research project.

### Silva Participates in SXSWedu Panel

Visiting researcher Cláudia Silva appeared on a SXSWedu panel titled "Learning with Digital and Participatory Maps" presenting some of her dissertation research. Silva was working with different communities in Austin, helping people to create place-based stories with digital media and put the results on a city map using the History Pin application. In her talk, she discussed work with three local communities—adults at the River City Youth Foundation, children at Latinitas, and Radio-Television-Film students at UT. Silva has been collaborating with her UT co-advisor Joe Straubhaar in his Migration and Media course, which makes use of the same History Pin application. Andres Lombana-Bermudez, a participant in the 2010 International School on Digital Transformation, also took part in the panel discussion

- 2015

### João Beira Work Featured at SXSW Interactive

Digital Media student João Beira joined a SXSW Interactive panel titled "Natural User Interface Design for Engaging Art and Performance" The panel also featured Jerome Morrison, who produces interactive pseudoholographic displays. Beira and Morrison presented some of their own work and discussed the advantages and drawbacks of various interface technologies including Kinect. Beira, who is pursuing PhDs at both UPorto and UT-Austin, also contributed to the spectacular SXSW Eco Light Garden at Republic Square Park, an interactive public art project.



UT-Austin|Portugal program students Yago de Quay and Rodrigo Carvalho collaborated with UT students to produce Breakdown, an interactive audiovisual dance performance which was presented at Ears, Eyes + Feet



## 6. Research Activities

### Collaborative projects

- 2014

#### Doctoral Students' Work Featured in Ears Eyes + Feet

UT-Austin|Portugal program students Yago de Quay and Rodrigo Carvalho collaborated with UT students to produce Breakdown, an interactive audiovisual dance performance which was presented at Ears, Eyes + Feet. Carvalho contributed the interactive visual component of the performance, while De Quay handled dance, voice, and music composition. UT student Sunny Shen contributed to dance and choreography and another UT student, Po-Yang Sung, was responsible for the production's lighting. De Quay is a dual degree doctoral student at UPorto and UT-Austin, and Carvalho, also of UPorto, spent the spring in Austin as a visiting researcher. Ears, Eyes + Feet is an annual event showcasing innovative work by composers, choreographers, and video artists at UT-Austin.

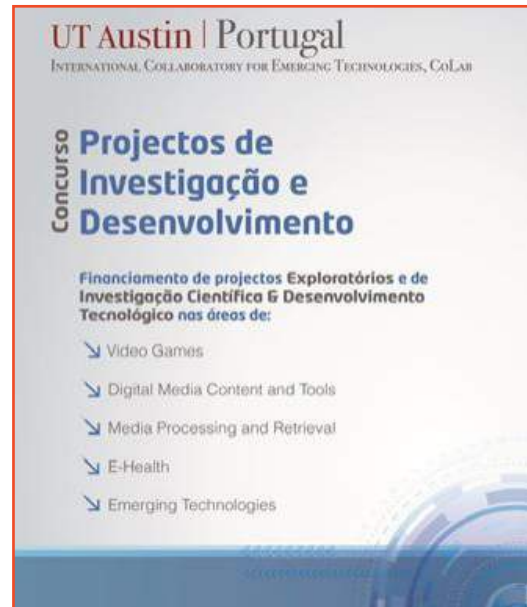
#### Collaborative Project on Game-based Learning Selected for Funding by IC<sup>2</sup> Institute

"New Tools for Certification in Game-based Learning," a collaborative project proposed by Craig Watkins of UT-Austin's Radio-TV-Film Department, with António Coelho of UPorto's Department of Informatics Engineering and Marco Bravo of UT's IC<sup>2</sup> Institute, was announced as one of the winners of the IC<sup>2</sup> Institute's 2014 Research Call on Innovation, Entrepreneurship, and Economic Growth. The research focused on the design of game-based learning and assessment platforms, an area of increasing interest to both the academic and professional communities. This research call supported collaborations between IC<sup>2</sup> Institute researchers and UT-Austin professors.

#### Call for scientific and technological development projects

The call encouraged partnership with industry and was designed to attract smaller, highly experimental projects as well as more advanced research initiatives lasting up to 2 years. Portuguese researchers from a variety of leading universities formed partnerships with faculty across UT-Austin, submitting a number of collaborative proposals. The Foundation for Science and Technology selected up to five exploratory projects to receive up to €30000 and up to five strategic research and technological development projects to receive a maximum of €200000 each in funding. The involvement of PhD students in both types of projects was required. Participation in these projects helped launch a new generation of researchers, giving them first-hand experience in collaborating with international teams.

### Second research opportunity early June 2014



Funding became available to the UT-Austin program under the CoLab initiative. Working with Portuguese partners, UT researchers submitted collaborative proposals in the areas of Digital Media, Mathematics, Advanced Computing, and Emerging Technologies. The application period closed on July 4. The Program received funding for between five and seven projects, awarding between \$50000 and \$100000 to successful proposals.

- 2015

#### MOVE!

Dual degree doctoral students João Beira and Yago de Quay and visiting researcher Rodrigo Carvalho contributed to MOVE!, a performance presented by the UT Department of Theater and Dance in early March 2015. The students collaborated with UT faculty members Yacov Sharir and Bruce Pennycook in the production of Sharir's AdMortuos, an exploration of virtual environments with computerized choreography.





## e-Health Researchers convene in Lisbon

The Digital Media program organized an e-health research symposium in February at UNL-FCT. The meeting attracted approximately 60 attendees and brought together both students and faculty members from UT-Austin and Portuguese universities including UNL, UPorto, and the Lusophone University of Humanities and Technologies. Several UT researchers specializing in health communication flew to Lisbon to meet with their Portuguese colleagues and work on collaborative research projects initially proposed last summer. Researchers included faculty members Jay Bernhardt, the Director of the Center for Health Communication; Keri Stephens of Communication Studies; Jacek Gwizdka of the School of Information; and Michael Mackert of the Stan Richards School of Advertising and Public Relations at UT, who sent graduate student Allison Lazard as the team's representative. Sharon Strover of the UT-Austin|Portugal Digital Media program, who organized the research meeting and grant process, also attended. The Digital Media program is providing seed funding for the collaborative projects that explore ways digital media can improve health communication. Topics included:

- Approaches to engaging men in prenatal communication, with principal investigators Mackert and Manuel José Damásio of the Lusophone University of Humanities and Technologies;
- Using digital media to increase physical activity in dialysis patients, with PIs Stephens and Damásio;
- The use of smart watches to monitor health among users in the US and Portugal, led by PIs Bernhardt and Paulo Moreira of the New University of Lisbon School of Public Health; and
- Improving understanding of how consumers search for and evaluate online health information, with PIs Gwizdka and Yan Zhang of UT-Austin and Carla Teixeira Lopes of the University of Porto.



The day concluded with an industry presentation from Pedro Pinto, CEO of Take the Wind, the company behind the cutting-edge 3D medical simulator Body Interact.



## Kickoff of NEM Portugal



Sharon Strover of the UT|Portugal Digital Media program and Rosental Alves, the Director of the Knight Center for Journalism in the Americas, were in Lisbon to attend the kickoff of New European Media Portugal (NEM Portugal). NEM Portugal will be a platform for the discussion of national research on new media technologies, content production, and innovation, and will promote the export of Portuguese cultural products. The initiative is led by INESC, the Institute for Systems Engineering and Computers, working with ADDICT, the Agency for the Development of Creative Industries Portugal, and TICE.PT, the Centre for Information and Communication Technology and Electronics. It will mirror a larger, existing organization, New European Media, which includes major telecommunications and media companies in addition to research organizations. Alves served as a keynote speaker for the inaugural event, speaking on the importance of partnerships between technology companies and content producers. At the conclusion of the program, Strover and NEM Portugal representatives signed a document recognizing the commitment to future collaboration between NEM Portugal and UT-Austin|Portugal.

## UT-Austin Partnership Workshop and Conference in Madeira

Faculty members and students from UNL, UPorto, and UT-Austin gathered in Madeira for the UT-Austin Partnership Workshop produced by the Madeira Interactive Technologies Institute (M-ITI). The two-day event kicked off with a welcome from Valentina Nisi and Nuno Nunes of M-ITI and featured talks by faculty members including UT-Austin's Kathleen Tyner, Bruce Pennycook, and Sharon Strover, and Nuno Correia of UNL. Chris Csikszentmihályi of the M-ITI Center for Civic Media was featured as a keynote speaker. The workshop also showcased research presentations by UNL and UPorto doctoral students Ana Nunes Jorge, Cláudia Pernencar, Ana Figueiras, Fernando Nabais, Patricia Nogueira, Luís Eustáquio, Teresa Vieira, and Pedro Ângelo.

### Madeira builds a new bridge to UT-Austin

The Digital Media program is working with the Madeira Interactive Technologies Institute at the University of Madeira on prospects for their new participation in the UT-Austin|Portugal collaboration. Professors Valentina Nisi and Nuno Nunes from M-ITI visited in August and spoke with several faculty members about possible research and teaching opportunities. The Madeira ITI works with and develops various interactive technologies, and will explore new options in media making and design with UT-Austin. Professor Nisi participated in the program's Open Institute and shared her creative work in developing community-based mobile stories; these were designed for various types of platforms, including phones. The dynamics of the sharing community and opportunities for developing interactive stories are among the near term research interests.



## 6.1. Research Projects

- 2013

### Meetings and Conferences

- » Digital Media Research Methods Conference (May, 2013)

Austin Digital Media Director Sharon Strover and Portuguese directors and co-directors Nuno Correia, José Azevedo, Carlos Guedes, Heitor Alvelos, and Artur

Pimenta Alves attended the Digital Media Research Methods conference at UPorto on May 24, 2013. Presented topics included user experience and survey design, social networking dynamics and innovations, and journalism and digital media challenges.

- » INVITE Research Group Convenes at UT (June, 2013)

Several members of the INVITE project team met at UT in June to perform field experiments and to discuss potential directions for the future. INVITE: Social Identity and partNership in VirTual Environments, an FCT-funded collaborative project that originated in 2010, explores the development of artificial intelligence mechanisms that can perform well in complex social situations, including games and virtual environments. The researchers have produced a strategic game that employs AI and allows a great deal of design flexibility, with potential to be used in the fields of psychology, business, and education. The visitors, including principal investigator Rui Prada, professors Pedro Santos and Carlos Martinho and graduate student Guida Preto, met with co-principal investigator Jorge Peña of UT's Communication Studies and UT graduate student Nick Brody.

- » LIFEisGAME Project Presented in Porto (June, 2013)

The LIFEisGAME research team gathered to present the results of their work on June 11 in Porto. The FCT-sponsored project has developed tools to help children with Autism Spectrum Disorder improve their communication skills in an engaging game environment. Innovations produced by the team may be applied to a variety of fields including psychology, entertainment, health, and academia. Led by principal investigator Verónica Orvalho of UPorto, the researchers include co-PIs Jake Aggarwal of UT-Austin, Miguel Sales Dias of Microsoft, Cristina Queirós of UPorto, and António Marques of IPP.

- » iDTV Health Seminar and Workshop (November, 2013)

The iDTVHealth team organized the seminar and workshop "Smart TV Development" at Lusófona University.

- » ImTV Second Workshop Meeting, 2013

The Immersive Television researchers met in Porto to discuss findings. A presentation from Pedro Ferreira of MOG underscored some fruitful future directions for some of the research work. For additional information, see <http://imtv.me/news/>.

- 2014

Results from the FCT call in 2014 were announced in 2015. Certain, projects were funded by UT-Austin from the UT|Portugal Digital Media program and include:



## Roots and Wings: Glocalized Networks and Mobile Media Entrepreneurship in Austin and Lisbon

The UT-Austin|Portugal Program announced the research projects that will receive funding from its 2014 Call for R&D Projects at The University of Texas at Austin. The call funded collaborative research between faculty members and researchers at UT-Austin and Portuguese universities. In the area of Digital Media, the project titled Roots and Wings: Glocalized Networks and Mobile Media Entrepreneurship in Austin and Lisbon was chosen to receive funding. The following faculty members and students were the recipients: University of Texas at Austin: Wenhong Chen, Sharon Strover, Joseph Straubhaar, Artur Matos Alves, Kye-Hyoung Lee (PhD student), Xiaoqian Li (PhD student), Hogeun Seo (MA student) and at the University of Porto: José Azevedo, Nuno Moutinho, Raquel Meneses, Carlos Figueiredo (PhD student); at Atlântica University: Artur Matos Alves. The project centered on synthesizing literatures in sociology, management, and media studies and on how entrepreneurs in the mobile media industry leverage Digital Media technologies and glocalized networks for starting up, product development, marketization, and innovation.

- 2015

The newest FCT research call funded three projects in the Digital Media area:

**Games for Media and Information Literacy**, UT PI Kathleen Tyner; PT PI Maria da Conceição Gonçalves Costa, Lusofona-COFAC, Cooperativa de Formação e Animação Cultural, CRL (COFAC) (Strategic)

**Relevance Mining and Detection Systems**, UT PI Matt Lease; PT PI Álvaro Pedro de Barros Borges Reis Figueira - Instituto de Engenharia de Sistemas e Computadores do Porto (INESC Porto/FE/UP) (Strategic)

**Recognition of Irony in Multicultural Social Media**, UT PI Byron Wallace; PT PI Paula Cristina Quaresma da Fonseca Carvalho - Instituto de Engenharia de Sistemas e Computadores, Investigação e Desenvolvimento em Lisboa (INESC ID/INESC/IST/UTL) (Exploratory)

## Research: Specific topics published during 2013-2015

### Projects initiated 2009:

#### Digital Inclusion and Participation

- Journal articles

Ponte, C., Simões, J. A., & Jorge, A. (2013). Do questions matter on children's answers about internet risk and safety?. *Cyberpsychology: Journal of Psychosocial*

Research on Cyberspace, 7(1), article 2. doi: 10.5817/CP2013-1-2

Simões, J. A., C. Ponte, et al. (2013). "Online experiences of socially disadvantaged children and young people in Portugal." *Communications: the European Journal of Communication Research*: 85-105.

### Projects initiated 2010

#### iDTV Health

- Special journal issues

Damásio, M. (2013). Special section editor: Special Section: COST - audience interaction & participation" (Volume 10, Issue 1, 2013) in *Participations. Journal of Audience and Reception Studies*. <http://www.participations.org/Volume%2010/Issue%201/contents.htm>

Damásio, M. (2012). Special issue editor (with Maria Teresa Cruz), *RCL – Revista de Comunicação e Linguagens*, Special issue "Analítica dos novos media/ The Analytics of New Media", nº 43/44, Spring 2012, Lisboa: Relógio de Água.

- Book chapters

Cordeiro, P; Damásio, M; Starkey, G; Botelho, I; Dias, P; Ganito, C; Ferreira C & Henriques, S (2013), "Networks of belonging: between mediation and mediatisation" in Carpentier, N & Schroder, K (Editors), *Transforming Audiences, Transforming Societies*, London: Routledge, pp:101-119

Damásio, M. (2013). "Tecnología y Sociedad: la modelación social de las tecnologías de información y de comunicación", in In José Gomes Pinto & José A. Bragança de Miranda (eds), *Perspectivas de la Comunicación: Arte, Cultura, Tecnología*. Madrid: Cream ebooks; pp: 258-297

Damásio, M. Henriques, S. Botelho, I. Dias P. (2013). "Mobile Internet in Portugal: Adoption patterns and user experiences". In Rizvanoğlu, K & Çetin, G (Ed.) *Research and Design Innovations for Mobile UX*, Hershey PA: IGI Global, pp: 94-113

Damásio, M. & Henriques, S. (2013) "Social capital and media use: Technology and societal development", in S. Singh (Ed.) *New Media and Development*. New Delhi: BRPC Publishing House, pp: 116-156

Damásio, M. J., Teixeira-Botelho, I., Henriques, S., & Dias, P. (2013). "The Adoption of Mobile Internet: Industry and Users Experiences" (pp. 13-22). In *Design, User Experience, and Usability. Web, Mobile, and Product Design, Lecture Notes in Computer Science Volume 8015*, 2013, pp. 13-22 Springer-Verlag. doi:10.1007/978-3-642-39253-5\_2

Quico, C., Damásio, M. J., Henriques, S. & Veríssimo, I. (2012). Digital terrestrial TV switchover process in Portugal: viewers between a rock and a hard place, Sousa, Helena & Denicoli, Sérgio (eds. ) Digital Communication Policies in the Information Society Promotion Stage. eBook. Universidade do Minho. Available online at: [http://www.lasics.uminho.pt/ojs/index.php/digital\\_communication\\_polices/index](http://www.lasics.uminho.pt/ojs/index.php/digital_communication_polices/index)

- Journal Articles

Damásio, M. J. & Cordeiro, P. (2013). Stakeholders and Academia: Different Modes of Interaction, in Special section on "Policy implications of academic research on mediated participation" in *Comunicazioni Sociali, Rivista di media, spettacolo e studi culturali*, Milan.

Damásio, M, Henriques, S, Botelho, I & Dias, P. (2013) "Mobile Internet in Portugal: Adoption Patterns and User Experiences", *International Journal of Mobile Media & Communication*, September 2013; 1 (3), London: Sage, pp:335-355. DOI: 10.1177/2050157913495690

Henriques, S. & Damásio, M.J. (2013) Internet Social Capital: Can Social Media Foster Bonding Social Capital? Validation of a Measure for Social Capital in an Online era. SAGE OPEN Source.

Mackert; M, Damásio; S, Champlin; A, Holton; I, Munoz (2013), "e-Health and Health Literacy: A Research Methodology Review", *Journal of Computer-Mediated Communication*, pp. n/a-n/a DOI: 10.1111/jcc4.12043, ISSN: 1083-6101 IF= 1.778

- International conference proceedings

Baptista, A. Veríssimo, I. Sequeira, A. Quico, C. Cardoso, M. Damásio, M. J. (2013). A promoção de saúde e bem-estar via televisão digital interativa. In Proc. of VIII Congresso SOPCOM, 17-19 October, Escola Superior de Comunicação Social, Lisboa. 2013

Baptista, A. Veríssimo, I. Quico, C. Cardoso, M. Damásio, M. Sequeira, A. (2013). Using Digital Interactive Television to Promote Healthcare and Wellness Inclusive Services. In Proc. of HCI International, Las Vegas, EUA, July 21-26. 2013.

## Project Breadcrumbs

- Book Chapter

Devezas, J.F. Cravino. J. & Revilla, F. (2013). Creating and analyzing a Social Network Built from Clips of Online News. Book chapter to be included in *Information Systems and Technology for Organizations in a Networked Society*. Issa, T. Isaías, P. & Kommers, P (Editors), IGI Global.

- Journal Articles

Devezas, J., and Figueira, A. (2012). Finding Language-Independent Contextual Supernodes on Coreference Networks. In *IAENG International Journal of Computer Science*, 39(2), pp.200-207.

Devezas, J. and Figueira, A. (2013). The Community Structure of a Multidimensional Network of News Clips. *International Journal of Web Based Communities Special Issue on: "Community Structure in Complex Networks."*

- Conference Proceedings

Cravino, N., Figueira, Á. (2013). Community Detection by Local Influence. In *Proceedings of the 2013 World Conference on Information Systems and Technologies (WorldCIST 2013)*, Algarve, Portugal, published by Springer.

Gomes, F., J. Devezas, and Á. Figueira (2013). Temporal Visualization of a Multidimensional Network of News Clips. In *Proceedings of the 2013 World Conference on Information Systems and Technologies (WorldCIST 2013)*, Algarve, Portugal (to be published by Springer).

- Conference Presentations

Strover, S. (2013). Mobile Devices, Entertainment and Sociability. Presented at the Mobile Communications Preconference for ICA, London, June, 2013.

- Journal Articles

Prata, A., & Chambel, T. (n.d.) The Design of Flexible Video-Based Crossmedia Informal Learning Contexts Beyond iTV. In *Entertainment Computing*, Elsevier (to appear).

Neng, L. & Chambel, T. (n.d.) Get Around 360° Hypervideo: It's Design and Evaluation. In Lugmayr, A., Sotamaa, O., Safran, C., Franssila, H., Hannu Kärkkäinen, and Timo Aaltonen (Eds), *Ambient and Social Media Business and Applications*, Special issue of *International Journal of Ambient Computing and Intelligence (IJACI)*.

## INVITE: Social Identity and Partnership in Virtual Environments

- Conference Proceedings

Baptista, M. Dimas, J. Prada, R. Santos, P. & Martinho, C. (2013). A serious game based on a public goods experiment. Appearing in the *Proceedings of 2013 ASE/IEEE International Conference on Economic Computing*

Dimas, J. and Lopes, P. & Prada, R. (2013). One for All, All



for one: Agents with Social Identities. Appearing in the Proceedings of CogSci - 35 th Annual Meeting of the Cognitive Science Society.

Dimas, J. & Prada, R. (2013). Dynamic Identity Model for Agents Proceedings of the MABS 2013 - 14th International Workshop on Multi-Agent-Based Simulation.

Dimas, J. & Prada, R. (2013). You are Who you Hang out with: Agents with Dynamic Identity Proceedings of AAMAS'2013 - 12th Int. Conf. on Autonomous Agents and Multiagent Systems (AAMAS 2013), IFAAMAS

Dimas, J., Lopes, P. Preto, G. Santos, P. & Prada, R. (2013). Social Identify Bias in Agents' Rational Decision. Appearing in the Proceedings of IVA 2013 - Intelligent Virtual Agents.

Pereira, G. Prada, R. and Santos, P. (2013). Bases of Social Power for Agents. Proceedings of the 12th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2013).

LIFEisGAME: Learning of Facial Emotions Through Serious GAMES

- Journal Articles

Batista, D. Forte, D. Silva, R. Martins, B. & Silva, M. (2013). Extração de Relações Semânticas de Textos em Português Explorando a DBpédia e a Wikipédia. Linguamática, Revista para o Processamento Automático das Línguas Ibéricas, 5(1).

- Conference Proceedings

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G. Laboreiro, M. Bošnjak, E. Mendes Rodrigues, L. Sarmiento & E. Oliveira. (2013). Determining Language Variant in Microblog Messages. To appear in: Proc. The 28th ACM Symposium On Applied Computing, SAC 2013, Information Access and Retrieval Track (IAR).

## See-Through-Sound

- Articles

S. Cavaco, J.T. Henrique, M. Mengucci, N. Correia, & F. Medeiros (2013). SonarX - Ver Através do Som, in Ponto e Som, Biblioteca Nacional de Portugal, n.157; 11-17.

- Conference Proceedings

S. Cavaco, J.T. Henrique, M. Mengucci, N. Correia, F.

Medeiros (2013). Color Sonification for the Visually impaired. Proceedings of International Conference on Health and Social Care Information Systems and Technologies: HCist, Elsevier.

S. Cavaco, M. Mengucci, J.T. Henrique, N. Correia, F. Medeiros (2013). From Pixels to Pitches: Unveiling the World of Color for the Blind. In Proceeding of the IEEE International Conference on Serious Games and Applications for Health (SeGAH) (Best Paper Award).

## Research: Related topics published during 2013-2015

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## 6.2. Other Publications & Presentations and Creative Work

### BioMediation

RTF doctoral students João Beira and Yago de Quay presented their research project and performance, "BioMediation," at the 14th Biennial Arts and Technology Symposium at Connecticut College. Commissioned by The Ammerman Center for Arts and Technology, the project represented the psychology of immersion and emotions based on computer vision and brain activity-trained data sets. Through the use of an electroencephalograph headset, the cognitive and emotional process of the performer was



dynamically translated into audiovisual compositions in real time, while a depth sensor tracked the performer's movement and physical space. The two also directed workshops and presented research at the event.

### NYU GovLab Open Data 500 Project

Visiting UPorto doctoral student Gustavo Magalhães contributed to the New York University GovLab Open Data 500 initiative as a member of the study's ten-person team. The comprehensive research project gathered information on 500 companies that used open government data as a primary resource, and was presented at The Economic Impact of Open Data event by the Center for Data Innovation in Washington DC. This research provided a basis for estimating the economic value of open data and may encourage the development of new companies. Among the study's products was an interactive chart of what business sectors such as health or finance use which government agencies' data.

### Student Work

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Novelty. Unpublished raw data.

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Pennycook, B., Sharir, Y.; Beira, J.; (ND) 3D [Embodied] - A Collaborative Work for Dance, Music, and Visualization. Presence, Immersion and Location; 14th Biennial Symposium of Arts and Technology, CT, USA.

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### 6.3. Research Development

- 2014

#### Theater Residencies

João Beira and Yago de Quay, University of Porto students who are pursuing doctoral degrees at UT-Austin, participated in an international theater residency at the UT Student Activity Center's Black Box Theater in early 2014. The residency included Jean Lambert-wild, head of national French dramatic center Comédie de Caen, and Future Perfect, an interdisciplinary production company in New York City. Members of Austin's own Fusebox Festival and software developers from San Francisco and Shreveport also participated. The project focused on automating the emotional expressions of performers with 3D animation character rigging, using depth cameras, and will culminate in a play premiering in 2015. Beira and de Quay also won one of only three commissions for a new work to be premiered at

The Ammerman Center for Arts and Technology for the 14th Biennial Arts and Technology Symposium at Connecticut College from February 27 to March 1.

## 7. Research outreach: Innovation, Entrepreneurship, and Technology Commercialization Activities

- 2014

### Digital Media Entrepreneurial Boot Camp

In June, teams of emerging and established entrepreneurs took part in an intensive two-day workshop in Lisbon on prototyping and pitching products. Attendees included doctoral students from the Universidade Nova de Lisboa and the Instituto Superior Técnico. Digital Media entrepreneurs Lane Becker, co-founder of online customer service community platform Get Satisfaction, and Michael Agustin, co-founder of game design engine maker Game Salad, led the program. In just several fast-paced hours, participants worked in small groups to develop and pitch new products, first to their peers for feedback and revision, and on the second day to an outside audience. In the final session, participants presented their work to several members of the entrepreneurial community, including two representatives of Espirito Santo Ventures, the top venture capital organization in Portugal, one member of the Lisbon Startup Initiative, and two representatives of Portuguese Digital Media companies.

- 2015

### University Collaborators convened in Lisbon

Members of the International Partnerships programs between Portugal and MIT, Carnegie Mellon University, and UT-Austin gathered in Lisbon in May for the programs' first joint conference. "Fostering Science and Innovation Ecosystems: Portugal-US Partnerships" took place at the Palácio Foz and featured a comprehensive presentation of the accomplishments of the international partnerships between Portuguese institutions and CMU, MIT, and UT-Austin of the programs' accomplishments in research, education, and innovation and entrepreneurship. UT-Austin|Portugal Digital Media was represented by UT-Austin's Sharon Strover, Heitor Alvelos of UPorto, and doctoral program alumnus Paulo Nuno Vicente, journalist and founder of Lisbon's Bagabaga Studios, a co-op focusing on Digital Media production, training, and development. UT-Austin members including Brian Korgel of Emerging Technologies, Gregory Pogue of IC<sup>2</sup> Institute, UT-Austin|Portugal Program Director Marco Bravo, Vice President for Research Juan Sanchez, and Associate Vice President for Research Robert Peterson also addressed the conference.



## Emotiv Offers Doctoral Student's App

Emotiv, a leading international manufacturer of brain technology devices, recently introduced an application developed by Digital Media doctoral student Horácio Tomé Marques and FEUP masters student Hugo Cardoso in its online store. HoMy\_EmoRAW is a research tool designed and created by Marques, who is now concluding his Digital Media PhD, in collaboration with Cardoso during Marques' dissertation research, which focuses on the real-time representational forms of brain phenomena within the



context of art practice. The application was developed to address the needs and problems related to accessing the headsets' brain-computer interface (BCI) raw data, an integral aspect of Marques's study.

Bagabaga Studios, a company founded by Digital Media program affiliates, has launched an innovative collection. Bagabaga's one-day "Cursos Relâmpago" (lightning courses) cover such diverse topics as video production with DSLRs and mobile phones, WordPress, field sketching, presentation design, JavaScript, and social media for organizations. Bagabaga Studios is a Portugal-based co-op with participants from many disciplines in Digital Media production, training and research. Its director is co-founder Paulo Nuno Vicente,



PhD graduate from the UT-Austin|Portugal Program. Bagabaga is a member of UPTEC's Creative Industries Center (UPTEC PINC) at the University of Porto. On Bagabaga Studios' twitter feed they cite the short film "15 Frames" by co-founder Rui Avelans Coelho as the kind of work participants can learn to do from their training.



## New Startup: OpenLab

Three Digital Media doctoral students have initiated OpenLab, a workspace in downtown Porto. The group inaugurated ITS effort with a streamed workshop at FuturePlaces in October that addressed the Digital Media Program and how it figures into the future.

## 8. Visits to Austin

### Visiting researchers, interns and exploratory visitors

- 2013

» Filipe Lopes, Visiting Researcher from UPorto

The Digital Media program in Austin welcomed its first new visiting researcher of the spring semester, UPorto student Filipe Lopes, who conducted research at UT. Lopes worked with Bruce Pennycook of the Butler School of Music and the Radio-TV-Film Department, an expert on new media and audio technologies. He spent much time making further progress on his thesis an innovative project focusing on soundspecific space, investigating how to perform a space's "sonic personality." He joins ten other Digital Media doctoral students visiting UT for the spring semester.

» Ruí Dias, intern at UT

UPorto doctoral student Ruí Dias arrived at UT-Austin as a research intern. Carlos Guedes of Porto and co-advisor Bruce Pennycook of UT advised Dias, whose work focuses on automatic music generation and interactive music systems. His work comes from the work on the FCT-sponsored research project Kinetic Controller Driven Music Systems. Dias's visit was supported by an FCT research grant given as part of the ZON 2011 Multimedia Award for GimmeDaBlues, a musical application created by a research team of which he was a member at Porto's INESC TEC.

- » Gustavo Magalhães, visiting researcher from UPorto

Magalhães, a previous doctoral student at UPorto, defended his dissertation proposal in 2013. As a visiting researcher at UT-Austin, Pereira studied the phenomenon of open data services, focusing on their role in the open government data ecosystem. While open government data has been usually framed as a tool for increased transparency and citizen empowerment, Magalhães was particularly interested in its inherent potential for entrepreneurship. In exploring this potential he studied organizations such as nonprofit group Code for America, which was working to support openness and citizen participation in local government.

- » Tiago Videira, visiting researcher from UNL Departs UT

After nearly two years as a visiting researcher, Tiago Videira returned to Lisbon to complete his dissertation. Videira worked closely with UT professor Bruce Pennycook, learning programming techniques for musical analysis and symbolic manipulation using the programming language Lisp. During his highly productive visit, Videira composed over a dozen original music pieces and began development of a new instrumental music generator, in addition to studying a wide range of disciplines as he shaped his dissertation topic.

- » Carlos Figueiredo, visiting researcher from UPorto

Figueiredo worked with Radio-TV-Film faculty member Wenhong Chen, an expert on social capital and social networks and entrepreneurship. He developed his dissertation, which studied social network analysis and the perceived emotions of users during information sharing activities. This research aimed to provide a new way for users to break out of their usual, familiar information “bubbles” and access information flows based on novelty, rather than information focused on social relevance. The results of this study has implications on how social network data might be used, and may be especially relevant for entrepreneurial applications.

- » Horácio Tomé Marques, Exploratory visitor from UPorto

UPorto student Horácio Tomé Marques explored the UT campus, meeting with various faculty, and attending numerous presentations and events on and off campus. Marques, whose research focuses on music perception and cognition, arranged to come to Austin during the world-renowned SXSW media festival. During the first days of his stay, Marques met with faculty at the Butler School of Music including his co-advisor Bruce Pennycook. Marques also had the opportunity to meet with Eugenia Costa-Giomi, a faculty member whose research includes work on music perception, cognition, and early learning, and Adam Holzman, a professor of Guitar. Marques concluded his faculty meetings by conferring with Director Sharon Strover about his exploratory visit’s outcomes and future plans.

- » Cláudia Lima, Exploratory visitor from UPorto

Lima was working with the marketing director of the Austin Public Library. Her plans were to learn more about how the organization uses social media and networks to engage the community and raise awareness of library services, with a view toward performing a comparison study with the public library of Porto.

- » Rita Sá Exploratory visitor from UPorto

Sá explored Austin’s hackerspace, furthering her study of collective art practice and open community spaces. She also met with a number of UT faculty members during her stay.

- » Pedro Suspiro, Exploratory visitor from UNL Visits Austin

Doctoral student Pedro Suspiro visited UT-Austin to explore opportunities for research collaboration. He sat in on several courses including Human-Computer Interaction and Mobile Interface Design, taught, respectively, by the School of Information faculty Luis Francisco-Revilla and Jacek Gwizdka, and Interactive Media and Game Development, taught by Music professor Bruce Pennycook.

- » Marta Ferez, visting researcher from UNL visits Austin

Ferez visited Austin to research her ideas on Digital Media and civic technologies. She met with Craig Watkins along with other UT faculty members.

- » Filipa Rodrigues, from UPorto

Rodrigues arrived in Austin to conduct her research in Digital Media and radio. She was able to meet with many UT faculty members that provided an enriching experience.

- » Cláudia Silva, UNL visiting researcher conducts workshops in Austin

Cláudia finished her first series of workshops on locative media and storytelling at Latinitas, a Texas nonprofit organization devoted to empowering young Latinas through media and technology. Silva, who has taken classes at UT-Austin, was a visiting researcher and worked with two local community groups, Latinitas and the River City Youth Foundation.

- » Gustavo Costa, UPorto exploratory Costa arrived to work with Sharon Strover to explore possible collaborations. He had the opportunity to meet with other faculty members at UT-Austin.



- » Daniel Catalão, UPorto, exploratory visitor

Catalão meet with UT-Austin faculty to explore research opportunities through the UT-Austin|Portugal Digital Media program.

- » Isabel Paiva, UNL doctoral student

Paiva took several courses at UT-Austin in both the RTF Department and the Design Department. She returned to Austin on several occasions.

- 2014

- » Rodrigo Carvalho, visiting researcher from UPorto

University of Porto doctoral student Rodrigo Carvalho spent the Spring 2014 semester in Austin as a visiting researcher. Carvalho's work explored potential relationships between visual representation, sound, and movement and included both a comprehensive history of projects exploring these areas and a practical component focusing on the creation of innovative tools and applications for audiovisual interactive systems. His coadvisors are Carlos Guedes of Porto's INESC Technology and Science and Bruce Pennycook of UT. During his first weeks in Austin, Carvalho explored UT's research facilities including the Fine Arts Library and joined an interdisciplinary project being created for Ears, Eyes + Feet, an annual performance of collaborative, experimental works by composers, choreographers, and visual artists at UT. Carvalho was also active in Austin's audiovisual arts scene, giving performances at well-known local venues including a performance at an SXSW event. His catalog of historical and contemporary projects exploring sound, visuals, and movement is available as part of his research blog.

- » Sebastião Santana, intern at Elephant Productions

New intern Sebastião Santana at Elephant Productions, a longstanding video production company in Austin. Came to UT as an affiliate of the team that won the Prémio ZON Criatividade em Multimédia prize in 2011 for "Ginjas", a digital animation project. A graduate of Lisbon Polytechnic Institute, he has produced work in a variety of media formats including digital animation, music video, photography, and digital illustration. Examples of his projects are available on his website. During his time at Elephant Productions, he broadened his experience in video camera work and learned more about the organization of workflow in US production teams.

- » Rita Sá, visiting researcher from UNL

Sá, who made an exploratory visit to Austin a year ago to study Austin's ATX Hackerspace, came to Austin again for a period of 3 months. Her research focused on collective art

practice and open community spaces.

- » Jaqueline Silva, visiting researcher from UNL

Silva, a first-year student at the time, studied women and the online world and had extensive experience as an entrepreneur, recently authoring a book on unemployment and entrepreneurship.

- » Gustavo Magalhães visiting researcher from UPorto

Visiting UPorto doctoral student Gustavo Magalhães contributed to the New York University GovLab Open Data 500 initiative as a member of the study's ten-person team. The comprehensive research project gathered information on 500 companies that use open government data as a primary resource, and was presented at The Economic Impact of Open Data event by the Center for Data Innovation in Washington DC. This research provides a basis for estimating the economic value of open data and may encourage the development of new companies. Among the study's products is an interactive chart of what business sectors, such as health or finance, use which government agencies' data.

- » Pedro Ângelo, visiting researcher from UPorto

Pedro Ângelo, a doctoral student at UPorto, visited UT-Austin and spent his time meeting with faculty and students and becoming acquainted with the local digital art community, including the ATX Hackerspace. Ângelo's research focuses on the development of creative programming tools for digital art to enhance collaboration and assist in the understanding and use of high performance parallel distributed heterogenous systems. He met with faculty from a range of disciplines including Don Fussell of the Real-time Graphics and Parallel Systems Lab, Bruce Pennycook, Director of Digital Art at the College of Fine Arts, and Luis Francisco-Revilla and Rob Turknett of the Texas Advanced Computing Center.

- » Patrícia Nogueira, exploratory visitor from UPorto

First year UPorto student Patrícia Nogueira, a documentary filmmaker and former television journalist, was interested in the role of the user/spectator in interactive documentary. Her visit to Austin included attendance at the Cine Las Americas festival, which included her film "3 Horas para Amar," and several meetings with UT faculty.

- » Filipa Cardoso exploratory visitor from UPorto

Cardoso studied Digital Media and integrative health, looking at how Digital Media can influence wellbeing.

» Paulo Fontes, visiting researcher from UPorto

Paulo Fontes, a doctoral student from UPorto, returned to Austin. He worked with his UT co-advisor Brad Love of the Advertising and Public Relations Department. Fontes, who first visited Austin in 2012, is studying how guerilla marketing may be used to promote public interest in science. Through a public test campaigns followed by data-gathering interviews, Fontes investigated how instances of guerilla marketing affected people's attitudes and intentions to perform follow-up actions such as seeking more information online. During his stay, he examined different definitions that surround the concept of guerrilla marketing, as he finalized the design of his formal study.

» Fernando Governo, visiting researcher from UPorto

Doctoral student Fernando Governo from UPorto spent the 2014-15 academic year doing research at The University of Texas at Austin. Governo, who initially visited UT in February 2012, stayed from September of 2014 through July 2015. His research focused on the evolving future of online films, and how digital convergence has affected film distribution and exhibition. He is particularly interested in trends toward transnational taste groups and content, which are often supported by international online communities. Governo's research is planned to culminate in a community website that brings together social networking and videostreaming, and facilitates the study of factors that promote the growth of online transnational film.

» Marcela Canavarro, exploratory visitor from UPorto

UPorto PhD student Marcela Canavarro arrived in Austin and spent a week at the University of Texas. Canavarro, who entered the program in 2013, is pursuing an integrated study of citizen media activism in Brazil, focusing on the demonstrations of June 2013 in Rio de Janeiro and subsequent actions. Her study included data gathered from social media sites Facebook and Twitter and blogs, in addition to material collected in interviews and questionnaires. During her stay, she met with Rosental Alves, Director of the Knight Center for Journalism in the Americas, Joseph Straubhaar, an expert on Brazilian media in the Radio-TV-Film Department, and Laura Stein, an authority on social activism and media, also in the RTF Department. Additionally, Canavarro had the opportunity to meet with Rachel Mourao, a UT doctoral student with overlapping research interests. Canavarro studies social media content generated during political demonstrations, and received advice on research methods and data mining software especially useful.

» Carla Saraiva, exploratory visitor of UNL

Saraiva focused on wearable devices, mental health, and emotional regulation as well as studying data-driven journalism and narrative visualization.

» Rodrigo Guedes, exploratory visitor from UPorto

Guedes, instructor affiliated with U Porto, arrived in Austin for the semester in order to explore research opportunities. He spoke with Sharon Strover and Bruce Pennycook in addition to other faculty in the Digital Media program.

## Austin Internships

● 2014

» Sebastião Santana, production intern

Santana recently completed his semester-long internship at Austin media company Elephant Productions. Santana, who is experienced in several aspects of video production and has worked on a variety of freelance projects in Portugal, was given the opportunity for the internship as part of the Premio ZON Criatividade em Multimédia prize, which was awarded to animation entry "Ginjas," in 2011. At Elephant Productions, Santana collaborated with UT students on a TV commercial campaign for local nonprofit organization Leap of Joy, an afterschool program focusing on dance. He also volunteered as stage crew at the SXSW Music Festival, worked on graduate student films in the Radio-TV-Film Department, and got to know the city while forging connections with his Austin colleagues.

» Carlos Ramos, Ph.D. candidate in Digital Media at FCT

Ramos is focused on interactive installations with cinematographic content. He is interested in interactive art, HCI, and the Internet of Things.

» André Rocha, a Ph.D. candidate at FCT

Rocha is interested in environmental media and design has been working on a model of open farming using sensor technology.

» Ruí Silva, intern

Silva arrived to work as an intern in the area of sound. He assisted with numerous productions in the undergrad and the MFA programs at UT-Austin.

● 2015

» Rodrigo Carvalho, visiting researcher from UPorto

In January, UPorto doctoral student Rodrigo Carvalho returned to the University of Texas, where he spent most of the spring semester as a visiting researcher. At UT, Carvalho worked primarily with Bruce Pennycook, the Director of the



Center for Arts and Entertainment Technology. He visited Austin last spring and participated in various collaborations with his UT colleagues during the semester, including the creation of Breakdown, an interactive audiovisual dance performance produced with a team including dual degree candidate Yago de Quay and other UT graduate students. Carvalho's multi-method research looks at the relationships and synergies created between sound, visuals, and movement in interactive audiovisual spaces.

» Ricardo Baptista, exploratory visitor from UPorto

Baptista initially enrolled in the doctoral program in 2010, and is working on a research project with professors Craig Watkins of UT-Austin and António Coelho of UPorto. The project, titled "New Tools for Certification in Game-based Learning," complements his dissertation research, which focuses on training competences certification and the interconnection of specific game designs with assessment methods. Baptista has been developing his research in the computing graphics group at UPorto's Department of Informatics Engineering and spent a week in Austin contributing to the research project and exploring UT's scholarly resources, with the intention of returning later as a visiting researcher.

» Sandro Dias, exploratory visitor from UNL

Dias studies second language acquisition and gamification met with several members of UT's Foreign Language Education graduate program during his visit

» Madalena Miranda, exploratory visitor from UNL

Miranda is interested in using documentary models to develop web-based construction and exhibition platforms, as well as serious games. Miranda discussed new documentary forms and changes in cinematographic language with some of UT's top documentary makers, including Ellen Spiro and Nancy Schiesari, and met with Center for Health Communication Director Jay Bernhardt and faculty in the Department of Psychology to discuss how mHealth technologies may aid users with mood disorders

» Ioli Campos, exploratory visitor from UNL

Campos was a Fulbright researcher at UT before entering the doctoral program. Her work focuses on news literacy and journalism for children. While in Austin, she met with Journalism and Radio-TV-Film faculty as well as game development experts Warren Spector and Paul Toprac. She also attended the Open Institute.

» Rui Leitão, exploratory visitor of UPorto

Leitão is in his second year of the doctoral program at UPorto He studies educational technologies, game design,

and gamification and met with Spector, youth and media expert Craig Watkins, Sharon Strover, and Marco Bravo of UT's IC<sup>2</sup> Institute.

» Carla Saraiva, exploratory visitor from UNL

Saraiva is focusing on wearable devices, mental health, and emotional regulation as well as studying data-driven journalism and narrative visualization.

» Ilo Aguiar, exploratory visitor from UNL

Aguiar, who studies data-driven journalism and narrative visualization, met with faculty across the University to discuss data visualization, open source, and media ethics.

» Amílcar Correia, Visiting researcher from Publico

Correia from PUBLICO in Portugal is both a fellow at TIPI and at the Knight Center. On sabbatical for three months, Correia is exploring crowdsourcing (30% of his digital newspaper P3, a youth oriented news website, is sourced by reader input) and aggregation in which a news organization gives readers a comprehensive digest of news pertinent to them. Following up on this idea, he also has an exciting new project: P Global, an up and coming app that localizes news important to the reader in Portugal, Brazil, Angola and Mozambique.

» André Mourão, exploratory visitor from UNL

Third year UNL doctoral student Mourão visited UT in spring 2015 to contribute to "Mobile Measurement and Motivation: A Feasibility and Pilot Study of Smartwatches for Health in the United States and Portugal." The project is led by Jay Bernhardt, Director of the Center for Health Communication, in collaboration with UNL faculty members J. Paulo Moreira and João Magalhães, and Kate Magsamen-Conrad of Bowling Green State.

» Patricia Nogueira, visiting researcher from UPorto, arriving January 2016

Nogueira will be spending her time researching the role of the audience in interactive documentary. She will process data from Canada's National Film Board in order to understand the audience's online behavior.

» Ivo Teixeira, visiting researcher from UPorto

Ivo joined the department to conduct his research in exploring the body and digital systems in public space.

» Cláudia Silva, returns as a visiting researcher from UNL

Silva returned to Austin in January to work with members of

local community groups dedicated to technology education and bridging digital inequalities, with the supervision of her advisor Joe Straubhaar.

## Visiting Scholars, Faculty and Official Visits

- 2013

- » João Mário Grilo, Filmmaker and Visting Scholar from UNL

Award winning filmmaker João Mário Grilo visited Austin in May. Grilo, a professor in the department of Communication Sciences at UNL, met with UT students and faculty and presented some of his latest work. While traveling in Mexico and the United States, he has studied the landscapes appearing in films by legendary directors such as Sergei Eisenstein and John Ford. Grilo is researching the potential of using new media to approximate the landscape images and directors' framing choices, such as through building 3D models. This may offer a new means to acquaint today's students with influential directors of earlier decades.

- 2014

- » Top FCT Officials, National Program Director visits Austin

UT-Austin had the honor of hosting esteemed guests including Foundation for Science and Technology President Miguel Seabra, Vice President Pedro Carneiro, Coordinator of the Technology Office Emir Sirage, and UT-Austin|Portugal Program National Director Fernando Santana. The four had a full schedule, touring UT facilities and meeting with representatives of the City of Austin. The guests additionally discussed the program with UT Vice President of Research Juan Sanchez, Principal Investigator Robert Peterson, and International Program Director USA Marco Bravo, in addition to meeting with area program directors and representatives Sharon Stover, Donald Fussel, William Beckner, and Paulo Ferreira. Digital Media also arranged a meeting between the officials and the program's doctoral students and faculty. The students, who included visiting researchers Cláudia Silva, Gustavo Magalhães, Isabel Paiva, and UT PhD students João Beira and Yago de Quay, explained how their experiences at UT have contributed to their research projects. Faculty members Kathleen Tyner, Joe Straubhaar, Mike Mackert, and Randolph Bias discussed their perspectives on the program, while Stover facilitated. The visit allowed the members of FCT and National Program Director Santana to get an overview of the University's facilities and resources and discuss key strategies for the second phase of the program with program executives and area heads, as well as meet UT faculty members and some of the program's students currently doing research in Austin.

- 2015

- » Nuno Correia and Mónica Mendes Visit for New Agendas Conference

Mónica Mendes, an alumna of the Digital Media doctoral program, and Nuno Correia, the program's academic director in Lisbon, came to Austin for the Moody College of Communication's New Agendas Conference in February. The annual conference features the research of emerging scholars in different areas. The 2015 conference focused on immersive media and was planned by Sharon Stover.

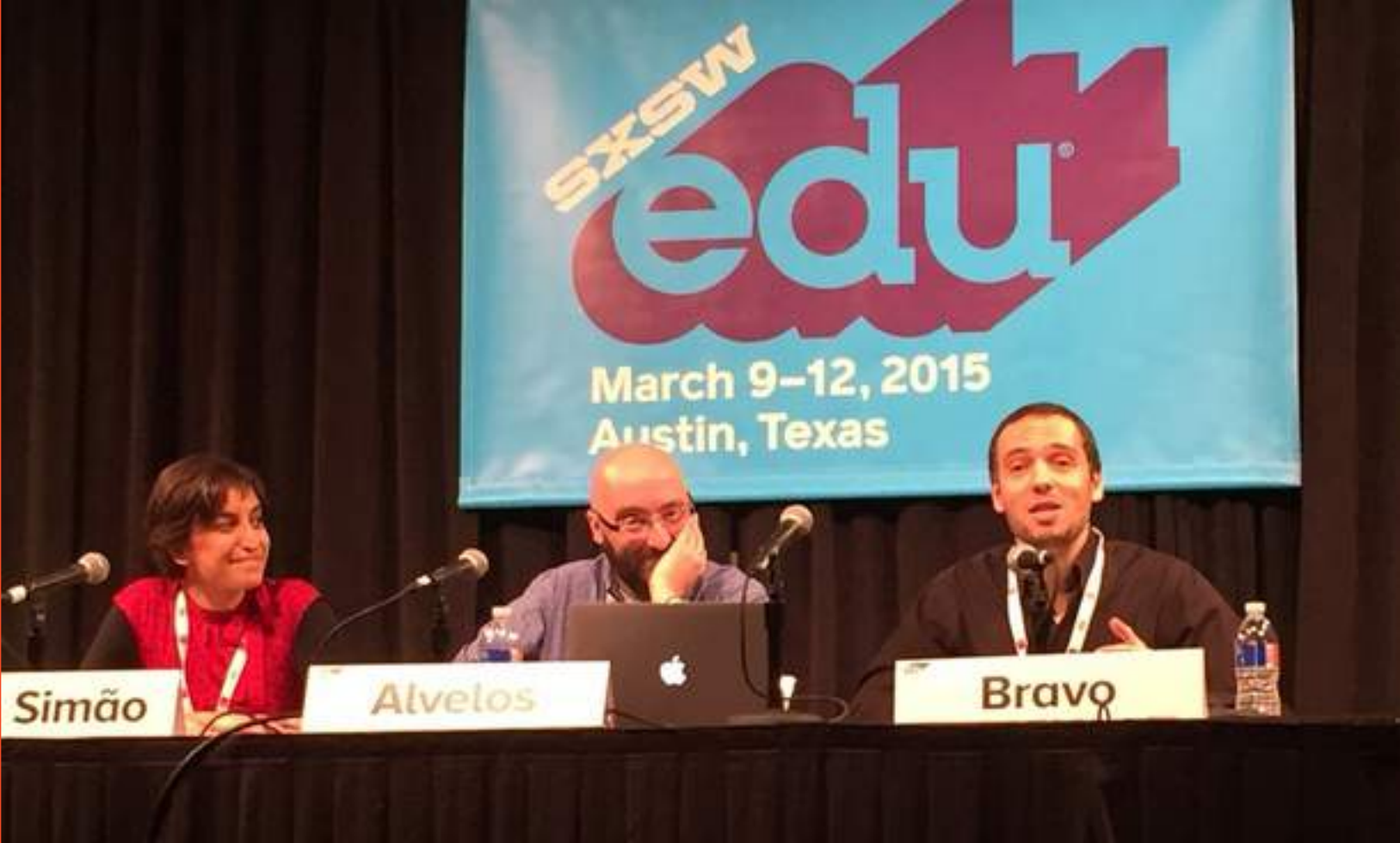
Mendes, who is now a professor at the University of Lisbon, presented some of her dissertation research in a talk titled "Creating Immersive Experiences of Nature Using Networked Surveillance." Correia served as a conference discussant. During their stay, the two visitors also met with several Digital Media doctoral students.



- » UPorto Program Members Visit Austin, Speak at SXSWedu

Professor Heitor Alvelos of the University of Porto and Fátima São Simão, Creative Projects Director of UPorto's Science and Technology Park (UPTEC), joined UT-Austin's Marco Bravo in a panel on entrepreneurialism and education. The panel, titled "Research, Startups, Citizens: All Together Now", took place on March 12 and focused on the startup community fostered by UPTEC, exploring how the organization's development models have promoted design research, bringing together citizen-led projects, startup businesses, and academics to create a space for cross-pollination and creative growth.

The speakers represented a variety of backgrounds; Alvelos heads the Design PhD program at UPorto, São Simão has been a leading member of UPTEC while pursuing her doctorate, and both are actively involved in Creative Commons Portugal and are key organizers of the FUTUREPLACES MediaLab for Citizenship. Bravo, who was previously with the Portuguese government's Ministry for Science, Technology, and Higher Education, is now Project Director for Global Entrepreneurship, Innovation, and Technology Commercialization at UT's IC<sup>2</sup> Institute.



Professor Heitor Alvelos of the University of Porto and Fátima São Simão, Creative Projects Director of UPorto's Science and Technology Park (UPTEC), joined UT-Austin's Marco Bravo in a panel on entrepreneurialism and education.

## Other – visits to Portugal

- 2013

- » UT's Sharon Strover Visits Lisbon and Porto Jan 2013

Digital Media Director Sharon Strover traveled from Austin to Portugal to see program directors, faculty, and students and discuss plans for 2013 activities such as the Summer Institute, doctoral program courses, research calls, and entrepreneurial workshops for students. During her visit, she met with David Cristina of the Ministry of Science and Education to discuss Ministry priorities, such as commercialization and collaborative research proposals. Strover also visited the Lab SAPO/UPorto, a facility created through the cooperation of UPorto and SAPO, the ISP division of Portugal Telecom. The lab, which was formally opened in October 2010, supported a variety of digital media research initiatives, including REACTION: Retrieval, Extraction, and Aggregation Computing Technology for Integrating and Organizing News, a sponsored UT-Austin|Portugal project led by Mário Silva of the University of Lisbon and Luis Francisco Revilla and Matt Lease of UT-Austin. The facility also hosted a number of advanced student research projects. At the close of Strover's visit, she met with her fellow researchers at the 2nd ImTV Workshop.

- » IMTV 2nd Research Conference

On January 10, the ImTV project team (On-demand Immersive TV for Communities of Media Producers and Consumers ) gathered in Porto for its 2nd research conference. Over a dozen researchers representing several institutions attended the event. Attendees included principal investigator João Magalhães of the New University of Lisbon; Nuno Correia and David Serrano, also of UNL; co-principal investigator Sharon Strover of UT-Austin; Teresa Chambel and João Ramalho of the University of Lisbon; Artur Pimenta Alves, Paula Viana, José Pedro Pinto, Teresa Andrade, Márcio Soares, and Tiago Costa of INESC TEC; and Pedro Ferreira of MOG Solutions, a leading developer of Material Exchange Format (MXF) technology and a spin-off company of INESC. This research project was initiated in 2010 and supported by FCT funding. Its team studies how to exploit the full potential of new trends in media production and consumption by devising an on-demand immersive-TV framework combining TV industry, Internet distribution models and end-user needs. The project has proved prolific in its publications and presentations around the world at major venues including EuroITV and International Communication Association conferences last year. Topics at the January 2013 conference included personalized multiview spaces, recommendation systems, gesture-based interaction for TV control, collaborative annotation of video



content, sharing and navigating immersive video, connected viewing, and MOG technology solutions. Additionally, the meeting featured planning sessions for future collaboration and projects.

- 2014

- » **Legendary Game Designer Warren Spector Visits Lisbon, Meets with Students**

Acclaimed video game designer and industry veteran Warren Spector met with digital media students in Lisbon. Attracting a standing room only crowd, Spector gave a talk and then spent hours viewing demonstrations from game production students, including four who work with UPorto Engineering faculty member António Coelho. The following day, Spector visited the Tagus Park campus of Instituto Superior Técnico and met with the Game Development class there. Spector, who lives in Austin, is heading the new Game Academy post-baccalaureate certificate program at UT, which launched in Fall 2014. His work in the video game industry includes popular games System Shock, Epic Mickey, and Deus Ex, which has been identified as one of the best PC games of all time by leading game magazine PC Gamer.

## 9. Post-Docs and Alumni:

We have many, many people who are now alumni of the program. Although our newly completed doctoral students are only now beginning their careers, many of the participants in workshops and intensive professional programs on screenwriting, animation, other media production, as well as people associated with research projects and various festivals and events, work throughout the media industries and beyond.

We highlight in particular BagaBaga Studios, the Lisbon-based startup mentioned earlier. This cooperative effort grew out of collaboration among several doctoral students and engages in media making, news and publishing and related digital media explorations.

OpenLab, in Porto, draws inspiration from digital media work as well. This fledgling venture in Porto links the efforts of three Digital Media students to new explorations in digital media and new opportunities to both network and develop applications.

We have supported several post-docs over the years, most of whom are mentioned in another section of this report.

### Game Designer Warren Spector Visits Lisbon, Meets with Students





## 10. Capacity Building Events

- 2013

- » UT-Austin|Portugal Program Inaugurates Its Second Phase

Representatives from the office of the Secretary of State for Science and the Foundation for Science and Technology, rectors and faculty members from participating universities, and students gathered at the University of Porto on October 29 to mark the beginning of the UT -Austin|Portugal program 's second five-year phase. The program featured an opening session with speakers José C. Marques dos Santos, Rector of UPorto, Pedro Carneiro, the Vice President of FCT, and António Rendas, President of the Council of Rectors of the Portuguese Universities. Presentations from each of the program's primary areas followed, describing the accomplishments and plans of Digital Media, Advanced Computing, Mathematics, Emerging Technologies, and the University Technology Enterprise Network. Incoming National Director of the UTA-Portugal program Fernando Santana spoke next, accompanied by Marco Bravo and Mark Calhoun of UT's IC<sup>2</sup> Institute.

- 2014

- » The seventh annual FUTUREPLACES in Porto

FUTUREPLACES kicked off with the Digital Media Doctoral Symposium on October 15 with the keynote speaker Jillian York, Director for International Freedom of Expression for the Electronic Frontier Foundation. The FUTUREPLACES

MediaLab for Citizenship followed the Symposium. Jillian York appeared on a roundtable about freedom of information on October 16, joined by Len Massey of the Royal College of Art, FUTUREPLACES co-curator Heitor Alvelos, and Sara Moreira, formerly of Global Voices. The MediaLab for Citizenship featured nine Citizen Labs on diverse topics including game development, collaborative approaches to frugal meals, oral history, and a ready-made guitar ensemble of non-guitarists. Other FUTUREPLACES 2014 attractions included a presentation of documentaries produced in the UPorto Multimedia MA program, a screening of the biography of late activist Aaron Swartz titled "The Internet's Own Boy," a panel on smart technology and creative citizenship, and numerous concerts.





» Digital Media Doctoral Symposium (Porto)

FUTUREPLACES kicked off with the Digital Media Doctoral Symposium on October 15. Doctoral students, program alumni, and faculty gathered to hear research presentations on October 15 at UPTEC PINC in Porto. Jillian York, the Director for International Freedom of Expression for the Electronic Frontier Foundation, opened the Symposium with a keynote speech titled "The Chilling Effects of Surveillance." Following her talk, students and alumni from the New University of Lisbon and the University of Porto gave short presentations of their research. The slate of speakers included Rodrigo Carvalho, Luciano Moreira, Cláudia Silva, Eduardo Morais, André Rocha, Pedro Ângelo, Marcela Canavarro, Horácio Tomé Marques with Francisco Marques-Teixeira, Patrícia Nogueira, and Luís Grifu, as well as alumni Daniel Brandão and Nuno Duarte Martins.



Digital Media Doctoral Symposium (Porto)

- 2015

#### PLUNC: The New Media and Digital Art Festival

PLUNC had its first successful festival from September 24 to 27, 2015. It was organized in collaboration with the UT-Austin | Portugal Program. The theme was Interactivity. This year's edition focused on different social and cultural approaches to the approximation, proximity and pathways between the two shores of the Tagus River, more specifically the strands of the cities of Almada and Lisbon, where the festival took place. There were innovative projects and experiments that sought to engage the audience, either directly or indirectly. Zach Lieberman, Alex Rothera, Benjamin Gaulon, Sally-Jane Norman and André Sier and UT-Austin doctoral students Joao Beira and Yago de Quay were among the exhibiting artists.

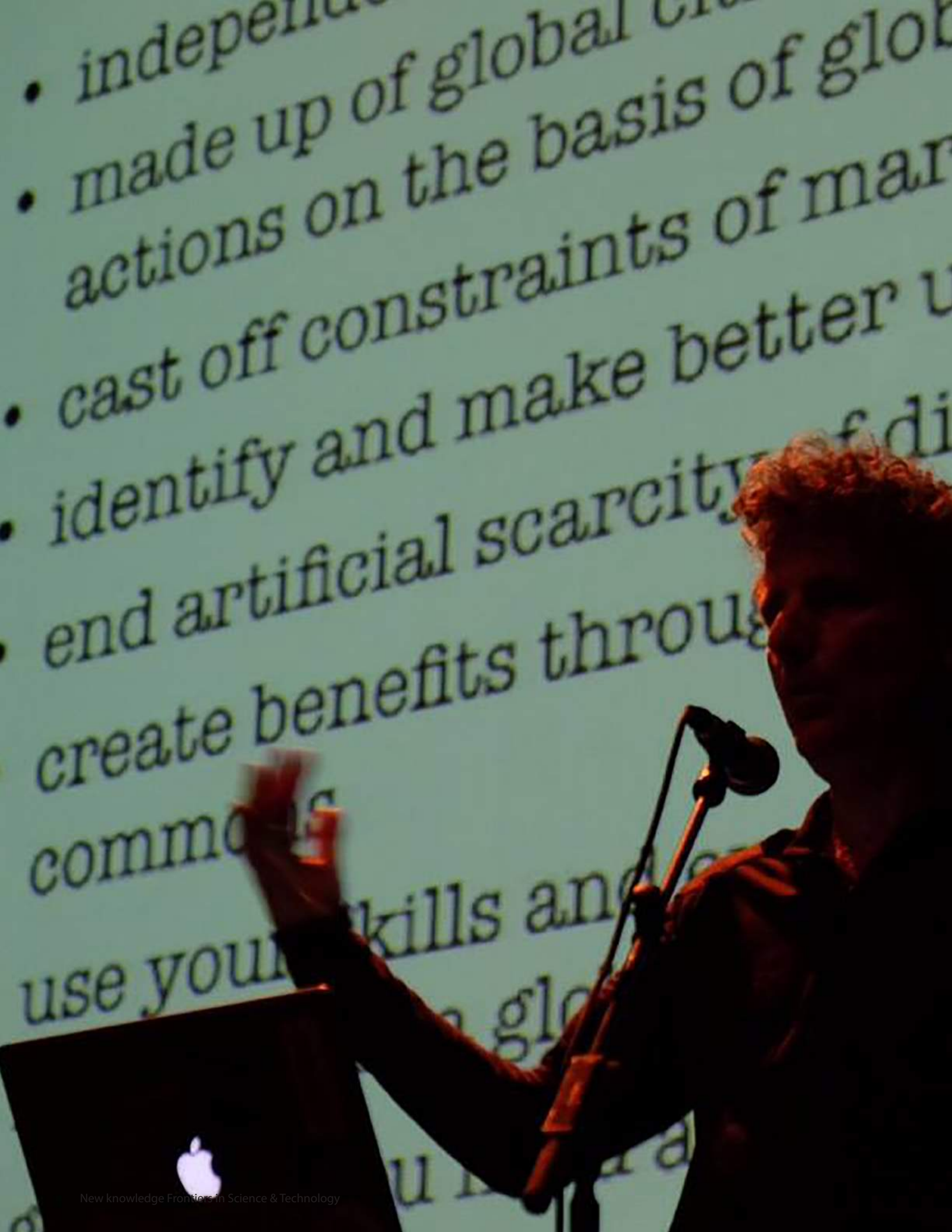


» Open Institute: Exploring Open in contemporary culture

The goal of the Open Institute is to scope the range and meaning of "open" in contemporary culture, and to examine some of the dynamics of a variety of projects developing open hardware, open software, open usable for governmental purposes, and open access. The ways in which opening resources to a broad community can mobilize political and community participation will be a major theme of the week.

This intensive residential program took place at UT and brought together 13 doctoral students from UPorto and UNL, UT graduate students, and local and international experts to explore different aspects of this emerging field. The students' areas of expertise include social media and political activism, journalism, education, makerspaces and open source hardware, entrepreneurship, and health. The program included highly interactive and daily talks and





- independent
- made up of global
- actions on the basis of glob
- cast off constraints of mar
- identify and make better u
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- create benefits through
- common
- use your skills and
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excursions to relevant Austin sites. Topics involved open health and government, and open source hardware and software, open storytelling, and open access. The Institute's daily schedule included time for presentations, workshops, and field trips to sites significant to Austin's growing open community.

The Institute's leaders included Nuno Correia of UNL, Valentina Nisi of the University of Madeira, Catarina Mota, a recent graduate of the Digital Media Program at UNL, and Pedro Ângelo of UPorto, as well as UT speakers Sharon Stover, Phil Doty, Caroline Frick, Liz Gushee and Andrés Lombana Bermudez. UPorto doctoral student Gustavo Magalhães Pereira, a visiting researcher at UT, also served as one of the program's leaders. Drawing on Austin's active open technology community, the Institute brought in Chip Rosenthal to speak on civic hacking and James Seppi and Andrew Wilson of Texas Natural Resources Information System to lead two mapping workshops.

## 11. Funding

### FTC funding for the UT|Portugal Digital Media Program from 2013-2015 was:

- 2013

#### » Fellowships and Grants - 2013

The Portuguese Foundation for Science and Technology announced a new call for doctoral scholarship applications in the UT-Austin|Portugal Program. Digital Media research areas named in the call included production of audiovisual and interactive content; technology; journalism; and industry, publics, and markets.

- 2014

#### » Fellowships and Grants - 2014

2013	2014	2015
\$507 794.92	\$200 105.10	\$590 103.80

The Portuguese Foundation for Science and Technology issued a call for the funding of joint research and development projects in Interactive and Digital Media and Emerging Technologies. Two categories of project proposals were requested. The first, for exploratory projects, calls for smaller, highly experimental research lasting 12 to 24 months and emphasized graduate student involvement. Strategic research and development projects, the second category,

focused on the program's strategic research areas and lasted between 18 to 24 months. These more comprehensive projects involved the participation of at least two separate research groups in Portugal and at least one group at UT, as well as PhD students. Partnership with industry was also highly encouraged, and proposals addressed sustainability issues.

#### » UT -Austin|Portugal Program Announced New Funding Opportunity

The UT-Austin|Portugal Program requested collaborative research proposals on projects in digital media, advanced computing, mathematics, and nanotechnology. The Program awarded between \$50,000 and \$100,000 per proposal to five to seven projects total. The projects include collaboration between UT and Portuguese researchers and were submitted by the UT co-PI to the IC<sup>2</sup> Institute of UT-Austin. The projects were funded through the budget allocated to UT-Austin under the CoLab initiative, a cross-disciplinary effort coordinated at UT by the Office of the Vice-President for Research and the IC<sup>2</sup> Institute, and the Digital Media Program contributed approximately \$100,000 to this call. This was a new call, separate from the call for projects by the Foundation for Science and Technology.

The single project in the Digital Media area was described earlier (Roots and Wings). Led by Dr. WenHong Chen, the research investigated mobile entrepreneurialism and partnerd with several Portugal researchers.

#### » FCT-Funded Investigators in Digital Media

Three Digital Media projects, two strategic and one exploratory, were chosen for funding by FCT in the 2014 research call. The results were announced in 2015:

- UTAP-ICDT/IVC-ESCT/0020/2014

Games for Media and Information Literacy (Jogos Digitais para a Literacia Mediática e Informacional)

Recipient: UT-Austin PI Kathleen Tyner (Radio-TV-Film) and Portugal PI Maria da Conceição Gonçalves Costa

- UTAP-ICDT/EEI-CTP/0022/2014

Relevance Mining and Detection System: REMINDS (REMINDS - Sistema para Mineração e Detecção de Relevância)

Recipient: UT-Austin PI Matthew Lease (School of Information) and Portugal PI Álvaro Pedro de Barros Borges Reis Figueira

- UTAP-EXPL/EEI-ESS/0031/2014

Expression and Recognition of Irony in Multicultural Social Media (Expressão e Reconhecimento de Ironia nos Média Sociais Multiculturais) (Exploratory Project)

Recipient: UT-Austin PI Byron C Wallace (School of

Information) and Portugal PI Paula Cristina Quaresma da Fonseca Carvalho

- 2015

### New Research Call:

The Portuguese Foundation for Science and Technology plans to release another research call supporting the UT-Austin collaboration with Portuguese researchers before the end of 2015. As with the last call, Portuguese researchers will team with UT-Austin-based researchers to apply in various subject areas. Within the Digital Media area, the priority areas include video games (gamification, storytelling); the economics of media industries within the Lusophone market; digital media in health and health communication; digital media content and tools for transmedia, e-government and education; media processing and retrieval systems; public and civic media and development opportunities, among other topics. Proposals for both large and smaller projects will be considered.

#### » e-Health Researchers Meet in Lisbon

Several UT researchers specializing in health communication flew to Lisbon in February to meet with their Portuguese colleagues and work on collaborative research projects first proposed last summer. The researchers include faculty members Jay Bernhardt, Director of the Center for Health Communication; Keri Stephens of Communication Studies; Jacek Gwizdka of the School of Information; and Michael Mackert of the Stan Richards School of Advertising and Public Relations at UT, who is sending graduate student Allison Lazard as the team's representative. Sharon Stover of the UTA-Portugal Digital Media program, who organized the research meeting and grant process, will also attend. The Digital Media program is providing seed funding for the collaborative projects, which explore ways digital media can improve health communication. Topics include approaches to engaging men in prenatal communication, with principal investigators Mackert and Manuel José Damásio of the Lusophone University of Humanities and Technologies; using digital media to increase physical activity in dialysis patients, with PIs Stephens and Damásio; the use of smart watches to monitor health among users in the US and Portugal, led by PIs Bernhardt and Moreira of the New University of Lisbon School of Public Health; and improving understanding of how consumers search for and evaluate online health information, with PIs Gwizdka and Zhang of UT-Austin and Carla Teixeira Lopes of the University of Porto.

#### » New Digital Media Facebook Group

Several UT-Austin and Portugal doctoral students organized a new Facebook page for the Digital Media program to facilitate communication among members in Porto, Lisbon, and Austin, publicize new opportunities, and strengthen the program's growing community. The facebook

group is UT-Austin|Portugal Digital Media.

#### » TIC@Portugal'15 meeting: UT team organizes the program

The TIC@Portugal'15 Meeting aimed to reflect Communication and Information Technology (TIC) practices in education by hearing from educators and teachers that use these tools, through the presentation of their work, and by inviting specialists to share the newest developments in this field. As part of the team that organized TIC@Portugal'15, António Maneira, alumnus of the UT-Austin|Portugal Digital Media PhD Program, managed all the procedures at the Faculty of Science and Technology (FCT), including a session that took place at the FCT's Media Ground room. Luís Frias, currently a student on the program, was responsible for a workshop entitled "Multimedia Production in the Classroom using Mobile Devices," in which participants learned how to use and produce applications for filming, editing and publishing content using a tablet.

## 12. Other

### 14th International Symposium on Online Journalism at UT (ISOJ)

This annual symposium has attracted several Portuguese professionals and graduate students over the years, and the period 2013-2015 was no exception. In 2015, academics, media professionals, and students attended the International Symposium on Online Journalism in Austin from April 19-20. Rosental Alves, Director of the Knight Center for Journalism in the Americas at UT, chaired the program. Clark Gilbert, President and CEO of the Deseret News Publishing Company, New York Times executive editor Jill Abramson, Andy Carvin of National Public Radio, and Emily Bell, Director of the Tow Center for Digital Journalism at Columbia University and former director of digital content for UK newspaper The Guardian, all contributed. On ISOJ's third day an Ibero-American portion of the conference convened.

Panel topics included trends in social media, innovations in digital platforms architecture and design, mobile journalism, and data visualization.

## 13. Final Activities for 2015

In the previous report, the following action list was proposed as a blueprint for 2015. We are pleased to report that we are on target and are well on our way to completing all tasks



**1. Cultivate the entrepreneurship component of the program. Considering the current financial limitations and the success potential of previous actions, several approaches should be pursued in the future:**

**A.** Develop strategic projects involving UT-Austin faculty members and/or Austin- based companies together with Portuguese researchers and companies and submit them to QREN in Portugal and its equivalent in the United States. Various Portuguese companies will be identified and assessed for potential collaboration opportunities. This will be facilitated through the networks of previous program participants now working in targeted industries. Over the past five years the program has trained hundreds of students, many of them working professionals; they constitute a potential point of entry into businesses that already have directly benefited from program endeavors. Phase II will work with them to identify and develop entrepreneurial research initiatives suitable for possible external funding efforts.

**B.** Develop a screening program for digital media startups that may be incubated through an American presence in Austin. This screening program will be led by Antonio Câmara in Portugal working with UT-Austin representatives. The program will be based on one public call per year. UTEN will participate in this program.

**C.** Develop a relationship with Fraunhofer Portugal to further stimulate entrepreneurial activity within the program. The relationship with Fraunhofer will include hosting Master in Multimedia students in internships in Portugal and stimulate and strengthen the practice-based component in the Ph.D. programs. It is envisioned that the support of Fraunhofer Portugal will be instrumental in supporting the creation of advanced diplomas and help to fulfill the educational goals. A strong relationship with this institute also could be an important factor in attracting UT-Austin graduate students to Portugal.

**D.** Offer “boot camp” training in entrepreneurship for doctoral and interested MA students in Digital Media. At the beginning of the fall semester, the Digital Media program will offer a three-day “boot camp” in entrepreneurship, with UTEN consulting on speakers and topics for the boot camp. There is also a plan to work with Portuguese instructors in the boot camp so that more entrepreneurially oriented projects would be encouraged in classes. The UTEN program will assist in implementing this boot camp.

**2. Reinforce the academic partnership with UT-Austin.**

**A.** Expand the partnership by supporting the establishment of new areas related to Digital Media.

In particular, the next phase will focus on creating activities related to computer video games. The City of Austin has

become an important center for the gaming industry worldwide and UT-Austin offers unique conditions to support the creation of a strong computer video game program in Portugal. The interdisciplinary nature of the doctoral and masters programs supported by the partnership, and their connections to engineering, computer science, and graphic and sound design, create unique conditions for the establishment of a groundbreaking program in game development in Portugal with support from UT- Austin. This will be one of three focus areas for entrepreneurial research. A broader spectrum of disciplines will be incorporated, which is required given the multidisciplinary essence of Digital Media, which in turn accesses a wide range of research fields and human activities. Complementary contributions from Information Design, Computer Science, Electrical Engineering, Archiving and Conservation, Digital Management, Music and Sound for New and Old Media, Geography, and Social Studies, in particular, will be considered; many of these disciplines already are represented in the summer institutes and research projects and coursework.

**B.** Foster dual degree interest for Portuguese doctoral students seeking degrees at UT-Austin through joint student activities. See the section on Digital Media Ph.D. Dual Degree Roadmap below for details of a description of UT-Austin degree opportunities;

**C.** Continue to incorporate UT faculty from various departments and colleges in co-teaching through videoconferencing and through workshop activities in Portugal, underscoring the multidisciplinary nature of Digital Media;

**D.** Expand the faculty exchange program so that Portuguese faculty members from various universities can co-teach and work with UT-Austin faculty members, as funding allows; these exchanges will enable Portuguese faculty members to share teaching techniques, to collaborate in areas in which there is content expertise, and to train in new content domains, all the while building and deepening networks;

**E.** Develop joint courses with UT. This may facilitate the coursework requirements for students in the Digital Media program and may enable Portuguese institutions to host UT-Austin graduate students in Portugal; some of these courses would be developed through videoconferencing.

**F.** Create an exploratory visiting program for faculty members in Portuguese universities that may be interested in developing a relationship with UT–Austin, namely in the areas identified in 2.A. This program will provide a small amount of funding for Portuguese faculty members willing to contact departments/other faculty at UT–Austin for developing other Digital Media-related topics.

**H.** Integrate additional universities and research centers into programmatic opportunities. Institutions such as the Católica University, School of Arts in Porto, the University of Minho in Braga (specifically the technology and digital media arts program), the interactive media program at the University of Madeira’s Interactive Technologies Institute,

IST and Faculty of Sciences in Lisbon, and the Polytechnic of Porto (specifically the program in Digital Media at the School of Music and Performing Arts), and ID+ Institute of Research in Design, Media and Culture (U.Aveiro/UPorto) should be progressively included in program events such as summer courses, research projects, conferences, and workshops.

I. Continue doctoral student scholarships in order to sustain the research and development expertise in the country and to invest in critically important new talent. Separate calls from FCT for the Digital Media degree will ensure a high quality applicant pool.

3. Undertake collaborative, innovative research on cutting edge problems facing media businesses and processes. Research efforts will unite UT-Austin and Portugal-based faculty around topics defined jointly by program participants, with priority given to projects with clear opportunities for innovation.

A. CoLab proposes to work with FCT to design one research call in Digital Media in each of the next five years. These competitive calls would demand an entrepreneurial dimension and incorporate the business community in meaningful ways leading to demonstration test beds. These test beds will be further exploited to involve international collaborations and attract national companies to the program. Research projects will be assessed on the basis of presenting a clear focus on elements in the earlier-stated strategic vision, especially emphasizing three research initiative areas: (1) the dimensions, operations and potentials of the Lusophone market and the development of appropriate entrepreneurial efforts in Portugal; (2) research on videogame developments; (3) digital media-related health and assistive devices, particularly as their development may link with efforts at the Fraunhofer Institute. These will be launched through a competition that is evaluated by an international panel of experts. They will require integrated management of resources from American as well as Portuguese institutions. If research calls are integrated in the annual FCT call, the area should be identified in the call and the projects should allow the integrated management of resources from American as well as Portuguese institutions. Modest support for UT-Austin co-principal investigators in three project areas is noted in the budget.

B. Connect media companies to the educational and research programs, including continuing education or professional development opportunities. Connections to companies are crucial for maximum program success and will insure that research enhances the market opportunities of Portugal-based companies. One example is the jointly sponsored Zon Laboratory in Austin that trains media professionals so that they are better equipped to contribute to production activities in Portugal.

4. Evaluate and disseminate the program outcomes to new environments.

A. Conduct annual program evaluations. Such efforts can lead to continuous improvement; each element of the funded activities should assess outcomes on a regular basis; network analysis (as was used in evaluating the social capital attributable to ISDT) and other research methods will be used to measure performance.

B. Disseminate program outcomes in terms of their impact on scholarly contributions in journals and conferences, and in terms of the program's contributions to media businesses; regular program newsletters serve to knit together the community or program participants, and will be further extended to more industrial affiliates as well as the general public.

C. Solidify Portugal's presence as an international leader in digital media innovations through continued sponsorship of international activities such as FUTUREPLACES, the International School for Digital Transformation, or other consortia-sponsored efforts. Significantly, such events can enable the building of social capital of networks that are critical to both the market and to research progress. Additionally, FUTUREPLACES: digital media and local cultures will enhance its existing R&D component by consolidating its showcase component for international research, ongoing Ph.D. projects, and innovative creative practices and outcomes; and ISDT will take on publishing and dissemination. Further ties between the two initiatives will be implemented, and the utility of both will be assessed annually.

D. Extend program efforts to the Lusophone world, particularly Angola and Brazil. The plan is to work with international organizations such as agencies within the United Nations, among others, to extend the International School for Digital Transformation model to other locations. As noted earlier, Brazil is one of the near-term targets for ISDT, and working with Brazilian universities and NGOs will cultivate many relationships relevant to development efforts. Attention to Lusophone opportunities also will include working with media companies now targeting these regions for expansion, as well as undertaking research projects that explore social networking opportunities in these regions.

E. The collaborations also will expand their internationalization efforts with targeted European digital media programs, including the University of Nottingham's Cultural Industries Program and the state-funded MediaLab-Prado in Madrid.

## 14. Awards

- 2013

### Gary Chapman honored with the Norbert Wiener Award

Gary Chapman, founder of the UT-Austin|Portugal International School on Digital Transformation, was awarded posthumously the final Norbert Wiener Award for Social and Professional Responsibility by the Computer Professionals for Social Responsibility. This international organization has promoted responsible use of computing technologies since the early 1980s, and recently announced its dissolution. Chapman, who passed away in 2010, served as the first Executive Director of CPSR from 1985-1992. He was a faculty member at the LBJ School of Public Affairs, a widely published technology columnist, and an internationally recognized expert on Internet policy.

- 2014

### Jaqueline Silva Awarded Research Support



New University of Lisbon doctoral student Jaqueline Silva recently won an award sponsored by the US Embassy, the Luso-American Development Foundation (FLAD), and Portugal's EDP Foundation. Silva, who studies women and entrepreneurship, interviewed some of the most successful young women in the digital media industry, focusing on entrepreneurs under 30 who live in Los Angeles, San Francisco, and New York City, as well as possibly Austin. Her interviews included questions about how women surmount professional challenges and she collected the advice offered which was grounded in their personal experiences. This research was made available in an e-book suggesting best practices for Portuguese entrepreneurs.

### Gustavo Magalhães Wins Award at ICEGOV

A paper authored by Gustavo Magalhães of UPorto and

Laura Manley of the Governance Lab of NYU was commended at the 8th Annual International Conference on Theory and Practice of Electronic Governance (ICEGOV) in Guimarães, Portugal. The paper, "Business Models for Open Government Data," was selected from 136 submissions coming from 51 countries to win Best Research Paper. Drawing on data from The Governance Lab's Open Data 500 study, a survey of U.S. companies using open government data to create products and services, the research paper proposed various business model archetypes. Magalhães, the lead researcher on the paper, has been a visiting University affiliate at UT for several semesters, doing research with Code For America and NYU's Governance Lab, among other organizations. His advisors are Professor Catarina Roseira in Porto and Professor Sharon Strover in Austin.



### Marta Ferraz wins E3 Forum award

At the MIT Portugal E3 Forum ("Education Employment and Entrepreneurship") held in Lisbon, UT-Austin|Portugal Digital Media student Marta Ferraz won the People's Choice Award in the "Most Innovative" category for her company, BioHybrid Robotics: (<http://www.biotechbodies.com/>). Marta's work was recently covered by Portuguese media. The complete video from the Portuguese TV channel "TVI" can be seen at the following address: [http://www.tvi24.iol.pt/videos/video/14173354/1?utm\\_source=twitterfeed&utm\\_medium](http://www.tvi24.iol.pt/videos/video/14173354/1?utm_source=twitterfeed&utm_medium)





- 2015

### Diana Marques, 4th year doctoral student, wins mobile App award



Fourth year Digital Media student Diana Marques was recognized by the American Alliance of Museums for her mobile application “Skin and Bones,” which won the AAM’s Gold Media and Technology MUSE Award. The app, developed for her doctoral work, superimposes virtual representations upon real museum exhibits, allowing the museum visitor to interactively learn about natural history with 3D digital experiences. Marques is conducting research at the Smithsonian Museum of Natural History in Washington, DC, focusing on augmented reality and the museum visitor’s experience. She was recently invited to speak about her work at the National Academy of Sciences.

### Blue Vinyl award awarded to Horácio Tomé Marques



Marques, A FEUP and fellow UT-Austin| Portugal student finishing his Phd on Digital Media won a Blue Vinyl award — MusicBricks incubation award category — at MTF (Music Tech Fest) in Umeå, Sweden. Marques won the award with his project FindingSomething SoundingBonding, created and produced together with Francisco Marques Teixeira and Fanny Fazakas (Hungary) in the Hackathon - an MTF program where participants create and develop a project in 24 hours according to themes and guidelines released by the MusicBricks program.

The FindingSomething SoundingBonding project is an audio-visual performative piece for two actors, who expose a narrative conceptually anchored in an inter-relational event between two human beings (a kind of game, based on provocation/perception, using ingredients such as body gestures, body language, reception/perception/cerebral-reaction, iteration). In terms of processes and technologies, it is based on gestures/movements and brain electric potentials, where one of the participants uses various gesture/movements R-IoT sensors (IRCAM) and the other uses a brain-computer interface (Emotiv).

The MusicBricks incubation awards are incentives for research and development, rewarding innovative and well-founded projects, denoting previous field research, and that have a clear potential for further development and future real impact in fields of arts, science, and technology.

## 15. Looking ahead

Many of our plans are referenced in earlier sections of this report, and with two years remaining for our project, we hope to bring to fruition several of our goals. They include:

(1) Stabilizing funding for the doctoral program and establishing a solid base of research projects that can support their efforts. We would like to initiate a small, competitive program of seed grants for doctoral students to encourage the growth of larger projects thereafter. Our educational offerings, especially our longer and more intensive courses, will continue.

(2) Continuing our research emphases in e-health, video games, creative content explorations, and developing systems and applications for the domains of education, health and government. E-government endeavors are highly related to the efforts around openness, creation and re-use and sharing of data. We hope there will be one more FCT-led call to aid with these interests.

(3) Developing the Open Institute. The Institute is a direct inheritor of our earlier International School for Digital Transformation, and it will continue to probe the ways that openness can benefit businesses, education, and creativity in Portugal. We look forward to working with colleagues in materials sciences and nanotechnology and computer science to explore some research and development possibilities. In line with this, we also will continue the efforts featured in FuturePlaces around copyright and Creative Commons solutions. We plan to work with Routledge on generating an edited book that will grow out of our next Open Institute, and we plan to have the Institute in Portugal, possibly in Madeira. The group there has offered to host this meeting.

(4) Extending the excellent research cluster in the e-health area. There is clear interest from many other researchers in Portugal and also obvious need for more work to exploit

the opportunities becoming evident in linking technology to health solutions. We plan to deepen the research and development network within the country: our conference early in 2015 drew people from many different groups and regions, evidence of how important this subject domain is. Bringing more energy and effort together will strengthen the aggregate expertise. Our seed grants should lead to additional funded work in e-health.

(5) TICE, NEM and ADDICT are still young organizations, and we anticipate working with them as much as possible. They will assist in linking research to applications, and help to identify the types of research most usable to their constituencies. So too our work with the Creative Commons and UPTEC's technology incubator, and with Digital Media

startups BagaBaga and OpenLab will push more of Digital Media's work toward new user groups. These organizations will be targeted for new networking opportunities that work across several of our activities.







## // Emerging Technology Program

// The Emerging Technologies Program in the UT|Portugal program has been working to foster economic development in Portugal by enhancing Portugal's graduate programs and research capability in nanotechnology, fostering collaboration between academic researchers and Portuguese companies, and introducing and catalyzing best practices for new business creation, entrepreneurship and technology transfer to Portuguese industry."

Brian A. Korgel  
Co-Director Emerging Technology Program  
UT-Austin | Portugal



## 1. Introduction and background

The main idea of the UT-Austin|Portugal program in Emerging Technologies is to advance a collaborative vision in nanotechnology research, education, and training, as well as to explore common interests in technology commercialization. Of special interest is promoting the transfer of new nanotechnologies to industry in Portugal and nurturing the formation of new companies located in Portugal to exploit the latest scientific and technological advances. The program will be coordinated by UT-Austin and Portugal and has two goals:

(1) Enhance Portugal's graduate programs and research in nanotechnology by creating seamless exchange opportunities for faculty and students to share new knowledge, ideas, experience, and capabilities;

(2) Foster economic development in Portugal by bridging UTEN with state-of-the-art nanotechnology researchers, with the aim of creating and instituting new best practices for transferring new nanotechnology to the private sector to target global markets.

## 2. Evolution

This program has brought a significant number of researchers together both at UT-Austin and abroad. The following principal investigators have participated in the program:

- Chemical Engineering
  - » Brian A. Korgel
  - » Nicholas A. Peppas
  - » Nathaniel Lynd
  - » Delia Milliron
  - » George Georgiou
  - » Lydia M. Contreras
  - » Jennifer A. Maynard
  - » Thomas M. Truskett
  - » Michael Baldea
- Biomedical Engineering
  - » Nicholas A. Peppas
  - » Laura J. Suggs
  - » Jeanne C. Stachowiak
  - » James W. Tunnell
- Mechanical Engineering
  - » Paulo J. Ferreira
  - » Carolyn C. Seepersad

- Electrical and Computer Engineering
  - » Emanuel Tutuc
- Aerospace Engineering
  - » Nanshu Lu
- Physics
  - » Elaine Li
- IC<sup>2</sup> Institute
  - » Prentiss Riddle

## 3. Institutions

- The University of Texas at Austin – Chemical Engineering, Biomedical Engineering, Electrical and Computer Engineering, Mechanical Engineering, IC<sup>2</sup> Institute, Physics
- University of Aveiro (Aveiro, Portugal) - Materials and Ceramic Engineering
- Instituto de Telecomunicações (Aveiro, Portugal)
- Universidade Nova de Lisboa (Lisbon, Portugal) - CENIMAT
- University of Porto (Porto, Portugal) – Biomedical Engineering, Chemistry and Biochemistry
- Instituto Superior Técnico (Lisbon, Portugal) – Molecular Physical Chemistry
- University of Minho (Minho, Portugal) – Chemistry, Polymer Engineering,
- University of Lisbon (Lisbon, Portugal) – iMed

## 4. Key people

- Portugal

Paula Vilarinho, Co-Director Emergent Technologies (Portugal)

Associate Professor, University of Aveiro

President of the Portuguese Materials Society (SPM)

Department of Materials and Ceramic Engineering

Centre for Research in Ceramics and Composite Materials (CICECO)

- The University of Texas at Austin

Brian A. Korgel, Co-Director Emergent Technologies (UT-Austin)

Edward S. Hyman Endowed Chair in Engineering  
T. Brockett Hudson Professor of Chemical Engineering  
Director, Industry/University Cooperative Research  
Center for Next Generation Photovoltaics

Paulo Ferreira, Co-Director Emergent Technologies  
(UT-Austin)

Robert & Jane Mitchell Endowed Faculty Fellowship in  
Engineering

Director, Texas Materials Institute Electron Microscopy  
facility

## 5. Education and training activities

### 5.1. Academic degrees

Masters, Ph.D.s, etc.

- 2014
  - » Avni Jain (Thomas Truskett)  
  
PhD, Chemical Engineering, The University of  
Texas at Austin (2014)  
  
Thesis: Inverse design methods in targeted self-  
assembly  
  
Current Position: Postdoctoral Fellow, DESY  
(Hamburg, Germany)
- 2015
  - » Yixuan Yu (Brian Korgel)  
  
Ph.D., Chemical Engineering, The University of  
Texas at Austin (2015)  
  
Thesis: Functionalization and self-assembly of Si  
nanocrystals  
  
Current Position: Postdoctoral Fellow, Korgel  
Group (UT-Austin)

### 5.2. Ph.D. students

- Participants 2013, 2014, and 2015
  - » Douglas Pernik, Yixuan Yu, Cherrelle Thomas, Adrien  
Guillassier, Emily Adkins, Avni Jain, Richard Pattison,  
Somayesadat Rasouli, Daniel Groom, Jonathan

Bollinger, Yang Wang (Postdoc), Gabriel LeBlanc  
(Postdoc), Ryan Jadrach (Postdoc)

### 5.4. Graduates' dissertations and current positions

- 2014
  - » Avni Jain  
  
Thesis: Inverse design methods in targeted self-  
assembly  
  
Current Position: Postdoctoral Fellow, DESY  
(Hamburg, Germany)
- 2015
  - » Yixuan Yu  
  
Thesis: Functionalization and self-assembly of Si  
nanocrystals  
  
Current Position: Postdoctoral Fellow, Korgel  
Group (UT-Austin)

### 5.6. Visiting scholars

The University of Texas at Austin

- João Joanaz de Melo (2014, 2 months)  
Assistant Professor, Universidade Nova de Lisboa
- Ana Rita Ramos (2014, 6 months)  
Ph.D. Candidate, University of Aveiro
- Willi Aigner (2015, 2 months)  
Ph.D. Candidate, Technische Universität München  
Ph.D. Supervisor: Rui Pereira, University of Aveiro



- Paula Vilarinho (2015, 6 months)

Associate Professor, University of Aveiro

- Pedro Duarte (2015, 1 year)

Ph.D. Candidate, University of Aveiro

## 5.7. Workshops, talks and presentations

- 2014

- » Brian Korgel – University of Aveiro

“Multiexciton Solar Cells of CuInSe<sub>2</sub> Nanocrystals.”

- » Douglas Pernik – International Workshop on Nanostructures for Solar Cells (INL)

“CuInSe<sub>2</sub> Nanocrystal Surface Characterization: Valence Band Tunability and Raman Spectroscopy”

- » Douglas Pernik – University of Minho

“CuInSe<sub>2</sub> Nanocrystal Surface Characterization: Valence Band Tunability and Raman Spectroscopy”

- » Paulo Ferreira – INL

“Seeing Small: Enabling New Discoveries in Nanomaterials Through Advanced Transmission Electron Microscopy”

- » Jennifer Maynard – University of Aveiro

“Design and Delivery of Protein Therapeutics: Molecular Engineering to Prevent Disease”

- 2015

- » Thomas Truskett – Complex Fluids at Structured Surfaces: Theory Meets Experiment Workshop (Berlin, Germany)

“Inverse Design for Directed Assembly”

- » Brian Korgel – Lisbon

“Investing in World-Class Research to Spark Economic Development”

- » Xiaoqin Li – INL

“Light-Matter Interaction on the Nanoscale”

- » Xiaoqin Li – University of Aveiro

“Light-Matter Interaction on the Nanoscale”





## 6. Research Activities

The UT-Austin|Portugal program in nanoscience and nanotechnology catalyzes commercialization and economic growth of Portuguese industry. The program is using funding to support research that demonstrates the fundamental potential of new research ideas, which will then create new opportunities for interaction with industry, as well as opportunities for the creation of new companies in Portugal.

The program aims to achieve five goals: 1) build capacity for undertaking interdisciplinary research and graduate education in nanotechnology by cultivating high caliber graduate programs in Portugal and creating collaborative United States-Portugal research opportunities; 2) cultivate a critical mass of activities, opportunities, test beds and expertise in Portugal in nanotechnology by uniting and sharing efforts among several universities; 3) bring international recognition to Portugal as a country where cutting-edge research and exploration occur in nanotechnology and especially nanotechnology commercialization; 4) foster rapid commercialization of new nanotechnology developments, especially those made at academic institutions; and 5) work with industry in Portugal to explore new products and the creation of new nanotechnologies.

### 6.1. Research Projects

- Brian A. Korgel (UT-Austin): "Graphene-based Semiconductor Photocatalysis for a Safe and Sustainable Water Supply: An Advanced Technology for Emerging Pollutants Removal"
- Nicholas A. Peppas (UT-Austin): "Multidisciplinary Strategy to Develop Novel Multicomponent Nanoscale Systems for Immune Modulation"
- Paulo Ferreira and Desiderio Kovar (UT-Austin): "Exploring Stresses to Develop Functional Nanoceramics by in-situ TEM Sintering"
- Carolyn C. Seepersad (UT-Austin): "Engineering Patient-specific Bioprinted Constructs for Treatment of Degenerated Intervertebral Disc"

### 6.2. Research Development

Emerging Technologies Austin Meeting (September 14-15, 2015)

This meeting exemplified the concept of a mixed team research event. Roughly 15 researchers and team members from Portugal came and spent a few days at UT-Austin discussing project ideas and learning more about opportunities for collaboration with UT-Austin researchers. This was a large scale fact-finding mission and both Paula

Vilarinho and Brian Korgel were extremely pleased with the outcome of the event.

## 7. Research outreach: innovation, entrepreneurship, and technology commercialization activities

As a result of the kick-off meeting held in 2014, the team was able to produce a Terms of Reference for the first Project all and in doing so identified potential partners for the call. The areas were broken down into the following three categories.

1. Biomedical systems, molecular recognition, scaffolds, biomaterials, tissue engineering, stem cells, nanomedicines, intracellular trafficking, theranostics
2. Nanoparticle systems, nanoparticle assemblies, modeling and optimal design, in situ microscopy, stimuli responsive materials and surfaces, optical and/or magnetic tuning
3. Additive manufacturing, multifunctional nano-composites, devices with integrated multifunctionality, high throughput, complex (hierarchical) structures, customized (bio)reactors, and "printers/manufacturers"

## 8. Visits to Austin

- Visiting Researchers and Interns

Brian Korgel hosted Willi Aigner,

Carolyn Seepersad hosted Ana Rita Ramos and Pedro Duarte (detailed information above)

- Visiting Scholars and Faculty Visits

Brian Korgel hosted João Joanaz de Melo and Paula Vilarinho (detailed information above; sabbaticals spent at UT-Austin)

- Exploratory Visits to Austin

Emerging Technologies Austin Meeting (September 14-15, 2015)

This meeting took place over two days and involved a significant number of researchers from various Portuguese institutions visiting UT-Austin to learn more about their UT-Austin counterparts.

In addition to lab tours throughout the various departments at UT THAT are participating in the program, PIs from UT-Austin and from Portugal each gave 10-15 minute presentations on their research to help facilitate collaboration.

## 9. Post-Docs and Alumni:

Although there were no post-docs that were hosted, the program did experience faculty exchange. As mentioned above, Paula Vilarinho spent approximately 6 months in Austin while she was on sabbatical from University of Aveiro. She had an office in the Norman Hackerman Building with the rest of the Korgel Group research team.

## 10. Capacity-building Events

- Kick-Off Meeting (University of Aveiro)

**Local:** Universidade de Aveiro

**Date:** January 23-24, 2014

**Coordination:** Paula Vilarinho and Brian Korgel

**Participants:** Portuguese and UT-Austin researchers of Emerging Technologies:

**Portugal:** Albano Cavaleiro (UCoimbra), Ana Cristina Freire (UPorto), Helena Florindo (UTécnica de Lisboa), Pedro Granja (UPorto), Rui Reis (UMinho), Tito Trindade (UAveiro), Elizabete Costa (UAveiro) and Paula Vilarinho (UAveiro).



Prof. Brian Korgel during his talk at the University of Aveiro, May 2014. Prof. Korgel was presenting his work on Multiexciton Solar Cells of  $\text{CuInSe}_2$  Nanocrystals.





UT-Austin: Michael Baldea, Paulo Ferreira, Brian Korgel, Della Milliron Nicholas Peppas, Carolyn Seepersad, Thomas Truskett

**Objectives:** Detailed presentation of R&D activities in the area of Emerging Technologies in Portugal and at UT-Austin, discussion on possible collaborations, identification of synergies and possible projects.

**Out put:** Definition of the Terms of Reference for the first Project Call (2014).

**Terms of reference:**

1. biomedical systems, molecular recognition, scaffolds, biomaterials, tissue engineering, stem cells, nanomedicines, intracellular trafficking, theranostics

2. nanoparticle systems, nanoparticle assemblies, modelling and optimal design, in situ microscopy, stimuli responsive materials and surfaces, optical and/or magnetic tuning

3. additive manufacturing, multifunctional nanocomposites, devices with integrated multifunctionality, high throughput, complex (hierarchical) structures, customized (bio)reactors, "printers manufacturers".

- Brain storming between CoLab areas (Advancing Computing, Digital Media, Emerging Technologies and Mathematics)

**Local:** Universidade de Aveiro

**Date:** 28 April 2014

**Coordination:** Paula Vilarinho

**Participants:** Portuguese researchers in the areas of Advancing Computing, Digital Media, Emerging Technologies. The area of Mathematics though invited was not represented.

Elizabete Costa (UAveiro- Emerging Technologies), Paula Ferreira (UAveiro – Emerging Technologies), Paula Vilarinho (UAveiro – Emerging Technologies), Tito Trindade (UAveiro – Emerging Technologies), Adélia Sequeira (IST – Advanced Computing), Fernando Santana (UNL - Program Director), Nuno Correia (UNL – Digital Media), Alberto Proença (UMinho – Advanced Computing), Fernanda Proença (UMinho- Emerging Technologies), Luís Paulo Santos (UMinho – Advanced Computing), Manuel Melle Franco (UMinho- Emerging Technologies), Alipio Jorge (UPorto – Advanced Computing) Fernando Silva (UPorto – Advanced Computing), Veronica Orvalho (UPorto-Advanced Computing), António Coelho (UPorto – Digital Media), José Azevedo (UPorto – Digital Media).

**Objectives:** Detailed presentation of R&D activities in the area of Advancing Computing, Digital Media and Emerging







Participants at Kick Off Meeting of Emerging Technologies, University of Aveiro, January 2014. From left to right: Elizabete Costa (UA), Brian Korgel (UTAustin), Carolyn Seepersad (UTAustin), Thomas Truskett (UTAustin), Michael Baldea (UTAustin), Helena Florindo (UTécnica de Lisboa), Nicholas Peppas (UTAustin), Paula Vilarinho (UAveiro), Rui Reis (UMinho), Della Milliron (UTAustin), Paulo Ferreira (UTAustin), Tito Trindade (UAveiro), Pedro Granja (UPorto) and Ana Cristina Freire (UPorto).

Technologies and discussion possible collaborations, identification of synergies and identifying possible projects.

**Out put:** Identification of projects and teams for R&D among Advancing Computing, Digital Media, Emerging Technologies and Mathematics.

- Workshop on Nanosciences / Nanotechnologies e Road Show on Nanotechnologies

**Local:** INL (International Iberian Nanotechnology Laboratory), Instituto Superior Técnico (IST), Lisboa, Universidade de Aveiro, Universidade do Minho e Universidade do Porto, Innovnano (Coimbra) e Hovione (Loures)

**Date:** 12 -15 May 2014

**Coordination:** Paula Vilarinho e Brian Korgel

**Participants:** Portuguese researchers in the areas of Advancing Computing, Digital Media, Emerging Technologies and Mathematics, Industrials, PhD students (doctoral program Materials Sciences and Engineering of UAveiro).

**Objectives:** Public presentation of Emerging Technologies area within the International Collaboratory for Emerging Technologies, CoLab program at universities and industries. Lectures within the course of the doctoral program in Materials Science and Engineering, University of Aveiro.

Out put: Talks at University of Minho, Porto, Aveiro and Instituto Superior Técnico (IST), discussion meetings at Innovnano (Coimbra) and Hovione (Loures), Workshop on Nanotechnologies within 2D 3D Nanostructured Materials course.

- One day working with Professor Jennifer Maynard, Department of Chemical Engineering, University of Texas at Austin

**Local:** University of Aveiro

**Date:** 12 December 2014

**Coordination:** Paula Vilarinho e Ana Gil

**Participants:** Researchers, post docs and post-graduation students in the areas of Chemical, Materials and Bio Engineering.

### Objectives:

1. Seminar on "Design and delivery of protein therapeutics: molecular engineering to prevent disease";

2. Discussions on possible collaborations within International Collaboratory for Emerging Technologies, CoLab program;

3. Project preparation for the next call of projects within International Collaboratory for Emerging Technologies, CoLab program

- September 14-15, 2015:

Emerging Technologies Austin Collaboratory Meeting

Meeting recap: <https://www.youtube.com/watch?v=2Ahw17szYAQ&feature=youtu.be>

## 11. Funding

UT-Austin CoLab Program: \$419,385.79

NSF CHE-1308813: \$13,985 for travel expenditures, \$25,000 for research expenditures

Robert A Welch Foundation: \$25,000.00 for research expenditures

NSF I/UCRC Program: \$5,000.00 for research expenditures

## 12. Other

Willi Aigner's two months at UT-Austin were funded by TUM's graduate school (<http://www.gs.tum.de/en/about-tum-gs/>) and the Nano Initiative Munich (<http://www.nano-initiative-munich.de/en/>). Rui Pereira of University of Aveiro has a joint appointment with TUM and he utilized this connection to encourage collaboration with UT-Austin.

## 13. Looking ahead

Several events are planned for 2016:

The next FCT call for proposals will appear in either December, 2015 or very early 2016. This next round of funding will increase the participation of Portuguese faculty in the program and encourage further collaboration with UT-Austin researchers in emerging technology. UT-Austin will also hold a coordinated call for proposals to fund additional collaborative research.

A one-week workshop on additive manufacturing (i.e., 3D printing) will be held in Aveiro, hosted by Paula Vilarinho,



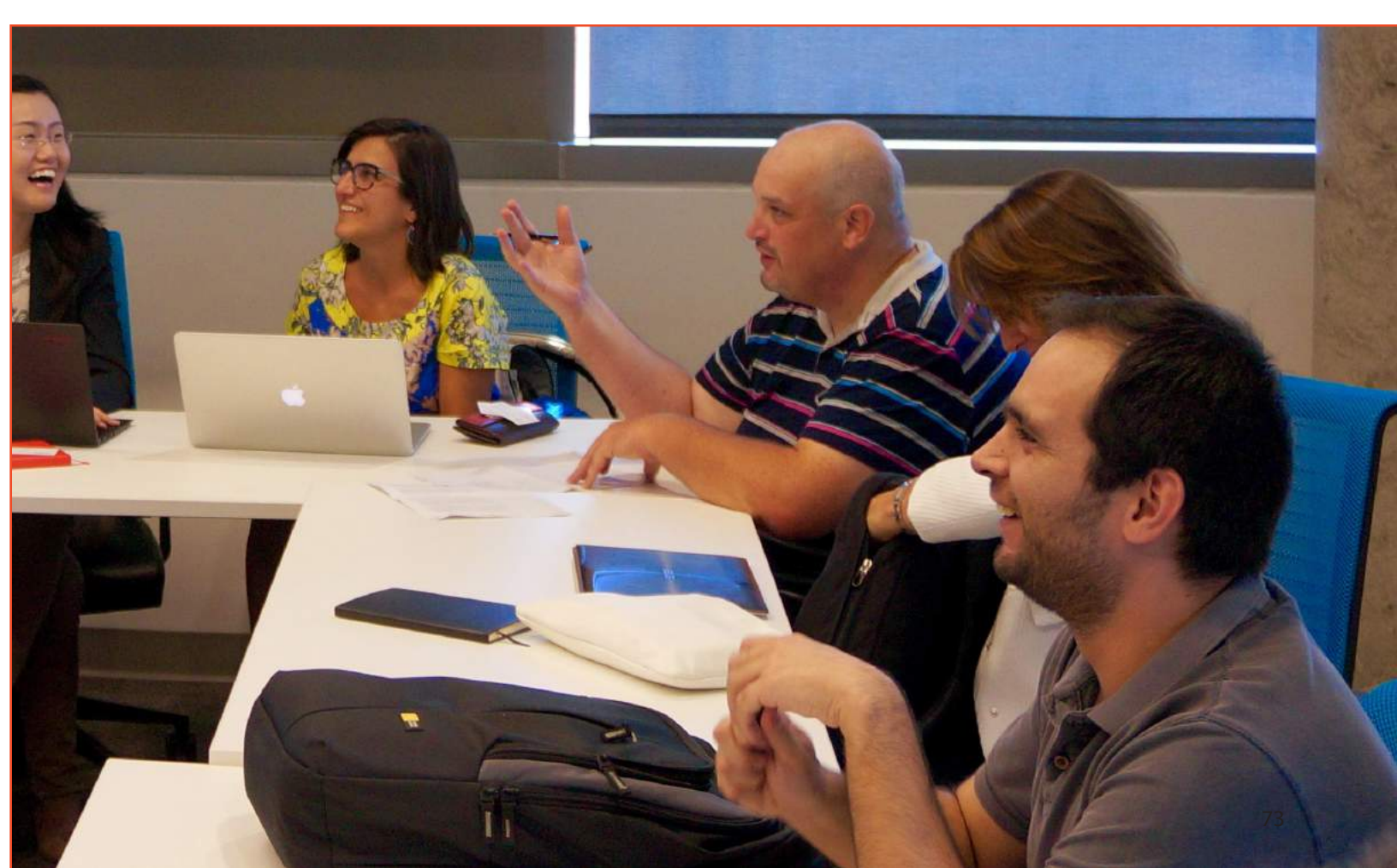


in June. Faculty from UT-Austin will lead the teaching of the course, including Carolyn Seepersad, Joseph Beaman, David Bourell and Desi Kovar. This workshop will be open to students and faculty in Portugal. Students and faculty from the rest of Europe will also be invited to attend. The goal of this workshop is to lay the groundwork for creating a national center in Portugal on Additive Manufacturing. Portuguese industry will also be engaged and invited to attend the workshop.

A 3-day workshop on technology commercialization will be held in Lisbon, Portugal in the fall of 2016. This workshop will be organized by Brian Korgel and Paula Vilarinho to bring in world-leading innovators to discuss their efforts (both successes and failures) to commercialize new technologies. Speakers will include investors (i.e., venture capitalists), academic researchers who have started companies, serial entrepreneurs, and representatives from large corporations who have a track record of working with university researchers to innovate. Students and faculty from Portugal and the rest of Europe will be invited to attend.



Prof. Jennifer Maynard from the Department of Chemical Engineering, University of Texas at Austin.







## III. Advanced Computing

// Computing is central to life in the 21st century. The Advanced Computing part of the Portugal-UT Colab program has helped Portuguese institutions to make advances in information technology and to connect with hi-tech companies in the US through summer and winter schools, short courses, joint research projects, faculty visits, and student internships."

Keshav Pingali  
Co-Director Advanced Computing Program  
UT-Austin | Portugal

## 1. Introduction and background

The Portugal-UT-Austin collaboration in the area of advanced computing covers a variety of subjects including computer science, high-performance computing (HPC), graphics, computational sciences and applications to multidisciplinary engineering. Today, these areas are foundational to most of science and even areas like the humanities and arts, where computers and quantitative methods are increasingly being used.

UT-Austin has world-class departments and researchers in these areas. The Department of Computer Science is one of the top ten CS departments in the world, and is known for its contributions to many areas, including formal methods for verifying hardware and software (Professor Allen Emerson won the Turing Award, the highest award in Computer Science, in 2007 for his contributions to this area), distributed and parallel computing, graphics and visualization, and programming language research.

UT-Austin is also home to the Texas Advanced Computing Center (TACC), which is a National Supercomputing Center funded by the National Science Foundation (NSF). TACC has some of the fastest supercomputers in the world, including Stampede, which is the 8th fastest supercomputer in the world. It has almost 500,000 cores, and a peak performance of 5 Petaflops (5,000 trillion computations per second).

Given these strengths, it is natural for Advanced Computing to be a core part of the Portugal-UT-Austin CoLab program.

## 2. Evolution

In the first phase of the CoLab program, the Portuguese side was anchored by the University of Minho, Braga. During the current phase, activities have been broadened to include other universities such as the University of Porto and the Instituto Superior Técnico (IST), University of Lisbon.

## 3. Institutions

- University of Porto, Porto
- Instituto Superior Técnico (IST), University of Lisbon
- University of Minho, Braga

## 4. Key people

- Portugal
  - » Adélia Sequeira, Instituto Superior Técnico, Lisbon
  - » Fernando Silva, University of Porto, Porto

- » Alberto Proença, University of Minho, Braga

- The University of Texas at Austin

- » Keshav Pingali, Department of Computer Science
- » Don Fussell, Department of Computer Science
- » Chandrajit Bajaj, Institute for Computational Engineering and Sciences (ICES)
- » Tom Hughes, Institute for Computational Engineering and Sciences (ICES)
- » Michael Sacks, Institute for Computational Engineering and Sciences (ICES)

## 5. Education and training activities

The main Portuguese institutions involved in this area offer advanced courses in their masters degree program in Computer Science. The IST has a PhD program in Computational Engineering that started in 2007/2008, as part of the joint initiative with UT-Austin. It offers advanced courses in multidisciplinary engineering and computational sciences. These courses constitute a good initial preparation basis for graduates to start research in the area of advanced computing and also to benefit from internships at a more competitive and challenging environment at UT-Austin.

In Advanced Computing there are no dual degrees. Training activities have been mostly directed to two main types of initiatives:

1. Summer internships for about 15 master/PhD students per year at UT-Austin.
2. Advanced schools and Workshops in Portugal with invited specialists in leading-edge topics.

### 5.1. Ph.D. students

on December 26, 2012 FCT opened the 2013 call for applications for doctoral scholarships of the UT-Austin|Portugal Program that included Advanced Computing in the following areas:

- Computer Science, namely in methodologies and techniques in High-performance-computing (HPC), distributed/grid computing and large-scale data analysis & management;
- Computational Engineering and/or Science with specific requirements in advanced computing.

One scholarship has been given to Ana João from IST, who was already enrolled in the IST PhD Program in Computational Engineering. She is presently concluding her PhD with a thesis on "Medical Imaging for Improved Accuracy in Clinical Applications." She presented her results in several



international conferences and published several papers in international journals and conference proceedings.

### 5.2. Short courses (e.g., summer Institute, summer schools, workshops, symposia, etc.)

- Autumn School and Workshop on Data Driven Computations in the Life Sciences and on Innovative Modeling Techniques for Predictive Medicine, November 9-13, IST, University of Lisbon

(URL: <http://cemat.tecnico.ulisboa.pt/DDCLS2015/>)



**Description:** The School (composed of lectures and computational tutorials) and the Workshop were organized by Adélia Sequeira of IST, University of Lisbon. They focused on mathematical modeling and simulation in the Life Sciences, a rapidly developing interdisciplinary research field that connects mathematics, computational sciences and engineering to biology and medicine. Starting from high-resolution volumetric medical imaging, the development of spatially realistic physiological models for predictive medicine leads to complex mathematical models to capture heterogeneous processes of multiscale nature that require highly efficient numerical algorithms and high performance computing techniques for their simulation.

The School and the Workshop brought together doctoral candidates, postdoctoral scientists and other researchers in applied mathematics, bioengineering and medicine, giving them the opportunity to interact and connect with the following experts who were specifically invited for the event:

**Lecturers:** Autumn School - Miguel Ángel Fernández, INRIA, Paris – Rocquencourt (France), Alessandro Reali, Università di Pavia (Italy), Alessandro Veneziani, Emory University, Atlanta (USA); Workshop - Chandrajit Bajaj, ICES/UT-Austin, (USA), Antonio Fasano, Univ. Firenze, (Italia), Shaolie Hossain, Texas Heart Institute/Houston and ICES/UT-Austin, (USA), Willi Jäger, Univ. Heidelberg, (Germany), Paula Oliveira, Univ. Coimbra, Portugal, Maria Neuss-Radu, Univ. Erlangen-Nürnberg, (Germany), Michael Sacks, ICES/UT-Austin, (USA),

Alessandro Veneziani, Emory University, Atlanta, (USA).

**Attendees:** 52 participants, mostly from Portugal, but also from Germany, Italy and Russia.

- Summer School in Distributed Computing, September



6, 2015, IST, Lisbon.

**Description:** This summer school focused on advanced distributed computing topics including consistency and performance in transactional systems, mobility, privacy, and large-scale graph analytics.

Organizer in Portugal: Rodrigo Rodrigues (IST)

**Lecturers:** Lorenzo Alvisi (UT-Austin), Peter Druschel (Max Planck Institute for Software Systems), Rodrigo Rodrigues (IST), Nuno Preguiça (Nova Univ. Lisbon), and Marco Serafini (Qatar Computing Research Institute). In addition, students gave lightning talks of 10 minutes duration, which allowed them to get feedback on their dissertation research.

**Attendees:** 40 students of which roughly 30 were from Portugal, and the others were from Switzerland, Germany, Belgium, Sweden, Italy and France.

**Feedback:** The students universally praised the lectures and the opportunity to have in-depth discussions with eminent researchers in this area. Several Portuguese Master's degree students expressed interest in pursuing the PhD program in Computer Science at IST with Professor Rodrigo Rodrigues.

- Workshop on PDE's and Biomedical Applications, December 4-6, 2014, Lisbon





(URL: <http://cemat.ist.utl.pt/PDEsBA2014>)

**Description:** This workshop was organized in collaboration with the research team of Mathematics in IST. The main goal was to bring together leading experts and young researchers and to promote national and international exchange of recent developments in the analysis and numerical simulation of PDEs and its applications, with particular emphasis to biomedical problems.

**Organizer in Portugal:** Adélia Sequeira, IST, Lisbon.

**Lecturers and participants:** The workshop had 32 invited speakers from 7 countries and an attendance of 50 participants. All the invited speakers from the Portuguese universities are strongly involved in the CoLab program and this was one of the aims of this event: to join together Portuguese researchers working in collaboration with researchers at UT-Austin, in the fields of computational science and mathematics with specific applications to biomedical problems.

**Feedback:** The feedback from all the participants was very positive. People commented that it was a perfect opportunity to learn about the work in other groups and to form research collaborations. Everyone encouraged the organizers to make the workshop an annual event.

- Tutorial on High-Performance Parallel Graph Analytics,



August, 25th, 2014, Porto.

**Description:** Future demand for computational capability and programming tools will be driven increasingly by analytics applications that process vast amounts of customer, citizen, and employee interactions other than their transactions. These analytics applications are scaling rapidly in terms of the size and variety of data analyzed, the complexity of models explored and tested, and the number of analytics professionals or data scientists support concurrently. These applications have several components, each of which exhibits a different workload behavior. Ingestion of data from varying human (e.g., speech) or sensors (e.g., images, location) input, integration of information across the input sources, discovery of models that explain the information or predict future behavior, and extraction (through query) of information matching specified criteria, are all key components of an analytics workload exhibiting distinct

workload behavior.

This tutorial covered real world analytics applications, NOSQL databases with emphasis on graph databases, new programming methodologies, and commonly used algorithms in large scale data analytics.

**Organizer in Portugal:** Fernando Silva, University of Porto.

**Key Lecturers:** Keshav Pingali, Andrew Lenharth, University of Texas at Austin, USA, and Manoj Kumar, IBM T.J. Watson Research Center.

**Attendees:** 30 people, some from the MAPI program, and others from the EuroPar 2014 conference.

**Feedback:** Attendees mentioned that they really appreciated the opportunity to discuss analytics with leading researchers from industry and academia.

- International Summer School on Parallel High Performance Computing Using Accelerators, June 23-



27, 2014, University of Minho, Braga.

(URL: <http://www.di.uminho.pt/parua14/>)

**Description:** The International Summer School on Parallel-HPC Using Accelerators delivered a mix of lectures, case study presentations and hands-on sessions in the domain of parallel computing in heterogeneous environments, with both multi-core CPU devices and many-core accelerators, namely NVidia GPUs and the Intel Xeon Phi. The target audience was graduate students in computer science and researchers in computational sciences and engineering with HPC and big-data needs.

**Organizer in Portugal:** Alberto Proença, University of Minho, Braga.

**Key Lecturers:** Keshav Pingali (UT-Austin), Donald Fussell (UT-Austin), Mary Hall (Utah), John Cazes (TACC), and Jongsoo Park (Intel).

**Attendees:** Roughly 50 students from various Portuguese universities attended the course.

**Feedback:** Participants expressed happiness at being able



to discuss parallel computing with leading experts in the area from academia and industry.

mathematical and computational modeling, clinical intervention, computational fluid mechanics, thrombosis, fluid-structure interaction, heart mechanics, continuous and discrete models, experimental studies, medical imaging and processing, cell behavior, and prognosis and diagnosis practices.



**Organizer in Portugal:** Adélia Sequeira, IST, Lisbon.

**Key lecturers and attendees:** There were thirty speakers, including Chandrajit Bajaj and Shaolie Hossain, from UT-Austin. Sixty participants from all over the world attended the workshop.

**Feedback:** Participants were unanimously of the opinion that the workshop was a very valuable experience and that they made interdisciplinary contacts that would be very valuable to them in the future.

- Workshop on Modeling and Simulation of Physiological Systems, December 6-8, 2012, IST, Lisbon

(URL: <http://cemat.ist.utl.pt/MSPS2012/>)

**Description:** What has been observed and learned from human physiology (and nature, more generally) is a constant and rich source of wonder, which has often served in proposing solutions to many problems in modern scientific society. Critically, understanding the complex processes of physiological systems is paramount in providing ever improving healthcare and medical assistance. State of the art in a wide range of research topics regarding physiological systems was addressed, principally in the fields of advanced computing and mathematics. Numerical models and simulations for varied topics included hemodynamics,

### 5.3. Visiting scholars to UT-Austin

- In July 2015, Professor Adélia Sequeira, IST Lisbon, visited UT-Austin to plan the future of advanced computing activities with ICES and CS Professor Keshav Pingali. She also continued her collaboration with UT researchers Tom Hughes and Shaolie Hossain on their CoLab research project titled "MRI-Based Computational Modeling of Blood Flow and Nanomedicine Deposition in Patients with Peripheral Arterial Disease: Insights into Disease Management".



- In September 2015, Prof. Alberto Proença visited UT-Austin with colleagues from the area of Emerging Technologies to identify possible partners for the next call for projects.

## 6. Research Activities

### 6.1. Research Projects

In 2014 the FCT call for R&D projects in Portugal was not opened to support scientific research and technological development projects in Advanced Computing. Specialists in Advanced Computing could only participate in combined teams of researchers in Digital Media and/or Emerging Technologies who applied to those projects.

In the same year, an independent call for R&D projects was opened, based at UT-Austin, for research proposals in all four CoLab areas, to extend research collaboration between UT-Austin and leading Portuguese universities and scientific institutions in the areas not supported by the FCT call.

The following projects have been approved:

- 2014 Call for R&D Projects at UT-Austin

MRI-Based Computational Modeling of Blood Flow and Nanomedicine Deposition in Patients with Peripheral Arterial Disease: Insights into Disease Management

UT-Austin: Thomas J.R. Hughes, Shaolie S. Hossain; Instituto Superior Técnico (IST): Adélia Sequeira.

- 2014 Call for R&D Projects in Portugal

Algorithms for Macro-Molecular Pocket Detection (UTAP-EXPL/QEQ-COM/0019/2014)

PIs: Joaquim Jorge, INESC (Institute for Systems Engineering and Computers) and Prof. Chandrajit Bajaj, UT-Austin.

### Senior Faculty Research Collaborations

- During her visit to UT-Austin in July 2015, Professor Adélia Sequeira, IST Lisbon continued her collaboration with Professor Tom Hughes and Dr. Shaolie Hossain on their CoLab research project. In particular, they discussed the mathematical models and numerical strategies to be used in the description of the atherosclerosis inflammatory process and plaque growth within the project development.
- Following these discussions, In September 2015, Dr. Jorge Tiago, IST, Lisbon, senior Postdoctoral Research Associate in the group of Professor Adélia Sequeira, also visited UT-Austin to collaborate with Prof. Thomas Hughes and Dr. Shaolie Hossain within the project

activities. Dr. Jorge Tiago had several meetings with Dr. Shaolie Hossain, Dr. Ju Liu and Prof. Thomas Hughes to discuss the possibility of using an IGA based code in the 3D numerical simulations. Moreover, Dr. Jorge Tiago participated in Professor Hughes's group meeting where he talked about the current stage of the CoLab project and presented his work on data assimilation in a seminar titled "A Velocity Tracking Approach for the data assimilation Problem in Blood flow Simulations".

- In September 2015, Professor Chandrajit Bajaj visited INESC to start the collaboration with Dr. Joaquim Jorge in the framework of their CoLab project.
- In November 2015, Dr. Shaolie Hossain visited IST, Lisbon, to present with a plenary talk in the workshop (mentioned above) "Innovative Modeling Techniques for Predictive Medicine." This was an opportunity for Professor Sequeira and Dr. Tiago to discuss advances in the implementation of the numerical scheme to define future steps for the derivation of a more realistic model and to plan common visits in the near future.

## 7. Visits to Austin

A unique aspect of the Advanced Computing program is that each year we host roughly 15 Master's and PhD students from Portugal as summer interns in Austin. Students are selected by faculty in Portugal and they spend their time in Austin working with individual faculty members in various departments at UT-Austin. All local expenses are paid by UT-Austin from CoLab funds, and students also get a per diem allowance for living expenses.

- In summer 2015, UT-Austin hosted 15 Master's and PhD students from several Portuguese universities for periods ranging from a month to a month and a half.
  - Four students from IST worked for a month with faculty at UT-Austin. Ana Torrado and Diana Oliveira, who are doing their master's degree with Professor Adélia Sequeira, worked with Professor Michael Sacks on cardiovascular simulations. Ricardo Xavier and Pedro Ferreira, who are enrolled in the master's degree in Mechanical Engineering at IST, worked with Professor Bob Moser in Mechanical Engineering at UT-Austin on modeling turbulent flows.
  - Four students from Porto worked with Professor Keshav Pingali in Computer Science. David Aparicio, a PhD student in the MAPI program, Pedro Paredes, and Jorge Silva, a master's students, and Altino Sampaio, a PhD student, worked for a month and half on various aspects of the Galois parallel programming system.
  - Seven master's students from the University of Minho, Braga spent a month and a half working with Professor Don Fussell and Professor Calvin Lin in the Computer Science Department at UT-Austin. They were André Monteiro Oliveira, André Sá Silva, Hélder

Alves Gonçalves, João Moutinho Magalhães, John Maia, José Silva, and Paulo Costa Sousa.

- In summer 2014, UT-Austin hosted 16 Master's and PhD students from several universities in Portugal.
  - a. Four students from Porto worked with Professor Keshav Pingali's group in July - August 2014. The students were Joana Corte-Real, a 1st year PhD student in the doctoral program in Computer Science of the Universities of Minho, Aveiro and Porto; David Aparício, who completed his master's in Computer Science, Joaquim Silva who completed his first year of the Computer Science master's and João Silva, a master's student in Computer Science.
  - b. Four master's students from IST, two from Mechanical Engineering and two from Industrial Mathematics, spent one month at UT-Austin in July-August 2014. The two students in Mechanical Engineering, André Farinha and João Melo, worked with Professor Venkat Raman in turbulence modeling and simulations at UT-Austin. The other two students, Manuela Almeida and Ricardo Faria, were master's students in Industrial Mathematics at IST, and they worked with Professor Michael Sacks at the Institute for Computational Engineering and Sciences (ICES).
  - c. Eight students from the University of Minho, Braga, all from Computer Science, interned at UT-Austin during July-August 2014. Bruno Araújo and José Ricardo Ribeiro worked with Chandrajit Bajaj, ICES. César Perdigão, Pedro Carneiro, and Fernando Martins worked with Don Fussell, CS. João Silva and Tiago Martins worked with Chandrajit Bajaj, ICES. Bruno Silva and Jorge Oliveira worked with Don Fussell, CS.
- In summer 2013, UT-Austin hosted eight students from the University of Minho.
  - a. Daniel Gomes, José Alves, and Luis Gomes worked with Professor Don Fussell in the Computer Science Department on parallel ray-tracing. Fábio Correia and Diogo Lopes worked with Dr. Paul Navratil at the Texas Advanced Computing Center (TACC) on the Stampede cluster, which is one of the fastest computing platforms in the world. Cristiano Sousa, Rui Brito, David Pereira, and Bruno Medeiros worked with Professor Keshav Pingali on multicore programming and GPUs.

The September Austin Meeting organized by Brian Korgel and Paula Vilarinho (Emerging Technologies) provided a challenging opportunity for an additional level of cross-disciplinary cooperation between Portuguese and UT-Austin faculties. Most sessions clearly displayed the role of modelling/simulation of nanomaterials and the impact of big data requirements in some key areas, which often require

access to high performance computational resources with adequate software development. TACC at Austin runs one of the top 10 supercomputer centers worldwide; however, these resources are not unlimited and software applications should follow strict and contemporary rules to be efficient in this new world of heterogeneous computing, where cluster nodes are now a mix of shared memory multi-core devices with computing accelerators based on manycore devices with different computing paradigms. Researchers in Advanced Computing under CoLab, both at Austin and in Portugal, have been addressing these issues in their activities, and some opportunities for future collaboration were identified during this 2-day meeting.

## 8. Looking ahead

The following Winter School will take place in December 2015:

- Winter School on Graph Analytics and Applications, December 14-16, 2015 Computer Science Department, Faculty of Sciences (FCUP), University of Porto.

(<http://graph15.dcc.fc.up.pt>)

**Description:** Big Data has become ubiquitous, and applications from all fields are rapidly scaling up in the size of both the available data and the underlying models. To extract insights from vast amount of data efficiently, parallel programming is essential, and several new programming models and implementations have been proposed. This school is a research-training event geared precisely towards large scale data analytics and it offers a set of lectures and tutorials given by leading experts from both academia and the private sector. With complex networks being pervasive and omnipresent in many social, biological and communication systems, there will be a focus on scalable graph algorithms and on the associated high performance software platforms. The attendees are expected to gain insight into some of the state-of-the-art solutions and to improve their vision of the associated research challenges.

**Organizers:** Keshav Pingali (UT-Austin), Pedro Ribeiro and Fernando Silva (University of Porto, FCUP).

**Attendance:** The School is aimed at doctoral candidates, postdoctoral scientists and other researchers in computer science.

**Lecturers:** Keshav Pingali (UT-Austin), Donald Nguyen, Pedro Ribeiro (UPorto), Alessandra Sala and Deepak Ajwani (Bell Labs in Ireland), Bin Shao (Microsoft Research in China), Toyotaro Suzumura (IBM @in USA), Bruno Gonçalves (NYU @ USA), João Gama (UPorto in Portugal).



For 2016 a major event has already been planned:

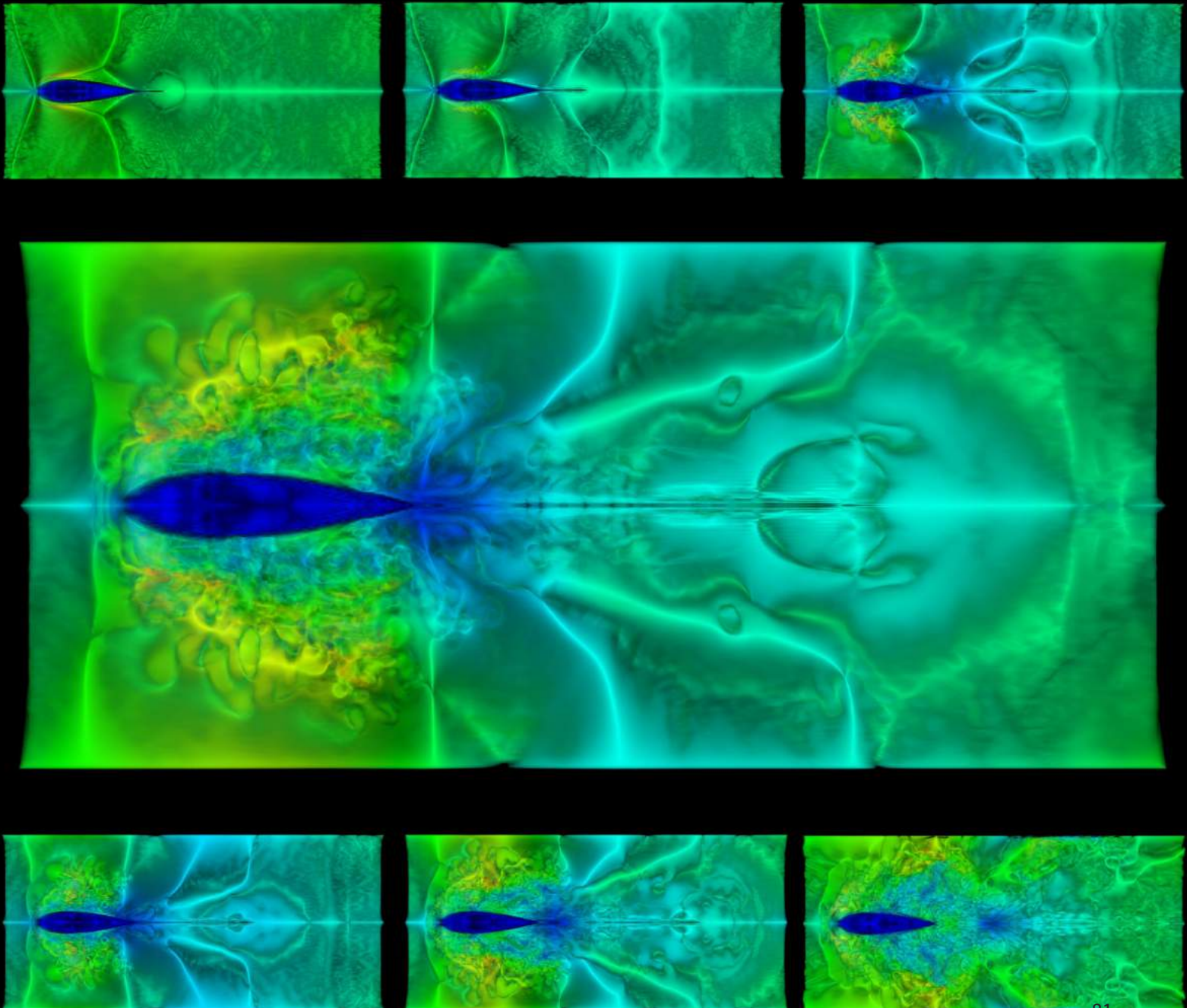
- Summer course on Automated Question and Answer Systems using the IBM Watson System, FCUP, Universidade do Porto, June 2016.

This course will be taught by Professor Bruce Porter, chair of the Computer ScienceS Department at UT-Austin, who is an expert in artificial intelligence. All expert systems have been around for many years, but recent advances in machine learning and high-performance computing have led to an explosive growth in the capabilities of expert systems. A major highlight of this area is the IBM Watson system, which was able to win the Jeopardy contest on television,

beating out all human competitors. This course will teach the fundamentals of such systems using the IBM Watson system. Students will be able to use and play with the Watson system during this course.

Following the very successful experience of the Advanced Computing Program in organizing advanced schools and workshops in innovative topics, other scientific events will also be organized in the coming years. Training activities also include summer internships at UT-Austin for master students, which have been an excellent initiative, providing a valuable experience for young researchers and contributing to their motivation in working in Advanced Computing.

Moreover, Advanced Computing researchers will be interested in collaborating with colleagues in Digital Media and/or Emerging Technologies in topics of common interest.







## IV. Applied Mathematics

// The mathematical sciences are part of nearly all aspects of everyday life--the discipline has underpinned such beneficial modern capabilities as Internet search, medical imaging, computer animation, numerical weather predictions, and all types of digital communications."

USA National Academy of Sciences (NAS)  
2014 Report "Mathematics in 2025 "

The UT-Austin|Portugal Applied Mathematics Program involves the Department of Mathematics at UT-Austin and The Institute for Computational Sciences and Engineering (ICES) at The University of Texas at Austin, along with mathematical research centers and groups in four Portuguese universities, namely the Mathematics Department of Instituto Superior Técnico (IST) of the University of Lisbon, the Mathematics Department in the School of Sciences at the University of Lisbon (FCUL), the Mathematics Department in the School of Sciences and Technology at the New University of Lisbon (FCTUNL), and the Department of Mathematics of the School of Sciences and Technology at the Universidade de Coimbra (FCTUC). In this second phase of the program the Mathematics Department of the School of Sciences at the University of Porto is also one of the main partners.

Through ongoing collaborations, Portuguese and UT-Austin faculty strengthened their academic connections, resulting in a number of joint publications, postdoctoral visits, long-term visits by Portuguese faculty members to UT-Austin, and ongoing research projects. In addition, the program has increased the international recognition of Portuguese scientists, as well as bringing to Portugal top researchers in a diverse class of topics for summer schools, workshops and research seminars.

## 1. Introduction and background

CoLab, a long-term collaborative project, was established more than five years ago with the goal of increasing research collaborations in emerging technologies with an emphasis on media and digital content, advanced computing and mathematics. The Phase II program was renewed in 2013 for another five years at a 50% reduced budget with respect to Phase I.

## 2. Evolution

A new initiative has been established between Fabio Chalub (Mathematica) and Irene M. Gamba with the participation of Lauren A. Meyers (UT-Austin).

## 3. Institutions

Department of Mathematics at The University of Texas at Austin

Institute for Computational Sciences and Engineering (ICES) at The University at Texas at Austin

Mathematics Department of Instituto Superior Técnico (IST) at the University of Lisbon

Mathematics Department of the School of Sciences at the

University of Lisbon (FCUL),

Mathematics Department of the School of Sciences and Technology at the New University of Lisbon (FCTUNL),

Department of Mathematics of the School of Sciences and Technology at the Universidade de Coimbra (FCTUC).

## 4. Key people

- Portugal
  - » José Miguel Urbano, Director
  - » Juha Videman, co-Director
- The University of Texas at Austin
  - » Irene M. Gamba, Director
  - » Luis Caffarelli co-Director
  - » Alessio Figalli, Faculty Member
  - » Alexis Vasseur, Faculty Member

## 5. Education and training activities

### 5.1. Academic degrees

- Masters', Ph.D.s

2013

- » Veronica Quitalo, PhD 2013, under the direction of Luis Caffarelli

### 5.2. Ph.D. students

Not at present time, but possible in 2016 (see future plans)

### 5.3. Graduates' dissertations and current positions

- 2013 Veronica Quilo, PhD in Mathematics 2013, under the direction of Luis Caffarelli. Currently at Purdue University, Indiana, USA.



## 5.4. Additional sponsored and co-sponsored activities

### • 2014

1. Kinetics, non-standard diffusions and stochastics: emerging challenges in the sciences, Department of Mathematics and ICES-UT-Austin; April 21 to May 16, 2014.

**Organizers:** Francois Baccelli, Luis Caffarelli, Alessio Figalli and Irene Gamba. Formal workshops, including mini courses, lectures and poster presentations were scheduled during that period. They brought together the areas of kinetic transport in complex particle systems, self-organized flows, diffusion processes of nonlinear and nonlocal nature with applications to continuum mechanics, fluid and population dynamics as well as stochastic geometry and point processes.

This event was jointly organized by the NSF funded programs 'Focus Research Group'(FRG) in "Emerging Issues in the Sciences Involving Non-standard Diffusions" and the Research Network in Mathematical Sciences (RNMS) in "Kinetic Description of Emerging Challenges in Multiscale Problems of Natural Sciences" (Ki-Net) and the Simons Chair 'Math +' at UT-Austin.

The FRG group involves co-PIs Professor Fang-Hua Lin at Courant Institute of Mathematical Sciences, New York University; Professor Yanyan Li at Rutgers University at New Jersey, Prof. Henry Berestycki and Prof. Luis Silvestre at the University of Chicago; and Professor Luis Caffarelli at UT-Austin. The RNMS group involves CoPIs: Professor Eitan Tadmor at University of Maryland, Professor Shi Jin at the University of Wisconsin, Madison and Professor Irene M. Gamba at UT-Austin, in addition to 13 nodes with within USA and Europe, including University Cambridge and Imperial College, UK and University Paris VI, France. The Simons Chair is held by Professor Francois Baccelli.

The event had about 70 participants. The following were sponsored by the CoLab Austin Portugal program: Invited speakers Fabio Chalub, UNL Lisbon; Guido DePhilippis, ITH, Zurich, Dejan Slepcev, Carnegie Mellon University, and Stanislav Kondratiev, IST, Lisbon. Other participants included Lisa de Freitas Santos, Veronica Quitalo, Fernando P. Miranda, and Lopes E. Novo.

2. Conference "Progress in Nonlinear Partial Differential Equations." May 29-31, 2014, University of Lisbon.

**Conference organizers:** Irene M. Gamba, UT-Austin, José Francisco Rodrigues, University of Lisbon, and Henrik Shahgolian, KTH Stockholm.

The event was co-sponsored by the Austin-Portugal CoLab program, the Centro de Matemática e Aplicações Fundamentais at the University of Lisbon (CMAF/UL), and the Portuguese Foundation for Science and Technology (FCT).

Invited speakers included L. Caffarelli and A. Figalli of UT-

Austin; E. Carlen from Rutgers University, D. Kinderlehrer from Carnegie Mellon University, N.V. Krylov from University of Minnesota, J.P. Dias and S. Antontsev from the University of Lisbon; J.M. Urbano from the University of Coimbra; and speakers from ten other countries.

United States based speakers were all supported by the CoLab UT-Austin|Portugal program.

3. Workshop on PDE's and Biomedical Applications December 4-6, 2014, Lisbon. Organizers/Scientific Committee: A. Sequeira (IST), J. Videman (IST), A. Moura (IST), J. Tiago (IST), M. Pires (University of Évora).

**Abstract:** Nonlinear partial differential equations (PDEs) are of fundamental importance in mathematics and although major progress in their study has recently been achieved, many deep challenges remain. Developments are motivated not only by advances in pure and applied mathematics but also by new issues in the physical and biomedical sciences, and many other applied disciplines. The mathematical modeling of physiological problems leads to complex systems of PDEs and to computational challenges related to their heterogeneous and multiscale nature. This requires highly integrated and efficient numerical algorithms and high performance computing techniques for their simulation.

This workshop brought together leading experts and young researchers and its main goal was to promote national and international exchange of recent developments in the analysis and numerical simulation of PDEs, and its applications with particular emphasis on biomedical problems.

4. Meeting on Particle Systems and PDE's - III, Laboratory 4 at the Mathematics Department, University of Minho, Campus de Gualtar, Braga; December 17 - 19, 2014.

Scientific Committee: Irene M. Gamba (University of Texas at Austin, USA), François Golse (École Polytechnique, France), Stefano Olla (Paris Dauphine University, France). Organizing Committee: Ana Jacinta Soares (CMAT, University of Minho, Portugal); M. Conceição Carvalho (CMAF, University of Lisbon, Portugal); Patrícia Gonçalves (CMAT, University of Minho & PUC-RIO, Brazil)

**Abstract:** This was the third meeting of the series on "Particle Systems and PDE's." The meeting's focus is to get together researchers from two different areas of mathematics, namely particle systems and partial differential equations, to present their recent scientific results in both areas, exhibiting the interdisciplinary nature of mathematics as well as its applications in several areas ranging from classical statistical physics to social dynamic modeling and simulation.

It consisted of a school with two minicourses by Laurent Desvillettes (CMLA & ENS Cachan, France) and Stefano Olla (Paris Dauphine University, France).

Invited speakers for the companion conference were Alexis Vasseur (University of Texas at Austin, USA), Ana Bela

Cruzeiro (GFM, University of Lisbon, Portugal), André Gomes (Humboldt Universität Zu Berlin, Germany), Anton Arnold (Vienna University of Technology, Austria), Chiara Saffirio (University of Zurich, Switzerland), Diogo Bessam (PUC-RIO, Brazil), Elena Pulvirenti (Leiden University, Netherlands), Fabio Chalub (CMA, Universidade Nova de Lisboa, Portugal), Fiammetta Conforto (University of Messina, Italy), Francesco Salvarani (University of Pavia, Italy), François Golse (École Polytechnique, Paris, France), François Huveneers (Paris Dauphine University, France), Gunter Schutz (Juelich University, Germany), Jian-Guo Liu (Duke University, USA), José Joaquim Oliveira (CMAT, University of Minho, Portugal), Laurent Desvillettes (CMLA & ENS Cachan, France), Márton Balázs (Bristol University, UK), Milton Jara (IMPA, Brazil), Ricardo Misturini (PUC-RIO, Brazil), Rui Vilela- Mendes(CMAF, University of Lisbon, Portugal), Stefano Olla (Paris Dauphine University, France), Susana Frómeta (IMPA, Brazil), Valeria Ricci (University of Palermo, Italy).

The meeting was well attended with a broad audience, including young researchers and PhD students. This activity was cosponsored by CMAT, University of Minho and University of Lisbon, as part of a couple of strategic projects; using Portuguese funds from FCT and by the the CoLab initiative UT-Austin|Portugal program.

- 2015

5. Calculus of Variations and Nonlinear Partial Differential Equations, Department of Mathematics and ICES, UT-Austin May 18 -29, 2015.

**Organizers:** Alessio Figalli and Francesco Maggi, UT-Austin

This program was included a school and a conference on “Calculus of Variations and Nonlinear Partial Differential Equations” which brought together research groups from the NSF funded program “Focused Research Group (FRG): “Vectorial and Geometric Problems in the Calculus of Variations” with collaborative structures between Craig Evans, UC Berkeley; Ovidiu Savin, Columbia University and Alessio Figalli and Francesco Maggi , both at The University of Texas at Austin.

The two-week program took place at UT-Austin from May 18, 2015 until May 29, 2015 and involved senior and junior researchers, postdocs and graduate students. During the first week, there was a school consisting of three minicourses, each six hours, while the second week consisted of a conference with a series of one-hour lectures.

**Mini-course (May 18 – 22) speakers:** Manuel del Pino, DIM-CMM Universidad de Chile ; Lawrence C Evans, UC Berkeley; Robert Kohn, NYU.

**Selected Conference speakers (May 25 – 29):** L. Caffarelli, UT-Austin, Eric Carlen, Rutgers University, Manuel del Pino, DIM-CMM Universidad de Chile; Irene Fonseca, CMU, Rupert

Frank, Caltech, FanHua Lin, Courant Institute; Ovidiu Savin, Columbia University; Rick Schoen, Stanford University, Luis Silvestre, University Chicago; Alexis Vasseur, UT-Austin.

CoLab sponsored several junior and senior participants from Portugal attending this event, including F. Bozorgnia, ETS-Lisbon, Postdocs Maria Baía, ETS-Lisbon, Stanislav Kondratyev and Rafayel Teymurazyanyan, both at (CMUC)-Coimbra.

6. Thematic program “Current trends in analysis and PDE”, IMPA, July 1-September 30, 2015. Rio de Janeiro, Brazil .

**Scientific Committee:** Ricardo J. Alonso, PUC- Rio de Janeiro, Brazil; Luis Caffarelli, UT-Austin; Emanuel Carneiro, IMPA, Rio de Janeiro, Brazil; Lawrence C. Evans, UC Berkeley; Irene M. Gamba, UT-Austin, Diego Moreira, UFC, Fortaleza, Brazil, Boyan Sirakov PUC- Rio de Janeiro, Brazil; and Eduardo Teixeira UFC, Fortaleza, Brazil.

The goal of this thematic program was to bring together leading experts in Analysis and Partial Differential Equations for a trimester in IMPA to present a perspective on the current trends on selected research topics and to foster the scientific collaboration with researchers in the Brazilian and South American communities. The focus of the program will be on the analysis of elliptic and kinetic PDEs including the following topics: Fully nonlinear equations; Free boundary problems; Particle systems and kinetic equations.

Special focus will be given to young researchers and graduate students through a number of activities programmed for the period. These included regular seminars and mini-courses; a workshop at the beginning of the program; CAPES School of High Studies, featuring Professor Luis Caffarelli; special sessions on the Brazilian Mathematical Colloquium and a conference at the end of the program.

**Research topic focused first on:** fully nonlinear equations. The research in nonlinear elliptic equations is one of the most developed in mathematics and of great importance because of its applications in broader scientific disciplines such as differential geometry, fluid dynamics, phase transitions and mathematical finance. In the past few years, we have witnessed many new developments in the theory of homogenization and nonlocal diffusive processes related to the study of fully nonlinear equations. This has fostered a better understanding of problems in material science, optimal design and valuation of financial options, just to mention a few examples. They also arise naturally as the equations governing any probabilistic model whose values may take long jumps. This program presented the latest developments in the subject by exploring recent and modern techniques and addressing further directions and important open problems.

**Free boundary problems constituted a second focus:** Free boundary problems are the central subject in the study of phenomena where phase transitions occur. They arise when one attempts to describe a discontinuous change of



behavior in a physical or biological quantity. Applications appear in stopping time for optimal control, ground water hydrology, plasticity theory, optimal design, and problems in superconductivity. Typical examples are the evolution of an ice-water mixture, an elastic membrane constrained to stay within a given region, and in the description of laminar flames as an asymptotic limit for high energy activation. In recent years, we have seen a substantial progress in the understanding of free boundary problems involving nonlocal operators. These operators appear in the study of reaction-diffusion problems in plasma physics, semi-conductor theory and flame propagation in the presence of turbulence or long-range interactions. This program presented research in the subject by examining the latest achievements and results obtained in the field.

**Particle systems and kinetic equations constituted the thir fical area:** Kinetic theory was originally devised to explain macroscopic properties of gases. Such initial work culminated with the introduction, by L. Boltzmann, of the Boltzmann Transport Equation in 1872. Today, modern kinetic theory has emerged as an indispensable tool to give a quantitative description of diverse phenomena in many sciences such as physics, chemistry, biology, social sciences and economics. Applications ranging from semi-conductors, plasmas, cell dynamics, flocking, traffic, granular materials, to neuron networks, random wave propagation, and multi-scale modeling and inverse problems are among the scope of kinetic theory. Interestingly, the underlying equation is always the Boltzmann equation, that is, a transport term equated to an integral (usually non-linear) operator. The mathematics of such an equation, even after the progress of the last 30 years, is in the early stages; basic questions such as existence and uniqueness of solutions for general initial configurations and the rigorous validation of the equation are formidable (and open) tasks. This program addressed some of the important questions and the mathematics developed in recent years to answer them, and offered perspectives on the new trends, open problems and relevant questions in the theory for the years to come.

**Invited plenary speakers for the two week program included:** Luigi Ambrosio (Scuola Normale Superiore - Pisa); Henri Berestycki (CNRS/EHESS - Paris); Luis Caffarelli (UT-Austin); Eric Carlen (Rutgers University); Maria C. Carvalho (IMAF-Lisboa), Fabio Chalub (UNL-Lisboa); Manuel Del Pino (University of Chile); Laurent Desvillettes (ENS - Cachan); Dimitar Dimitrov (UNESP); Alessio Figalli (UT-Austin); Hermano Frid (IMPA); Irene M. Gamba (UT - Austin); Diogo Gomes (ISF Lisboa and KAUST); David Jerison (MIT); Felipe Linares (IMPA) Valdir Menegatto (USP), Levon Nurbekyan (KAUST); Lucas Oliveira (UFRGS), Robert Pego (Carnegie Mellon University) Arshak Petrosyan (Purdue University); Edgard A. Pimentel (UFC); Laure Saint-Raymond (École Normale Supérieure - Paris); Henrik Shahgholian (KTH – Stockholm); Yannick Sire (John Hopkins University); Christoph Thiele (University of Bonn); Tatiana Toro (University of Washington), Konstantina Trivisa (Univ. of Maryland); José Miguel Urbano (University of Coimbra); Lihe Wang (University of Iowa); Jun-Cheng Wei

(University of British Columbia), Noemi Wolanski (University of Buenos Aires); Lei Zhang (University of Florida).

**CAPES School of High Studies, IMPA (July 6-17, 2015):** Luis Caffarelli and Eduardo Teixeira delivered a 12-hour special lectures on free boundary problems: common aspects and methods.

**Abstract:** They discussed several mathematical problems exhibiting the formation of free boundaries and developed tools and structures to address them.

**Contents: Part 1- Some basic tools:** Properties of solutions to diffusion processes; second order equations in divergence and non-divergence forms; variational and Perron's (viscosity methods) for second-order equations; interior and boundary Harnack inequalities for second-order divergence equations.

**Parts 2 and 3:**

a) The obstacle problem: optimal regularity and non-degeneracy, blow-up methods, free boundary regularity, and similarities with the theory of boundary regularity for sets of minimal perimeter (minimal surfaces.)

b) Cavitation type problems: non-variational approach, minimal solutions, optimal regularity and non-degeneracy, a "Harnack inequality" approach: Lipschitz free boundaries.

c) The Signorini problem (a non-local obstacle problem): Description of the problem, basic properties of the solution, regularity properties, some monotonicity properties, free boundary regularity

7. Recapitulation and , informal discussion of topics and problems.

CoLab Austin|Portugal program has sponsored junior and senior participants from Portugal attending this event. There was an application process to select these participants. For information, see registration at the program website.

8. School-Workshop Program July 6 to 17, 2015

International Conference on Current Trends in Analysis and PDEs , August 17 to 21, 2015.

**Colab funded participants to these events:** Anderson Feitoza Leitão Maia (Coimbra), Farid Bozorgnia (IST - University of Lisboa), Leonard Monsaingeon (IST - University of Lisboa), and Rafayel Teymurazyan (IST - University Lisboa founded included. CoLab senior professors: Fabio Chalub (UNL), and José Francisco Rodriguez (CMAT, U.Lisboa).

9.UT-Austin|Portugal CoLab Program Autumn School in Nonlinear Science, Instituto Superior Técnico, Lisbon, October 5-9, 2015.

**Scientific Committee:** Clint Dawson (UT-Austin), José Miguel Urbano (Universidade de Coimbra), Juha Videman (Instituto Superior Técnico, Universidade of Lisboa).

**Organizing Committee:** Margarida Baia, Farid Bozorgnia, Léonard Monsaingeon, Juha Videman (Instituto Superior Técnico, Universidade de Lisboa)

The school brought together prominent researchers known for their expertise in modeling, analysis and simulation of nonlinear phenomena, and graduate and post-graduate students from around the world for five days of research training. The school comprised an intensive program for weeklong short courses complemented by tutorial sessions run by post-graduate students. It focused on non-local or nonlinear partial differential equations with applications ranging from phase transitions and free boundary problems to porous media flows and contaminant transport in subsurface environments.

School Speakers: Clint Dawson (ICES, UT-Austin); K.R. Rajagopal (Texas A&M, USA); Tuomo Kuusi (Aalto University, Finland); Peter Knabner (Universitat Erlangen-Nuerenberg, Germany); Alexei Novikov (Penn State University, USA)

The event had about 50 participants. CoLab Austin|Portugal program funds at UT-Austin covered the expenses of the USA speakers as well as the travel expenses of four USA students (one from UT-Austin and three from the University of Minnesota). CoLab Austin|Portugal Program funds (FPO) in Portugal covered the local expenses of 15 students.

10. Meeting on Particle Systems and PDE's - IV, Laboratory 4 at the Mathematics Department, University of Minho, Campus de Gualtar, Braga; December 16-18; 2015.

**Scientific Committee:** Irene M. Gamba (University of

Texas at Austin, USA), Ansgar Jüngel (Vienna University of Technology, Austria) Claudio Landim (IMPA, Brazil)

**Organizing Committee:** Anton Arnold (Vienna University of Technology, Austria), M. Conceição Carvalho (CMAF, University of Lisbon, Portugal) Patrícia Gonçalves (CMAT, University of Minho and PUC-RIO, Brazil); Ana Jacinta Soares (CMAT, University of Minho, Portugal), and Alexis Vasseur (University of Texas at Austin, USA)

**Abstract:** This is the fourth Meeting of the series on "Particle Systems and PDE's." The meeting's focus is to get together researchers from two different areas of mathematics, namely particle systems and partial differential equations, to present their recent scientific results in both areas, exhibiting the interdisciplinary nature of mathematics as well as its applications in several areas ranging from classical statistical physics to social dynamic modeling and simulation.

It consists in school with two minicourses by Eric Carlen (Rutgers University, USA) on "Functional Inequalities and Evolution Equations for Particle Systems" and Jean-Christophe Mourrat (ENS Lyon, France) on "Singular Stochastic PDE's as Scaling limits".

Invited speakers for the companion conference included Franz Achleitner (Vienna University of Technology, Austria); Anton Arnold (Vienna University of Technology, Austria); Christophe Bahadoran (Baise Pascal University, France); Giada

UT-Austin|Portugal CoLab Program Autumn School in Nonlinear Science, Instituto Superior Técnico, Lisbon, October 5-9, 2015. Group photograph





Basile (University Roma La Sapienza, Italy); Cédric Bernardin (University of Nice, France); Oriane Blondel (University Claude Bernard, Lyon 1, France); Silvia Caprino (University of Roma Tor Vergata, Italy); Eduard Feireisl (Institute of Mathematics AS, Czech Republic)

Klemens Fellner (Institute for Mathematics and Scientific Computing, Graz, Austria); Tertuliano Franco (Federal University of Bahia, Brazil); François Golse (École Polytechnique, France); Stefan Grosskinsky (Warwick University, UK); Milton Jara (IMPA, Brazil); Jian-Guo Liu (Duke University, USA); Mahendra Panthee (State University of Campinas, Brazil); Nicholas Perkowski (Humboldt-University of Berlin, Germany); Mario Pulvirenti (University Roma La Sapienza, Italy); Valeria Ricci (University of Palermo, Italy); Gunter Schütz (Institute of Complex Systems II, Germany); Marielle Simon (PUC-RIO, Brazil); Alexis Vasseur (University of Texas at Austin, USA); Rui Vilela Mendes (CMAFCIO, University of Lisbon, Portugal).

This conference includes the participation of three the UT-Austin graduate students from Mathematics funded by Colab Program. The conference was cosponsored by CMAT, University of Minho and University of Lisbon, as part of a couple of strategic projects; by Portuguese funds from FCT, and by the CoLab initiative UT-Austin|Portugal.

### 5.5. Visiting scholars to UT -Austin

Filippo Cagnetti, March-May 2013

Stefania Patrizi, February-May 2013

Fabio Chalub, Univ. Nova de Lisboa, May 2014

Juha Videman (IST), April 1-12, 2013, August 25-29, 2014 and February 16-March 3, 2015

Leonard Monsaigeon, (IST) October -November, 2014 and February-March, 2015

Stanislav Kondratiev (Univ. Coimbra), May 2014

Farid Bozorgnia (IST), October-November 2014

Lisa Santos (University Minho), May 2014

Levon Nurbekyan, Mach- April 2013

Verónica Quítalo (Purdue University, USA) May 2014, May-June 2015, October 2014

Fernando Miranda (University Minho), May 2014

C. Valls (IST), October 2013

Eurica Henriques (UTAD), May 2014

João Nogueira Nogueira (University Coimbra), April 20- May 18, 2015

### 5.6. Talks and Presentations

- J. Videman, On systems of PDEs modeling competitive contaminant transport in porous media, Analysis Seminar, New University of Lisbon, May 2015.
- J. Videman, On John's problem on freely floating bodies, ICES Seminar, UT-Austin, April 2013.
- F. Borzognia, Numerical simulation of system of long range segregation, International conference on Asymptotic Problems: Elliptic and Parabolic Issues, June 1\_5, 2015, Vilnius, Lithuania.
- F. Borzognia, Existence and uniqueness of the long range segregation problem. Workshop on PDEs and Biomedical Applications, 4-6 December 2014, Lisbon, Portugal.
- F. Borzognia, Numerical approximations of reaction-diffusion segregated system, International Conference on Free Boundary Problems: Theory and Applications, 23-27 June 2014, Cambridge, UK.
- F. Borzognia, Multi Phase Quadrature Domains, Workshop on Free Boundaries and Moving Interfaces, February 2014, Oxford, UK.
- F. Borzognia, Numerical Investigation on eigenvalue and eigenfunction of Infinity Laplace, Workshop on Recent Advances in Nonlinear PDE and Calculus of Variations, February 2014. University of Reading, Reading, UK.
- F. Borzognia, Optimal partition of first eigenvalue of Laplace operator, Department of Mathematics, The University of Texas at Austin, November 2013.
- F. Borzognia, Numerical approximation on eigenvalues problems, Department of Mathematics, Instituto Superior Técnico, Lisbon, June 2012.
- L. Monsaigeon, contributed talk at the "International workshop on Calculus of Variations and its Applications" (Mascarenha's 65th birthday), New University of Lisbon. "A new Riemannian distance for unbalanced optimal transport," December 2015.
- L. Monsaigeon, Analysis seminar at Univ. Nova, Lisbon. "A new optimal transport distance between nonnegative Radon Measures", September 2015.
- L. Monsaigeon, contributed talk at the "International Workshop on Elliptic and Kinetic PDEs", IMPA Rio de Janeiro, "A new optimal transport distance between nonnegative Radon Measures," July 2015
- L. Monsaigeon, A new optimal transport distance between nonnegative Radon Measures, Conference on Trends in Non-Linear Analysis SISSA Trieste., July 2015.
- L. Monsaigeon, A new optimal transport distance between nonnegative Radon Measures and application to a model of population dynamics, Conference on Gradient Flows in Paris, University of Paris 6, June 2015.



- L. Monsaigeon, A Wasserstein gradient flow approach to Poisson-Nernst-Planck equations, Analysis, geometry, and dynamical systems seminar at IST, Lisbon, February 2015.
- L. Monsaigeon, Wasserstein gradient flow approach to Poisson-Nernst-Planck equations, Analysis PDE seminar at University of Coimbra, February 2015.
- L. Monsaigeon, A Wasserstein gradient flow approach to Poisson-Nernst-Planck equations, Workshop on PDEs and Biomedical Applications, Lisbon, December 2014.
- L. Monsaigeon, Systems of PDEs in Porous Media, Analysis seminar, UT-Austin, October 2014.
- J.M. Urbano, A quantitative Holder exponent for the non-homogeneous  $p$ -parabolic equation, Research program Evolutionary Problems, Institut Mittag-Leffler, Stockholm, Sweden, September 2013.
- J.M. Urbano, An introduction to the infinity-Laplacian, Short Course, UFC (Brazil) and Aalto University, Finland, January and May 2013.
- J.M. Urbano, A quantitative Holder exponent for the non-homogeneous  $p$ -parabolic equation, Progress in Nonlinear PDES, Lisboa, Portugal, May 2014.
- J.M. Urbano, Quantitative regularity results for singular and degenerate problems, Workshop on Harmonic Analysis and PDE, Helsinki, Finland, June 2015.
- J.M. Urbano, Quantitative regularity results for singular and degenerate problems, Current Trends in Analysis and PDEs, Rio de Janeiro, Brazil, August 2015.

## 6. Research Activities

### 6.1. Research Projects

Co-Lab Portugal-UT-Austin Research Grant Phase transitions and free boundary problems. As part of a new CoLab Research Grants program initiated at UT-Austin, the Mathematics area of CoLab was funded in October 2014 for the proposal "Phase Transitions and Free Boundary Problems" with Professor Luis Caffarelli (UT-Austin) as a PI and Professor José Miguel Urbano (U. Coimbra) as Co-PI. This project involves a first rated team of individuals including Professor Dmitry Vorotnikov, and PhD student Anderson Maia from University of Coimbra, Professor Juha Videman, Prof. Margarida Baia, and postdocs Dr. Farid Bozorgnia and Dr. Leonard Monsaigeon from the University of Lisboa (IST). UT-Austin Professors Clint Dawson, Alessio Figalli, Francesco Maggi and Alexis Vasseur are also involved.

Abstract of the funded research: Phase transitions and free boundary problems cover a wide range of applications, from

segregation dynamics to the evolution of fluid interfaces, tumor growth, ground pollution invasion with obstacles, gas, water and oil flow in porous media and adsorption processes in subsurface environments. This project brings together a significant effort of applied non-linear analysts and numerical and scientific computing experts in the areas of non-linear and nonlocal Partial Differential Equations. A close synergy between analysts and numerical experts is crucial for its success, which requires the development of new and nonstandard numerical techniques for modeling the phenomena under study. This research project has already kicked-off activities reported above.

### 6.2. Publications & Presentations since 2013

D. Araújo, E.V. Teixeira and J.M. Urbano, A Proof of the  $C^{\{p\}}$  regularity Conjecture in the Plane, submitted (2015).

M. Baia, F. Bozorgnia, L. Monsaigeon, and J. Videman, On an Advection-diffusion System Modeling Contaminant Transport, in preparation (2015).

P. Baroni, T. Kuusi and J.M. Urbano, A Quantitative Modulus of Continuity for the Two-phase Stefan Problem, Arch. Rational Mech. Anal. 214 (2014), 545–573.

F. Bozorgnia, Optimal Partitions for First Eigenvalues of the Laplace operator, Numerical Methods for Partial Differential Equations 31 (2015), 923–949.

F. Bozorgnia and M. Bazarganzadeh, Numerical Schemes for Multi Phase Quadrature Domains, Int. J. Numer. Anal. Model. 11 (2014), 726–744.

F. Bozorgnia and K. Wang, Long Range Spatially Segregation Elliptic System, submitted (2015).

L. Caffarelli, R. Leitão and J.M. Urbano: Regularity for Anisotropic Fully Nonlinear Integro-differential Equations, Math. Ann. 360 (2014), 681–714.

L. Caffarelli, S. Patrizi, V. Quitalo, On a Long Range Segregation Model, submitted to Journal of European Mathematical Society, in revision, arXiv:1505.05433

C. Cancès, T. O. Gallouët, and L. Monsaigeon, The

Gradient Flow Structure for Incompressible Immiscible Two-phase Flows in Porous Media, *C. R. Math. Acad. Sci. Paris* 353 (2015), 985-989.

C. Dawson, L. Monsaingeon, and J. Videman, Large-time Behaviour of Solutions of Systems of Porous Medium Type, in preparation (2015).

C. Dawson and J.H. Videman, A Streamline Diffusion Finite Element Method for the Viscous Shallow Water equations. *J. Computational Applied Mathematics* 251 (2013), 1-7.

T. Giletti, L. Monsaingeon and M. Zhou, A KPP road-field system with spatially periodic exchange terms, *Nonlinear Anal.* 128 (2015), 273-302.

P. Gonçalves, B. Pereira and J.H. Videman, Error Estimates for a Coupled Continuous-Discontinuous FEM for the Two-Layer Shallow Water Equations, In A. Pinto and D. Zilberman (eds.), *Modeling, Dynamics, Optimization and Bioeconomics I*, Volume 73 of Springer Proceedings in Mathematics and Statistics, Springer-Verlag, pp. 343-355 (2014).

S. Kondratyev, J.M. Urbano and D. Vorotnikov, On the Bulk Velocity of Brownian Ratchets, submitted (2015).

T. Kuusi, L. Monsaingeon and J. Videman, Systems of Partial Differential Equations in Porous Medium, *Nonlinear Analysis*, to appear, arXiv:1412.5414.

L. Monsaingeon, An algorithm for One-dimensional Generalized Porous Medium Equations: interface Tracking and the Hole Filling Problem, *M2AN Math. Model. Numer. Anal.*, to appear, arXiv:1410.1473.

V. Quítalo, A Free Boundary Problem Arising from Segregation of Populations with High Competition, *Arch. Rational Mech. Anal.* 210 (2013), 857-908.

J.D. Rossi, E.V. Teixeira and J.M. Urbano, Optimal Regularity at the Free Boundary for the Infinity Obstacle problem, *Interfaces Free Bound.* 17 (2015), 381-398.

J. Siljander and J.M. Urbano, On the Interior Regularity of Weak Solutions to the 2-D Incompressible Euler equations, submitted (2015).

V.B. Surya Prasath, J.M. Urbano and D. Vorotnikov, Analysis of Adaptive Forward-backward Diffusion Flows with Applications in Image Processing, Inverse Problems, to appear.

E.V. Teixeira and J.M. Urbano, A Geometric Tangential Approach to Sharp Regularity for Degenerate Evolution equations, *Anal. PDE* 7 (2014), 733-744.

E.V. Teixeira and J.M. Urbano, An Intrinsic Liouville Theorem for Degenerate Parabolic Equations, *Arch. Math. (Basel)* 102 (2014), 483-487.

## 7. Research outreach: innovation, entrepreneurship, and technology commercialization activities

In August 2014 and February 2015 ProfESSOR Juha Videman, IST, Lisbon and current Associate Director OF the Portugal CoLab component in Mathematics visited The University of Texas, Department of Mathematics and ICES to continue his collaboration with Clint Dawson and Luis Caffarelli. Dawson is a core ICES member, AND Head of the Computational Hydraulics Group (CHG) at The University of Texas at Austin (<http://chg.ices.utexas.edu>). The CHG is a leading research center in the modeling of aqueous environments, including problems related to shallow water hydrodynamics, hurricane storm surges and groundwater pollution. These two visits have included the participation and collaboration of postdoc Leonard Monsaingeon, who was invited to give a talk in the Analysis Seminar at the Department of Mathematics at UT-Austin in October, 2014 and visited UT-Austin in February-March, 2015. The collaboration of J. Videman and his group at IST with Dawson has focused on numerical simulation and study of long-time behavior of solutions to degenerate systems of PDEs arising from competitive contaminant transport in subsurface environments.

Dr. Stefania Patrizi, a CoLab funded Postdoc during Phase I WAS jointly mentored by Professors Diogo Gomes (IST Lisboa) and Luis Caffarelli (UT-Austin). She was in residence at UT to continue her collaboration with Caffarelli in the area of optimal control and also mentored PhD candidate, Veronica Quitalo, (IST Lisbon), who received her UT-Austin PhD in August 2013 and is now a Golomb Visiting Assistant Professor at Purdue University in Indiana. Patrizi has become an assistant professor in the Mathematics Department at The University of Texas at Austin, since August 2015.



A fall 2013 collaboration of Professors Luis Caffarelli (UT-Austin), Jose Miguel Urbano (CMUC) and Eduardo Teixeira, Universidade Federal do Ceara, Fortaleza, Brazil, in the postdoctoral training of Dr. Raimundo Leitao has culminated in his assistant professor appointment in Mathematics at Universidade Federal do Ceara, Fortaleza, Brazil. A joint publication with Luis Caffarelli, Raimundo Leitao and Jose Miguel Urbano, "Regularity for Anisotropic Fully Nonlinear Integro-differential Equations", has already appeared (see references). As a byproduct of these collaborations, Jose Miguel Urbano (CMUC) presented the project proposal "Geometric Tangential Methods for Nonlinear Problems" to FCT (decision pending).

In a related development, The University of Texas at Austin, through the office of Dr. Juan M. Sanchez, VP for Research, a cooperative program for academic and research interchange with the Universidade Federal do Ceara, Fortaleza, Brazil was initiated in 2013. Professor Eduardo Teixeira, a UT-Austin PhD graduate, and Luis Caffarelli, jointly with Jose Miguel Urbano, are developing a plan to incorporate CoLab sponsored activities in Mathematics between UT-Austin, Universities in Portugal and the Universidade Federal do Ceara jointly with IMPA at Rio de Janeiro. Most significantly, Luis Caffarelli and Eduardo Teixeira gave an extensive mini-course in the IMPA program, July 1 to September 30, 2015 at IMPA, Rio de Janeiro, Brazil, as reported above.

Professor C. Valls (IST) visited the Department of Mathematics at UT-Austin for a discussion with Professor Hans Koch in October 2013.

Dr. João Nogueira (University of Coimbra) visited the Department of Mathematics at UT-Austin for a discussion with Professor Alan Reid, April 20- May 18, 2015.

During the semester, 2013, Postdoc Farid Bozorgnia, IST-Lisbon, visited Luis Caffarelli and worked in the area of numerical simulation of segregation related to the work of Caffarelli, Patrizi, and Quitalo and on issues related to partitions for eigenvalues of elliptic operators. From these discussions Bozorgnia developed two important contributions. The first one, on numerical methods on long range segregation models, was presented in a lecture "Numerical Investigation of Long Range Segregation Models" at the International Conference on Free Boundary Problems: Theory and Applications, Isaac Newton's Institute, Cambridge University, UK, June 23-27, 2014; and Workshop on PDE's and Biomedical Applications; December 4-6, 2014, Lisbon. An upcoming publication related to this problem is in preparation. The second contributions resulted in a publication by Bozorgnia on optimal partitions for first eigenvalues of the Laplace operator. This collaboration will continue, as Bozorgnia will visit UT-Austin in January-

February 2016 sponsored by the UT-Austin|Portugal CoLab program.

## 8. Visits to Austin

- Visiting researchers, interns and visiting scholars, and faculty visits
  - » Filippo Cagnetti, March-May 2013, hosted by Alessio Figalli, Mathematics Department
  - » Prof. Stefania Patrizi, UT-Austin, February-May 2013, hosted by Luis Caffarelli and Alessio Figalli, Mathematics Department.
  - » Levon Nurbekyan, March-April 2013, hosted by Alessio Figalli, Mathematics Department.
  - » Fabio Chalub, New University of Lisboa, May 2014, hosted by Irene M. Gamba, ICES and Mathematics Departments.
  - » Juha Videman, IST, April 1-12, 2013, August 25-29, 2014 and February 16-March 3, 2015, hosted by Clint Dawson, ICES and Engineering Mechanics and Luis Caffarelli, ICES and Mathematics Departments.
  - » Leonard Monsaingeon, IST, October-November, 2014 and February-March, 2015, hosted by Prof. Clint Dawson, ICES and Engineering Mechanics and Luis Caffarelli, ICES and Mathematics Departments.
  - » Stanislav Kondratiev, University of Coimbra, May 2014, hosted by Alessio Figalli and Francesco Maggi, Mathematics Department.
  - » Farid Bozorgnia, IST, October-November 2014, hosted by Luis Caffarelli, ICES and Mathematics Departments.
  - » Verónica Quitalo, Purdue University, May 2014, May-June 2015, October 2014. hosted by Luis Caffarelli, ICES and Mathematics Departments, and Stefania Patrizi, Mathematics Department.
  - » C. Valls, IST, October 2013, hosted by Hans Koch, Mathematics Department.
  - » João Nogueira Nogueira, University of Coimbra, April 20-May 18, 2015, hosted by Alan Reid and Cameron Gordon, Mathematics Department.



Thematic program “Current trends in analysis and PDE”, IMPA, July 6 to Sept 17, 2015. Rio de Janeiro, Brazil .

## 9. Post-Docs and Alumni:

- » Stefania Patrizi, ITS 2013, currently an assistant professor at UT-Austin.
- » Filippo Cagnetti, ITS, 2013, currently assistant professor in Germany
- » Raimundo Leitao, 2014, assistant professor appointment in Mathematics at Universidade Federal do Ceara, Fortaleza, Brazil
- » Levon Nurbekyan, Mach-April 2013, PhD co-advised by Diogo Gomes and Alessio Figalli, Mathematics Department.

## 10. Capacity Building Events

- 2013-2014: See attached presentation for CoLab Kickoff Event 2013.
- 2015: Luis Caffarelli attended the First Joint Conference and Exhibition of International Partnerships, Lisboa, May 28-29, 2015.

## 11. Funding

In addiTions to CoLab funding, The Mathematics program has obtained several sources for matching funds, including those from the National Science Foundation (NSF) DMS-1107465 Grant Research Network in Mathematical Sciences (RNMS) in “Kinetic Description of Emerging Challenges in Multiscale Problems of Natural Sciences” (Ki-Net) for \$600,000, as well as support from CMAT, University of Minho; CMAF, University of Lisbon and other funded projects from the Portuguese funds from FCT - Fundação para a Ciência e a Tecnologia.



## 12. Looking ahead

Prof. Juha Videman (IST) plans to visit UT-Austin in April, 2016 and Dr. Leonard Monsaingeon (IST) in March-April, 2016 to pursue a scientific project started earlier with Clint Dawson and his team, on the numerical investigation of the long term for coupled systems of partial differentials in porous media. Leonard Monsaingeon hopes also to discuss with Alessio Figalli (UT-Austin) the recent advances made with his collaborators in the theory of unbalanced optimal transport. Farid Bozorgnia is scheduled to visit UT-Austin in January-February 2016 to discuss segregation modeling with Luis Caffarelli and looking into a possible collaboration with Stefania Patrizi on systems of reaction-diffusion equations modeling biological molecule (RNA) interactions.

Hugo Tavares (IST) works in elliptic systems, geometric measure theory and free boundary problems. He is particularly interested in reaction diffusion systems with competitive terms, and its relation with segregation and partition problems. He is hoping to visit UT-Austin in 2016 to discuss and initiate collaboration with Luis Caffarelli and Stefania Patrizi.

Fabio Chalub (UNL) and Irene M. Gamba (UT-Austin) will develop a collaboration on mathematical models in epidemiology and evolution by means of studies of replicator-mutator modeling. This will be carried on in consultation with Lauren Meyer at the Developmental Biology and Statistics Departments at UT-Austin. There is a plan to coadvise potential graduate student Tiago Costa,

a recent graduate from UNL in applied mathematics who is applying to the ICES and also Mathematics graduate programs at UT-Austin.

(See appendix)

UT-Austin|Portugal CoLab Program Autumn School in Nonlinear Science, Instituto Superior Técnico, Lisbon, October 5-9, 2015. Tutorial Section.





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## **V. Appendix**

# Call for reserach projects

FCT call 2014:

#	Título **** Title	Principal Investigator	UTA investigator	Prime Contractor
1	Estratégia multidisciplinar para o desenvolvimento de um nanosistema múltiplo para modulação de resposta imunológica**** ****Multidisciplinary Strategy to Develop Novel Multicomponent Nanoscale Systems for Immune Modulation	Helena Isabel Fialho Florindo Roque Ferreira	Nicholas A. Peppas	FARM-ID, Associação da Faculdade para a Investigação e Desenvolvim ID)
2	Exploração de tensões para desenvolver nanocerâmicos funcionais por sinterização TEM in-situ.*** ****Exploring stresses to develop functional nanoceramics by in-situ TEM sintering	Ana Maria Oliveira Rocha Senos	Paulo Ferreira,Desiderio Kovar	Universidade de Aveiro (UA)
3	Jogos Digitais para a Literacia Mediática e Informacional**** ****Games for Media and Information Literacy	Maria da Conceição Gonçalves Costa	Kathleen Tyner	COFAC, Cooperativa de Formação Cultural, CRL (COFAC)
4	REMINDS - Sistema para Mineração e Detecção de Relevância**** ****Relevance Mining and Detection System (REMINDS)	Álvaro Pedro de Barros Borges Reis Figueira	MATTHEW LEASE	Instituto de Engenharia de Sistema Computadores do Porto (INESC Po
5	Algoritmos para Detecção de Cavidades em MacroMoléculas**** ****Algorithms for Macro-Molecular Pocket Detection	Joaquim Armando Pires Jorge	Prof. Chandrajit Bajaj	Instituto de Engenharia de Sistema Computadores, Investigação e Des em Lisboa (INESC ID/INESC/IST/UT
6	RECOGNIZE: Materiais de suporte inteligentes por reconhecimento molecular para aplicações avançadas em medicina regenerativa**** ****RECOGNIZE – INTELLIGENT SCAFFOLDS BY MOLECULAR RECOGNITION FOR ADVANCED APPLICATIONS IN REGENERATIVE MEDICINE	Rui Luís Gonçalves dos Reis	NICHOLAS A. PEPPAS	Universidade do Minho (UM)
7	Fotocatalisadores baseados em grafeno e semicondutores para um sistema de abastecimento de água sustentável e seguro: uma tecnologia avançada para a remoção de poluentes emergentes**** ****Graphene-based semiconductor photocatalysis for a safe and sustainable water supply: an advanced technology for emerging pollutants removal	Ana Cristina Moreira Freire	Brian Korgel	REQUIMTE - Rede de Química e Te Associação (REQUIMTE-P)
8	Expressão e Reconhecimento de Ironia nos Média Sociais Multiculturais**** ****Expression and Recognition of Irony in Multicultural Social Media	Paula Cristina Quaresma da Fonseca Carvalho	Byron C Wallace	Instituto de Engenharia de Sistema Computadores, Investigação e Des em Lisboa (INESC ID/INESC/IST/UT
9	Extração de contexto para cegos utilizando visão por computador**** ****Context extraction for the blind using computer vision	João Manuel Pereira Barroso	Don Fussell	Instituto de Engenharia de Sistema Computadores do Porto (INESC Po
10	Engenharia de estruturas celulares bioimpressas personalizadas para tratamento do disco intervertebral degenerado**** ****Engineering Patient-specific bioprinted constructs for treatment of degenerated Intervertebral Disc	Joana Catarina da Silva Correia	Carolyn C. Seepersad	Universidade do Minho (UM)

## RFP call at UT-Austin 2014:

#	PI	Proposal Title	Program Area(s)
1	Nicholas Peppas	Development of Scaffolds for Regenerative Medicine by Molecular Imprinting	ET
2	Carolyn Seepersad	Additive Manufacturing of Yttria-Stabilized Zirconia (YSZ) for Dental Applications	ET
3	Luis Caffarelli	Phase transitions and free boundary problems	M
4	Thomas Hughes	MRI-based computational modeling of blood flow and nanomedicine deposition in patients with peripheral arterial disease: insights into disease management	AC
5	Don Fussell	Leveraging 3D Innovations and Emerging Technologies for Inclusion	DM & ET
6	Wenhong Chen	Roots and Wings: Globalized Networks and Mobile Media Entrepreneurship in Austin and Lisbon	DM





JANUARY\2013

NUMBER\50

UT Austin | Portugal INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB

An abstract background composed of overlapping, semi-transparent triangles in various colors including orange, yellow, pink, purple, and blue, creating a dynamic, geometric pattern.

**UT Austin | Portugal**

 **CALL FOR DOCTORAL SCHOLARSHIPS**

PhD Scholarships, taking place in Portugal and at University of Texas at Austin, in the following research fields:

- \_Digital Media
- \_Advanced Computing
- \_Mathematics

Applications deadline: February 28th 2013  
More information and the full announcement at:

[www.utaustinportugal.org](http://www.utaustinportugal.org)

**UT Austin | Portugal**  
INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB

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## NEW VISITING RESEARCHERS ARRIVE IN AUSTIN



Rui Dias



Filipe Lopes

The Digital Media program in Austin welcomed two new visiting researchers this semester, University of Porto students Filipe Lopes and Rui Dias. Both anticipate working with Bruce Pennycook, a faculty member of the Butler School of Music and of the Radio-TV-Film Department who specializes in new media and audio technologies. The visitors will remain at Austin through March.

Lopes will use his time at UT to further develop his doctoral project and make use of the University's extensive library holdings. His research focuses on

sound-specific space, investigating how to "perform" space using sound, and asking what sounds are specific to different spaces such as a room, road, or particular city. In this way, Lopes studies how different spaces can have "sonic personalities." His research will compose and design three site-specific sound interactive installations, focusing on acoustic data and affording a better understanding of site specificity for music.

Dias, who also specializes in sound and music, is performing research on automatic music generation and interactive music systems. His visit is supported by a research grant from the Foundation for Science and Technology awarded as part of the Prémio ZON prize in 2011 in the category of Multimedia Content and Applications. He is a member of the team at INESC TEC that created musical application GimmeDaBlues, now available in the Apple app store. The application's development grew out of the FCT-sponsored research project "Kinetic Controller Driven Adaptive and Dynamic Music Composition Systems," led by Carlos Guedes of Porto and Bruce Pennycook of UT Austin. While in Austin, Dias will continue research on musical interaction in multi-user environments.

## AUSTIN DIGITAL MEDIA DIRECTOR SHARON STROVER VISITS PORTUGAL

UT faculty member Sharon Strover traveled to Portugal early this month for an intensive round of meetings with fellow program directors and affiliated faculty and students. These meetings further developed plans for 2013 activities such as the Summer Institute, doctoral program courses, research calls, and student entrepreneurial workshops. Strover also met with David Cristina of the Ministry of Science and Education in Lisbon to discuss Ministry priorities such as nurturing the commercialization of research and producing collaborative research proposals to strengthen support for UT Austin-Portugal activities.

In Porto, Strover visited the Lab SAPO [<http://labs.sapo.pt/up/>] at U. Porto, a new facility opened in 2010 that supports

a variety of digital media research projects. Among them is the UTA-P sponsored project REACTION (Retrieval, Extraction, and Aggregation Computing Technology for Integrating and Organizing News), initiated in 2010, which seeks to develop new tools for providing greater automation in newsgathering, analysis, and delivery while accounting for the practical constraints of news producers and consumers. Toward the conclusion of her visit, Strover also participated in the daylong 2nd ImTv Workshop, which was attended by over a dozen researchers including João Magalhães of the New University of Lisbon, who is a co-principal investigator on the project with Strover.





## ■ Researchers Gather in Porto for 2nd ImTV Research Conference



ImTV Conference

On January 10, the ImTV project team gathered in Porto for its 2nd research conference. Over a dozen researchers representing several institutions attended the event. Attendees included principal investigator João Magalhães of the New University of Lisbon; Nuno Correia and David Serrano, also of UNL; co-principal investigator Sharon Strover of UT Austin; Teresa Chambel and João Ramalho of the University of Lisbon; Artur Pimenta Alves, Paula Viana, José Pedro Pinto, Teresa Andrade, Márcio Soares, and Tiago Costa of INESC TEC; and Pedro Ferreira of MOG Solutions, a leading developer of Material Exchange Format (MXF) technology and a spin-off company of INESC.

ImTV, which stands for On-demand Immersive TV for Communities of Media Producers and Consumers, is a

research project initiated in 2010 and supported by FCT funding. Its team studies how to exploit the full potential of new trends in media production and consumption by devising an on-demand immersive-TV framework combining TV industry, Internet distribution models and end-user needs. The project has proved prolific in its publications and presentations around the world at major venues including the EuroTV and International Communication Association conferences last year. Topics at the January 2013 conference included personalized multiview spaces, recommendation systems, gesture-based interaction for TV control, collaborative annotation of video content, sharing and navigating immersive video, connected viewing, and MOG technology solutions. Additionally, the meeting featured planning sessions for future collaboration and projects.



Photo credits: ESAD/Personal Views

**Professor Heitor Alvelos, outreach director of the UTAustin-Portugal program in digital media, has presented a retrospective of his creative and research work at the International Lecture Series "Personal Views", curated by Designer Andrew Howard since 2004, and featuring leading names in the various fields of Design.**

The lecture took place at ESAD, Matosinhos School of Art and Design, on January 18, to a full auditorium. Included in



his presentation, besides an interpretation of 25 years of his own work as a designer and media creative, were various fronts coordinated and curated under the UTAustin-Portugal flagship, including various FuturePlaces labs, research projects and prospective developments.

Further information can be found at:  
<http://esad.pt/pt/eventos/heitor-alvelos-2013>



## ■ Post doc Stephanie Somersille visited Instituto Superior Técnico



Stephanie Somersille, a post doc at the University of Texas, Austin visited Instituto Superior Técnico, Portugal for the fall semester 2012 to work with Diogo Gomes and learn about mean field games and their connection to the infinity Laplace operator. Stephanie's work involves using game theory and probability to discover properties of solutions to a differential equation involving the infinity Laplace operator. This operator has been linked to

applications in image processing, engineering including mass transport problems and finance.

While at IST Stephanie met with many other post docs and professors in the mathematics department. She attended many seminars including the calculus of variations seminar, the mean field games seminar and the partial differential equations seminar. On November 28th she gave a talk in the partial differential equations seminar entitled "Variants of tug-of-war games and the infinity Laplace equation." After this seminar many of the connections between her work and the work of others in the department became apparent and productive collaborations began. Stephanie also began a project concerning the eigenfunctions of the infinity Laplace operator and began preparing a paper entitled "The two phase infinity Laplace obstacle problem" with Farid Bozorgnia another post doc at IST Portugal. Stephanie found the experience extremely fruitful and is excited to continue the eigenvalue project and other collaborations begun at IST while back in the United States.

## ■ Seventh International Conference on Tangible, Embedded and Embodied Interaction – TEI13 Includes the PhD project "e-maestro" from Rui Avelans Coelho

This project is an attempt to recreate the musical experience of being in front of a symphony orchestra containing more than 80 members. The interaction between the audience and the orchestra is achieved through the development of an interactive control panel enabling users to manipulate groups of musicians, truly putting the viewer in the role of the symphony orchestra conductor.

More information about this event that will take place in Barcelona between 10-13 February can be found at: <http://www.tei-conf.org/13/artstrack>

More information about "e-maestro" here: <http://vimeo.com/49783148>.

## ■ Events

### • 17th International Conference on Tangible, Embedded and Embodied Interaction - February 2013, Barcelona

TEI 2013 is the seventh international conference dedicated to presenting the latest results in tangible, embedded, and embodied interaction. It will be held 10th to 13th February 2013 at Universitat Pompeu Fabra, in Barcelona, Catalonia, Spain. The work presented at TEI addresses HCI issues, design, interactive art, user experience, tools and technologies, with a strong focus on how computing can bridge atoms and bits into cohesive interactive systems. The intimate size of this single-track conference provides a unique forum for exchanging ideas and presenting innovative work through talks, interactive exhibits, demos, hands-on studios, posters, art installations and performances. TEI is sponsored by the ACM SIGCHI.

More information at:  
<http://tei-conf.org/13>

### • 4th Doctoral Conference on Computing, Electrical and Industrial Systems (DoCEIS'13) - 15-17 April 2013, Caparica, Lisbon

Centered on a timely and relevant theme of 'Technological Innovation for the Internet of Things', the DoCEIS'13, brings the importance of Internet of Things (IoT) under the spotlight. The Internet and mobile connectivity together with the vision of the IoT promises exciting challenges for researchers and industry and benefits for society. The IoT is an integrated part of Future Internet and could be defined as a dynamic global network infrastructure with self-configuring capabilities based on standard and interoperable communication protocols, enabling the interlinking of the physical world with the cyberspace.

More information at:  
<http://sites.uninova.pt/doceis/pages/technological-innovation-internet-things>

• **Blender PT Conference 2013 - Promoting, Bridging and Sharing Digital 3D - April 2013, Porto**

An event gathering researchers, professionals and freelancers to promote the open-source 3D digital tool Blender, debate about its real impact at an academic and professional level and build bridges between digital 3D communities in a knowledge sharing environment.

More information at:

<http://www.problender.pt/en/conf2013>

• **1st Biometric Recognition with Portable Devices Competition - 26-28 June 2013, Póvoa de Varzim**

This competition is part of the ICIAR 2013 - International Conference on Image Analysis and Recognition (<https://www.iciar.uwaterloo.ca/iciar13/>), which will be held in Portugal from the 26th to the 28th of June of 2013.

The competition website with further information can be found at:

<http://paginas.fe.up.pt/~MobBIO2013/>

• **1st VISion Understanding and Machine Intelligence School - July 2013, Porto**

Visum 2013 is the first VISion Understanding and Machine intelligence (visum) School that targets to gather at Faculdade de Engenharia da Universidade do Porto, Portugal, Ph.D. candidates, Post-Doctoral scholars and researchers from academia and industry with research interests in computational vision and machine intelligence.

More information at:

<http://www.fe.up.pt/visum/>

## ■ Ongoing Opportunities

• **Call For Entrepreneurship (Ignition Programme)**

The Call For Entrepreneurship is the entry point to the Ignition Programme, a new initiative led by Portugal Ventures to promote investment for market-oriented scientific and technological projects in the Seed Capital phase. 28th January to 28th February 2013 - Submission of projects for the Second Call For Entrepreneurship.

More information at: <http://www.portugalventures.pt/en/contents.html?hrq=146>

• **Advanced Digital Media Mobility Awards**

Awards for Digital Media faculty and student travel to UT Austin.

For more information please visit <http://utaustinportugal.org/calls/dm-travel>.

• **Conference Call for Papers, Multimodal Communication: Language, Performance and Digital Media**

In the framework of the TKB project conclusion (<http://tkb.fcsh.unl.pt>), a 1st. CALL for Papers is now open for submission of abstracts to the following international conference on: "Multimodal Communication: Language, Performance and Digital Media".

Event dates: Thursday 02 to Friday 03 May 2013.

Venue: CCB, Lisbon

Deadline for abstract submission: 20 February

### Useful links

[www.utaustinportugal.org](http://www.utaustinportugal.org)

[www.fct.mctes.pt](http://www.fct.mctes.pt)

[www.utexas.edu](http://www.utexas.edu)

[www.ic2.org](http://www.ic2.org)

[www.atl.utexas.edu](http://www.atl.utexas.edu)

[www.austin-chamber.org](http://www.austin-chamber.org)

<http://colab.ic2.utexas.edu/dm/>

[www.utenportugal.org](http://www.utenportugal.org)

We want to hear from you! Want to share your doubts and concerns about something you read? Want to see other topics featured in next month's newsletter? Want to contribute with articles or art? Please send all your feedback to [carolina.enes@fct.unl.pt](mailto:carolina.enes@fct.unl.pt).

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### SUMMER INSTITUTE 2013

#### Lisbon Summer Institute Courses Announced

Three Summer Institute courses are scheduled in Lisbon to begin next week.

**Rosental Alves of UT's Knight Center for Journalism in the Americas will teach Entrepreneurial Journalism this year in a three-week course beginning on May 20.** The course is expected to include online and offline components. Students will look at how digital media has affected the processes of production, distribution, and consumption in the news industry, and study specific examples of innovative journalism projects that have taken advantage of the opportunities offered by digital platforms.

**Research Methods, led by Sharon Strover, will begin the week of May 20 as well.** Students will study the basics of conducting systematic research, relying on a social sciences methodological approach. The course will address theoretical aspects of research such as epistemology, conceptualization, and measurement, and also introduce students to specific methods including focus groups, interviews, online and offline surveys, field experiments, ethnography, and other Internet-oriented approaches. This course will be very helpful for students constructing their research proposals and embarking on their doctoral projects.

**A new three-week course on human-computer interaction and interactive media has been added to the Summer Institute this year and will begin June 12. Led by UT doctoral candidate William Moner,** the course will focus on using the tools of the web to create a story. Students will employ proprietary and open source software to design a narrative experience that communicates the story of a place, such as a home town, using the web as a data source for materials and platforms. The course will address both theory and



production and will include discussion of mobile devices, remix culture, and transmedia storytelling.

#### Games Course Announced for Porto

**A course on videogames has been announced for the Summer Institute program in Porto. The course will be comprised of both virtual and traditional classroom instruction, and on-site meetings will be conducted from June 17 to June 29.** Informatics Engineering professor Antonio Coelho, who heads the Multimedia Masters program at U. Porto, will lead the course collaboratively with UT Austin's Bruce Pennycook, a faculty member in the Department of Radio-TV-Film and the Butler School of Music. Coelho visited UT in November 2012 with U. Porto professors José Azevedo and Raul Vidal to meet with Austin faculty and discuss opportunities for collaborative teaching and research on games. Pennycook has taught numerous courses for the Digital Media program in the past, including long-semester courses Multimedia in Performing and Generative and Automatic Music, and a variety of Summer Institute courses. He is also a key member of the new Game Development program at UT.

All the information about Summer Institute 2013 can be found at [http://utaustinportugal.org/news/Digital\\_Media\\_Summer\\_Institute\\_2013](http://utaustinportugal.org/news/Digital_Media_Summer_Institute_2013)



## ■ MORE SPRING EXPLORATORY VISITS

Four exploratory visitors came to UT during the last weeks of the spring semester. The most recent visitors included U. Porto students Cláudia Lima, Rita Sá, Daniel Catalão, and Pedro Suspiro. The students represent a broad range of research interests, from public libraries and social media outreach to online journalism, community art spaces, and interface design.

Sá and Lima visited Austin in the last week of March. Lima plans to make a comparative study of Porto and Austin libraries' online outreach strategies, and address the differing conceptualizations of public libraries in Portugal and the US. During her visit she met with Toni Grasso, marketing manager of Austin Public Library, and other staff there to learn about how the library uses web platforms, especially social media, for user outreach. Additionally, she met with Radio-TV-Film Department assistant professor Caroline Frick, an expert on online media archives and preservation, and with faculty at the School of Information.



**Cláudia Lima**

Sá's visit also included off-campus research. To pursue her study of art practice in open community environments, she visited ATX Hackerspace, which held an opening reception for its new location during her visit. During multiple visits to the community space, she met with executive director Marshall Peck, toured the nearly 750 square meter space, and sat in on a digital media class, interviewing the students about



**ATX Hackerspace (Credit: Rita Sá)**

their projects and collaborative trends in their work. Additionally, she met with Austin artist Jeanne Stern, who has taught experimental animation courses in Porto, and experienced Austin music culture, attending Honk!TX 2013, a community-supported festival of local bands. Sá noted, "I came to Austin to build connections for a future period of field research and I was able to study not only the places I had previously researched and contacted, but learn about other community based initiatives as well."

PhD student Daniel Catalão timed his visit to Austin to coincide with the International Symposium on Online Journalism and the Spanish-language Ibero-American Colloquium on Online Journalism, a special event that followed the ISOJ meeting. At these events and in discussions with UT faculty, Catalão was able to explore topics including new challenges for online journalism, changing consumption patterns, the engagement of publics and citizen empowerment, mobile journalism, the increasing role of social media, and the globalized public sphere. While his visit included meetings with Digital Media program director Sharon Strover, School of Journalism faculty Paula Poindexter, Stephen Reese,





**Daniel Catalão**

and ISOJ chairman Rosental Alves, Catalão also had the opportunity to meet professionals and scholarly researchers from other institutions. His busy visit was rounded out with research at UT's Pery-Castañeda Library and a tour of the Radio-TV-Film production facilities. Overall, Catalão found the trip very successful: "The week spent at the University of Texas at Austin was like diving in the cream of the cream of journalism research. I was able to make several very useful contacts with researchers and professors with whom I could discuss some of the issues regarding my PhD research."

Pedro Suspiro, the last exploratory visitor of the spring semester, arrived in late April and organized a busy schedule of meetings and classes, including attending courses led by program director Sharon Strover and RTF

digital media production faculty member Ben Bays. He viewed students' semester project presentations and met with faculty and advanced students from the School of Information and Advertising as well as those in Radio-TV-Film. One of the primary focuses of his meetings was human computer interaction; during his stay in Austin, Suspiro met with School faculty Luis Francisco-Revilla, who was taken part in several UTA-Portugal Digital Media program research projects, and with Jacek Gwizdka, a visiting scholar with expertise in applying cognitive psychology to interactive information retrieval.



**Honk!TX 2013 music festival (Credit: Rita Sá)**

## ■ UT Hosts the 14th International Symposium on Online Journalism

The International Symposium on Online Journalism took place in Austin from April 19-20. The program, which regularly attracts academics and professionals from around the world, was chaired by School of Journalism faculty member Rosental Alves. Alves, who holds the Knight Chair in Journalism and UNESCO Chair in Communication, heads UT's Knight Center for Journalism in the Americas and has led many short courses on digital media and innovations in journalism for the UTA-Portugal program. Digital Media doctoral students Claudia Silva, who is a visiting researcher this semester at UT, and exploratory visitor Daniel Catalão attended.

Keynote speakers included Clark Gilbert, president and CEO of the Deseret News Publishing Company and former professor at the Harvard Business School; Jill Abramson, the new executive editor of The New York Times; Andy Carvin, senior social media strategist of the US National Public Radio; and Emily Bell, the director of the Tow Center for Digital Journalism at Columbia University and former director of digital content for UK

newspaper The Guardian. Carvin, previously director and editor of The Digital Divide Network, was a faculty member for the UTA-Portugal's International School on Digital Transformation in 2011.

Panel topics included trends in social media, innovations in digital platforms architecture and design, mobile journalism, and data visualization.

## ■ Digital Media Students' Work Featured in UT Performance

Three doctoral students, Marta Ferraz, João Beira, and Yago de Quay, contributed to *Roots and Wings*, a dance showcase presented by UT Austin's award-winning ensemble Dance Repertory Theatre from April 19-21. The event was comprised of several works from nationally known artists and UT faculty, and the students' work was featured in *3[D] Embodied*, a performance created by Theatre and Dance faculty member Yacov Sharir with the collaboration of Music and RTF faculty member Bruce Pennycook.

To create the performance's innovative effects, sensors placed on the performer measured muscular activity, heart rate, and fine motor control activity, with a Kinect system tracking body movements. These inputs controlled the bio-visuals of the performance, projecting animations on a 3D box environment in which four other performers with no sensors danced, experiencing the bioperformer's biologic processes in real-time.



The performance also featured audio output from the biosensors, so that muscle contractions caused by the performer were translated into sounds.

Ferraz explained: "My idea was for this system to translate the unconscious processes of the human body, visceral processes, into conscious processes to be perceived by the dancers/audience." She used the opportunity to present her ongoing work on wearable biocomputing and biovisuals in an artistic setting while also continuing her scientific research, collecting data on the bioperformer's biologic experience before, during and after the performances using electroencephalography, measurement of galvanic skin response (GSR), and an emotional response questionnaire.

More information on Ferraz's project is here: <http://www.biotechbodies.com/biobitsarts.php>.

De Quay's website features additional information on the project: <http://www.yagodequay.com/#/category/dance-jockey-10/>



Photos Credits: Marta Ferraz



## ■ UTA-Portugal Faculty Participate in SXSW; Marslett's Film Wins Award



Photo Credits: Marslett photo by Patrick Rusk

UT Austin Radio-TV-Film Department faculty members Karen Kocher and Geoff Marslett were among the media producers appearing at the SXSW festival this year. The festival, which was expected to attract approximately 70,000 attendees, includes music, film, and interactive media components and took place from March 8-18.

Kocher has taught numerous short courses in the Summer Institute over the years, including Collaborative Database Documentary Workshop, Digital Documentary Workshop, and Documentary Mash-up and served as a Future Places Festival juror in 2009. For SXSW 2013, she organized a panel titled "Storytelling Devices in Interactive Documentary." The panel also featured German documentary maker and software creator Florian Thalhofer, award-winning interactive designer and storyteller Bart Marable, and Radio-TV-Film doctoral student Laura Dixon. The panelists discussed examples of existing interactive documentaries and explored how the digital format can better engage audiences in a substantive way.

Marslett has also participated extensively in the UT Austin-Portugal Digital Media program, leading a semester-long class in digital animation in addition to numerous short courses and intensives. His work with digital animation has resulted in numerous short films and an award-winning feature-length animated film, "Mars," in 2010. His first live-action feature, "Loves Her Gun" premiered at SXSW this year and met with critical acclaim, winning the Louis Black "Lone Star" Award, named for one of the founders of the festival. The film was among 133 feature-length works selected to screen at SXSW this year, chosen from a submission pool of approximately 2,100 entries. Directed by Marslett and co-written by Marslett and screenwriter Lauren Modery, the film tells the story of a woman who moves to Austin after being attacked in New York City, and how her residual anxieties lead her to embrace Texas gun culture.

Pedro Resende's short-film *Forever* was chosen to be included in the 2013 Faces of Austin short film exhibition as part of SXSW Film's Community Screenings. Pedro Resende participated on the ZON Creativity in Multimedia Award competition in 2010 winning a scholarship to visit the University of Texas at Austin, within the UT Austin | Portugal program. His film was chosen as one of only 12 works this year from a competitive pool of 57 submissions from over 48 filmmakers. *Forever* is "A journey about love, transformation & eternity." This film was made as the final project of a scholarship provided by ZON Portugal in cooperation with the RTF Department for the Sigur Rós Valtari Film Competition. More information can be found at: [WWW.PEDRORESENDE.COM](http://WWW.PEDRORESENDE.COM)



Karen Kocher



## ■ Horácio Tomé Marques Visits Austin, Explores UT and SXSW

U. Porto student Horácio Tomé Marques spent a busy week in Austin this March exploring the UT campus, meeting with various faculty, and attending numerous presentations and events on and off campus. Marques, whose research focuses on music perception and cognition, arranged to come to Austin during the world-renowned SXSW media festival, when tens of thousands of performers, media producers, entrepreneurs, and other participants descend upon the city.

During the first days of his stay, Marques met with faculty at the Butler School of Music including his co-advisor Bruce Pennycook, who has taught several short intensive and semester-long courses with the UT Austin-Portugal program. Over the course of multiple meetings—described by Marques as “highly productive”—he and Pennycook conducted a detailed analysis of Marques’s doctoral project, including evaluations of software applications relevant to his work. Marques also had the opportunity to meet with Eugenia Costa-Giomi, a faculty member whose research includes work on music perception, cognition, and early learning, and Adam Holzman, a professor of Guitar. Marques concluded his faculty meetings by conferring with Director Sharon Strover about his exploratory visit’s outcomes and future plans. While exploring the campus and city, Marques was also able to meet with several fellow students who are currently based in Austin, including visiting researchers Marta Ferraz and Gustavo Magalhães and dual degree students João Beira and Yago de Quay, and discuss common interests such as human-computer interactivity, embodied technologies and contemporary digital performative arts.



While his visit was brief, Marques took full advantage of his time in Austin and saw the city at its peak activity level. Regarding the SXSW festival, he stated, “Although I did not have the opportunity to attend many events, I was impressed by the mobilization capacity of the city itself and the amount of available conferences, lectures and workshops by renowned personalities of utmost importance in areas such as games, computing, advanced interactive systems, digital arts, or films.”

## ■ Building on multidisciplinary to enact new frontiers for research

*By Anne-Laure Mention, J.J.Pinto Ferreira, Marko Torkkeli (Editors of the New Journal)*

For many years, the academic community has been organizing itself in all different ways to respond to its current and future needs, ensuring research integrity and recognition, and building on successive generations of peers to validate and support the continuation of new research streams. In fact, we owe our current state of research and development to the generations of scientists that brought all of us here. This initiative aims at preparing the future as the whole society strongly recognizes the increasing need to tackle multidisciplinary, namely in the APPROACHES ON INNOVATION.

As a result of this recognition, we aim at challenging the frontiers of MULTIDISCIPLINARITY by bringing together researchers and practitioners from both “Economic and Social Science Areas” and “Technology and Science / Industry Areas”, and by positioning our new journal as a pivot between academia and industry.

In this context, and on the forthcoming 3rd of September, we will have a Special International Workshop on MULTIDISCIPLINARY APPROACHES ON INNOVATION. Within this workshop, we will have the inaugurating event of a new international journal addressing MULTIDISCIPLINARY APPROACHES ON INNOVATION.

This new JOURNAL encourages the submission of papers addressing the multidisciplinary nature of the innovation process combining principles and concepts originating from a myriad of scientific areas, from social sciences to technology research and development. The journal encompasses all phases of the process of innovation from the conceptualization of a new technology-based product / service / process to its commercialization.

The multidisciplinary perspective associated with this Journal means that papers should combine, though not being restricted to, the following areas: Social Sciences and Humanities, Technological sciences, Physical sciences, Natural sciences and Health Sciences.

This new Journal, whose name is to be announced soon, features Associate Editors and Editorial Board Members from miscellaneous fields of research. Besides the diversity of the disciplines and scientific fields, this new journal will benefit from practitioners’ contribution and should play a pivotal role between academia and industry, and create bridges between research and practice.

Further information at: <http://www.fe.up.pt/iwsmi/>



## ■ Events

- **Digital Media Summer Institute 2013**  
May and June – Lisbon and Porto

More information at:  
[http://utaustinportugal.org/news/Digital\\_Media\\_Summer\\_Institute\\_2013](http://utaustinportugal.org/news/Digital_Media_Summer_Institute_2013)

- **1st Meeting on Digital Media Research Methods (DiMe 2013)**  
May 24th, Porto

The DiMe 2013 meeting aims to create a forum for discussion and sharing, among Digital Media PhD students on Research Methods topics.

More information at:  
<http://paginas.fe.up.pt/~dime2013/>

- **StudECE 2013 - 2nd PhD Students Conference in Electrical and Computer Engineering**  
25-27 June, Porto, Portugal

Conference Website:  
<http://www.fe.up.pt/~StudECE2013/>

- **1st Biometric Recognition with Portable Devices Competition**  
26-28 June, Póvoa de Varzim

This competition is part of the ICIAR 2013 - International Conference on Image Analysis and Recognition (<https://www.iciar.uwaterloo.ca/iciar13/>), which will be held in Portugal from the 26th to the 28th of June of 2013.

The competition website with further information can be found at:  
<http://www.fe.up.pt/~MobBIO2013/>

- **1st VISion Understanding and Machine Intelligence School**  
July 2013, Porto

Visum 2013 is the first VISion Understanding and Machine intelligence (visum) School that targets to gather at Faculdade de Engenharia da Universidade do Porto, Portugal, Ph.D. candidates, Post-Doctoral scholars and researchers from academia and industry with research interests in computational vision and machine intelligence.

More information at:  
<http://www.fe.up.pt/visum/>

- **Fundação Oriente XIV Arrábida meeting “Statistical dynamics of complex systems”**  
1-3 July, Convento da Arrábida, Portugal

More information at:  
<http://utaustinportugal.org//calendar>

## ■ Ongoing Opportunities

- **E3 Forum 2013 - Poster Competition**

The E3 Forum is now preparing its 3rd edition, which will happen on 27th June, 2013, so make sure you don't miss this event. E3 Forum is accepting innovative contributions for a Poster Competition to be held during the conference day.

More information:  
<http://www.mitportugal.org/event-news/e3-forum-2013-poster-competition.html>  
and [http://e3forum.org/?page\\_id=2354](http://e3forum.org/?page_id=2354)

- **GÉANT Competitive Open Call for Additional Beneficiaries**

The GÉANT (GN3plus) project has reserved a portion of project budget to fund specific tasks. These tasks will be carried out by new beneficiaries who may join the project either as Partners or as Third Parties to existing consortium members and will be selected by means of a competitive Open Call.

All proposals must be received by May 29, 2013 (17:00 Brussels Time).

More information about the GN3plus project can be found at:  
<http://www.geant.net/About/Pages/default.aspx>

• **Call For Entrepreneurship – Portugal Ventures**

Submission of applications is open until 30th May.

More information at:

<http://www.portugalventures.pt/en/contents.html?hrq=146>

• **Video contest Invest in our Future – Invest in science**

This video contest invites you to look at the world afresh and realize the great contribution of science to our lives and the amazing possibilities it opens for our future.

Video Submission ends May 31st, 2013.

All information about the contest can be found at:

[www.investinscience.eu](http://www.investinscience.eu)

<http://www.facebook.com/investinscience?ref=hl>

• **ICT 2013 Student ICT research project competition**

Do you have an innovative ICT-related research project? Win a possibility to showcase it in ICT 2013! Individual students or small groups (max 5) can submit ICT research projects to showcase at the ICT 2013 event in Vilnius. The projects can be submitted in 8 categories, which reflect the orientations of the ICT research in the next European research framework program, Horizon 2020.

Competition entries can be submitted until 5th June 2013, 16:00 CET.

More information at:

<https://ec.europa.eu/digital-agenda/en/ict2013-student-ict-research-project-competition>

• **Advanced Digital Media Mobility Awards**

Awards for Digital Media faculty and student travel to UT Austin.

For more information please visit:

<http://utaustinportugal.org/calls/dm-travel>

**Useful links**

[www.utaustinportugal.org](http://www.utaustinportugal.org)

[www.fct.mctes.pt](http://www.fct.mctes.pt)

[www.utexas.edu](http://www.utexas.edu)

[www.ic2.org](http://www.ic2.org)

[www.afi.utexas.edu](http://www.afi.utexas.edu)

[www.austin-chamber.org](http://www.austin-chamber.org)

<http://colab.ic2.utexas.edu/dm/>

[www.utenportugal.org](http://www.utenportugal.org)

We want to hear from you! Want to share your doubts and concerns about something you read? Want to see other topics featured in next month's newsletter? Want to contribute with articles or art? Please send all your feedback to [carolina.enes@fct.unl.pt](mailto:carolina.enes@fct.unl.pt).

**UT Austin | Portugal**  
INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLab

THE UNIVERSITY OF  
**TEXAS**  
AT AUSTIN

**FCT**  
Fundação para a Ciência e a Tecnologia  
INSTITUTO NACIONAL DE CIÊNCIA E TECNOLOGIA





MAY  
JUNE  
JULY \\ 2013

NUMBER \\ 52

UT Austin | Portugal INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB



**The CoLab team wishes you all a good summer holiday!**

**Digital Media Summer Institute 2013 Completes**

The Digital Media Summer Institute wrapped up in July. This year's program offered four intensive courses taught by UT faculty in Lisbon and Porto, each graduate-level course lasting three weeks. In addition, an advanced one-week workshop on Interaction Design was offered at U. Porto in July, taught by UNL doctoral students.

One of the first courses this year was **Research Methods**, taught by **Sharon Strover** in Lisbon. Her classes gave a thoroughgoing overview of systematic data collection, covering a variety of methods including ethnography, field experiments, online and offline surveys, and focus groups. Students also learned the theoretical underpinnings of social science research, examining concepts such as epistemology and measurement. The course was oriented particularly toward students beginning their doctoral projects. Also in May, **Rosental Alves** led a course on **Entrepreneurial Journalism** in Lisbon. The course featured offline and online components this year, as students looked at the ways in which digital media has affected the production, distribution, and consumption of news. In June, **UT advanced doctoral student William Moner** led a course on **Human-Computer Interaction and Interactive Media**, focusing on how tools on the web can be used to tell a story. Students were asked to construct a narrative experience based on a place, such as their hometown.



William Moner and some students

In Porto, **Bruce Pennycook** from the University of Texas at Austin, led a workshop on **Digital Game Design**. During the course, students used the GameSalad engine to design a game and employed different software tools to create graphics and audio.



Bruce Pennycook and his students

The hands-on course featured lecture, practical instruction, and open lab time, and concluded with final demonstrations via Skype. In addition to his workshop, on June 27th Pennycook gave a talk entitled "The Impact of New Media on Music Creativity".

During an hour presentation, Bruce Pennycook talked about how new media – meaning hardware and software developments in audio and music – have altered how we work and how we make music.

Students in Porto also had the opportunity to participate in a **workshop on Interaction Design**. From July 8th to July 19th at FEUP, eleven motivated students attended the course and developed skills in areas such as User Experience Design, Content Strategy, Information Architecture, Personas, Wireframing, Interface Design, Prototyping, among others. Students were able to plan and develop an interactive product through design thinking processes and applying user experience design methods. The first week included intensive classes in the morning and afternoon and the second week was devoted to free project work, with a final project presentation at the end of the week.



Interaction Design Class

The course, lectured by **Bruno Nobre and Cláudia Pernencar**, both Digital Media Ph.D. students from the UT Austin | Portugal Program and invited assistant professors from IADE-U (Institute of Art, Design and Enterprise - University), focused on the development strategies and tools of an Interaction Design project regarding a User Centered Design approach. This particular condition relied on an overview of principles, processes, and tools that supports Interaction Design, and was focused in the pursuit for innovative and lateral thinking in the creation of interactive media having the User in the center role.



Digital Media Summer Institute 2013 Completes

Students have responded very positively to the diverse summer course offerings, with many commenting on how the courses will help them in future academic and professional endeavors. Survey respondents have given the five courses an average overall rating of 4.5 out of 5.

## ■ INVITE Project Researchers Convene at UT

Several members of the **INVITE project** team met in Austin in mid-June to perform their first round of field experiments at UT and to discuss how the project may be further developed. Principal investigator Rui Prada, professors Pedro Santos and Carlos Martinho and graduate student Guida Preto met with co-principal investigator Jorge Peña of UT's Communication Studies and UT graduate student Nick Brody. The project, titled INVITE: social Identity and partNership in VIrTual Environments, is an FCT-funded effort initiated in 2010.

This research explores the development of artificial intelligence mechanisms that can perform well in complex social situations such as games and virtual environments. During the project, the team created a 3D, highly customizable virtual world where different aspects of the decision-making process may be studied. The game may be used to explore people's behavior and how they negotiate a social dilemma, choosing between working for the personal and the public good. For example, players' avatars may work in teams populated by virtual agents as well as other human players. Under a time constraint, each player must decide whether to focus on his or her own personal advantage or to focus on working to the advantage of the team as a whole.



This tool also investigates the construction of social identity, studying how players develop feelings of belonging with other group members, including virtual agents. With its great flexibility, the application may be useful in diverse fields including psychology, business, and education.



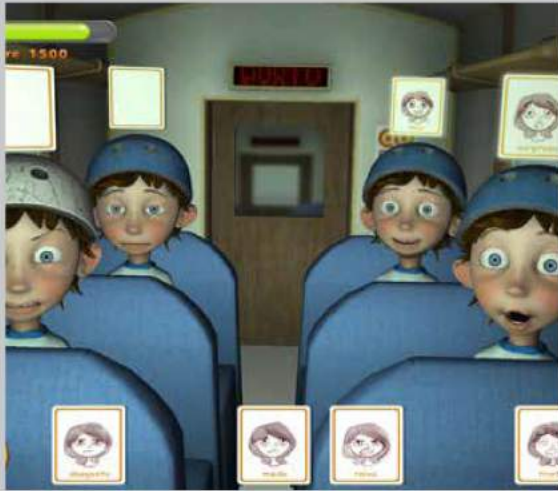
INVITE Project Researchers Convene at UT

## ■ LIFEisGAME Project Presents Demonstration in Porto

The LIFEisGAME research team gathered on June 11 in Porto to formally present the results of their work. Led by principal investigator Verónica Orvalho of U. Porto, the researchers include co-PIs Jake Aggarwal of UT Austin and Miguel Sales Dias of Microsoft, the project's industry partner, Cristina Queirós of U.Porto, and António Marques of IPP. The project has been based at the Porto Interactive Center.

Launched in 2010, the FCT sponsored project has developed tools to help children with Autism Spectrum Disorder improve their communication skills in an engaging game environment. LIFEisGAME uses real time synthesis and automatic facial expression analysis to help players learn to recognize emotions conveyed by the face and also teaches them to mimic expressions as they learn to match facial cues with emotion. The game's flexibility allows therapists to adapt it to the needs of the individual child, helping the child achieve a variety of learning outcomes.





Players are led through four learning stages: Recognizing emotions portrayed by the onscreen character; using the game's sketch tool to build a facial expression that matches a particular emotion; mimicking the facial cues of a 3D avatar; and learning to perform expressions based on situations portrayed in a story. Innovations produced by the team may be applied to a variety of fields including psychology, entertainment, health, and academia. Orvalho expressed great satisfaction with the team's achievements and conveyed her hopes for the project's future, saying "The LIFEisGAME project has gone beyond current state of the art techniques in character animation and opened the door to explore novel lines of research in the understanding of emotion recognition through new interaction models... we have gone one extra mile and implemented our game on-line and for tablets, so hopefully many kids can explore its potential and become part of our next versions!"

## ■ Scholars Gather at Digital Media Methods Conference in Porto

The first meeting on Digital Research Methods (DIME) took place May 24 at FEUP. Austin Digital Media Director Sharon Strover and Portuguese directors and co-directors Nuno Correia, José Azevedo, Carlos Guedes, Heitor Alvelos, and Artur Pimenta Alves acted as speakers and moderators, opening and closing the daylong session. Ademar Aguiar and Joana Resende of U. Porto joined them, also serving as speakers. The conference featured presentations from 10 advanced PhD students and was created to provide a forum for doctoral students to discuss their projects from the perspective of their respective research methods.

The range of approaches addressed in the conference reflected the diversity of the students' interests and included user experience and survey designs, the study of social networking dynamics and innovation, researching marketing and new media, qualitative approaches to film and new media, and digital media and journalism, among other topics. Eduardo Morais, Gustavo Costa, Jaime Fins, João Miguel Aguiar, and Marisa Silva organized this inaugural meeting. Presenters included Horácio Tomé Marques, Filipe Lopes, Pedro Bastos, Fernando Governo, Paulo Fontes, Jasmína Stoyanova, Bruno Nobre, Carlos Figueiredo, Soraia Ferreira, and Ricardo Batista.

## ■ UT Digital Media Faculty Present Research at International Conferences

Several UT Austin Digital Media faculty took advantage of the summer to travel to some major international conferences and present their latest research. Sharon Strover, Karin Wilkins, Joe Straubhaar, and Laura Stein of the Radio-TV-Film Department, Jorge Peña of the Communication Studies Department, and Michael Mackert of Advertising and Public Relations all participated in the International Communication Association annual meeting in London, June 17-21. Faculty took part in a wide variety of panels on topics including broadband network access, political communication during the Arab Spring, freedom of the press in the digital age, expressions of regional identity in Brazilian media, health communication and behavioral outcomes, and military training and video games. Several of the UT faculty went on to the International Association for Media and Communication Research (IAMCR) annual meeting, which convened in Dublin from June 25-29.

Also at IAMCR, UT Austin-Portugal researcher Cristina Ponte of UNL presented research on how mediagraphies can support media research and education.

In early July, Straubhaar spoke in a plenary panel at the International Conference Interfaces Lusophone, which took place in Braga. The conference addressed a range of study areas including Lusophone media production, migration and identity, and trends in Lusophone culture around the world. Straubhaar, an expert on global media and international communication, contributed to the plenary session titled "Intercultural and representations of the Portuguese language in the media," and was joined by former UT visiting researcher Isabel Ferin Cunha of the University of Coimbra, Maria Manuel Baptista of the University of Aveiro, and Claudia Castle of the Tropical Research Institute.



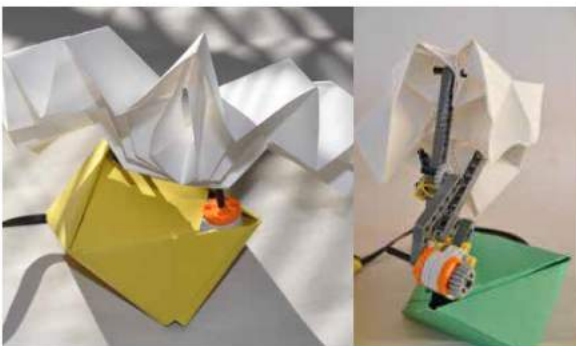
## UT Austin Visiting Researchers Spend Active Summer



Cláudia Silva Latinitas

**UT Austin-Portugal Digital Media visiting researchers have spent a productive summer teaching workshops, gathering data, and traveling the world. Isabel Paiva went to Brazil to conduct the PaperBots Workshop on July 23 and 24 at the Electronic Language International Festival (FILE) in São Paulo.**

The FILE festival features exhibitions, roundtables, workshops, and lectures focused on art, technology, and digital culture. It will run from July 23 to September 1.



PaperBots

Paiva's workshop combined digital and physical computing, as she taught participants how to construct interactive devices known as Paperbots built with technology from LEGO Mindstorms kits. Paiva works with faculty at UNL and UT Austin, specializing in design, engineering, and art. After taking classes at UT Austin as a registered student, she transitioned to visiting researcher status to pursue the development of her final project.

Doctoral student Gustavo Magalhães is doing research in San Francisco this summer with nonprofit organization Code For America, a nationwide organization devoted to promoting open government policies, supporting civic startup companies, and improving citizen engagement. Magalhães is studying entrepreneurship in the fields of civic and open data technology.

**UNL doctoral student Cláudia Silva recently concluded her first series of workshops on locative media and storytelling at Latinitas, a Texas nonprofit organization devoted to empowering young Latinas through media and technology.** Silva, who has taken classes at UT Austin, is now a visiting researcher and works with two local community groups, Latinitas and the River City Youth Foundation. Working with girls between the ages of 10 and 14, Silva taught them about smartphones, GPS, mapping,

and the creation of place-based stories. By the end of the sessions, several of the girls were able to create narratives about specific places significant to them, and make the stories available on a website created by Silva. Silva's dissertation project, supervised by Professors Joe Straubhaar of UT and António Granado of UNL, studies the potentials of locative citizen journalism. More information about her research is available on Silva's blog.

**After nearly two years as a visiting researcher, Tiago Videira returned to Lisbon this summer to complete his dissertation. During his stay in Austin, Videira worked closely with UT professor Bruce Pennycook, studying programming techniques for musical analysis and symbolic manipulation using the programming language Lisp.** His extended visit proved highly productive: While at UT, he composed over a dozen original music pieces and began development of a new instrumental music generator, still in progress, in addition to studying a wide range of disciplines as he shaped his dissertation topic.

Videira commented, "I feel as if I took two or three different master courses while I was here on my own... The amount of information I gathered during these two years was overwhelming but in the end I take with me a 140 page dissertation in progress and many, many notes that will help to shape my future work." During his last weeks in the US, Videira explored the country beyond Texas, touring Arizona, California, and Nevada.



Tiago Videira trip



Tiago Videira trip

## ■ João Mario Grilo Visits UT

Award-winning filmmaker João Mário Grilo visited Austin in May. Grilo, a professor in the department of Communication Sciences at UNL, met with UT students and faculty and presented some of his latest work. Traveling for several weeks in Mexico and the United States, Grilo visited and photographed the landscapes appearing in films by legendary directors such as Sergei Eisenstein and John Ford. Grilo is researching ways in which new media can be used to teach contemporary students about these iconic directors, such as through the creation of 3-D models that allow students to virtually explore film landscapes and study how the directors' framing decisions affect the overall work. This may offer a new means to acquaint today's students with some of the twentieth century's most powerful films.



## ■ Advanced Computing – Portuguese students at the University of Texas at Austin

This summer, eight students from the University of Minho are doing their internships at the University of Texas at Austin. They are working on exciting projects in graphics, high-performance computing, and parallel programming. Daniel Gomes, Jose Alves, and Luis Gomes are working with Professor Don Fussell in the Department of Computer Science at UT Austin on advanced ray-tracing techniques. Fabio Correia and Diogo Lopes are working with Dr. Paul Navrátil at TACCC on the Stampede cluster, which is one of

the fastest computers in the world. Cristiano Sousa, Rui Brito, David Pereira and Bruno Medeiros are working with Professor Keshav Pingali, co-director of Colab, on graph partitioning problems on multicores and GPUs. The UT Austin research supervisors report that the Portuguese students have an excellent background in parallel programming, and that they are strongly motivated. We look forward to seeing some significant accomplishments by the end of the summer!



## DIGITAL MEDIA DOCTORAL STUDENTS' NEWS

### ■ Bruno Nobre (FCT/UNL) attended the 11th Euro iTV

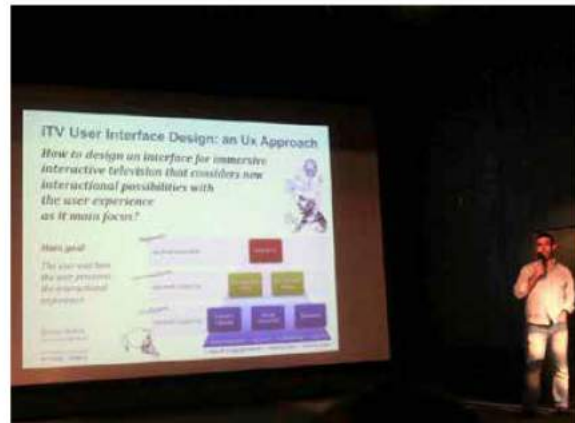
During the 11th edition of the European Interactive TV Conference series: Euro iTV 2013 - the leading international conference for media and interaction related to video and television - hosted this year by the Politecnico di Milano from June 24 - 26, 2013 in Como, Italy, Bruno Nobre, a Digital Media doctoral student from FCT/UNL presented the ongoing PhD research entitled "iTV User Interface Design: an Ux Approach" at the conference Doctoral Consortium. This research is part of the "ImTV - On-Demand Immersive-TV for Communities of Media Producers and Consumers" FCT/MEC funded project and aims to study the interface design for interactive television considering the user experience as its main focus since the early ideations.

The presented paper was mainly focused on the developments of a persona creation strategy for interactive television users and the preliminary conclusions that were achieved at that time. Also, at the conference Closing Session this work was again exposed in a short format version, enabling the statement of the study focus and goals to the entire Euro iTV 2013 audience.

In Bruno's own words: "This was a very good opportunity to show the results of the research that we're pursuing and get valuable feedback from the scientific community. Also, the chance to see in first-hand the advances in industry and

academic research of interactive television in one single place was outstanding and inspiring. Definitely, it will contribute significantly to the quality of the research." Furthermore, Bruno Nobre also had the chance to attend the "Out of the Box Selection and Application of User Experience Evaluation Methods and Practical Cases" tutorial led by Marianna Obrist, Santosh Basapur and Hendrik Knoche. This workshop provided a general understanding of UX evaluation available methods, concrete UX evaluation case examples and hands-on exercises, engaging in a reflection on practical use of UX methods, problems and challenges.

This year edition had another particularity: it was the last of the Euro iTV series. Next year, it will be titled as: ACM TVX - ACM International Conference on Interactive Experiences for TV and Online Video. For more info: <http://tvx2014.com/>



### ■ **Horácio Tomé Marques (U.Porto) presents his projects [Music, Reason and/or Emotion] on several events**

Doctoral student Horácio Tomé Marques keeps applying his research on two fronts. Working at EEG (brain electric potentials) lab recording and analyzing data from musicians (mostly guitarists) and on the expected correlations of resonance potentiation and conditioning of human behavior (musicians and public) by harmonic synchronization of oscillators. This project has been featured on the TV program *Música e Emoções*, by *Ciência 2.0* from University of Porto. He is applying his ideas based upon the human EEG and other bio-electric potentials phenomena on several projects as well, from which he currently highlights two of them:

1)  $\mu$ ARTs\* collective, with colleagues from neurosciences, dance and media. With this one Horácio have been participating in several events and venues, applying innovative ideas like taking the EEG lab to concerts, museums or art galleries, transforming it into truly art installations and performative acts, and also proposing new perception models, e.g. by playing blinded, simultaneously with blind

and sighted friends, in order to understand the impact on perception, emotions and reasoning and work on the findings in subsequent artistic proposals.



**Tangible Feelings Workshop  $\mu$ ARTs**



2) Inside Music Machine\*\*, with two colleagues musicians and another from the faculty of engineering. This project conceptually proposes an interpretation/revelation, through some unprecedented visual methodologies in real-time and in creative ways, but with objective empirical support, the invisible side of humans on the act of producing and playing music — a generated phenomenon, both exterior and interior, that is not perceptible by visual or auditory system but is constituent of the phenomena itself and that influences the overall perception and understanding of images and sounds. For that the group is using special really innovative technological apparatus within this context, such as thermographic cameras, plus sensors for bio-electric potentials and reactive algorithms, making possible to decode that phenomena as well as the acoustic oscillations generated by musicians, i.e., music as we appropriately define it.

The group made the grand opening for the 31º Festival de Música de Leiria 2013, the oldest classical music festival in

Portugal, where they introduced this original approach. Horácio always analyses the possible consequences of the art proposals by talking and interviewing several attendees of the venues, not only from general public, but also art directors and curators, to get a broader notion (and statistical data) of the potential impact.

Through methodologies and projects like these the researcher is giving meaning to his quest. As Horácio writes: "As the performative acts are a much broader phenomena than most of us can perceive, and not exclusively because of the layers contained beyond the capabilities and mechanisms of human perception — therefore constituting events of relationship and interaction (e.g., musicians and audience) - this approaches aim to significantly contribute to an extended and amplified aesthetic relationship between the protagonists of the performing arts, i.e., between the performers and the audience."

\* μARTs (founding members)

- Horácio Tomé Marques - Music · Brain Potentials · Digital Art
- Francisco Marques Teixeira - Neuroscience · Neuro-engineering · Mind
- Sofia Ferreira Leite - Neuroscience · Dance · Empathy
- Tiago Gama Rocha — Web · Neurocognition · Communication (also PDMD)

[www.muarts.org](http://www.muarts.org)

\*\* Inside Music Machine

Music - Ianina Khmelik – Violin; Hugo Novo - Teclados, Samplers e Sequencers  
Visuals - Horácio Tomé Marques - (BCI / EEG) Brain-to-computer-interfaces,  
Acoustic and Bio Sensors; António Silva - Thermographic Cameras, Acoustic and  
Bio Sensors

[www.insidemusicmachine.org](http://www.insidemusicmachine.org)



Inside Music Machine

## Digital Media Intern Publishes Online Ad Study

Former Digital Media research intern Ana Margarida Barreto recently published the results of a marketing study performed during her stay at UT Austin. The study is featured in an article titled "Do users look at banner ads on Facebook?" which appears in volume 7 of the peer-reviewed Journal of Research in Interactive Marketing. Barreto, who is now finishing her doctorate in Strategic Communication at the University of Lisbon, came to Austin in the fall semester of 2010 to do research on social media and advertising.

Working with Professors Sharon Strover of Radio-TV-Film and Zenzi Griffin of UT's Department of Psychology, Barreto conducted an eye-tracking study to investigate the phenomenon known as "banner blindness," which describes how users of websites may not actually look at advertisements. Barreto learned that ads on Facebook attract lower attention levels from participants than friends' recommendations. The study offers empirical data on user behavior that may contribute to the development of more effective online advertising campaigns, an area of increasing financial investment. Barreto's award-winning blog [<http://doisdosedemarketing.wordpress.com/>] covers a variety of issues surrounding marketing communication. She is currently a visiting scholar at Columbia University's Business School.

## ■ Diana Marques Contributes to Augmented Reality Project at Smithsonian Museum

Digital Media doctoral student Diana Marques is currently working at the Office of Education and Outreach at the world-renowned Smithsonian National Museum of Natural History in Washington, DC. Marques, whose areas of expertise include scientific illustration and animation as well as biology, studies the integration of technology, particularly augmented reality, in museum environments. At the Smithsonian Museum, she is part of a skilled team that is developing a mobile AR experience to digitally renovate a nineteenth century skeleton exhibit, with the goal of making the exhibit more engaging to the public.

Marques noted that her participation in this project has given her the opportunity to further develop her skills as a 3D visual communicator as well as develop new skills in user interface design, observation, tracking, and interviewing methods. Her team's work has broad implications for the future of science communication and museums, as it explores how AR may be best employed as a tool to engage and educate the public.



## ■ "e-maestro" project showed at "Guarda Nacional Republicana" (Republican National Guard) historic headquarters in Lisbon

The interactive video installation "e-maestro" from Digital Media PhD student Rui Avelans Coelho featured in the Republican National Guard's 102nd anniversary celebrations. This year's exhibition received more than 22.200 visitors which exceeded the numbers of the five previous editions held between 2007 and 2011. Miguel Macedo, the Portuguese Minister of Internal Administration, was present at the official opening and had the opportunity to try "e-maestro" himself.

Renascença Radio visited the GNR headquarters and interviewed Rui Coelho. The story can be seen here: <http://vmais.rr.sapo.pt/default.aspx?fil=491492>





## ■ Ongoing Opportunities

### • Fellowships and Grants - 2013 Call for PhD Studentships, PhD Studentships in Industry and Post-Doctoral fellowships

With this call, FCT aims to support the best graduate investigators who wish to pursue research leading to a PhD degree, in any scientific domain, and the most creative post-doctoral researchers in pursuing cutting-edge research, in Portuguese or foreign research centres.

More information:

<http://www.fct.pt/apoios/bolsas/concursos/individuais2013.phtml.en>

### • European Institute of Technology Preparation Projects

FCT aims to support Portuguese research teams in joining the new KICs, through the establishment of co-location centres in Portugal. Towards this end, FCT launches a call for business plans for the implementation of co-location centres of a KIC. The selected proposal(s) are expected to integrate European consortia applying to the 2014 EIT call for KICs (EIT-KIC-2014).

The R&D areas addressed in this call are: innovation for healthy living and active ageing; and raw materials.

More information :

<http://www.fct.pt/apoios/projectos/concursos/2013/editais/eit/index.phtml.en>

### • Advanced Digital Media Mobility Awards

Awards for Digital Media faculty and student travel to UT Austin.

For more information please visit:

<http://utaustinportugal.org/calls/dm-travel>

### Useful links

[www.utaustinportugal.org](http://www.utaustinportugal.org)

[www.fct.mctes.pt](http://www.fct.mctes.pt)

[www.utexas.edu](http://www.utexas.edu)

[www.ic2.org](http://www.ic2.org)

[www.ati.utexas.edu](http://www.ati.utexas.edu)

[www.austin-chamber.org](http://www.austin-chamber.org)

<http://colab.ic2.utexas.edu/dm/>

[www.utenportugal.org](http://www.utenportugal.org)

We want to hear from you! Want to share your doubts and concerns about something you read? Want to see other topics featured in next month's newsletter? Want to contribute with articles or art? Please send all your feedback to [carolina.enes@fct.unl.pt](mailto:carolina.enes@fct.unl.pt).

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# COLABSQUARE

January\  
February\  
\2014

NUMBER \53

UT Austin | Portugal INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB



## futureplaces // 6th edition

### UT Austin | Portugal Program Celebrates Second Phase

Representatives from the office of the Secretary of State for Science and the Foundation for Science and Technology, rectors and faculty members from participating universities, and students gathered at the University of Porto on October 29 to mark the beginning of the UTA-Portugal's program second five-year phase which commenced this year. The occasion created an opportunity for ongoing and new members of the various UTA-Portugal program concentrations to meet and share ideas for the future.

The inaugural ceremony opened with welcoming addresses from José C. Marques dos Santos, Rector of U. Porto, Vice President of FCT Pedro Carneiro, and António Rendas, the President of the Council of Rectors of the Portuguese Universities. Presentations by representatives of each of the program's primary areas followed. The presenters came from several institutions, reflecting the UTA-Portugal program's diverse partnerships. Nuno Correia of UNL, Heitor Alvelos of U. Porto, and Sharon Strover and Karen Gustafson of UT Austin discussed the Digital Media program; Don Fussell of UT and Fernando Silva of U. Porto presented on Advanced Computing; Juha Videman of Instituto Superior Técnico discussed activities in Mathematics; and Paula Vilarinho of the University of Aveiro and Brian Korgel of UT presented the Emerging Technologies program. José Manuel Mendonça of U. Porto and Marco Bravo of UT made the last program presentation, speaking on the University Technology Enterprise Network (UTEN). Incoming National Director of





the UTA-Portugal program Fernando Santana spoke in the final session of the day, followed by Marco Bravo and Mark Calhoun of UT's IC2 Institute.

### Digital Media and Advanced Computing Students Present Work at Annual Symposium

U. Porto and UNL Digital Media students presented fifteen research projects to their peers and program faculty at the program's third annual digital media (DM) doctoral symposium in Porto on October 28. At the same day, advanced computing students made several presentations of their work and research projects to its colleagues and mentors, Adélia Sequeira, Keshav Pingali, amongst others. The DM symposium opened with a keynote speech by UT Digital Media program director Sharon Strover. The presentations that followed reflected the program's broad range of research with topics including senior healthcare, public library outreach programs, digital storytelling, cultural journalism, and facial animation rigging systems, among others. Students from every cohort year participated in the three highly interactive sessions, which kicked off a week of activities including Future Places MediaLab for Citizenship events and a ceremony to formally inaugurate the UTA-Portugal program's second phase. The intensive program of presentations gives students the opportunity to explain their research to a diverse academic constituency, learn about their peers' research interests and progress, and get feedback on their work from a variety of scholarly perspectives.

This year, the Symposium concluded with a presentation by the Emerging Technologies component of the UT Austin-Portugal program, featuring professor Brian Korgel of UT's Department of Chemical Engineering and Paula Vilarinho of the Department of Materials and Ceramic Engineering at the University of Aveiro.

### Nancy Schiesari Speaks on the Impact of Digital Media on Film

Award-winning filmmaker and UT Austin faculty member Nancy Schiesari gave a keynote address at the Future Places Media Lab for Citizenship in October, speaking on the transition from analog to digital filmmaking and sharing her perspective as a cinematographer, producer, and director. Schiesari holds a MFA degree from The Royal College of Art in London and has more than 20 years of experience as a director of photography for over 30 documentaries and feature films. Her work has been distributed by media outlets including the UK's Channel 4 and the BBC, National Geographic, and major broadcast networks in the United States including the public network PBS and commercial networks. In describing the impact of digital technologies on filmmaking, Schiesari emphasized how this media has become more accessible in terms of radically decreased cost, empowering more members of the creative team to



Sharon Strover at Digital Media Symposium



Advanced Computing Presentation





influence the film's look, and greater ease of distribution. Ideally, anyone with a smartphone may shoot footage and make it available to any viewer with a broadband Internet connection. The spread of digital video has transformed journalism and contributed to political revolutions and reform, allowing a multitude of voices to tell their stories.

Drawing on examples from her own documentary work, Schiesari focused on two of her most recent films, both of which look at the experiences of soldiers in wartime. *Tattooed Under Fire* (2008) documents US soldiers' tattoos and their stories before their deployment, and again two years later upon their return. About 100 hours of video was collected in total and edited down to 56 minutes for television, while other sections of the footage were used to produce separate short films made available online—a use made possible by digital technologies. Schiesari is currently filming "Canine Soldiers," which looks at military working dogs and their trainers, and uses 3D technology. She noted how the 3D perspective can make the experiences of the film's subjects more accessible and visceral for the viewer, challenging traditional assumptions about the documentary form and viewing experience.



### futureplaces' mentor Heitor Alvelos flash interview

**CoLab:** This is the sixth edition of this event which for Portugal's standards it is a great achievement! What is the secret of futureplaces?

*I'd dare say foresight! We understood that media had to engage citizens of all segments in different ways. We had an intuition regarding its social roles before it became a general tendency.*

*The fact that futureplaces has developed as an interface between doctoral research and citizen capacitation has also worked very well.*

*Most importantly, all participants believe in the motto of media and citizenship, and therefore develop their work with a strong sense of engagement and dedication!*



Futureplaces New Mascote Antifluffy

**CoLab:** Please give us some insight about this year's event: who were your main partners, speakers, main activities...

// Nancy Schiesari keynote address

// Debbie Anzalone keynote address

// Film round table

// Tapeworm night showcase

// Six Citizen labs, most conducted by PhD students

// FuturePlaces Impromptu All-Stars Orchestra closing concert

// Doctoral symposium and MA multimedia session

// Radio Manobras Futuras, as a continuation of the original Radio Futura (started in 2009)

// Our new mascot, Antifluffy

// Main partners: UPTeC; ALTEC conference; Images We Read conference; Global Voices; Sonoscopia.

All the above have details at <http://futureplaces.org/2013-schedule/>.





Our website - futureplaces.org - was completely re-done this year, and will include updated archives in the near future.

**CoLab: What is the overall balance of this year's edition?**

Very good. Many new faces. Lots of newcomers. A growing sense of community.

The decision to shift from the concept of festival to the concept of a media lab has also been taken in order to consolidate our proximity with R&D, rather than pure entertainment or a technological showcase.

**CoLab: How do you see the digital media culture in Portugal and the role played by events like futureplaces?**

I see digital media evolving into post-media, an effective weaving of the digital into ourselves up to the point where you can no longer distinguish what is digital. Portugal shares

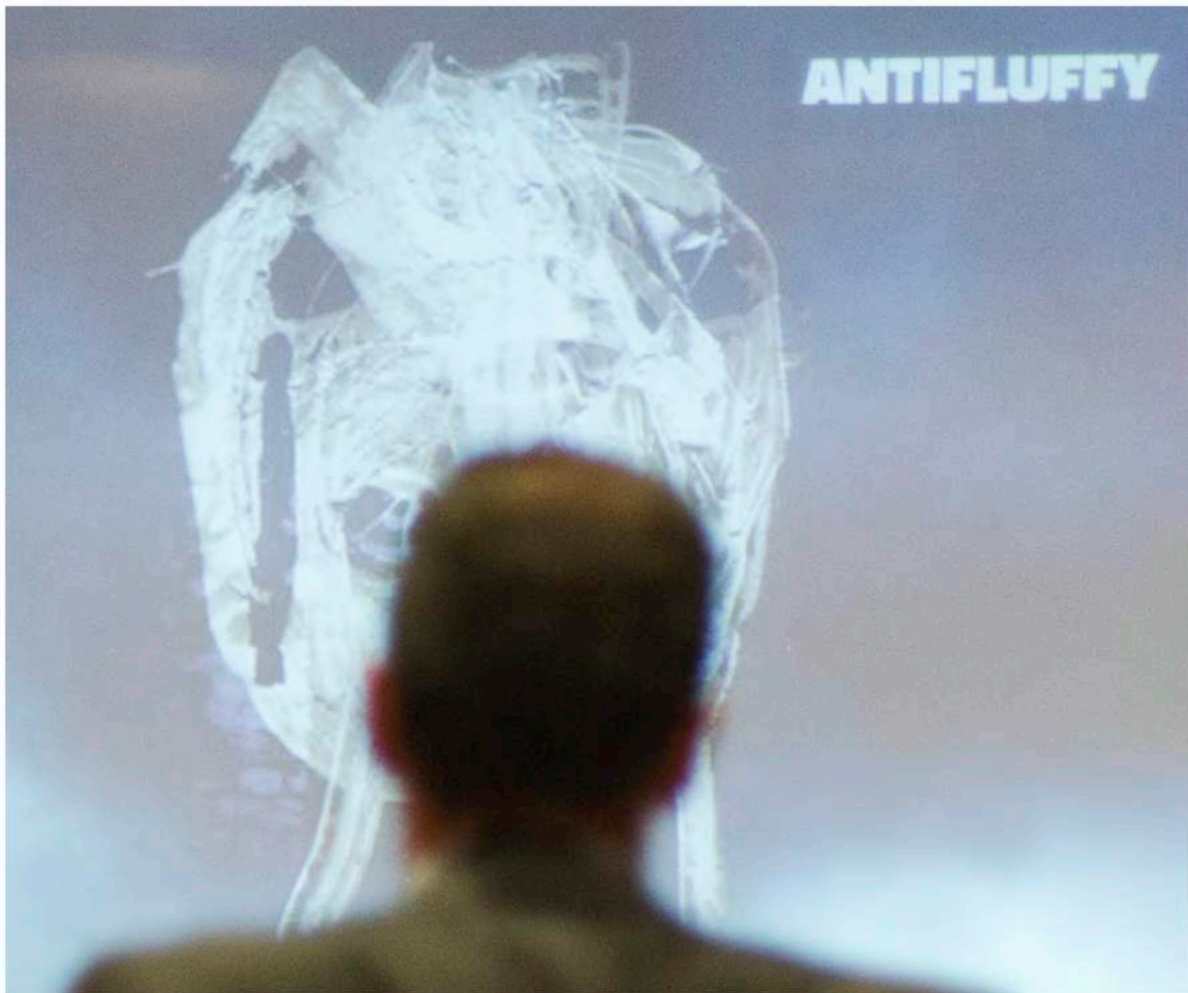
this tendency. The current role of futureplaces is to facilitate and help the social, cultural and narrative navigation through this world of possibilities brought by media.

**CoLab: What is the importance of the involvement of UT Austin | Portugal Program?**

Consultancy in the work that is being developed locally. The R&D developed in the framework of the program, as well as all the expertise of UT Austin staff and researchers and the PhD projects are all an important part in weaving bridges between academia and the wider social landscape.

**CoLab: What are the main challenges to next futureplaces' editions?**

To further facilitate the use of new media as tools for citizen capacitation.



All photos were taken by Luís Barbosa.  
<http://luisbarbosaphotography.com/>

## ■ “How to Communicate Science to the Media” discussed on workshops organized by FCT and International Partnerships

In October, November and December 2013, about 30 PhD students and researchers participated in three workshops on science communication, organized by international partnerships - Carnegie Mellon Portugal, Harvard Medical School-Portugal, MIT Portugal, UT Austin | Portugal – as well as the Foundation for Science and Technology (FCT). Originally intended for the students and researchers of these partnerships, the workshops in Porto, Coimbra and Lisbon also involved researchers from different areas associated with research centers and local universities.

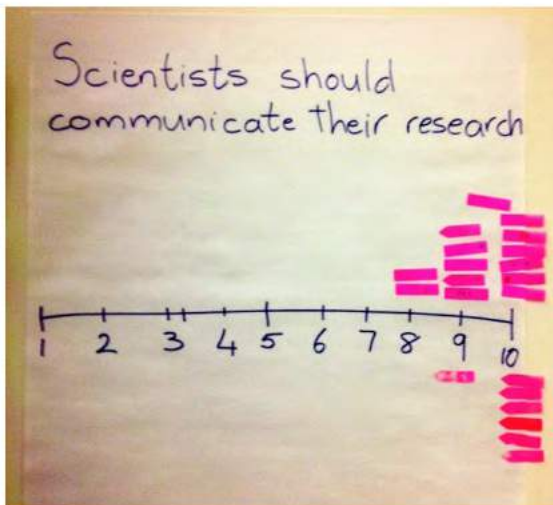
The focus of each workshop was the communication to the media. In a combination of theoretic sessions and applied exercises, participants discussed various topics, including how to identify a newsworthy story, how to write a press release, how to prepare and to be in an interview (radio, television or for the press). The sessions were attended by professional journalists - Andreia Azevedo Soares from P3; Vasco Matos Trigo, Professor at the School of Communication and Media Studies (ESCS) and Carolina Ferreira from RTP/Coimbra - who shared with the audience the journalistic process of news making and newsroom functioning.

Most participants considered that they have learned something new and they now feel better prepared to communicate with the media (these opinions orally transmitted in the closing session and in the questionnaire gathered after each workshop). Interaction with journalists was highlighted as one of the most positive and enriching aspects, as well as the strong applied workshops component. It was thoroughly suggested that more workshops of this kind are organized in the future covering other aspects of science communication and / or to develop some of the covered concepts.

The group that organized the workshops - international partnerships and FCT communication teams - believe that nurturing the relationship between science and society, in particular the science that is done with public funds, it is crucial for the sustainability and impact of scientific research and especially for the promotion of scientific culture, creating motivated and empowered citizens to participate in scientific research developments. These workshops aim to give a contribution to this end.



Vasco Matos Trigo prepares the UT Austin Portugal student Rui Avelans Coelho to an interview





## ■ DIGITAL MEDIA DOCTORAL STUDENTS' NEWS

### Gustavo Costa Makes Exploratory Visit to UT

Gustavo Costa, a second year student at the University of Porto, came to Austin on an exploratory visit in mid-October. Costa's work focuses on the creation of live electronics for free improvised music contexts, and his dissertation project will include elements of music composition, human computer interaction, programming, and software design. His research studies the performative aspects of music, with the intention of creating a new instrument. Costa noted the speed with which music technology has changed in recent decades; some compositions for electronic instruments created 50 years ago may not be exactly reproduced today because the technology no longer exists. The design of the instrument for his dissertation project will prioritize sustainability, so that it can be adapted over time and continue to be employed in different contexts as music technology changes.

While he was at UT, Costa met with faculty members including program director Sharon Strover and Bruce Pennycook of the School of Music, as well as with some UTA-Portugal visiting researchers. In addition, he took part in Austin's vibrant cultural scene, performing at a well-known community art space, The Church of the Friendly Ghost.

### Doctoral Student Carlos Figueiredo Spends Fall in Austin

Digital Media doctoral student Carlos Figueiredo spent his fall semester in Austin as a visiting researcher, developing an innovative dissertation that studies social network analysis and the perceived emotions of users during information sharing activities. This research aims to provide a way for users to break out of their familiar information "bubbles" and access information flows based on novelty and surprise, rather than results focused mainly on social relevance. The findings of this study will have implications for how social network data might be used, and may be especially relevant for entrepreneurial applications.

During his stay, Figueiredo worked with Radio-TV-Film faculty member Wenhong Chen, an expert on social capital and social networks and entrepreneurship, writing three papers under her supervision and presenting one in her seminar. Upon return to Portugal, he will further develop this work as components of his dissertation. Additionally, he took advantage of his visit

by attending many cultural events and taking part in campus and local activities. He noted, "Time is what we do with it. Thus, I attended as many exhibitions, music concerts, and poetry and other readings as possible, as well as the sessions at the speaker series at UT's Herb Kelleher Center for Entrepreneurship. Running around Town Lake every weekend was also a nice way of being an Austinite."



### Doctoral Student Gustavo Magalhães Researches Civic Startups

University of Porto student Gustavo Magalhães did research for his dissertation in San Francisco last summer, working with nonprofit organization Code for America, a nationwide organization founded to promote open government and encourage citizen engagement. During his visit Magalhães, a visiting researcher at UT Austin, collected a great deal of data through interviewing representatives of civic startup companies.

Magalhães's research studies the value creation process of data-centric firms, specifically looking at the context of the open government ecosystem and open data by focusing on several civic startups as case studies. Magalhães noted the great opportunity presented by his research trip, stating, "Since the beginning of my doctoral program, I was told to make the most of this unique time of my life. Being at Code for America in San Francisco was truly an amazing experience that made me realize that regardless what your research





interests are, there is always someone out there who is interested in the same things, and willing to collaborate!" In October, Magalhães attended the 7th International Conference on Theory and Practice of Electronic Governance (ICEGOV) in Seoul, Korea, and presented a paper he co-authored with his advisors Catarina Roseira of U. Porto and Sharon Strover of UT Austin. The paper, titled "Open Government Data Intermediaries: A Terminology Framework," looks at different views of open government intermediaries and proposes a framework to clarify how these entities are described.

### Horácio Tomé Marques keeps developing and proposing experiences about his project Music, Reason and/or Emotion

INSIDE MUSIC MACHINE, one of the projects where Horácio plays now an important role in designing and producing live performative art acts, has presented an original concert on FUTURISMUS 2013, November 28th, at Casa da Música. They have performed a representation of "one-day-at-the-research-lab", where musicians Ianina and Hugo and live-visual artists António and Horácio played a theateralized narrative about the processes taken at a science lab. The performance shows the arrival at the lab in the morning, the beginning of the experiments (with contextualization of the practices - termography, electroencephalography - through historical representations of the human characteristics and potentials such as anatomy, health methods, etc), exploring the human potentials literally and metaphorically (science and art) until the "end-of-the-day", where they open the windows and did a closing "party".



Inside Music Machine - Music - Ianina Khmelik (violin, voice); Hugo Novo (keyboards, samplers, sequencers, voice). Live Visuals - António Silva Ramos (thermographic camera (IR), acoustic sensors); Horácio Tomé Marques (brain computer interface (BCI/EEG), acoustic sensors).

To know more about this project please visit - [insidemusicmachine.org](http://insidemusicmachine.org)

### Fernando Nabais receives international award

Fernando Nabais received an "artistic production incentive" award for his "CyBirds" project in Telefonica's VIDA (Art and Artificial Life International Awards) international competition.

Previously Fernando presented his research in two international conferences: "Corporeal Computing: A Performative Archaeology of Digital Gesture" (University of Surrey) in September 2013 and at "Multimodal Communication: Language, Performance and Digital Media" conference organized in Lisbon in May 2013 by TKB (A Transmedia Knowledge-Base for Performing Arts).

To know more about the Cybirds project please visit:

<http://vida.fundaciontelefonica.com/en/project/cybirds-exotic-artificial-birds-in-captivity/>. Fernando's PhD project can be followed at <http://projecticareus.wordpress.com/>.





## Paulo Nuno Vicente PhD thesis covered by Portuguese media

"The socio-demographics, professional culture and newwork of foreign correspondents working across Sub-Saharan Africa", Paulo Nuno Vicente PhD thesis was defended in September on FCSH/UNL in Lisbon and largely covered by Portuguese media.

Paulo Nuno Vicente works as a journalist and has found through this research that the journalist correspondents in Africa are mostly freelancers with a precarious labor situation. His study was based on a field work which involved 124 participants from 41 countries.

The complete article of Portuguese public television can be found at:

<http://www.rtp.pt/noticias/index.php?article=683868&tm=92&layout=121&visual=49>

## João Beira and Yago de Quay won award

João and Yago won one of only three commissions for a new work to be premiered at The Ammerman Center for Arts and Technology - 14th Biennial Arts and Technology Symposium at Connecticut College, February 27, 28 and March 1, 2014.

In this photo João Beira and Yago de Quay, UT Austin|Portugal multimedia PhD candidates with Jean Lambert-wild at the University of Texas at Austin, Student Activity Center Black Box Theater (Jan 14, 2013). Jean and Yago participated in an international theater residency with Comédie de Caen, Future Perfect (NYC), Fusebox Festival (Austin) and software developers from San Francisco and Shreveport.

## Pedro Jerónimo concludes his PhD

Pedro Jerónimo finished his PhD thesis which was approved unanimously with distinction in January 27th at The Faculty of Arts of the University of Porto (FLUP). The thesis's title "Ciberjornalismo de proximidade: a construção de notícias online na imprensa regional em Portugal" refers us to themes such as online journalism, production routines, newsroom and local press.

Pedro Jerónimo thesis's abstract:

*For the last two decades, the Internet has had its implications, not only in communication, but also in how to search for information. And if in the past few years, we could do it on an average computer, currently, mobile devices play the leading role. Social relations themselves are occurring online. From private citizens to the media. They too, having dazzling speeches regarding technology.*

*The adoption of the Internet by journalism led to the assumption that the first scientific investigation speeches were, later, considered as deterministic. This was followed by studies from the online newsrooms, more descriptive than interpretative. Them, too, having dazzling speeches around technology.*

*It is from a still short path of online journalism in Portugal that rises the need to look further than the monitor, following the footsteps of those who have already started studying the online newsrooms from the inside. However, given the almost complete unawareness surrounding the practices in local media, including the press, we first set out to discover the timeline of online journalism. Origins, evolution and production. We proceed with a case study, considering the ethnography of production. The monitoring of the online news construction and the factors that determine them was preceded by a look at the historical background and evolution of RegiaoDeLeiria.pt, Reconquista.pt and OMirante.pt.*

*From this work we conclude that: the course taken by proximity online journalism in Portugal is marked by primitive practices, based on shovelware; news is the main content published on local media outlets; the presence of hypertextuality, multimodality and interactivity is neglected or nonexistent; the culture of production for traditional media (paper), human resources and time are the main factors that determine the online news production routines. The Internet is increasingly used by local press, however, in routines related to research and communication. Journalists are, in part, increasingly fixed to the desk.*



The screenshot shows the RTP Notícias website interface. At the top, there are navigation links for NOTÍCIAS, DESPORTO, TV, RÁDIO, and RTP Play. Below that, the RTP Notícias logo is displayed. A secondary navigation bar includes links for MÚLTIPLA MÍDIA, VÍDEO E ÁUDIO, PAÍS, MUNDO, POLÍTICA, ECONOMIA, CULTURA, DESPORTO, and TRÁNSITO. The main article title is "Correspondentes em África são sobretudo freelancers e precários". The author is listed as Lusa, dated 28 Set, 2013, 09:04. The article text begins with "Os correspondentes que cobrem África, continente com 'um histórico de exclusão' mediática, são sobretudo freelancers e tendencialmente precários, conclui o jornalista Paulo Nuno Vicente, em tese de doutoramento." Below the text, there are social media sharing icons for Facebook and LinkedIn, and a list of actions: Corrigir, Leia-me, Imprimir, Enviar, Partilhar, and Aumentar. A small text at the bottom of the article states: "Realizada ao abrigo do programa UT Austin|Portugal e recentemente defendida na Universidade Nova de Lisboa, a tese resulta de trabalho de..."





## ■ UTEN 2013 Conference and ALTEC 2013: a successful synergy of scientific events

Emerging patterns and challenges in internationalizing technology transfer and commercialization were discussed at the UTEN Annual Conference, which took place on the 28th of October at Centro de Congressos da Alfândega do Porto, in Oporto, Portugal.

Following previous editions, this year's Conference gathered entrepreneurs, researchers, students and industry and policy makers engaged in technology transfer to argue case studies at national and international levels, bringing forward emerging challenges and chances of venture opportunities to global markets, underlying the theme: **Internationalization, Technology Commercialization and Knowledge Exchange**. A special focus was given in building future business ventures with Latin America, since the 2013 UTEN Annual Conference was organized in conjunction with the XV Latin Ibero-American Congress on Management of Technology (ALTEC 2013).

UTEN's Annual Conference, benefiting from potential partnerships and vast synergies offered by ALTEC, addressed three main discussion topics: *Technology Commercialization in Latin America*, *Internationalization of Startups to International Markets* and *New technology venture opportunities in the Oil & Gas Industry*. This year's edition featured a panel that included entrepreneurs and experts in the area of technology transfer and innovation from Portugal, USA, Latin America and Norway. Discussants included José Marques dos Santos, Vice-President from the Council of Rectors from Portuguese Universities (CRUP), Pedro Cabrita Carneiro, Vice-President of the Foundation for Science and Technology (FCT), Jorge Gonçalves, Vice-rector from University of Porto and Carlos Costa Pina, member of the Board of Directors and Executive Committee for GALP Energia. Various specialists from UT Austin were also at the Conference to share their expertise and inputs, as keynote speakers and discussants: Carlos Ross, Tara Branstad, Elsie Echeverri-Carroll, Gregory Pogue and Max Green.

The third UTEN network survey of Technology Transfer Offices (TTO's), conducted by Professor Aurora Teixeira from the University of Porto, was presented at the end of the UTEN Conference, to develop a more comprehensive view of technology transfer in Portugal. The full study will be available at the end of this year. The UTEN Annual Conference also included a session for new technology-based companies to be accompanied by the UT Austin-Portugal Program, which took place on the 29th of October, at UPTec. In addition to UTEN and UT Austin-Portugal, also MIT-Portugal Program and Carnegie Mellon Portugal were involved in activities at the congress.

For over four days, these events brought together people from all over the world that met to discuss the new conditions for scientific and technological development and international cooperation. ALTEC 2013 aimed to contribute to strengthening the activity of research and dissemination of knowledge in technology management in Latin Ibero-America, extending its scope of action to Portuguese-speaking countries and communities in Europe and Africa. The congress highlighted the new centrality of the Atlantic regions in association with emerging sources of oil and gas, aerospace industry and the food sector. Attendees of the congress included representatives from ONIP (National Organization of the Oil Industry, Brasil), GALP Energia, ParTex Oil&Gas, Embraer and some academics and worldwide renown specialists as Lúcia Brito, Director of Science Policy from UNESCO, João Carlos Ferraz, Vice-President from BNDES (National Bank of Development from Brazil) and Mikel





Landabaso, director of Regional Policy and Action Programs for Innovation of the European Commission. Both events gathered over 800 specialists from Portugal, Brazil, Spain and other European countries, as well as Colombia, México and Africa.

[utenportugal.org](http://utenportugal.org)

**About ALTEC:**

The Latin American Association of Technology Management - ALTEC, founded in 1984, is a non-profitable civil organization of private rights, which was created with the purpose of uniting people and companies, active in reflection and management practices in order to promote technology cooperation activities, incorporating a significant group of professionals interested in politics and region management innovation and technology. The next edition of the congress is likely to happen in Porto Alegre, Brazil.

## ■ INESC TEC organizes conference on Public Service Media

Under the research project ImTV (UTA-Est/MAI/0010/2009), INESC TEC has joined the RTP (Portuguese public TV network) and the Faculty of Engineering of the University of Porto (FEUP) to organize the conference "Public Service Media in a Small Country with a Global Culture", dedicated to the themes of public service media and new dimensions of the public broadcasting service. This new designation includes a communication service supported by the State that uses all available platforms, which include, other than radio and television, the online service and mobile applications.

Prior to the conference, there was a workshop led by Karen Donders, a professor at the Vrije Universiteit Brussel, in Belgium, where she discussed the evolution of the public service, the media, and other questions related to media regulation and funding, while presenting a general overview of the situation in Europe. At a time when the future of the RTP is being broadly discussed and when changes are being introduced to its funding procedures, there was a relevant comparison with what is taking place in other European countries. About 10 staff members of RTP attended this conference, including Daniel Catalão and Mário Augusto.

At the end of the afternoon there was an open conference at FEUP's main auditorium, which included presentations by Beato Teixeira, from the Board of RTP, and Karen Donders, discussed by a panel composed of Lopes Araújo, director of Legal Services and Institutional Relations at RTP, Júlio Magalhães, director of the Porto Canal (TV channel), and Fernando Zamith, professor of Journalism at the University of Porto. The panel was moderated by Artur Pimenta Alves, former director of INESC Porto, and researcher at INESC TEC.

The organizing committee included Artur Pimenta Alves and Vânia Gonçalves (INESC Porto/FEUP/iMinds-SMIT, VUB), and was supported by INESC TEC's Communication service.

The INESC TEC researchers mentioned in this article are associated with the following partner institutions: FEUP.



## ■ Ongoing Opportunities

### ■ Denius-Sams Gaming Academy

Applications now open to The Video Game Academy - <http://moody.utexas.edu/gaming-academy>

### ■ IBM Scientific Award

Applications until March 31st. Please visit: <http://www-05.ibm.com/pt/pc/premio.html>

### ■ [Mobilive2014] - Call for participants (Biometric Competition)

This competition is part of the IJCB 2014 - International Joint Conference on Biometrics (<http://ijcb2014.org/>), to be held in Clearwater, Florida, USA from 29 September to 2 October, 2014. The competition website with further information can be found at: <http://mobilive2014.inescporto.pt/>

### ■ Call for Participation - 2nd VISION Understanding and Machine intelligence summer school

Application Deadline, March 1st. More info at: <http://paginas.fe.up.pt/~visum/>.

### ■ Fulbright scholarships

Applications open until March, 31st. More information at: <http://www.fulbright.pt/>.

### ■ Call for Papers - 7th International Conference on ICT, Society and Human Beings 2014

CALL FOR PAPERS ICT 2014 (Lisbon, Portugal, 17 - 19 July 2014) - Submission deadline: 3 March 2014. More information at: <http://www.ict-conf.org/>. Part of the Multi Conference on Computer Science and Information Systems (MCCSIS 2014), Lisbon, Portugal, 15 - 19 July 2014, <http://www.mccsis.org>.

#### Useful links

[www.utaustinportugal.org](http://www.utaustinportugal.org)

[www.fct.mctes.pt](http://www.fct.mctes.pt)

[www.utexas.edu](http://www.utexas.edu)

[www.ic2.org](http://www.ic2.org)

[www.ati.utexas.edu](http://www.ati.utexas.edu)

[www.austin-chamber.org](http://www.austin-chamber.org)

<http://colab.ic2.utexas.edu/dm/>

[www.utenportugal.org](http://www.utenportugal.org)

We want to hear from you! Want to share your doubts and concerns about something you read? Want to see other topics featured in next month's newsletter? Want to contribute with articles or art? Please send all your feedback to [carolina.enes@fct.unl.pt](mailto:carolina.enes@fct.unl.pt).

**UT Austin | Portugal**  
INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB

THE UNIVERSITY OF  
**TEXAS**  
AT AUSTIN

**FCT**  
Fundação para a Ciência e a Tecnologia  
MINISTÉRIO DA EDUCAÇÃO





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**UT Austin | Portugal** INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB



**You can find in this COLABSQUARE edition:**

- Top FCT Officials, National Program Director Visit Austin
- Researchers Propose Collaborative Projects
- Results of the 2014 CoLab Call for R&D Projects at UT Austin
- International Summer School on Parallel High Performance Computing using Accelerators
- CoLab Emerging Technologies program off to a running start
- Digital Media Summer Institute Concludes
- Students and Entrepreneurs Go To Boot Camp
- Game Designer Warren Spector Visits Lisbon
- UT Austin Digital Media at Austin's SXSW Festival
- ZON Winner Sebastião Santana Interns at Austin Production Studio
- Digital Media Doctoral Students' News
- Global Startup Program success stories
- Events & Ongoing Opportunities

**Top FCT Officials, National Program Director Visit Austin**

Foundation for Science and Technology President Miguel Seabra, Vice-President Pedro Carneiro, Coordinator of the Technology Office Emir Sirage, and UT Austin|Portugal Program National Director Fernando Santana came to UT Austin in early June in support of FCT's International Partnerships Programme.



After visiting Carnegie-Mellon University in Pittsburgh, the four arrived in Austin on June 4.

Their visit included plans to tour UT's Center for Nano- and Molecular Science, the Texas Materials Institute, the Center for Next Generation Voltatics, and

the College of Communication, in addition to meeting with representatives of the City of Austin, downtown.

The officials discussed the new phase of the CoLab program with UT Vice-President of Research Juan Sanchez, Principal Investigator Robert Peterson, and International Director USA Marco Bravo, in addition to meeting with area program directors and representatives Sharon Strover, Donald Fussel, William Beckner, Paulo Ferreira and Heath Naquin.

The visit allowed the members of FCT and National Program Director Santana to get an overview of the University's facilities and resources and discuss key strategies for the second phase of the program with program executives and area heads, as well as meet UT faculty members and some of the program's students currently doing research in Austin.

## ■ Researchers Propose Collaborative Projects

Researchers submitted proposals to two rounds of calls for projects this spring. In March, the Portuguese Foundation for Science and Technology issued a call for scientific and technological development projects for the UT Austin | Portugal Program, with proposals due in late June.

The call encouraged partnership with industry and was designed to attract smaller, highly experimental projects as well as more advanced research initiatives lasting up to 2 years.

Portuguese researchers from a variety of leading universities formed partnerships with faculty across UT Austin, submitting a number of collaborative proposals. The Foundation for Science and Technology is selecting up to five exploratory projects to receive up to €30000 and up to five Strategic Research and Technological Development projects to receive a maximum of €200000 each in funding.

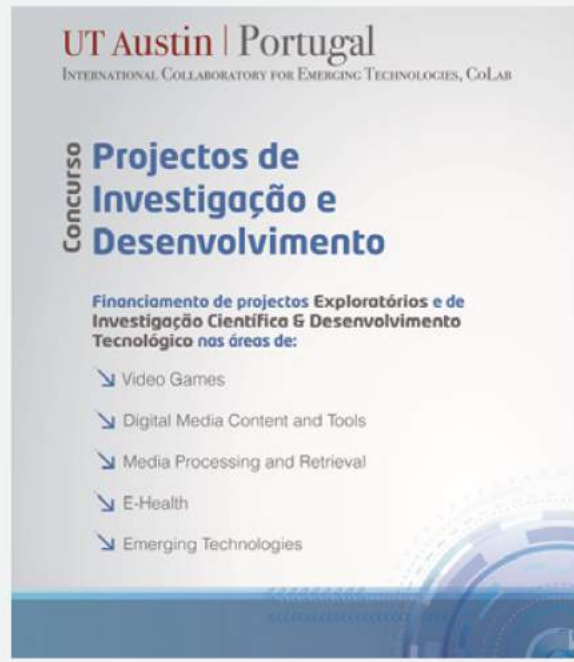
The involvement of PhD students in both types of projects is required; participation in these projects will help launch a new generation of researchers, giving them first-hand experience in collaborating with international teams.

In early June, the UT Austin | Portugal Program announced a second research opportunity, supported with funding from the budget allocated to UT Austin under the CoLab initiative.

Working with Portuguese partners, UT researchers submitted collaborative proposals in the areas of Digital Media, Mathematics, Advanced Computing, and Emerging Technologies.

The application period closed on July 4. The Program expects to fund between five and seven projects, awarding between \$50000 to \$100000 to successful proposals.

Both the research calls have inspired plans between Portuguese and UT faculty for a diverse array of innovative, highly collaborative projects.



## ■ RESULTS OF THE 2014 COLAB CALL FOR R&D PROJECTS AT UT AUSTIN

The UT Austin | Portugal Program is pleased to announce the research projects that will receive funding from its 2014 Call for R&D Projects at The University of Texas at Austin.

The call funds collaborative research between faculty members and researchers at UT Austin and Portuguese universities in four academic areas:

- Digital Media
- Mathematics
- Advanced Computing
- Emerging Technologies (Nanotechnology)

This call is a complement to the separate FCT call for R&D projects based in Portugal, the results of which will be announced soon.

The projects will sponsor researchers at UT Austin and at Portuguese institutions and will be supported with funds allocated to The University of Texas at Austin through the CoLab program. Here are the selected projects.

### Phase Transitions and Free Boundary Problems

**University of Texas at Austin:** Luis Caffarelli (PI), Alessio Figalli, Alexis Vasseur, Clint Dawson, Francesco Maggi

**Instituto Superior Técnico (IST):** Juha Videman, Margarida Baía, Farid Bozorgnia (postdoc), Léonard Monsaingeon (postdoc)



**The University of Coimbra:** Dmitry Vorotnikov, José Miguel Urbano (co-PI), Anderson Maia (PhD student)

"Phase transitions and free boundary problems cover a wide range of applications, from segregation dynamics to the evolution of fluid liquid interfaces, tumor growth, ground pollution invasion with obstacles, gas, water and oil flow in porous media and adsorption processes in subsurface environments. This project brings together a significant effort of applied non-linear analysts and numerical and scientific computing experts in the areas of non-linear and non-local Partial Differential Equations. A close synergy between analysts and numerical experts is crucial for its success, which requires the development of new and non-standard numerical techniques for modelling the phenomena under study."

### **Roots and Wings: Glocalized Networks and Mobile Media Entrepreneurship in Austin and Lisbon**

**University of Texas at Austin:** Wenhong Chen, Sharon Strover, Joseph Straubhaar, Artur Matos Alves, Kye-Hyoung Lee (PhD student), Xiaoqian Li (PhD student), Hogeun Seo (MA student)

**University of Porto:** José Azevedo, Nuno Moutinho, Raquel Meneses, Carlos Figueiredo (PhD student)

**Atlântica University:** Artur Matos Alves

"Synthesizing literatures in sociology, management, and media studies, this project centers on how entrepreneurs in the mobile media industry leverage digital media technologies and glocalized networks for starting up, product development, marketization, and innovation. A cross-disciplinary team with rich experience in entrepreneurship research and practice will use a comparative mixed-method design to collect interview, survey, and digital trace data in Austin and Lisbon. Insights gained will have policy and practical importance."

### **MRI-Based Computational Modeling of Blood Flow and Nanomedicine Deposition in Patients with Peripheral Arterial Disease: Insights into Disease Management**

**University of Texas at Austin:** Thomas J.R. Hughes, Shaolie S. Hossain

**Instituto Superior Técnico (IST):** Adelia Sequeira

"The main objective of this work is to develop a computational toolset for simulating vascular hemodynamics and predicting the accumulation of nanomedicine in superficial femoral arteries of patients affected by Peripheral Arterial Disease (PAD)."

#### **Development of Scaffolds for Regenerative Medicine by Molecular Imprinting**

**University of Texas at Austin:** Nicholas A. Peppas (PI), Amey Puranik (postdoc), Heidi Culver (graduate student), John Clegg (graduate student)

**University of Minho:** Rui Reis, Manuela Gomes

**University of Porto:** Pedro Granja

"The main goal of the overall project is to design and test new scaffolds for improved regenerative medicine (RM) applications. The specific goals of the work to be conducted by the University of Texas at Austin team are the molecular design of novel biomaterials based on polymeric networks that are produced by molecular imprinting of cells on polymer surfaces. These recognitive biopolymers will be designed, characterized and tested in Austin and they will be used for biological and tissue engineering applications at the University of Minho and the University of Porto."

### **Additive Manufacturing of Yttria-Stabilized Zirconia (YSZ) for Dental Applications**

**University of Texas at Austin:** Carolyn Conner Seepersad (PI), David Bourell

**University of Aveiro:** Paula Vilarinho

"Additive Manufacturing (AM) is widely used to create molds for casting dental implants and crowns that are customized for individual patients. However, it is not typically used to create permanent dental surfaces directly (without a mold), which would make the process much more efficient. The objective of the proposed research is to design and provide proof-of-concept for an additive manufacturing technique - based on indirect selective laser sintering of nanostructured yttria-stabilized zirconia (YSZ) powders - for fabricating customized ceramic dental components directly, without a mold."

## International Summer School on Parallel High Performance Computing using Accelerators

This year the *International Summer School on Parallel High Performance Computing using Accelerators*, organized by **Alberto Proença** and **Keshav Pingali** took place in Braga, Portugal, and attracted over 50 researchers coming from Galicia (Spain) and from all over Portugal, whose background was either in computer science or computational science and engineering.

The celebration of St. John's was an excellent opportunity to bring to Portugal researchers in High Performance Computing (HPC), a key subject to support computing sustainability in the most relevant areas in CoLab: the Digital Media and Emerging Technologies.

The former in real-time and high fidelity computer graphics & animation, coupled with the Big Data challenge in social networking, while the latter requires HPC for higher accuracy and shorter computing times to model/simulate most emerging technologies, and in particular the nanomaterials and nanotechnologies.

The event started with a pre-school TACC tutorial in CUDA/GPU programming by **João Barbosa**, on Monday June 23 and later it addressed programmability issues in parallel computing environments that include accelerator units, such as the HPC GPUs from NVidia or the manycore CPU devices from Intel, the Xeon Phi (the accelerators in use at the TACC HPC cluster Stampede, still in #7 at after two years at the TOP500 list).

**Keshav Pingali** (UTAustin) opened the sessions presenting an overall view of the computational science algorithms and placing a focus on big data machine learning algorithms, stressing the relevance of graph analytics. From the physical phenomena



Keshav Pingali

he deconstructed the key components of both continuous and discrete models to lead the audience to conclude that at the end all heavy computational problems could be solved by one of the following approaches: matrix-vector/matrix-multiplication,

FFT, elimination tree building, mesh generation and refinement (graph algorithms) and spatial decompositions (tree building and traversal).

**Donald Fussel** (UTAustin) followed the road map presented before and focused his presentation on the key subject that really matters for him: interactive graphics and/or computer games. In these application areas the data and algorithm irregularity places a significant burden on programmers to efficiently squeeze all the available performance from the mix of available computing units, namely the multicore CPU devices and the manycore GPU chips.



Donald Fussel

Hence his talk showed the motivation and the main parts of the framework he has been developing in cooperation with UMinho, a Dynamic Irregular Computing Environment (DICE) to address the automatic and efficient partition and load & data balance among available computing resources, together with some performance results that show how well DICE behaves when compared to the best available competing products.

**Mary Hall** (U.Utah) presentation on the second day addressed another relevant field that has been challenging the HPC community in the quest for performance optimization on computer system architectures that are getting increasingly complex: how to efficiently deal with dense and sparse matrices,





Mary Hall

releasing that burden from programmers and transferring it into autotune techniques, both at multicore homogeneous devices, and for GPU-type oriented approaches.

**Jongsoo Park** (Intel) gave a talk more oriented towards an overview of current trends in HPC systems, both at the architectural level and at the way he develop the application software.

This view was obviously biased into the Intel view, which gave the audience an opportunity to listen and discuss some of the Intel strategies for the next generation of MIC devices, namely the new Xeon Phi (Knights Landing), closer to the Xeon organization and moving away from architecture details borrowed from Larrabee.

Days one and two included shorter talks on successful activities on the use of computing accelerators which were placed in between the main lectures.

The event received researchers from different places from Portugal and Spain, and both from computer science and computational science, as can be seen in the agenda at the website: Basilio Fraguera from Coruña (Spain), Dora Blanco from Santiago de Compostela (Spain), Miguel Avillez from Évora (Portugal), and Luís Santos, faculty at U.Minho.



Jongsoo Park

Friday was reserved for the TACC team and his advanced course on the architecture of the Intel Xeon Phi and how to efficiently program and take advantage of this manycore device, including hands-on session on cluster nodes at Stampede, at TACC. The audience interacted considerably with all team members: Carlos Rosales, John Cazes and Lucas Wilson.

After the event ended, the organization team received several emails congratulating both the speakers and the participating audience.

The acquired competences by PG students in computer science were particularly relevant, and nine of them are currently in Summer internships at ICES in Austin, where they will stay till mid-August. The feedback received so far from these interns show how happy they are with the selected projects and how well prepared they fill to be after the training they had back home, at U.Minho.

To relax, all key lecturers and invited speakers joined the organization team for a social dinner with Portuguese gastronomy, local wines and ending with a special Porto wine. Some still claim that this may be the nicest part of their trip to Portugal.

Details of the event, including photos of some lectures, can be found at the Summer School website: (<http://www.di.uminho.pt/parua14/>).

## ■ CoLab Emerging Technologies program off to a running start

Nanotechnology and nanoscience have joined the academic areas supported by the UT Austin | Portugal Program. Since 2013, CoLab has been developing a fourth academic initiative in the emerging area of Nanotechnology in addition to the ones established in 2007 (Advanced Computing, Digital Media, and Mathematics).

The main idea of the UT-Austin | Portugal program in Nanotechnology and Nanoscience is to advance a collaborative vision in nanotechnology research, education, and training, as well as to explore common interests in technology commercialization.

Of special interest is promoting the transfer of new nanotechnologies to industry in Portugal and nurturing the formation of new companies located in Portugal to exploit the latest scientific and technological advances.

The Emerging Technology / Nanotechnologies program will be coordinated by UT Austin (Brian Korgel) and Portugal (Paula Vilarinho) and has two goals:

1. To enhance Portugal's graduate programs and research in nanotechnology by creating seamless exchange opportunities for faculty and students to share new knowledge, ideas, experience, and capabilities;
2. To foster economic development in Portugal by bridging UTEN (the CoLab technology commercialization program) with state-of-the-art nanotechnology researchers, with the aim of creating and instituting new best practices for transferring new nanotechnology to the private sector to target global markets.

Although the Emerging Technologies program was formally launched only in October 2013, a number of significant activities took place in January through May of this year.

In January, a kickoff meeting at the University of Aveiro brought together researchers in emerging technologies from UT Austin and five Portuguese universities to share detailed presentation of R&D activities at their institutions and to discuss possible areas of collaboration.





The meeting produced terms of reference for the first Emerging Technologies Project Call planned for 2014. The scope of the call was determined to be:

1. Biomedical systems, molecular recognition, scaffolds, biomaterials, tissue engineering, stem cells, nanomedicines, intracellular trafficking, theranostics
2. Nanoparticle systems, nanoparticle assemblies, modelling and optimal design, in situ microscopy, stimuli responsive materials and surfaces, optical and/or magnetic tuning
3. Additive manufacturing, multifunctional nanocomposites, devices with integrated multifunctionality, high throughput, complex (hierarchical) structures, customized (bio)reactors, "printers manufacturers"

**In April, the collaboration was broadened with a cross-disciplinary brainstorming session at the University of Aveiro which included researchers from the other Colab areas.** Nine professors in Advanced Computing and Digital Media disciplines from four Portuguese universities joined seven nanoscience and nanotechnology researchers to discuss possible projects.

**In May, the conversation was carried to institutions across Portugal in a nanotechnology roadshow of workshops and meetings.** Paula Vilarinho of the University of Aveiro and Brian Korgel of UT Austin gave talks and met with students and researchers at seven universities and research facilities: the International Iberian Nanotechnology Laboratory (INL), Instituto Superior Técnico (IST), the University of Aveiro, the University of Minho, the University of Porto, Innovnano (Coimbra), and Hovione (Loures).

On the basis of these meetings, plans are underway for a busy 2014-2015 year including the following activities:

- White Paper: Nanosciences and Nanotechnologies in Portugal
- Meetings with Portuguese companies and R&D groups
- Visits by Portuguese faculty and PhD students to UT Austin
- Workshop on Nanotechnologies / preparation for the Project Call (2015)
- International meeting on Emerging Technologies (May 2015, to be confirmed)
- For more detail, please see the full report by Paula Vilarinho: Emerging Technologies Report of Activities (January - May 2014).

For more detail, please see the full report by Paula Vilarinho: <http://utaustinportugal.org/uploads/news/colab-2014-et-spring.pdf>



Paula Vilarinho



Brian Korgel

## Digital Media Summer Institute Concludes

The last course of the 2014 Digital Media Summer Institute has just wrapped up. This year, the program featured two courses in Porto and two in Lisbon, each lasting approximately two weeks.

UT Austin professors Randolph Bias and Joan Hughes taught in Lisbon in May. Bias, a member of the School of Information and a recognized authority on usability, led a two-week class on Usability and User-Centered Design. The course included remote meetings with prominent experts in usability and HCI, and required participants to create individual projects. Students learned about psychological frameworks in usability studies, engineering methods in user-centered design, and reasons to apply usability engineering in software development. Teaching and Learning with the Internet, taught by learning and technology expert Joan Hughes of the UT College of Education, led students in exploring the potentials of Internet-based tools such as web applications in educational contexts including instruction, professional

development, and research. It was the first time teaching in the Summer Institute for both faculty members.

In June, the Summer Institute launched in Porto with a course on Research Methods, taught by Sharon Strover. The comprehensive course was broken into two parts and included both first year and more advanced doctoral students. Readings and discussions were designed to assist the participants in developing methodologies for their own research projects, and covered a range of perspectives including survey research, experiments, and ethnographic approaches. Bruce Pennycook led the second Summer Institute course in Porto, Game Design and Development, in collaboration with U. Porto professor of Informatics Engineering António Coelho. The course included both theoretical and applied components, examining the elements of what makes a game good and also giving participants the opportunity to create and present projects of their own, working in teams.



Randolph Bias Class



Bruce Pennycook Course





## Students and Entrepreneurs Go To Boot Camp

The Digital Media Program offered an intensive Entrepreneurial Boot Camp in Lisbon on June 4 and 5. Attendees included doctoral students from the Universidade Nova de Lisboa and the Instituto Superior Técnico, some of whom had already embarked on entrepreneurial projects with their colleagues. The program emphasized creative teamwork and adaptability in a fast-paced environment.

Veteran digital media entrepreneurs Lane Becker, co-founder of online customer service community platform Get Satisfaction, and Michael Agustin, co-founder of game design engine maker Game Salad, led the program. Both have extensive experience in the Austin and the San Francisco tech startup scenes, from prototyping to seeking investors and forming and managing companies. The two days of the boot camp were packed with activity as participants worked intensively to develop new products and pitches, incorporating feedback from their peers and guidance from the program leaders. Teams were given the opportunity for networking and briefly relaxing on Thursday night at a dinner with Becker, Agustin, and UNL faculty members. The following morning, Boot Camp participants presented their projects to several members of the entrepreneurial community including two representatives of Espírito Santo Ventures, the top venture capital organization in Portugal, one member of the Lisbon Startup Initiative, and two representatives of Portuguese digital media companies.



## Game Designer Warren Spector Visits Lisbon

Acclaimed US video game designer and industry veteran Warren Spector met with digital media students in Lisbon in May. Attracting a standing room-only crowd at the Universidade Nova de Lisboa, Spector spoke about design and spent a few hours viewing demonstrations from game production students, including four who work with U. Porto Informatics Engineering faculty member António Coelho.

During his brief stay in Lisbon, he also visited the Tagus Park campus of Instituto Superior Técnico and met with Game Development students there. Spector has been active in the game industry

for over three decades—during his career, he has served as an executive producer, creative director, and studio head. He is best known for his groundbreaking work in game design, especially for role-playing titles including Deus Ex, which was identified as one of the best PC games of all time by leading game magazine PC Gamer. Spector lives in Austin and has recently joined the University of Texas as head of the new Game Academy post-baccalaureate certificate program at UT, launching in Fall 2014.



Warren Spector and Nuno Correia

## ■ UT Austin Digital Media at Austin's SXSW Festival

The attendance and worldwide reach of the SXSW festival continues to grow; this year over 37000 people from 83 countries attended SXSW Interactive, while nearly 6000 participants from 36 countries attended SXSWedu. As in past years, several members of the UT Austin-Portugal Digital Media Program took part in the events.

A panel titled "Gigabit Coming to Austin" featured in the Interactive component of the festival addressed the anticipated impact of Google Fiber and other gigabit Internet service on the city's entrepreneurship and education sectors.

Sharon Strover, who collaborates with UT professors Joe Straubhaar and Wenhong Chen on the project, was in attendance, while Chen spoke on the panel.

Professors Heitor Alvelos and José Azevedo, both of U. Porto, visited Austin for SXSWedu, a conference on innovation in education and learning which precedes the festival.

They were accompanied by Nuno Moutinho of the U. Porto Faculty of Economics. Visiting researcher Cláudia Silva contributed to the SXSWedu panel "Learning with Digital and



Participatory Maps," presenting some of her dissertation research drawn from her experiences working with different community groups in Austin.

Under the supervision of her co-advisor Joe Straubhaar, Silva has been helping children and adults in these community groups learn to create location-based stories with digital media, using an application called Historypin.

## ■ ZON Winner Sebastião Santana Interns at Austin Production Studio



Sebastião Santana [<http://sebastiaosantana.dunked.com/>] recently completed a semester-long internship at Austin media company Elephant Productions. Santana came to Austin as an affiliate of the team that won the Prémio ZON Criatividade em Multimédia prize in 2011 for "Ginjas", a digital animation project.

This award gave Santana, a graduate of Lisbon Polytechnic Institute, the opportunity to spend a few months as an intern in Austin.

Before coming to Elephant Productions, Santana produced work in a variety of formats including music video, photography, and digital illustration as well as animation, and worked on a variety of freelance projects in Portugal.

At Elephant Productions, Santana and two UT students created a TV commercial campaign for local nonprofit organization Leap of Joy, an afterschool program focusing on dance.

He also volunteered as stage crew at the SXSW Music Festival, served on the production teams of graduate student films in the Radio-TV-Film Department, and toured coastal California before returning home to Portugal.



## DIGITAL MEDIA DOCTORAL STUDENTS' NEWS

### Digital Media PhD Students Develop Research at UT

Several Digital Media doctoral students spent part of the spring semester in Austin working with co-advisors and developing their research projects.



Rodrigo Carvalho Breakdown project

Under the supervision of professor Bruce Pennycook, **Rodrigo Carvalho** [[www.visiophone-lab.com](http://www.visiophone-lab.com)] of U. Porto spent four months pursuing his study of the relationships between visual representation, sound, and movement at UT.

His research includes a comprehensive history of existing projects that explore these areas and also a practical component focusing on the creation of innovative tools for audiovisual interactive systems.

Carvalho came to Austin with the intention of working on projects with other students. Describing his expectations for his stay, he stated "One of my main goals was to get the opportunity to collaborate in multidisciplinary projects with local students, which I could later use as case studies for my research."

With the assistance of his co-advisor, he contributed to two primary projects: "Breakdown," an audiovisual interactive dance performance produced with dual-degree program doctoral student Yago de Quay and UT graduate student Sunny Shen, was featured in an annual University showcase "Ears, Eyes, + Feet." Carvalho also took part in a project on wearable technologies developed in collaboration with graduate student in the Costume Technology program at UT, and plans to draw upon these collaborative projects as case studies in his dissertation.

**Rita Sá** [<http://www.rita-sa.com/index.html>] of UNL also spent nearly three months in Austin studying collaborative work in digital media, approaching the topic through the lens of hackerspaces. After connecting with organizers of ATX Hackerspace during her exploratory trip in 2013, Sá returned to further develop her research a year later. With extensive experience as a digital animator and illustrator, Sá studies the intersection of art and technology in open community environments, making ATX Hackerspace a fitting site for her research in Austin. Shortly before her departure,



Rita Sá

she presented the animation "Individually Collaborative," an Open Art project that was produced with participation from members of the hackerspace.

The third returning visitor, **Paulo Fontes** of U. Porto, spent a few weeks in June developing his research on guerilla marketing with UT co-advisor Brad Love of the Advertising and Public Relations Department. Fontes first came to Austin on an exploratory visit in 2012, and is particularly interested in how these innovative marketing strategies can be used to strengthen the public's interest in science. In Austin, he worked toward finalizing the design of his formal study, which will rely on test marketing campaigns followed by interviews.

Fontes, Sá, and Carvalho joined ongoing visiting researchers Gustavo Magalhães of U. Porto and Cláudia Silva of UNL, who have both been pursuing extensive research at UT and will continue to do so into the fall semester.



Paulo Fontes



## PhD Visitors Explore Austin

Four Digital Media doctoral students came to Austin on exploratory visits in the spring semester, each spending a week touring University facilities, attending classes, and meeting with faculty members across campus as well as familiarizing themselves with the local community. The students represented diverse areas of research, including entrepreneurship, digital art, documentary filmmaking, and integrative health.



Jaqueline Silva

**Jaqueline Silva** [<http://www.jaquelinesilva.pt/>], a first year student from the UNL who studies entrepreneurship and gender, arrived in March during SXSW. This gave her the opportunity to see the city at its most energetic, in addition to attending class sessions led by faculty members of Sociology, Journalism, and Advertising. She also met individually with professors including Sirka Jarvenpaa and Emily Amanatullah of the Business School, Rosental Alves of Journalism, and Brenda Berkalaar of Communication Studies.



Pedro Ângelo

**Pedro Ângelo** [<http://dataflower.org/>], a third-year doctoral student at U. Porto, became acquainted with the local digital art community, including the ATX Hackerspace, during his visit and met with faculty including Don Fussell of the Real-time Graphics and Parallel Systems Lab, Bruce Pennycook, Director of Digital Art at the College of Fine Arts, and Luis Francisco-Revilla and Rob Turknnett of the Texas Advanced Computing Center.

In late April, first-year U. Porto student **Patricia Nogueira** came to UT Austin to attend the Cine Las Americas festival, where her documentary "3 Horas para Amar" was screened. She also met with faculty members, including Nancy Schiesari



Patricia Nogueira and Filipa Cardoso

of Radio-TV-Film, about the role of the user/spectator in interactive documentary. Nogueira was accompanied by **Filipa Cardoso**, also a first-year Digital Media student at U. Porto. Cardoso is studying how use of digital media may impact wellbeing and consciousness. She met with Kristin Neff of the Department of Educational Psychology, as well as faculty members specializing in neuroscience.



Jean Lauer from Cine Las Americas festival organization with Patricia Nogueira

## Digital Media Visiting Researchers and Students Have Productive Semester

The Digital Media doctoral program's long term Austin visitors have spent a very productive semester giving papers at conferences, working on national projects, and doing performances and workshops around the country.

**João Beira** [<http://www.datagrama.tv/>] and **Yago de Quay** [<http://www.yagodequay.com/>] of U. Porto, both pursuing doctorates at UT Austin, were awarded an artistic residency from February 27-March 1 at the 14th Biennial Arts and Technology Symposium at Connecticut College, where they presented their research project and performance "Biomediation."

The project explores the psychology of immersion and emotions, based on computer vision technology and data sets based on brain activity. Using an electroencephalograph headset, the cognitive and emotional process of the performer is transformed in real time into audiovisual compositions, with a depth sensor tracking the performer's movements.





University of Texas at Austin, Student Activity Center Black Box Theater (Jan 14, 2013).

Jean and Yago participated in an international theater residency with Comédie de Caen, Future Perfect (NYC), Fusebox Festival (Austin) and software developers from San Francisco and Shreveport.

### Digital Media student Marta Ferraz wins E3 Forum award

At the MIT Portugal E3 Forum ("Education Employment and Entrepreneurship") held in Lisbon on May 22-23, UT Austin | Portugal Digital Media student Marta Ferraz won the People's Choice Award in the "Most Innovative" category for her company, BioHybrid Robotics: (<http://www.biotechbodies.com/>).

Marta's work was recently covered by Portuguese media. The complete video from the Portuguese TV channel "TVI" can be seen at:

[http://www.tvi24.iol.pt/videos/video/14173354/1?utm\\_source=twitterfeed&utm\\_medium](http://www.tvi24.iol.pt/videos/video/14173354/1?utm_source=twitterfeed&utm_medium)



## Global Startup Program success stories

**Abyssal ([www.abyssal.eu](http://www.abyssal.eu)) develops integrated Subsea Navigation Solutions for Remotely Operated Vehicles (ROVs).**



The company's software, Abyssal OS, was developed after years of working with ROV pilots, subsea contractors, and oil & gas companies. Abyssal OS features advanced 3D technology, augmented reality, and precise navigation. These features allow it to operate safely in the world's harshest aquatic environments, at depths up to 6,000 meters, or about 4 miles, while superior visualization for the ROV pilot helps reduce "down time" (time underwater), and thus decrease operational expenses. Headquartered in Matosinhos, Portugal, the company is led by Manuel Parente and Rafael Simão.

In February this year, Abyssal entrepreneurs Manuel Parente and Rafael Simão made an accelerated tour of the US oil and gas industry – landing in New Orleans and proceeding through Houston and finishing in Austin. It wasn't their first attempt at promoting Abyssal in the United States. "A year ago we visited these same places and tried to break into this market on our own, without success," admits Parente.

"Interest would be expressed when we were in a meeting, but nothing would happen after that," adds Simão.

While they hoped the UTEN program with the IC<sup>2</sup> Institute would prove helpful to entering the US market, their

expectations had to be re-scaled. Max Green was UTEN mentor for the Abyssal team.

"We had four meetings that first day in New Orleans," he describes, "and at the end of the day I said: Guys, let's talk." That first-day discussion transformed the Abyssal business model from one pursuing a \$500 million total addressable market, to a potential market of \$850 million annually.

This market potential could be shifted by making two strategic changes: 1) moving from a purchase-based model to a rental & service-based model (preferred by the oil and gas industry); and 2) by identifying a new performance level to their product offering (also preferred by the market) to enable realtime onshore monitoring of ROV data, in addition to their current offering of two product levels: one to serve the pilot and another to serve the client.

"When we started the UTEN program we expected the IC<sup>2</sup> Institute team to be hands on, but didn't expect to get the results we have so quickly... We now have three potential partnerships to consider. Our expectations have been surpassed by a thousand fold."

**Celfinet (<http://www.celfinet.com/>) has been in business since 2003 in the cellular broadband market.**

They enrolled in the UT Austin | Portugal program to facilitate the launch of a new business software solution Vismon – developed after receipt of customer and operator





feedback during the London Olympics where they played a leadership role in cellular network operations.

Celfinet transformed their solution offerings to extend beyond engineering capabilities to software allowing operator-free optimization through a Multivendor Network Performance Manager based on BSS counters that is tailored to GSM/DCS, UMTS and LTE technologies (<http://www.celfinet.com/Products>).

The leadership of Celfinet learned of the Biz.pt program while taking coffee with a friend in Porto. Initially, they did not think they would qualify for the program because were already a mature, 10 year old company.

But upon meeting Marco Bravo and Max Green during August 2013, they learned that the Biz.pt program was purposed to accelerate startups, but also established Portuguese companies looking for product acceleration in new geographies. Celfinet was admitted to the 2013-2014 cohort and they work closely with the Biz.pt team to position the new version of Vismon Manager in the US and other non-European markets. Their one-year program ends in December 2014.

"The level of brain power that exists at IC<sup>2</sup> Institute and gravitates around it – is absolutely amazing." – Luis Varela  
Celfinet's initial dream was to start in Silicon Valley and achieve a big Wall Street Payoff. Originally they did not think Austin was a fit for them. But after spending weeks in

Austin, as their US hub, and working with the Biz.pt team, they found the culture in Austin is more focused on technology commercialization, and the successful entrepreneurs here are much more willing to help new businesses than those in Silicon Valley.

"After a quarter of a year in the program, we are closer to real opportunity than we thought we would be, but much less prepared to take advantage of the opportunity." – Alexander Victorino

The Biz.pt program is excited to see what Celfinet will accomplish in 2014.



Celfinet entrepreneurs at work with IC<sup>2</sup> staff members

## ■ Events

### ■ IBERGRID 2014

September, 8<sup>th</sup>, Aveiro

IBERGRID 2014 is the 8th edition in the IBERGRID conference series, organized since 2007 in the context of the joint research and development agreements between Portugal and Spain in the field of distributed computing infrastructures for e-Science. The 2014 edition is held in the Campus of the University of Aveiro, in Portugal.

**More information at:** <http://www.ibergrid.eu/2014/>

### ■ Futureplaces // 7<sup>th</sup> edition

15-18 October, 2014, Porto, Portugal.

**More information at:** <http://www.futureplaces.org>.

### ■ PhyCS 2015 - 2<sup>nd</sup> International Conference on Physiological Computing Systems

11-13 February, 2015, ESEO, Angers, Loire Valley, France

**Paper Submission deadline:** September 9, 2014

**More information:** <http://www.phycs.org/>



## ■ Ongoing Opportunities

### ■ Call for collaborative projects between the “Fundação de Amparo à Pesquisa do Estado de São Paulo” (FAPESP) and the Portuguese Foundation for Science and Technology

The Prize intends to acknowledge a work of outstanding excellence in the domain of the Philosophy of Science, either regarding general epistemological problems or particular scientific areas. Science is here understood in a broad sense to include mathematics, computer science, medicine, economics and the social sciences, as well as the natural sciences such as physics, chemistry and biology.

**More information at:** [http://www.fct.pt/apoios/premios/fernando\\_gil/index.phtml.en](http://www.fct.pt/apoios/premios/fernando_gil/index.phtml.en)

### ■ Fernando Gil International Prize 2015

The Prize intends to acknowledge a work of outstanding excellence in the domain of the Philosophy of Science, either regarding general epistemological problems or particular scientific areas. Science is here understood in a broad sense to include mathematics, computer science, medicine, economics and the social sciences, as well as the natural sciences such as physics, chemistry and biology.

**More information at:** [http://www.fct.pt/apoios/premios/fernando\\_gil/index.phtml.en](http://www.fct.pt/apoios/premios/fernando_gil/index.phtml.en)

### ■ The Falling Walls Lab

The Falling Walls Lab is a new challenging, inspiring and interdisciplinary format for young bright minds. It offers the opportunity to excellent young academics and professionals to present their outstanding ideas, research projects and initiatives.

Each participant is asked to present his/her work in 3 minutes.

All disciplines are welcome: from agriculture, medicine, economics, engineering to the humanities.

**Deadline for application:** 21<sup>st</sup> September

**More information at:** <http://www.falling-walls.com/>

More opportunities can be found at FCT website: <http://www.fct.pt/concursos/>

#### Useful links

[www.utaustinportugal.org](http://www.utaustinportugal.org)

<http://www.fct.pt>

[www.utexas.edu](http://www.utexas.edu)

[www.ic2.org](http://www.ic2.org)

[www.ati.utexas.edu](http://www.ati.utexas.edu)

[www.austin-chamber.org](http://www.austin-chamber.org)

<http://colab.ic2.utexas.edu/dm/>

[www.utenportugal.org](http://www.utenportugal.org)

We want to hear from you! Want to share your doubts and concerns about something you read? Want to see other topics featured in next month's newsletter? Want to contribute with articles or art? Please send all your feedback to [carolina.enes@fct.unl.pt](mailto:carolina.enes@fct.unl.pt).





### YOU CAN FIND IN THIS COLABSQUARE EDITION:

- Portugal | UT Austin Summer School in distributed computing
- PLUNC - New Media and Digital Art Festival connecting Almada and Lisbon
- FUTUREPLACES, medialab for citizenship: coming to Porto October 20-24
- UD15: PERIPHERY AND PROMISE
- UT Austin Digital Media Hosts Open Institute
- Advanced Computing Summer Internships
- Digital Media Program Holds 2015 Summer Institute
- UTEN Global Startup Program 2015
- Texas-EU Business Summit & Venture Growth Initiative
- Conference on IP issues in ICT
- Fostering Science & Innovation Ecosystems: Portugal-USA Partnerships
- Austin Visiting Researcher Highlights
- UT Austin Hosts Seven Exploratory Visits
- Digital Media Program Represented at SXSW Festival
- Mendes and Correia Attend UT New Agendas Conference
- Digital Media Hosts e-Health Symposium
- UT Faculty Visit for Launch of NEM Portugal
- Digital Media Doctoral Students' News
- Events & Ongoing Opportunities

## PORTUGAL | UT AUSTIN SUMMER SCHOOL IN DISTRIBUTED COMPUTING

■ Instituto Superior Técnico held a Summer School in distributed computing for doctoral and senior undergraduate/master's students.

This Summer School took place at the campus of IST (University of Lisbon), September 6, and consisted of a full day of lectures by renowned researchers on selected topics in the broad area of distributed computing. In addition, students had ample time to engage in discussion with all the participants.

### Lecturers and topics

- Lorenzo Alvisi (UT Austin): Consistency and performance in transactional systems
- Peter Druschel (Max Planck Institute for Software Systems): Mobility and privacy
- Luis Rodrigues (IST, Univ. Lisbon): Concurrency vs metadata size tradeoffs in causal consistency
- Rodrigo Rodrigues (IST, Univ. Lisbon) and Nuno Preguiça (NOVA Univ. Lisbon): Defining and mixing consistency guarantees
- Marco Serafini (Qatar Computing Research Institute): Big data analytics - large scale graph processing systems

## PLUNC – NEW MEDIA AND DIGITAL ART FESTIVAL CONNECTING ALMADA AND LISBON

■ PLUNC is a New Media and Digital Art Festival that will have its first edition from September 24 to 27. Organized in collaboration with the UT Austin | Portugal Program, with a special focus on interactivity,



PLUNC seeks original projects/ideas/experiments new media and digital art fields, that somehow engage with the audience. This engagement can be direct or indirect - through works that make use of interactive processes or provide interactive results.

The theme for this year's edition focuses on different social and cultural approaches to the approximation, proximity and pathway between the two shores of the Tagus River, more specifically the strands of the cities of Almada and Lisbon, where the festival takes place.

For more information please visit [www.plunc.pt](http://www.plunc.pt)

## FUTUREPLACES, MEDIALAB FOR CITIZENSHIP: COMING TO PORTO OCTOBER 20-24

■ On its 8th consecutive edition, FUTUREPLACES will welcome researchers, citizens and creatives into a melting pot of possibilities for socio-cultural betterment. All in Porto, October 20 to 24: activities are free and registration happens on the spot.

Highlights this year will include a scientific recital, an exhibition marking the inauguration of the participatory project "Porto Pelo Porto", a wealth of Citizen Labs, the digital media doctoral symposium, and keynote addresses by Paul Stacey of EdTechFrontier and Chris Csikszentmihalyi of the MIT Center for Civic Media.

Preceding FUTUREPLACES is UD15, 4th PhD in Design Forum: October 19 and 20.

UPTec PINC will be the anchor of both initiatives, the program spreading throughout the city to include events in bars, galleries and local associations.

All information can be accessed at:

<http://futureplaces.org/> and <http://ud15.org/>



## UD15: PERIPHERY AND PROMISE

■ UD is an annual, peer-reviewed conference series organised by the PhD in Design Programs of University of Porto and University of Aveiro that will be held October 19-20.

This year, UD stands for Under Development: doctoral research in Design currently in progress or recently completed. UD15 invites PhD students, candidates and prospective scholars in Design to share the accomplishments, uncertainties, puzzlements and challenges they face during their research process and to unravel them with other participants. The forum aims to create a pool of common issues and inquiries that have yet to be addressed, resolved and embraced.

For more information please visit <http://www.ud15.org/>



## UT AUSTIN DIGITAL MEDIA HOSTS OPEN INSTITUTE

■ The Digital Media Program at UT Austin hosted the Open Institute from August 2-7. Thirteen students from U. Porto and UNL attended the intensive residential program, joining sessions with their UT Austin graduate student counterparts and exploring different aspects of the “open” movement. The Institute was organized into themes including open data and access, open software, open government, open hardware and different aspects of open culture. Students made final presentations at the conclusion of the program.

The Institute’s leaders included Nuno Correia of UNL, Valentina Nisi of the University of Madeira, Catarina Mota, a recent graduate of the Digital Media Program at UNL, and Pedro Ângelo of U. Porto, as well as UT speakers Sharon Strover, Phil Doty, Caroline Frick, Liz Gushee and Andrés Lombana Bermudez. U. Porto doctoral student Gustavo Magalhães Pereira, a visiting

researcher at UT, also served as one of the program’s leaders. Drawing on Austin’s active open technology community, the Institute brought in Chip Rosenthal to speak on civic hacking and James Seppi and Andrew Wilson of Texas Natural Resources Information System to lead two mapping workshops.

The week included trips to the City of Austin offices, ATX Hackerspace, WeWork, a co-working center, and the Harry Ransom Center, an internationally renowned archive and library on the UT Austin campus. Participants additionally had the opportunity to explore the city in the evenings and go to prominent Austin attractions including Barton Springs Pool and the Broken Spoke country dance hall.

**The Open Institute’s full agenda is here.**  
<http://moody.utexas.edu/tipi/open-institute>

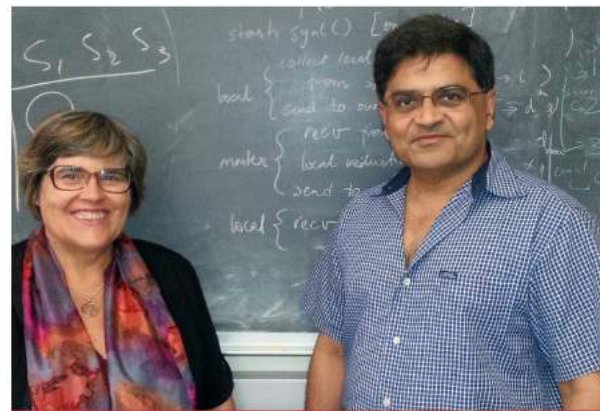
## ADVANCED COMPUTING SUMMER INTERNSHIPS

■ For the 8th continuous year, 15 Portuguese students traded their summer vacations for an advanced computing internship at The University of Texas at Austin.

The program, International Collaboratory for Emerging Technologies (Co-Lab), is an international exchange between three Portuguese institutions—University of Minho (UM), University of Porto (UP), and Instituto Superior Técnico (IST) — and UT Austin. For four to six weeks, graduate students developed joint research projects with experts at the Institute for Computational Engineering and Sciences (ICES), UT’s Department of Computer Science (CS), and the Texas Advanced Computing Center (TACC).

This year’s group – four students from IST, four from UP and seven from UM - worked on a diverse set of projects ranging from developing applications for heterogeneous computing environments to investigating cardiovascular biomechanics.

With guidance from Donald Fussell, a professor in the CS department, Paul Navartil manager of TACC’s Scalable Visualization Technologies Group, and João Barbosa, a research associate at TACC, UM students developed several projects related to heterogeneous computing environments. The projects covered real time graphics, efficient data, and work distribution on heterogeneous resources such as TACC’s Stampede and Maverick supercomputing clusters.



Prof. Adélia Sequeira with Prof. Keshav Pingali

“This experience was an excellent opportunity to work together with other researchers from our area of study and use computing resources that we simply do not have access to in Portugal,” said UM student John Maia. Paulo Sousa, also from UM, added, “The opportunity to intern at UT was undoubtedly a great privilege. We worked directly with leading experts, and took advantage of today’s best computational infrastructures.”

Ana Torrado and Diana Oliveira, from IST, that are completing their MSc degrees in Biomedical Engineering, worked with Prof. Michael Sacks’s group on subjects related to their interests on cardiovascular engineering, namely on advanced simulations for the study of patient-specific heart valve diseases.



The other two students, Ricardo Xavier and Pedro Ferreira, are enrolled in the MSC of Mechanical Engineering and worked with Prof. Robert Moser's group on modeling and simulation of turbulent flows. "This overall experience was a great one, not only in terms of this work but in terms of meeting different people and acknowledging the different types of projects that can be developed regarding cardiovascular mechanics. All of it made me open my eyes and fully understand the potentialities of this vast research field", said Diana Oliveira.

"The structure and work environment at ICES motivated me to cultivate my self-learning, critical thinking, objectivity, and independence," said Ricardo Xavier. "It also provided experience working on a subject in which I do not possess deep prior knowledge."

David Aparício, a first year student at FCUP, enrolled in the MAP-i Computer Science Doctoral Program working on scalable algorithms for motifs discovery. Pedro Paredes just completed his BSc in Computer Science degree and is continuing for the masters also at FCUP. He has also been working on fast algorithms for subgraph enumeration. Jorge Silva is a Master student in the Networks and Information Systems Engineering course at FCUP and will submit his dissertation on parallel hybrid algorithms for feature selection. Altino Sampaio is completing his PhD at FEUP (PRODEI) and has been working on energy efficient and SLA-based management of IaaS cloud data centers. These four students are working with Prof. Keshav's group at UT on the Galois project, mostly on implementing parallel and distributed algorithms and scheduling strategies using the Galois framework.

"These programs are a valuable opportunity to meet people with different academic backgrounds and diverse cultures," said student David Aparício. "Last year, I worked on a topic that wasn't directly related to my research, but was probably a differentiating aspect of my curriculum that helped me earn a Ph.D. scholarship in Portugal."

To enhance the internship for next year's participants, Adélia Sequeira, professor in the mathematics department of IST, visited Austin to plan the future of advanced computing activities with ICES and CS professor Keshav Pingali. She also collaborated with UT researchers Tom Hughes and Shaolie Hossain on their CoLaB research project titled "MRI-Based Computational Modeling of Blood Flow and Nanomedicine Deposition in Patients with Peripheral Arterial Disease: Insights into Disease Management." "Even though the internships only last about a month to a month and a half, the students make significant contributions to research projects at UT, and in turn, benefit from the collaboration and networking

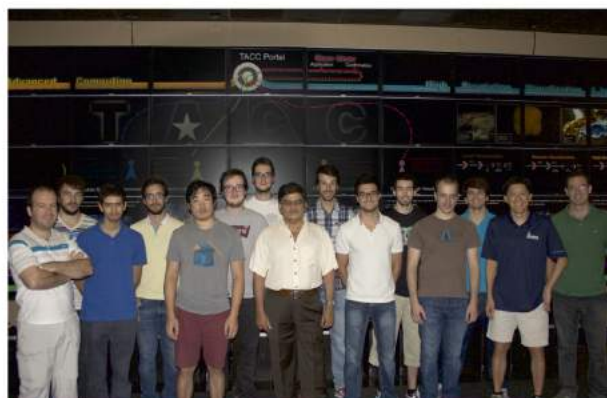
opportunities provided by this experience," said Pingali. "We at UT are very impressed with the quality of the students, and we look forward to continuing these internships for years to come."

The experience not only represented a unique learning opportunity, but also a cross-cultural exchange and introduction to life in the United States. And sometimes the experience is influential enough to warrant a return —just ask former CoLab participant, and current mentor Barbosa:

"In 2010, my research took a major turn after my summer internship at TACC through CoLab. I was able to pursue a dual Ph.D. between UT's CS department and institutions in Portugal fulfilling a cornerstone of CoLab—exchanging ideas through projects that bridge researchers across the Atlantic. It has been a privilege to mentor students during the last few summers and give something back to the program."



Ana Torrado and Diana Oliveira (IST) with Prof. Keshav Pingali



Group of students from the AC Internship with Prof. Pingali



## DIGITAL MEDIA PROGRAM HOLDS 2015 SUMMER INSTITUTE

■ The 2015 Digital Media Summer Institute kicked off on May 25 with “Digital Media in Theory and in Culture”, taught at UNL by UT Austin alumnus Chris Lucas. Lucas’s class explored how issues related to media, technology and society have evolved over time and how communication practices have been shaped by mobile, digital and online platforms. The second Lisbon course, led in July by UT School of Information doctoral student Sam Burns, studied another aspect of digital culture - how items in non-text formats, including images and sound, are classified and how communities of users make decisions about how to conceptualize these media objects. The course, titled “Tag You’re It: Vernacular Classification of Images, Sound, and Video,” took a hands-on approach, with the students collaborating with Burns to create user testing interfaces as well as a visualization tool.

In Porto, UT Austin professor Kathleen Tyner led “Media and Information Literacy in a Digital World” in early June. The course explored the concept of multiliteracy and how literacy tools change social practices of media use over time. The class studied media literacy in relation to issues including privacy and surveillance, media arts, game design and Big Data, and examined principal theories. Later in June, Paul Toprac’s “Game Design and Development” gave students the opportunity to learn foundational

aspects of video game creation including ideation, playtesting, user interface design and presentations.



Sam Burns@Tag You're It course.



Sam Burns Class

## UTEN GLOBAL STARTUP PROGRAM 2015

■ The University Technology Enterprise Network (UTEN) is an international initiative sponsored by the Portuguese government and established by IC<sup>2</sup> Institute, The University of Texas at Austin, to provide Portuguese technology firms with opportunities for international outreach, acceleration, and business development. In response to the large number of high-quality technology companies found in Portugal last year by the IC<sup>2</sup> Institute UTEN team, hereafter referred to as GSP, the group restructured its Global Startup Program (GSP) to work with a larger number of firms this year.

From the first pilot programs initiated in 2011, UTEN has helped Portuguese firms realize revenue in the United States, China, India, as well as other nations of the South Asian Association for Regional Cooperation

(SAARC). To date, these efforts represent an overall direct impact of 60 million US dollars to the Portuguese economy of:

- \$22M investment risk capital.
- \$23M committed revenue (sales and distribution contracts).
- \$15M strategic capital (trials).

Every year, the GSP selects early stage and mature Portuguese technology-based companies and accepts a few very early stage companies for incubation, if they possess a promising technology or concept with strong international market potential. GSP provides mentorship and guidance to help the companies advance to the next stage of development and attain commercial success.



The majority of companies GSP accepts into the annual cohorts are at the launch phase, and are focusing on business development and acceleration. These companies are viable, have a market ready product, and possess materials appropriate for the target markets. They already have funding and a successful product, but need assistance approaching global markets and managing global logistics.

### 2016 Cohort

The applicant process for the 2016 cohort closed on July 17, 2015. During September 21st to the 29th, the Austin team will be in Portugal to conduct final interviews with the applicants. In an effort to assist all applicants prior to final selection, the team has scheduled 2-day visits to three Portuguese cities: Lisbon, Coimbra, and Porto. Day One the team will offer a Workshop on Entrepreneurial storyboarding that is only open to official applicants. Day Two will be devoted to conducting interviews for final selection. (See travel schedule below.) Notifications of cohort acceptance happen in October, companies travel to Austin for a week-long immersion in November, and January is when the business development cohort begins.

Travel Agenda for GSP in Portugal follows.

- September 22 (Lisbon, Startup Lisboa): Entrepreneurial Storyboarding workshop
- September 23 (Lisbon, Startup Lisboa): Interviews to select companies.
- September 24 (Coimbra, IPN): Entrepreneurial Storyboarding workshop
- September 25 (Coimbra, IPN): Interviews to select companies.
- September 28 (Porto, UPTEC): Entrepreneurial Storyboarding workshop
- September 29 (Porto, UPTEC): Interviews to select companies.

A few examples of selected Companies participating in the 2015 Cohort

Take the Wind/Body Interact was co-founded in 2012 by Pedro and Teresa Pinto with headquarters in Coimbra. The GSP team worked with Kelly McKowan CEO of Corp1, to establish a Delaware C-Corporation in the USA under the name Body Interact, Inc. in order to more efficiently do business with U.S. based entities.

Take the Wind (TTW) developed its premier product, Body Interact, as the world's first 3D interactive medical simulation platform to train doctors, nurses, medical and nursing students and EMT/paramedics in

healthcare management. TTW completed a Chinese version of Body Interact, and sold tabletop versions of its product to TellYes, the exclusive Chinese distributor. GSP efforts helped produce the distribution contract in China, and TTW staff spent a week there training Chinese sales teams. The GSP team helped TTW establish a trial evaluation with Glaxo-Smith-Kline (Colombia, SA), and identified possible opportunities in Mexico. TTW is evaluating a research proposal from George Brown College in Toronto, Canada, to prepare a longitudinal case study comparing Body Interact to alternative medical simulation solutions across ~500 graduate students. Internationally, The University of Texas at Austin and the University of Toronto have issued a call for proposals from Continuing Professional Development faculty to pilot test Body Interact's ability to deliver certified training to 20,000 plus members of remote/off-site clientele.

During the last six months, Take the Wind signed a distributor agreement with Skillcube in Germany after initial meetings at a SSIH show in New Orleans. Body Interact successfully converted a trial agreement into a multi-year exclusive distribution deal with EMS/iSimulate of Philadelphia to support sales into hospitals, simulation centers and universities nationwide. GSP hosted demonstrations of Body Interact with the American Heart Association's leadership team at IC<sup>2</sup> Institute. This led to a contract agreement to showcase and demonstrate novel ways to deliver cardiology training at their Orlando, Florida conference in October. Body Interact continues to gain momentum using its interactive touch tabletops and iPad solutions to deliver medical training and education.

Vertequip, was cofounded in 2014, and provides safety



Take the Wind CEO Pedro Pinto demonstrates the Body Interact interactive simulator to health educators from the Seton Hospital Simulation Center



solutions with an industrial grade, turnkey fall arrest for persons working at heights, across industries such as building construction, commercial window cleaning, wind turbine operations and maintenance, and oil and gas mining.

In April, 2015, Veritequip closed a new round of growth funding from EDP Ventures and Rising Ventures out of Portugal, as a result of the confidence their product represents to the funders. The company's COO and Co-founder Pedro Gonçalves made his first trip stateside in October to attend the National Safety Council trade show in Atlanta. Afterwards he will travel to Austin to meet with potential prospects in the Commercial Window Washing, Building/Construction and Safety Equipment Distribution sectors, organized by GSP's business development team. Veritequip is working to validate and document certain ANSI, ASSE and OSHA standards to operate their gear and equipment within the North American marketplace. This effort includes a review of Veritequip's equipment safety labeling and product liability.

IPBrick was founded in 2005 by Raul Oliveira and is located in Porto. IPBrick designs and delivers novel, custom Linux-based IT infrastructure solutions to customers primarily seeking alternatives to Microsoft or Google software platforms. The firm has more than 1,500 customer accounts that use some form of an IPBrick designed module or end-to-end solution set. Potential partners include VoIP/telephony. Providers are finding it attractive to have an alternative solution to Microsoft, with broader functionality, increased flexibility, and customer-driven customization across the enterprise.

The IC<sup>2</sup> Institute is coordinating an internal product pilot of an IPBrick module (the IPBrick CAFE) that offers instant messaging, chat, and video conferencing. In parallel, existing IPBrick customers are being canvassed via phone and email to ensure they have a thorough understanding of the firm's unique value proposition and of the elements which differentiate IPBrick from incumbents in the market. This will allow them to gauge and grade its capabilities to sell in US accounts either directly or via channel. This research will be followed with an aggressive North American marketing campaign.

2east developed a proprietary drink delivery backpack system to promote and sell beverages at large festivals, conferences, and events, as well as brand activation campaigns. With current customers such as Lollapalooza (Brazil), Rock in Rio (Portugal and

Brazil) and Alive (Portugal), 2east is well established with key global events and has recently secured its first US opportunity through a contract with a MGM for a major music event, in May 2015. The company's CEO for the United States currently resides in Austin with office space at the IC2 Institute.

ARPublisher creates 3-D illustrations that can be seen on a smartphone, tablet or other smart device with the use of a downloaded mobile app. When a smart device camera is focused on the illustration it picks up "invisible" markers which launch 3-D images on the smart device. As the story is narrated, the images become active, characters move and speak, in the language of preference. Yet, when you look back to the printed picture on the page the activity is no longer visible.

In April 2014, ARPublisher spun out of BInteractive, a software company, in order to capitalize on the expertise it had developed creating augmented reality illustrations. The principals are Narciso Melo, CEO and Dani Barreiro, CFO.

There are a few other augmented reality children's books on the market but most use visible markers (like a QR bar code) in the illustration, which detracts from the experience. ARPublisher's technology eliminates the visible markers, and makes its images interactive with the latest enhancements to their algorithms.

In July 2015 the GSP team helped to achieve a major accomplishment, and register ARPublisher with Ingram Publishing, the world's largest wholesaler and distributor of books. ARPublisher is launching an initial line of children's books based on the tales of La Fontaine which Ingram Publishing will make available through its 39,000+ retail booksellers, and online through Amazon, and Barnes and Nobles Bookstores. ARPublisher plans to take advantage of this visibility and showcase their expertise for augmented reality illustrations to other publishers. They hope to also find opportunities for creating new illustrated content.

The firm is now exploring opportunities to work with other publishers by offering its 3D augmented reality services to illustrate and enhance books on a contract or partnership basis. They plan to extend their product line with games and educational materials. GSP is assisting the firm in meetings with a variety of US publishers and distributors.

LineHealth, formerly PharmAssistant, is an early-stage firm participating in the program at the

incubation level. Diogo Ortega, is its CEO, and Sofia Simões de Almeida its COO. In 2014 they won a major competition with their mobile app and smart pill box to increase patient engagement and adherence to health care regimens.

Through a partnership with Bayer, the firm started product trials with various pharmaceuticals. At the end of February, the firm finished the device prototype, which now functions with and without the associated application.

After initial meetings with U.S. stakeholders Line Health totally redeveloped their value proposition for the US market and identified more potential customers. They then remodeled their smart pill box, changing their name and branding.

Many companies have developed smart pill boxes and

mobile applications to address medical adherence. Line Health's device offers a high degree of confirmation about whether the patient has actually taken their medication, and it is priced much lower than its competition. This tool is especially helpful to hospitals seeking to cut their 30-day readmission rates.

Line Health is conducting a Clinical Pilot with the NeuroTexas Institute. The hospital applied for multiple grants from the NIH and American Heart Association to financial the pilot with Line Health. The company has pitched to the Hill Country Angels and Central Texas Angel Network. There is a potential partnership with Dell in the works.

*"The UTEN program helped us a lot figuring out which actors should we talk to in the US, and how can we best market our products. They added an immense value since our first interaction one year ago, as our internal KPI's show." -- Diogo Ortega, CEO*

## TEXAS-EU BUSINESS SUMMIT & VENTURE GROWTH INITIATIVE

■ The IC<sup>2</sup> Institute's UTEN Portugal program and UT's Center for European Studies partnered with the Portuguese Foundation for Science and Technology (FCT) to hold a two-day networking and matchmaking event in Austin, April 22-23, designed to accelerate technology startups in Austin and Portugal.

Field trips, networking, and panel discussions encouraged firms to develop US/EU markets for their products and services. The event's main goal was to deliver measurable business development for Central Texas and Portuguese technology firms. The event, a component of the 2015 Texas-EU Summit, exposed the Portuguese delegation, including representatives from 24 technology companies, 8 technology incubators, and 3 venture capital groups, to the Austin technology ecosystem. From Central Texas, in addition to UT Austin's IC<sup>2</sup> Institute, speakers from 5 venture capital groups, 7 incubators/accelerators, the City of Austin, the Austin Chamber of Commerce, South-by-Southwest, and 2 corporations also participated in the event. The first day included visits to local technology incubators and accelerators (including the Austin Technology Incubator, TechRanch, TechStars, and Capital Factory) to learn about collocating in Texas, finding US commercial partners, and using Austin as a "landing pad" for US operations.

US Ambassador to Portugal Robert Sherman kicked off the workshop on the second day through a pre-recorded video welcome and emphasized how closely the event dovetailed with his overall mission of deepening United States-Portuguese commercial relationships. Three workshop panels gave both the Portuguese delegation and Austin-based tech and VC firms

the opportunity to gain practical knowledge about entering the European and United States markets and how to obtain startup capital. Portuguese Ambassador to the United States, Nuno Brito, addressed the workshop via Skype to applaud the Institute's transatlantic partnership with Portugal and urge attendees to use his trade attaché and other programs of his Washington office to strengthen business development between Central Texas and Portugal. UTEN Scientific Director José Mendonça, and Ireland's Consul-General in Austin, Adrian Farrell, closed the event with summary remarks about the importance of international trade and investment. Other speakers included Kevin Johns, Director of Economic Growth and Redevelopment Services for the City of Austin; Michele Skelding, Senior VP of Global Technology and Innovation for the Austin Chamber of Commerce; and Hugh Forrest, Director of SXSW Interactive.



Portuguese participants talked with panel speakers and other Texas guests at a welcoming event at Scholz's Biergarten



## CONFERENCE ON IP ISSUES IN ICT

■ On Thursday, June 18 INESC TEC hosted a one-day conference on intellectual property issues in ICT.

The Conference IP Issues in ICT, was specifically designed for Academia, and had renowned international IP experts discussing the importance of IP and patents in the area of Information and Communication Technologies. This was one of the initiatives organised as part of INESC TEC's 30th anniversary celebrations.



## FOSTERING SCIENCE & INNOVATION ECOSYSTEMS: PORTUGAL-USA PARTNERSHIPS

■ On May 28-29, 2015, the International Partnerships - CMU Portugal, MIT Portugal and UT Austin Portugal - held the 1st Joint Conference and Exhibition on "Fostering Science & Innovation Ecosystems: Portugal-USA Partnerships."

The purpose of these events was to showcase the activities and outcomes of the partnerships to Portugal, the commitment of the USA universities, and the strength of the relationships that have been created regarding Education, Research and Innovation.

Under discussion was the relevance of the commitment and the relationships built with American partners, concerning education, research and innovation, and the goals achieved by these partnerships in the creation of new businesses and startups, generation of employment, development of products and services, or the attraction of talent.



Several researchers, entrepreneurs, students and former students connected to the different partnerships gave their testimony during the conference, that was accompanied by a display with some of the most emblematic projects developed under the three programs and that demonstrated the collaborative process between the Portuguese institutions and American universities.

The event took place at Palácio Foz, in Lisbon and was streamed live online.

## AUSTIN VISITING RESEARCHER HIGHLIGHTS

■ **Six Digital Media students visited Austin in the spring as official visiting researchers, engaged in everything from preliminary dissertation research to finalizing chapters.** Gustavo Magalhães Pereira of U. Porto continued his work on open government data; he has worked with a variety of prominent organizations on this topic, including NYU's Governance Lab and Code for America in San Francisco. Cláudia Silva of UNL, another continuing researcher, returned to Austin in January to work with members of local community groups dedicated to technology education and bridging digital inequalities, with the supervision of her advisor Joe Straubhaar. Fernando Governo of U. Porto has further developed his research on digital cinema and innovative distribution platforms, and U. Porto's Rodrigo Carvalho, a visiting researcher in 2014, returned to UT to work with Bruce Pennycook of the Butler School of Music and collaborate in a performance showcased at UT's annual event "Ears, Eyes + Feet." Other spring semester visiting researchers included Ivo Teixeira of U. Porto, and André Mourão of UNL, who travelled to Austin to work

with Jay Bernhardt, director of UT Austin's new Center for Health Communication, on a funded collaborative research project, "Mobile Measurement and Motivation: A Feasibility and Pilot Study of Smartwatches for Health in the United States and Portugal."



Cláudia Silva and Joe Straubhaar

## UT AUSTIN HOSTS SEVEN EXPLORATORY VISITS

■ **The Digital Media Program in Austin hosted seven short-term exploratory student visits in the spring semester.** Ricardo Baptista of U. Porto, who specializes in training competences certification and connections between specific game designs and assessment methods, arrived in February and consulted with faculty including youth and media expert Craig Watkins of the Radio-TV-Film Department. Baptista later returned to UT in June to begin a stint as a visiting researcher and work on a research project led by Watkins and U. Porto's António Coelho.

Sandro Dias, Madalena Miranda, Ioli Campos, Ilo Aguiar, and Carla Saraiva of UNL and Rui Leitão of U. Porto came to UT Austin in March and April. Leitão, who studies educational technologies, game design, and gamification, met with Craig Watkins and also discussed his work with Denius-Sams Gaming Academy Program Director Warren Spector, Sharon Strover, and Marco Bravo of UT's IC<sup>2</sup> Institute. Dias's research focuses on second language learning and gamification; he found it useful to

meet with several members of UT's Foreign Language Education graduate program during his week in Austin. His UNL colleague Ioli Campos, whose research looks at news literacy and journalism for children, discussed her studies with Journalism and Radio-TV-Film faculty members as well as with Spector and game development expert Paul Toprac. Campos returns to UT this summer to begin an extended stay as a visiting researcher.

Ilo Aguiar, also a researcher of journalism, focused his meetings at UT around the topics of data visualization, open source, and media ethics. Miranda discussed new documentary forms and changes in cinematographic language with some of UT's top documentary makers including Ellen Spiro and Nancy Schiesari, and Saraiva met with Center for Health Communication director Jay Bernhardt and faculty in the Department of Psychology to discuss how mHealth technologies may aid users with mood disorders. Aguiar and Saraiva both return to UT this August to take part in the Digital Media Program's Open Institute.



## DIGITAL MEDIA PROGRAM REPRESENTED AT SXSW FESTIVAL

■ Professor Heitor Alvelos of the University of Porto and Fátima São Simão, Creative Projects Director of U. Porto's Science and Technology Park (UPTEC), joined UT Austin's Marco Bravo in a panel on entrepreneurialism and education at the SXSW festival in March. The panel, titled "Research, Startups, Citizens: All Together Now" focused on the startup community fostered by UPTEC, exploring how the organization's development models have promoted design research, bringing together citizen-led projects, startup businesses, and academics to create a space for cross-pollination and creative growth. It was part of SXSW.edu, a component of the media festival focused on innovative approaches to education.

The speakers represented a variety of backgrounds, reflecting the interdisciplinary nature of their topic. Alvelos heads the Design PhD program at U. Porto. São Simão has been a leading member of UPTEC while pursuing her doctorate, and both are actively involved in Creative Commons Portugal and are key organizers of the FUTUREPLACES MediaLab for Citizenship. Bravo, who was previously with the Portuguese government's Ministry for Science, Technology, and Higher Education, is now Project Director for Global Entrepreneurship, Innovation, and Technology Commercialization at UT's IC<sup>2</sup> Institute. The panel was followed by an interactive period of audience discussion.

João Beira of U. Porto, who is pursuing PhDs at both U. Porto and UT Austin, joined a SXSW Interactive panel titled "Natural User Interface Design for Engaging Art and Performance" this year. The panel also featured Jerome Morrison, who produces interactive pseudoholographic displays. Beira and Morrison presented some of their own work and discussed the advantages and drawbacks of various interface technologies including Kinect. Beira also contributed to the spectacular SXSW Eco Light Garden at Austin's Republic Square Park, an interactive public art project.



Fátima Simão, Heitor Alvelos and Marco Bravo

## MENDES AND CORREIA ATTEND UT NEW AGENDAS CONFERENCE

■ Mónica Mendes, an alumna of the Digital Media doctoral program, and Nuno Correia, the program's academic director in Lisbon, visited Austin for the Moody College of Communication's New Agendas Conference on February 26-28. The annual conference features the research of emerging scholars of note, with the primary topic changing every year. The 2015 conference, which was planned by Sharon Strover, focused on immersive media and included presentations on storytelling and game narratives, creating immersive experiences of nature, social media surveillance. The meeting included presenters from the University of

Alabama, Temple University, Georgia State University, the Illinois Institute of Technology, the University of Washington, and UT Austin.

Mendes, a digital media artist and designer who is now an assistant professor coordinating the Multimedia Art degree at the University of Lisbon, presented some aspects of her dissertation research in a talk titled "Creating Immersive Experiences of Nature Using Networked Surveillance." Correia served as a conference discussant. During their stay, the two visitors also met with several Digital Media doctoral students who were staying in Austin as visiting researchers.

## DIGITAL MEDIA HOSTS E-HEALTH SYMPOSIUM

■ The Digital Media Program produced an eHealth Research Symposium on February 6 at UNL-FCT. The meeting, which was organized by Sharon Strover of UT Austin and Nuno Correia of UNL, attracted about 60 attendees and brought together students and faculty members from UT Austin and Portuguese universities including UNL, U. Porto, and the Lusophone University of Humanities and Technologies.

Researchers gave presentations on topics including smartwatches for health tracking and interventions, using messages to increase physical activity in dialysis patients, evaluating consumers' understanding of online health information, improving prenatal health communication with male consumers, and integrated personal health records. Other presentations addressed techniques for health information retrieval, training and scientific publishing in the field, and opportunities for future research collaborations.

The Symposium took place during the visit of several UT Austin faculty members who are collaborating on research projects with their Portuguese colleagues. The group included professors Jay Bernhardt, founding director of UT's Center for Health and Communication, Jacek Gwizdka and Yan Zhang of the School of Information, Keri Stephens of Communication Studies, and doctoral candidate Allison Lazard. Lazard is a member of the UT team led by Advertising and Public Relations professor Michael Mackert, who was unable to attend. Portuguese symposium participants included professors Manuel José Damásio of Universidade Lusófona, João Magalhães of UNL, Carla Teixeira Lopes of U. Porto, and Paulo Moreira, senior researcher at the University of Extremadura in Spain and Editor-in-Chief of the International Journal of Healthcare



Management, Digital Media doctoral candidate Inês Rodolfo also took part in the talks, presenting her research on integrated personal health records. The day concluded with an industry presentation from Pedro Pinto, CEO of Take the Wind, the company behind the cutting-edge 3D medical simulator Body Interact. A full program of the event including slide presentations, research project synopses, and biographies is available **online**.

## UT FACULTY VISIT FOR LAUNCH OF NEM PORTUGAL

■ Sharon Strover of the Digital Media Program and Rosental Alves, Director of the Knight Center for Journalism in the Americas, attended the kickoff of the New European Media-Portugal in late January. NEM Portugal is a developing platform for the discussion of national research on new media

technologies, content production and innovation. The initiative is led by INESC, working with ADDICT Creative Industries Portugal and TICE.PT, and will mirror a larger, existing version that spans Europe and includes major telecommunications and media companies in addition to research organizations.



Alves, who has led numerous UT Austin Portugal Digital Media Summer Institute courses, served as a keynote speaker for the kickoff event, speaking on the importance of partnerships between technology companies and content producers. At the conclusion of the program, Strover and NEM Portugal representatives signed a document recognizing the commitment to future collaboration between NEM Portugal and UT Austin-Portugal.



## DIGITAL MEDIA DOCTORAL STUDENTS' NEWS

### Digital Media student wins a MusicBricks Incubation Award at Music Tech Fest, Sweden

■ **Horácio Tomé Marques, a FEUP student and fellow FCT | UT Austin Portugal finishing his PhD on Digital Media (PDMD – Doctoral Program on Digital Media) won a Blue Vinyl Award — MusicBricks Incubation Award\* category — at MTF - Music Tech Fest Scandinavia 2015, 29 - 30 May, Umeå, Sweden.**

Horácio Tomé Marques won the Award with the project *FindingSomething SoundingBonding*, created and produced together with Francisco Marques Teixeira and Fanny Fazakas (Hungary) in the Hackathon – a MTF program where participants had to create and develop a project in 24 hours, according to some themes and guidelines released by MusicBricks program.

The *FindingSomething SoundingBonding* project is an audio-visual performative piece for two actors, who expose a narrative conceptually anchored in an inter-relational event between two human beings (a kind of game, based on provocation/perception, using ingredients such as body gestures, body language, reception/perception/cerebral-reaction, iteration). In terms of processes and technologies it is based on gestures/movements and brain electric potentials, where one of the participants uses various gesture/movements R-IoT sensors (IRCAM) and the other uses a brain-computer interface (Emotiv).

The MusicBricks incubation awards are incentives to research and development, configured by grants of €3,000 rewarding innovative and well-founded projects, denoting previous field research, and that have a clear potential for

further development and future real impact in fields of arts, science and technology.

The author was invited to participate and present (with his project colleagues) the next-step of the project development at the next MTF - Music Tech Fest in Ljubljana, Slovenia next September.

#### Links:

[www.musictechfest.org](http://www.musictechfest.org)

[www.musictechfest.org/musicbricks](http://www.musictechfest.org/musicbricks)

\* MusicBricks: Musical Building Blocks for Digital Makers and Content Creators, is an Innovation Action funded by the European Commission coordinated by Sigma Orionis SA (France) involving Fraunhofer (Germany) the IRCAM (France), Technische Universität Wien (Austria), The Universitat Pompeu Fabra Barcelona (Spain) and Stromatolite Ltd (UK).

<http://sigma-orionis.com/musicbricks-innovating-music-technology-value-chain/>

[http://www.ircam.fr/58.html?L=%5C&tx\\_ircam\\_pi%5BshowUid%5D=92&ext=1&L=1](http://www.ircam.fr/58.html?L=%5C&tx_ircam_pi%5BshowUid%5D=92&ext=1&L=1)

<http://mtg.upf.edu/projects/musicbricks>





## Digital Media PhD Program students at TIC@Portugal'15

■ António Maneira and Luís Frias, of UT Austin | Portugal Digital Media PhD Program, participated in the 2015 edition of TIC@Portugal.

As part of the team that organized TIC@Portugal'15, António Maneira, Alumni of the UT Austin | Portugal Digital Media PhD Program, managed all the procedures at the Faculty of Science and Technology (FCT), including a session that took place at the FCT's Media Ground room. Luís Frias, currently a student of the Program, was responsible for a workshop entitled "Multimedia Production in the Classroom using mobile devices", in which participants learned how to use and produce applications for filming, editing and publishing content using a tablet.

The TIC@Portugal'15 Meeting aimed to reflect about the use of Communication and Information Technologies (TIC) practices in Education by hearing from educators and teachers that use these tools, through the presentation of their work, and by inviting specialist to share the newest developments in this field.

The event - an EDUCOM/APTE (Portuguese Association of Educational Telematics) Association initiative, hosted jointly by the Faculty of Science and Technology (FCT),

New University of Lisbon, and the Faculty of Humanities and Social Sciences (FCHS), University of Algarve - was held on July 3rd, with more than 500 participants, 50 presentations and 28 workshops taking place locally and by videoconference in Monte da Caparica (FCT), Faro (FCHS), Braga, Santarém, Évora, Setúbal, Aveiro/Manteigas, Coimbra, Lisboa and Bragança.



TIC@Portugal'15 session at FCT's Media Ground Room.

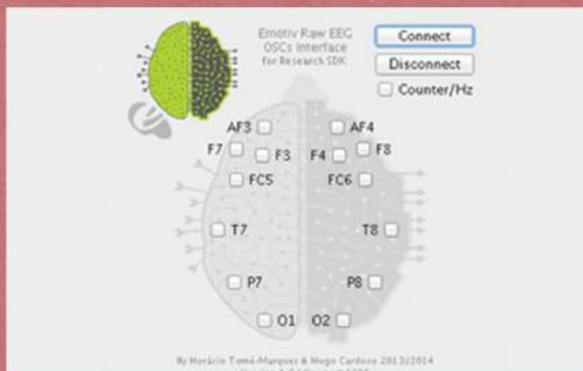
## Emotiv offers brain-computer interface app by Digital Media students

■ Emotiv, a leading international manufacturer of brain technology devices, recently introduced an application developed by Digital Media doctoral student Horácio Tomé Marques and FEUP masters student Hugo Cardoso in its online store.

The application, **HoMy\_EmoRAW**, is a research tool designed and created by Marques in collaboration with Cardoso during Marques's dissertation research, which focuses on the real-time representational forms

of brain phenomena within context of art practice. The application was created to address the needs and problems related to accessing the headsets' brain-computer interface (BCI) raw data, an integral part of Marques's study.

Marques, who is now concluding his Digital Media PhD, initiated the development of HoMy\_EmoRAW in 2013 but the application had to progress through a series of required development processes and testing before being released by Emotiv.



Emotiv and HoMy\_EmoRAW in use at Musicmakers Hacklab, CTM Berlin Festival 2015 (photo by RUMEX)



## CoLab Digital Media student produces award-winning science education app

■ Fourth year Digital Media student Diana Marques was recognized by the American Alliance of Museums for her mobile application Skin and Bones, which won the AAM's Gold Media and Technology MUSE Award.

The app, developed for her doctoral work, superimposes virtual representations upon real museum exhibits, allowing the museum visitor to interactively learn about natural history with 3D digital experiences.

Marques is conducting research at the Smithsonian Museum of Natural History in Washington, D.C., focusing on augmented reality and the museum visitor's experience. She was recently invited to speak about her work at the National Academy of Sciences.

To learn more:

Skin and Bones: the App

New app adds virtual flesh to Victorian-era bone exhibit, Smithsonian Science News

App review: See Natural History skeletons before they were just bones, Washington Post



## Company founded by CoLab students and graduates offers short courses in digital media

■ Bagabaga Studios, a company founded by CoLab Digital Media PhD students and alumni, has launched an innovative collection of short and effective courses in digital media and other tools.

Bagabaga's one-day "Cursos Relâmpago" (lightning courses) cover such diverse topics as video production with DSLRs and mobile phones, WordPress, field sketching, presentation design, JavaScript, and social media for organizations. Bagabaga Studios is a Portugal-based co-op with participants

from many disciplines in digital media production, training and research. Its director is co-founder Paulo Nuno Vicente, PhD graduate from the UT Austin/Portugal Program. Bagabaga is a member of UPTEC's Creative Industries Center (UPTEC PINC) at the University of Porto.

On Bagabaga Studios' Twitter feed they cite the short film "15 Frames" by co-founder Rui Avelans Coelho as the kind of work participants can learn to do from their training.

For more information see <http://bagabagastudios.org/>

## EVENTS

■ PLUNC - New Media and Digital Art Festival  
Almada/Lisbon | September 24 to 27 | [www.plunc.pt](http://www.plunc.pt)

■ FUTUREPLACES 8<sup>TH</sup> edition  
Porto | October 20 to 24 | [www.futureplaces.org](http://www.futureplaces.org)

## ONGOING OPPORTUNITIES

### ■ 2015 FCT Investigator Programme

- Call for Applications: 16 July - 15 September 2015 (5pm, Lisbon time)
- Association of host institution to application: 16 - 30 September 2015 (5pm, Lisbon time)

The FCT Investigator programme aims to support the recruitment of outstanding researchers into Portugal's R&D centres. Open to scientists of all nationalities, and across research fields, this highly competitive programme targets scientists with exceptional track-records and clear potential to develop innovative research.

For more information please visit:

<https://www.fct.pt/apoios/contratacaodoutorados/investigador-fct/2015/index.phtml.en>

MORE OPPORTUNITIES can be found at FCT website: <http://www.fct.pt/concursos/>

### USEFUL LINKS

[www.utaustinportugal.org](http://www.utaustinportugal.org)   [www.fct.pt](http://www.fct.pt)   [www.utexas.edu](http://www.utexas.edu)   [www.ic2.org](http://www.ic2.org)   [www.ati.utexas.edu](http://www.ati.utexas.edu)   [www.austin-chamber.org](http://www.austin-chamber.org)   [www.utenportugal.org](http://www.utenportugal.org)

We want to hear from you! Want to share your doubts and concerns about something you read? Want to see other topics featured in next month's newsletter? Want to contribute with articles or art? Please send all your feedback to Carina Borges - [cap.borges@fct.unl.pt](mailto:cap.borges@fct.unl.pt)



## YOU CAN FIND IN THIS COLABSQUARE EDITION:

- Porto Winter School on Graph Analytics and Applications
- Advanced Computing Autumn School and Workshop
- FUTUREPLACES 2015
  - 8 Years Researching the City
  - Next Steps for Multimedia Research
  - Designing Open Business Models
  - Digital Media Doctoral Symposium
- Workshop and Lecture "Analyzing Social Media with Digital Methods"
- UT Austin | Portugal @ ICT 2015
- Faculty welcomes new UNL Digital Media PhD students
- Results of the 2015 Call for Doctoral Scholarship in Digital Media
- Autumn School on Nonlinear Science
- PLUNC
- 1st US Workshop on Nanosciences / Nanotechnologies
- Advanced Computer researchers participate in Emerging Technologies meeting in Austin
- Emerging Technologies student's internships at UT Austin
- Workshop on Molecular Geometry and Visualization
- UTEN team meets with applicants of Global Startup Program
- DIGITAL MEDIA DOCTORAL STUDENTS' NEWS
- UPCOMING EVENTS & ONGOING OPPORTUNITIES

## PORTO WINTER SCHOOL ON GRAPH ANALYTICS AND APPLICATIONS

■ The Computer Science Department of the Faculty of Sciences of University of Porto will hold a Winter School on Graph Analytics and Applications, from 14 to 16 December 2015.

The school will deliver a mix of lectures, case study presentations and hands-on session in the domain of large scale data analytics with emphasis on the analysis of graphs/networks. Its intended target audience are PhD students and young researchers, but all interested in the field are welcome.

Big Data has become ubiquitous, and applications from all fields are rapidly scaling up in the size of both the available data and the underlying models. To extract insights from vast amount of data efficiently, parallel programming is essential, and several new programming models and implementations have been proposed. This school is a research training event geared precisely towards large scale data analytics and it offers a set of lectures and tutorials given by leading experts from both the academia and the private sector. With complex networks being pervasive and omnipresent in many social, biological and communication systems, there will be a focus on scalable graph algorithms and on the associated high performance software platforms. The attendees are expected to gain insight into some of the state-of-the-art solutions and to improve their vision on the associated research challenges.



Registration is free (and it includes access to all the sessions and to the coffee breaks), but there is a limit on the number of attendees.

#### Key Speakers:

- Deepak Ajwani & Alessandra Sala (Bell Labs)
- Bin Shao (Microsoft)
- Toyotaro Suzumura (IBM)
- Bruno Gonçalves (Aix-Marseille Université)
- Keshav Pingali & Donald Nguyen (University of Texas at Austin)
- Pedro Ribeiro (University of Porto)

**Organizing committee:** Fernando Silva, Pedro Ribeiro and Keshav Pingali

**More information:** <http://graph15.dcc.fc.up.pt/>

## ADVANCED COMPUTING AUTUMN SCHOOL AND WORKSHOP

■ From 9 to 13 November Instituto Superior Técnico (IST - University of Lisbon) held an Autumn School on “Data Driven Computations in the Life Sciences” and a Workshop on “Innovative Modeling Techniques for Predictive Medicine”.

The School (composed of lectures and computational tutorials) and the Workshop, were organized by Adélia Sequeira of IST, within the scientific collaboration UT Austin | Portugal in the area of Advanced Computing. They focused on mathematical modeling and simulation in the Life Sciences, a rapidly developing interdisciplinary research field that connects mathematics, computational sciences and engineering to biology and medicine. Starting from high-resolution volumetric medical imaging, the development of spatially realistic physiological models for predictive medicine leads to complex mathematical models to capture heterogeneous processes of multiscale nature, that require highly efficient numerical algorithms and high performance computing techniques for their simulation.

The School and the Workshop brought together doctoral candidates, postdoctoral scientists and other researchers in applied mathematics, bioengineering and medicine, giving them the opportunity to interact and connect with the following experts that were specifically invited for the event:

#### Lecturers:

**Autumn School** - Miguel Ángel Fernández, INRIA, Paris – Rocquencourt (France), Alessandro Reali, Università di Pavia (Italy), Alessandro Veneziani, Emory University, Atlanta (USA);

**More information:** <http://cemat.tecnico.ulisboa.pt/DDCLS2015/>



**Workshop** - Chandrajit Bajaj, ICES/UT Austin, (USA), Antonio Fasano, Univ. Firenze, (Italy), Shaolie Hossain, Texas Heart Institute/Houston and ICES/UT Austin, (USA), Willi Jäger, Univ. Heidelberg, (Germany), Paula Oliveira, Univ. Coimbra (Portugal), Maria Neuss-Radu, Univ. Erlangen-Nürnberg, (Germany), Michael Sacks, ICES/UT Austin, (USA), Alessandro Veneziani, Emory University, Atlanta, (USA).

More than 50 participants, mostly from Portugal, but also from Germany, Italy and Russia, attended both events.

## 8 YEARS RESEARCHING THE CITY

■ The annual FUTUREPLACES Medialab for Citizenship celebrated its 8th consecutive year October 20-24, 2015. Curated by Heitor Alvelos, FUTUREPLACES renewed its commitment to the City of Porto as a testbed for new ways of media engagement.

The all-time motto “All Welcome” was brought to the fore, signalling the importance of fostering further inclusiveness in the social fabric. UPTEC (U.Porto’s Science and Technology Park) and Passos Manuel were the main venues hosting 13 Citizen Labs, four keynotes, the annual digital media doctoral symposium, three concerts, a series of installations and more. Worthy of note is the opening of “Open Lab”, a brand new media venue managed by students of the UTAustin-Portugal program in Digital Media. An open forum and an installation officially inaugurated its activities; expect more in the coming months. FUTUREPLACES was also visited by delegates of PLUNC and OFFF Porto, and was preceded by the UD15 International Doctoral Design Research Conference, further cross-fertilising synergies with current media agents. The Radio Manobras Futuras and Design Advanced Resources collectives were again present, documenting, interviewing and broadcasting.

### Guests for this edition of FUTUREPLACES included:

Chris Csikszentmihalyi (ERA Chair at Madeira Interactive Technologies Institute), whose opening keynote addressed “Political Economics of Design: recognizing that funding trumps form or function”;

Jono Podmore (Professor of Music at Hochschule für Musik und Tanz Köln, as well as archivist for rock legends CAN), with a masterclass entitled “In the Box or Out of the Box? On the relationship between digital and analogue audio technology and its impact on the music itself”;



@ “Porto Pelo Porto”



VOX EXPRESS @ Passos Manuel

Anabela Duarte (Post-doctoral researcher affiliated with the Center for Post-Colonial Studies of the University of London, as well as former singer for Mier lfe Dada), coordinating the Vox Express intervention and providing her views and testimonies on the relationship between Art and Science;

Paul Stacey (Education specialist at Creative Commons and owner of EdTechFrontier), whose interactive keynote “Global Citizens in a Global Commons” wrapped up the very intense Citizen Lab debriefing marathon.

The focus throughout FUTUREPLACES was, as usual, on ways of opening up the spectrum for citizen engagement: this was evident both in the various masterclasses, and in the Citizen Labs, whose subjects ranged from farming with Arduino to musique concrète on live radio, from a PowerPoint support group to further ethnographic enquiry of unknown areas of the city. A particularly fruitful relationship was established with UPTEC via Paul Stacey’s workshop “Open Business Models”, attended by a multitude of representatives from various incubated companies.

Exhibitions included “Calligraphy of a Mute Body” by Marta Calejo, the ongoing collective visual ethnographic project “Porto Pelo Porto”, the Miguel Januário installation “Reclaim the Future” and a one-night-only showcase of arcane computer games. Concerts included a Scientific Pop recital, a Live Coding jam, a Mutant Hotel Bar improv and the resident FuturePlaces Impromptu All-Stars Orchestra performing a new piece entitled “Gravitas”.

This 8th edition of FUTUREPLACES was especially marked by the desire to further consolidate and foster the heritage of the medialab, now nearing one decade of



activity. With this in mind, the FUTUREPLACES Youtube channel is now hosting a multitude of videos from past editions, focusing on interviews, keynote addresses and concerts; a flickr page includes every official photo ever taken since 2008; further writing is updated on the “Publications” section of the website; and a new project, “FUTUREPLACES Audiolab”, will serve as a channel for curated audio editions stemming from eight years of sound recordings.

As the City keeps changing, so the concept of “Future” keeps changing, and likewise FUTUREPLACES keeps updating its mission. Expect further news and fronts to keep opening up via [futureplaces.org](http://futureplaces.org).



Miguel Januário installation “Reclaim the Future”

## NEXT STEPS FOR MULTIMEDIA RESEARCH

■ “Next Steps for Multimedia Research” (and other careers), a debate session included in the Futureplaces Festival, gathered several students and faculty with the purpose of initiating a forum of questions and suggestions about the Doctoral Program in Digital Media. The event took place in Porto and was streamed live, allowing remote participants to interact through skype.

Three main topics were debated: 1. Future prospects after the doctoral program in Digital Media; 2. Impact of the doctoral program in future research initiatives or entrepreneurship; 3. Suggestions on how to improve the program and the partnership with UT Austin.

In result of this session and after collecting new inputs by email from students and former students of the Doctoral Program, a list of 44 questions and suggestions was addressed to the directors of the Doctoral Program.

In summary, it is recognized that the desired professional career after the PhD is not necessarily, or only, oriented to an academic life, but can be too. Thus, how to benefit from this diversity of skills, objectives and future links? How to adjust and shape the doctoral program to this reality?

Furthermore, there are several bridges that can be built during the doctoral program. They can be created with labs, private companies, but also amplify the value of interdisciplinary collaborations. Such bridges can be established in Portugal, namely by reinforcing the work between Porto, Lisbon and Madeira (among the universities participating in the Doctoral Program), but also with the UT Austin, by identifying new ways

of benefiting from this partnership.

The debate was organized and moderated by Carlos Figueiredo (PhD in Digital Media, 2014), and had as speakers, Fátima São Simão (Responsible of the Creative Industries Pole UPTec), Nuno Martins (PhD in Digital Media, 2013, Associate Professor in the IPCA - School of Design, designer several times awarded, and founder of the Talk About Cancer project: [FalarSobreCancro.org](http://FalarSobreCancro.org)), Eduardo Marques (finalist PhD student, researcher at INESC, and with a relevant professional experience in the private sector and as entrepreneur), Ivo Teixeira (3rd year PhD student, and one of the founders of the Open Lab), Luis Agrellos (1st year PhD student, Managing-Partner of the GEMA company).

The video of the Next Steps session is **available online** (after minute 13:08’)





## DESIGNING OPEN BUSINESS MODELS

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■ In its 8th edition, *futureplaces2015* gave special attention to the topic of sustainability and openness. On the 22nd October, Paul Stacey, Associate Director of Global Learning at Creative Commons, held a workshop about Designing Open Business Models, at UPTEC - the Science and Technology Park of the University of Porto.

The main purpose of this session was to demonstrate how one can adopt an open attitude in business (for example, by openly licensing a product) and still make money from it.

With over 30 participants, from entrepreneurs to freelancers and students, the session started with an overview of the **Creative Commons (CC) licenses** and a short introduction to the **business model canvas**, both the original version and an updated version prepared by Paul, which specifically includes CC licenses and social good. There was also a chance to present the brand new Creative Commons Toolkit for Business, conceived and developed by the CC Portuguese Affiliate, which will be launched soon on **Creative Commons blog**.

During the workshop, the typical fears of openness were addressed through the presentation of real case studies including examples of open source software, open education resources, museums, authors, large platforms and other businesses. Cases like the **Tribe**

of Noise, Reijksmuseum, Open Words, The Noun Project, Posiba, Tumult, Nina Paley, Seats2Meet, 500Px, Autodesk's training and tutorial materials were analysed during the session to explain how open business models actually prove to be sustainable and thriving.

Finally, Paul presented a selection of books about new approaches to economy and the participants had the opportunity to actually design an open business model for their own projects and discuss implementation strategies. More news and articles about open business will continue to be discussed at Creative Commons in its various platforms, namely, on Creative Commons blog and the **Made With Creative Commons website**, created for this purpose only.



## DIGITAL MEDIA DOCTORAL SYMPOSIUM

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■ Digital Media students and graduates from U. Porto and UNL presented their research projects at the Digital Media Doctoral Symposium, Porto, 21st October. Included in the *FUTUREPLACES* festival program the DM Doctoral Symposium gives all students the chance to present their work to an audience of their peers and faculty and exchange ideas, concerns and thoughts with the audience.

The event started with welcome remarks by Sharon Strover, Heitor Alvelos, Nuno Correia and António Coelho followed by an opening keynote from Chris Csikszentmihalyi, European Research Area Chair at Madeira Interactive Technologies Institute, entitled "Political Economics of Design: recognizing that funding trumps form or function". Chris's presentation reflected on how the schism between paper design on one side, and the actual material world that is produced on the other, is as wide now as it has ever been. Design for sustainability, design criticism, and speculative design constantly outstrip what actually gets made in the world, posing the real question of whether design can be an effective agent of social change. The invited

opening keynote speaker also showed all present how new forms of cooperative approaches to the production of our material culture are possible.

The DM Doctoral Symposium included 11 presentations on various student's work in areas as diverse as on how design and digital media can be engaged with a local culture; cinematography, documentary cinema and film scenes affective classification; e-government portals improvement; interactive systems; facial skin texturing to help artists render emotions and exploring emotions through photographs, colouring and storytelling; open farming; innovation in extreme scenarios; and integrated communication in the context of participatory culture (Library Network).

Along with the presentations of the student's ongoing projects the program included two graduated – Jorge Pereira and Cláudia Lima, from U. Porto – and a first year students- Michelle Kasprzak, U. Porto – presentations.

The event concluded with a much participated debate, not only between students but also between students and faculty.



### Digital Media Doctoral Symposium Presentations:

Chris Csikszentmihályi (European Research Area Chair at Madeira Interactive Technologies Institute) - Political Economics of Design: recognizing that funding trumps form or function.

Jorge Pereira (Alumni U. Porto) - Stories told, stories to tell — strategy, communication and participation with design and digital media engaged with a local culture

Carlos Ramos (FCT) - Interactive installations with cinematographic content, objects and data

Madalena Miranda (FCSH) - Collective Portraits Take Place in Contemporary History: a contribute to documentary cinema in digital media environment

João Castro Pereira (FCT) - Usability Evaluation and Methodology Development for E-Government Portals Improvement

Pedro Ângelo (U. Porto) - Designing Interactive Systems with dataflower

Luís Frias (FCSH) - EMOTAG - Film Scenes Affective Qualitative Classification

Teresa Vieira (U. Porto) - Consistent Facial Skin Texturing to Help Artists Render Emotions

Carla Nave Saraiva (FCT) - PaintMyEmotions: Exploring Emotions through Photographs, Coloring and Storytelling

André Rocha (FCSH) - GROUU – Open Farming

Michelle Kasprzak (1st year student, U. Porto) - Innovation in Extreme Scenarios

Cláudia Lima (Alumni, U. Porto) - Library Network: Integrated Communication in the Context of Participatory Culture.



António Coelho and PhD Graduate Jorge Pereira



Chris Csikszentmihalyi

All FUTUPLACES Photos by Luís Barbosa.  
<http://luisbarbosaphotography.com/>

## WORKSHOP AND LECTURE "ANALYZING SOCIAL MEDIA WITH DIGITAL METHODS"

■ Bernhard Rieder, associate professor in the University of Amsterdam, was in FCSH/UNL on October 21st, where he gave a short introductory workshop on data extraction and visualisation with Netvizz and Gephi, and a lecture entitled «Analyzing Social Media with Digital Methods: Possibilities, Requirements and Limitations».

Both events were promoted by the Digital Media PhD program and by the FCSH chapter of the research unit CIC.Digital (Center for Research in Communication, Information and Digital Culture), through an invitation made by Janna Joceli, one of the new students of the doctoral program.



Professor Rieder, besides teaching in the Media Studies department of UA, is one of the main researchers behind the Digital Methods Initiative, led by Richard Rogers. His work is focused on the theory and history of software and on the application and critique of digital methods for Internet research. As a software developer, he has

contributed to tools such as Netvizz, Instagram Hashtag Explorer and DMI-TCAT, which were also discussed both in the workshop and the lecture.

[Text by Jorge Martins Rosa, Photo by Janna Joceli de Omena]

## UT AUSTIN | PORTUGAL @ ICT 2015

■ The UT Austin | Portugal Program participated in the ICT 2015 - Innovate, Connect, Transform, an event organised by the European Commission, with Fundação para a Ciência e a Tecnologia (FCT), that took place in Lisbon, from October 20 to 22.

More than 6.000 visitors were present during the three day event, offering the UT Austin | Portugal Program the opportunity to present its past, ongoing and future work and activities.

The international partnerships with the American universities – UT Austin, CMU and MIT – showcased several research projects. Ana Jorge, a Digital Media PhD student from the UT Austin | Portugal Program, presented her work “Interactive Visualizations of Movies’ Collections and Contents in Time and Space”.



## FACULTY WELCOMES NEW UNL DIGITAL MEDIA PHD STUDENTS



■ The official start of the 2015/2016 Digital Media PhD course at UNL took place October 13, at FCSH, with a welcome session to all first year students from FCT/UNL and FCSH/UNL followed by the first class in História e Tendências dos Media Digitais, with professors Rui Cádima and Jorge Rosa.

Several faculty of the Digital Media Doctoral Program and executive staff of UT Austin | Portugal were present to introduce the PhD program to the new students and to meet all newcomers.

## RESULTS OF THE 2015 CALL FOR DOCTORAL SCHOLARSHIP IN DIGITAL MEDIA

■ The 2015 Call for Doctoral Scholarship in Digital Media received 38 applications.

The jury evaluated the 38 applications according to the evaluation criteria's defined in the **announcement** having recommended for funding the 9 PhD scholarships mentioned in the referred announcement.



## AUTUMN SCHOOL ON NONLINEAR SCIENCE

■ Instituto Superior Técnico (University of Lisbon) held an Autumn School on Nonlinear Science, from 5 to 9 October 2015.

The school brought together prominent researchers, known for their expertise in modeling, analysis and simulation of nonlinear phenomena, and graduate and post-graduate students from around the world for five days of research training. The event, that had about 50 participants, comprised an intensive program for a weeklong short courses complemented by tutorial sessions ran by post-graduate students. It focused on non-local or nonlinear partial differential equations with applications ranging from phase transitions and free boundary problems to porous media flows and contaminant transport in subsurface environments.

### School Speakers:

Clint Dawson (Institute for Computational Engineering & Sciences, (ICES), UT-Austin, USA);  
K.R. Rajagopal (Texas A&M, USA);  
Tuomo Kuusi (Aalto University, Finland);  
Peter Knabner (Universitat Erlangen-Nuerenberg, Germany);  
Alexei Novikov (Penn State University, USA)

**Scientific Committee:** Clint Dawson (UT Austin), José Miguel Urbano (Universidade de Coimbra), Juha Videman (Instituto Superior Técnico, Universidade de Lisboa)

**Organizing Committee:** Margarida Baia, Farid Bozorgnia,

Léonard Monsaingeon, Juha Videman (Instituto Superior Técnico, Universidade de Lisboa)

### More information:

<https://nls2015.math.tecnico.ulisboa.pt>



## PLUNC

### FIRST EDITION OF THE INTERNATIONAL DIGITAL ART AND NEW MEDIA FESTIVAL IN LISBON AND ALMADA

■ PLUNC started as a small conspiracy in Porto, during Futureplaces 2013. Gathered around a dinner table, a few CoLab students from Lisbon (or studying in Lisbon and Almada) asked themselves why digital art seemed to be constantly adrift their own city, and why so few events allowed them to show work in it.

Two years later PLUNC emerged with its own identity, addressing the lack of events and spaces - in the Lisbon/Almada area - showing New Media and Digital Art. It is a platform for people in this field to present work, blend in, learn from each other, experience, collaborate

and discuss projects in the intersection of Art and Technology. The Open Call plays an important role on the development of the festival as it is partially shaped by the selected works. And finally, an opportunity to show work in this area was created.

In order to bring both shores of Almada and Lisbon closer together, this year's edition targeted interactive works that focused on the concepts of proximity, approximation and pathways. To fully experience the festival, between September 24 and 27, people had to make journeys between the two shores of the Tagus

River with activities taking place in 7 different spaces spread in the Cacilhas - Cais do Sodré axis.

During these four days, PLUNC had several exhibitions, workshops, talks and performances, welcoming a total of 33 artists and guests from different countries creating an informal space for ongoing dialogue and interaction between artists, their work and the public.

Five spaces gathered a total of 13 interactive installations that the audience could engage with. "On the Shores" brought a selection of works in which the core concepts of the exhibition were differently explored and was divided in four different spaces: two deactivated waiting rooms at the fluvial terminals in Cais do Sodré and Cacilhas; Casa da Cerca - Centro de Arte Contemporânea and Ginjal Terrasse.

Both fluvial terminals were specifically designed to display the different interactive works and respect their specific needs. In Cais do Sodré, there was Els Viaene's "The Mamori Expedition" replaying and materializing a journey she once made, through her outstanding interactive sculpture. The different sounds, the water, the contour of the piece approximated the audience and re-created a journey into a new experience.



Els Viaene's "The Mamori Expedition"

Cuppetelli & Mendoza's piece "Nervous Structure" on the other hand, a site-specific installation, had an immediate response to the audience's movements and the idea of approximation and proximity between viewer and work, although automatic, seemed to incite an autonomous response. This was also the case with José Carlos Neves "Amachina", where the deconstruction of the idea of interface was a core component of the work.

Connecting Cais do Sodré to the south shore and Casa da Cerca, was a telescope pointed at the "Tweeting Antennas", by Ivan Vuksanov and Francisco Salgado. This work, selected through our open call, devised an obsolete communication system- the flag semaphore language - replicated by obsolete and dysfunctional

objects - two TV antennas - using new media (Twitter) to convey messages in real time.

Also, on the south shore of the Tagus River, remained the two other locations for the "On the Shores" exhibitions. At Ginjal Terrasse, "Anthemusa" by André Sier, invited both local and virtual users to draw figures which were projected through a laser beam pointed towards Lisbon. Further down, at the Cacilhas terminal, there were different works displayed, such as Alex Rothera's "Cove", an application that is now available for iOS devices, and "RootIO" by Jude Munkudane and Christopher Csikszentmihalyi, a radio-on-a-bucket system through which users can live-broadcast messages by dialing a number and having it immediately spread to listeners tuned to this station.

The concepts of approximation, proximity and pathways will remain as basic principles for future editions of the festival, as these concepts are vital to its dynamic.

This year we focused on a flow made possible through the ferry boats that connect Cacilhas and Cais do Sodré through our partnership with Transportes de Lisboa. We verified however, that it was not easy to engage passers-by and regular passengers in our festival and will work towards improving this engagement in the future.

The fifth exhibition space was located at the Faculty of Fine Arts of the University of Lisbon (FBAUL) and presented "Drawing ++", a small selection of works by Golan Levin and Zach Lieberman curated by the latter. We affectionately named the show as our own physical easter bunny, since it was hard to locate within the labyrinthic FBAUL building.



Drawing ++

"Drawing ++" was nevertheless directly connected to the workshop and talk given by Zach Lieberman, and managed to promote and attract the curiosity of both participants and students in the building.

4 other workshops took place at FBAUL and one was developed at FabLab Lisbon. We opted for some of the





Zach Lieberman Talk



Open Lab "Hack the Oceans"

workshops to start earlier than the festival's opening as we intended part of the results to be shown at the exhibitions. This was the case with "Paperbots", the workshop by Isabel Paiva and "Hack the Oceans", by Sebastian Muellauer, Benjamin Gaulon and Steffen Klaue. While "Paperbots" remained at the exhibition space at Cais do Sodré, "Hack the Oceans" became an Open Lab and had a performative launch on September 25, at the emblematic Cais das Colunas.

Two other Performances took place during the festival: "Biomediation" by Yago de Quay and João Beira, which unveiled "the role of the brain and emotions as audiovisual feedback and as an instrument for live performance", and "Kobayashi" by Ivo Teixeira, Rodrigo Carvalho, Patrícia Nogueira, Francisca Rocha Alves and Daniel Rodrigues Correia, who grasped the core concepts of this year's edition and provided a live audiovisual performance made of daily excerpts of the crossovers between Cacilhas and Cais do Sodré.

Finally, with the purpose of better understanding all these works and promoting dialogues between artists and audience, all artists were invited to talk about their work process and ideas. Additionally to these talks, there were also the Open Call Talks, which resulted from our Open Call, the Transtalks on the ferry boats, and a conference entitled "Augmented Aesthetics" questioning the role of technology on human perception, with special guests Sally Jane Norman and Heitor Alvelos, and invited artist Alex Rothera.

We see PLUNC as a successful event, a first edition of something that can be much more and yet has a lot to trim. What we learned so far is that there is indeed the need to provide opportunities like these to artists, as we do lack physical space and platforms (in the Lisbon/Almada area) to show and talk about new media and digital art, trends and cultures. Sometimes the digital needs tangibility.

More information: [www.plunc.pt](http://www.plunc.pt)

## 1<sup>ST</sup> US WORKSHOP ON NANOSCIENCES / NANOTECHNOLOGIES

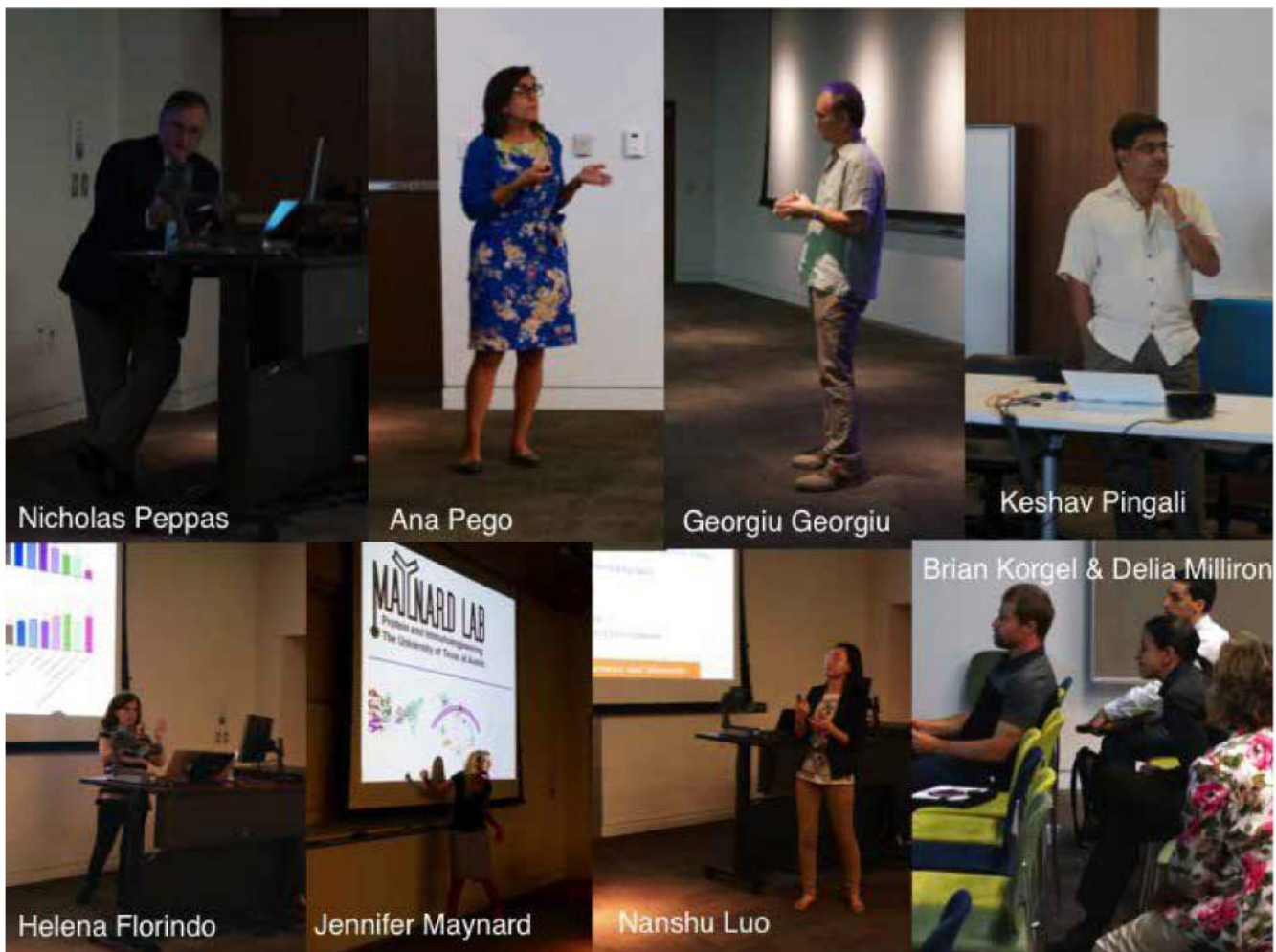
■ With the coordination of Brian Korgel and Paula Vilarinho (Emerging Technologies) the 1st US Workshop on Nanosciences/Nanotechnologies took place at the University of Texas at Austin, 14 and 15 September, with the purpose of stimulating collaborations between Portuguese and UT Austin researchers at the University of Texas at Austin.



This meeting took the form of a workshop with presentations of scientific topics from Portuguese and US researchers, round table meetings to discuss joint projects and visits to facilities. A group of 10 researchers was selected from a range of Portuguese researchers who express an interest in participating. Participants were: Joana Doria Vaz Pinto (UNova de Lisboa), Carlos Miguel Calisto Baleizao (IST, University of Lisbon), Maria do Rosario Gomes Ribeiro (IST, University of Lisbon), Ana Paula Pego (University of Porto), Joao Tedim SMALLMATEK, Aveiro, Pedro Duarte (U Aveiro), Rob Pullar (U Aveiro), Maria Fernanda Paiva Proenca (U Minho) and Shahid Mumtaz (U Aveiro) from Portugal and Nanshu Lu, Nate Lynd, Laura Suggs, James Tunnell, Delia Milliron, Emanuel Tutuc, Jeanne Stachowiak, George Georgiou, Lydia Contreras and Jennifer Maynard, from UT Austin.

The 3 of the 5 Principal Investigators (PI) of the Portuguese projects recently approved by FCT under this program (namely: Ana Senos from the University of Aveiro, Cristina Freire, from the University of Porto and Helena Florindo from the University of Lisbon) also joined the meeting and presented the current results on their projects already ongoing. The same was done by the PIs of the US projects, Carolyn Seepersad and Nicholas A. Peppas both from UT Austin. The Portuguese students involved in the program also participated in this meeting. This meeting enhanced significantly the participation of American researchers, promoted partnerships and exposed the Portuguese researchers to the environment and resources (human and infrastructure) of R&D of UT Austin.

For a summary of the meeting please visit <https://www.youtube.com/watch?v=2Ahw17szYAQ>.





## ADVANCED COMPUTER RESEARCHERS PARTICIPATE IN EMERGING TECHNOLOGIES MEETING IN AUSTIN

■ The September Austin Meeting organized by Brian Korgel and Paula Vilarinho (Emerging Technologies) provided a challenging opportunity for an additional level of cross-disciplinary cooperation between Portuguese and UTA faculties: most sessions clearly displayed the role of modelling/simulation of nanomaterials and the impact of big data requirements in some key areas, which often require access to high performance computational resources with adequate software development. TACC at Austin runs one of the top 10 supercomputer centers worldwide; however, these resources are not unlimited and

software applications should follow strict and contemporary rules to be efficient in this new world of heterogeneous computing, where cluster nodes are now a mix of shared memory multi-core devices with computing accelerators based on manycore devices with different computing paradigms. Researchers in Advanced Computing under CoLab, both at Austin and in Portugal, have been addressing these issues in their activities, and some opportunities for future collaboration were identified during this 2-day meeting in Austin in September.

## EMERGING TECHNOLOGIES STUDENT'S INTERSHIPS AT UT AUSTIN

■ Pedro Duarte, a PhD student of the University of Aveiro, Portugal, started his internship at UT Austin (from June 2015 until May 2016), coordinated by Carolyn Seepersad (UT Austin) and Paula Vilarinho (U Aveiro). With the title "Additive manufacturing of Yttria-Stabilized Zirconia for Dental Applications", the objective of the proposed research is to design and provide proof-of-concept for an additive manufacturing technique — based on indirect selective laser sintering of nanostructured yttria-stabilized zirconia (YSZ) powders — for fabricating

customized ceramic dental components directly, without a mold.

Another PhD student of the University of Aveiro, Portugal, Manuela Fernandes, also just started her internship at UT Austin (from November 2015 until April 2016). Coordinated by Paulo Ferreira (UT Austin) and Ana Senos (U Aveiro) she will be studying thin films of KNN in different substrates, with in-situ TEM heating experiments from room temperature to 1000 °C.



**Pedro Duarte (U Aveiro Portugal), Carolyn Seepersad (UT Austin) and Paula Vilarinho (U Aveiro Portugal)** @ UT Austin in September 2015. Pedro Duarte is the first intern student within Emerging Technologies.



**Manuela Fernandes (U Aveiro Portugal)** @ UT Austin in November 2015



## WORKSHOP ON MOLECULAR GEOMETRY AND VISUALIZATION

■ INESC-ID Lisboa organized a Workshop on Molecular Geometry and Visualization, in September 11, at the Centro de Congressos do Instituto Superior Técnico. This workshop gathered members of an exploratory research project, supported by the UT Austin | Portugal program, which aims to develop more efficient algorithms to detect pockets in very large molecules. Such algorithms are important in the design of new drugs, as they can predict the location where drugs can bind to a specific protein and, consequently, determine its implications on protein function.

Dr. Chandrajit Bajaj, professor of Computer Science at the University of Texas at Austin, was the special speaker of this workshop, and shared his vast expertise in this area with the Portuguese project members, allowing to refine the technical approach and better define the scope and contributions expected from the research project.

This workshop was supported by the Fundação para a Ciência e Tecnologia through the project A-MOP

- Algorithms for Macro-Molecular Pocket Detection, UTAP-EXPL/QEQ-COM/0019/2014.

For more information please visit

<https://sites.google.com/site/amopworkshop2015/>



## UTEN TEAM MEETS WITH APPLICANTS OF GLOBAL STARTUP PROGRAM

■ In September, IC2 Institute Program Director Marco Bravo led the UTEN team as it traversed Portugal to meet the entrepreneurs who applied for the Global Startup Program. To assist all applicants in making their strongest presentation, the team scheduled two-day visits in Coimbra, Lisbon, and Porto. At each location, on Day One they provided a workshop on Entrepreneurial Storyboarding and constructing a value proposition for the US market. Day Two was devoted to interviews.

The workshop day was met with high enthusiasm. Fernando Sousa of Video Observer said, "Our three managing founders attended this workshop and it was of great value. We spent a day reviewing our business model and the value chain, from the market problem that we address to the different actors in our business model. The workshop obliges you to break down your business model to the important and essential pieces, and focus on what is important—helping you to define your value offer to different market players."

### Incubation

Eight ventures have been selected for assistance in business development:

- Biopremier
- Celfinet
- Dognaedis
- Eyesee
- Line Health
- Veniam
- WY Group
- Xhockware

These early stage firms have strong international market potential, and the GSP team will help them address global market challenges. In November, these entrepreneurs visited Austin to attend strategy sessions, meet with industry experts, and expand on the insights gained in September's workshop. Lourenço Oliveira, Business Developer for Line Health, described GSP's role as a very positive one, saying, "UTEN brings American startup know-how to the Portuguese ecosystem. They teach us best practices and methods, without which we couldn't aim at becoming successful entrepreneurs."

### Acceleration

The GSP team will also be helping another ten businesses in an acceleration process to increase their access to international opportunities:

- BeMicro
- BVCreative
- Ciengis
- Coolfarm



- doDoc
- Peekmed
- Petable
- Switch
- Sword Health
- Watt-IS

These firms have a product ready to meet global needs, with market-appropriate branding materials, that has already met with success in domestic sales.

### Results

The 2015 GSP cohort has seen significant results. For example, in the past six months Take the Wind has signed a distributor agreement with Skillqube in Germany, finalized a multi-year exclusive distribution deal in Philadelphia, and secured a contract agreement with the American Heart Association (AHA) to showcase Body Interact at AHA's October conference in Orlando.

Line Health (formerly PharmAssistant) has reimagined the business's value proposition to enlarge its potential in the US market. The firm changed its name and its branding, redesigned its main product, and is now conducting a clinical pilot with the NeuroTexas Institute. CEO Diogo Ortega said, "GSP has added an immense value since our first interaction one year ago, as our internal KPI's show."

*The University Technology Enterprise Network (UTEN) is an initiative sponsored by the Portuguese government and established by the IC<sup>2</sup> Institute to provide Portuguese technology firms with opportunities for international outreach, acceleration, and business development. The Global Startup Program (GSP) selects burgeoning Portuguese firms for global market acceleration.*

**For more UTEN GSP news check online:**

[www.utenportugal.org/](http://www.utenportugal.org/)



**TEXAS GOVERNOR Takes the Wind.** Governor Greg Abbott enjoyed a demonstration of Body Interact (a product of UTEN GSP's venture Take the Wind) while visiting UT-Rio Grande Valley Regional Academic Health Center with Senator Cornyn, VA Secretary McDonald, and Congressman Hinojosa. Photo courtesy of Governor's Staff

## DIGITAL MEDIA DOCTORAL STUDENTS' NEWS

### Fernando Nabais contributes with essay to "Digital Movement" book

■ Digital Media PhD student Fernando Nabais contributes with an essay to the just released Digital Movement book by publisher Palgrave Macmillan. This book is the recent addition to the Palgrave Studies in Performance and Technology and was edited by Nicolas Salazar Sutil and Sita Popat, following the conference Corporeal Computing:

A Performative Archaeology of Digital Gesture, that was held in the University of Surrey in September 2013. "Digital Movement addresses the evolving ways in which movement and its technological mediation can inform creative thinking and embodied practices. In order to identify unique cross-disciplinary links within human movement research this book brings together experts from a number of creative disciplines including dance, theatre, sculpture, as well as computer and mathematical art, whilst offering an integration of scholarly perspectives from cultural, media and performance studies." The book is a collection of thematic essays from several artists and theorists, such as Sally Jane Norman, University of Sussex, UK, Thecla Schiphorst, Simon Fraser University,

Canada, Mark Coniglio, Independent Artist, UK, or Tom Calvert, Simon Fraser University, Canada, among others. Nabais essay, I\_CARE\_US: Flying Robots and Human-Robot Interaction in Digital Performance, analyses the aesthetic exploration of drones in digital performance, framing it in the history of robotic art and the earlier experiences of Futuristic Aerial Theatre, in the 1920's. Nabais own piece, I\_CARE\_US, a performance for one drone and one performer, premiered in Teatro São Jorge, Lisboa, in 2014, is also dissected in its aesthetic dimension as in its contribution to studies in human-robot interaction.





## Tiago Videira concludes his PhD

■ Tiago Videira finished his PhD thesis, entitled “Instrumental Fado: A generative interactive system” which was approved unanimously at FCSH/UNL in November 2nd.

### Here is his testimonial:

“My PhD was a life changing experience and a fantastic opportunity to learn, grow and become a more mature, well-rounded human being. The two years I’ve lived in Austin, in particular, were absolutely overwhelming. The outcome of this process resulted in an interdisciplinary journey in which I detail how I have deeply studied and formalized a musical practice (in this case Portuguese Fado) and then programmed a computer model able to automatically generate instrumental songs, which are sound-alikes of the musics and sounds typically associated with fado practice. The model is modular and flexible and can be adapted to generate many other kinds of songs. With the right data it can generate Satie like music, Danny Elfmanish music or any other musical practice desired. The main purpose of this journey has been to illustrate my methodologies step by step (kinda like a how-to book, or a kitchen recipe book) in such a way that researchers can then use it to study and model whatever musical practice they desire.

In the first part of my dissertation I show how the concept of fado historically emerged, what it represents, and how it has changed. Moreover, I offer a detailed, holistic and systematic characterization of the musics and sounds associated with it (both instrumental and vocal), providing a series of factual and empirical descriptors. I discuss some values associated with fado through a systematic analysis of the performance practice itself, as portrayed by its performers, audiences and scholars, along the course of history, and offer a detailed characterization of its traits. A combined interdisciplinary methodology following the lines of ethnomusicology (ethnographic and historiographic methods) and psychology of music has been used.

I have complemented the analysis with the use of computational musicology on empirical data. I have conceived a musical corpus with 100 transcriptions, identified as fado, found in the written sources. These transcriptions are piano reductions, adapted for the domestic market, of both the instrumental accompaniment and vocal line sung, the vocal line being reduced to an instrumental version. This corpus

was edited and will soon be made available as a digital database (<http://fado.fcsh.unl.pt>). This database consists of the musical scores, MIDI files, analytical, formal and philological commentaries, as well as slots for relevant information (sources, designations, date(s), authorship(s)) for each fado. The creation of this new digital object is relevant for archival and patrimonial purposes. I have applied music information retrieval techniques, followed by statistical procedures, on the corpus, in order to identify some patterns and rules shaping its characteristics. The results and conclusions allow a better understanding of what fado is and open doors regarding the construction of a theory, parametrization and modeling of the music and vocal sounds associated with it, for pedagogical, patrimonial and composition purposes, namely automatic generation of similar music.

The second part of the dissertation deals mainly with computational creativity. After providing a state of the art, I conceive and describe a model based on the previous sections: a digital system, capable of generating new instrumental music (based both on the instrumental and vocal line usually present in fado practice, the vocal line being reduced to an instrumental version), following the processes and rules previously found. I also discuss and present ideas for automatic evaluation of the system and future work to be done, namely the ability to expand the model to suit other musical practices.”





## UPCOMING EVENTS

### ■ Porto Winter School on Graph Analytics and Applications 14-16 December, 2015

Venue: CS Department, FCUP, University of Porto

Organizers: DCC/FCUP & UT-Austin

Sponsored by: CoLab project between Portugal and the University of Texas at Austin

Registration is free with limit on the number of attendees.

More Information: <http://graph15.dcc.fc.up.pt/>

### ■ xCoAx 2016: 4th International Conference on Computation, Communication, Aesthetics and X 7-8 July 2016

Location: Bergamo, Italy

Call open until 31 January 2016 - Topics:

Computation; Communication; Aesthetics; X; Algorithms / Systems / Models; Artificial Aesthetics; Audiovisuals / Multimodality; Creativity; Design; Interaction; Games; Generative Art / Design; History; Mechatronics / Physical Computing; Music / Sound Art; Performance; Philosophy of Art / of Computation; Technology / Ethics / Epistemology .

xCoAx is an exploration of the intersection where computational tools and media meet art and culture, in the form of a multi-disciplinary enquiry on aesthetics, computation, communication and the elusive x factor that connects them all.

#### Organizing committee

André Rangel, CITAR / Portuguese Catholic University

Alison Clifford, University of the West of Scotland

Graeme Truslove University of the West of Scotland

Jason Reizner, Faculty of Computer Science and Languages, Anhalt University of Applied Sciences

Mario Verdicchio, University of Bergamo (Conference Chair)

Miguel Carvalhais, ID+ / Faculty of Fine Arts, University of Porto

Pedro Tudela, i2ADS / Faculty of Fine Arts, University of Porto

More information: <http://xcoax.org/>

## ONGOING OPPORTUNITIES

### ■ "USA@PT Grants" 2016

- Grants to Support the Participation of Speakers from the U.S. at Conferences and Seminars in Portugal
- Deadlines for applications open for Conferences, seminars and workshops in Portugal from April to December 2016

<http://www.flad.pt/en/usapt-grants-2016/>

### ■ Joint Transnational Call for funding of European Research Projects on Internet of Things

- Deadline - 13th January 2016

[http://www.fct.pt/calendario/docs/CHIST-ERA\\_Call\\_2015\\_Leaflet.pdf](http://www.fct.pt/calendario/docs/CHIST-ERA_Call_2015_Leaflet.pdf)

MORE OPPORTUNITIES can be found at FCT website: <http://www.fct.pt/concursos/>

#### USEFUL LINKS

[www.utaustinportugal.org](http://www.utaustinportugal.org) [www.fct.pt](http://www.fct.pt) [www.utexas.edu](http://www.utexas.edu) [www.ic2.org](http://www.ic2.org) [www.afu.utexas.edu](http://www.afu.utexas.edu) [www.austin-chamber.org](http://www.austin-chamber.org) [www.utenportugal.org](http://www.utenportugal.org)

We want to hear from you! Want to share your doubts and concerns about something you read? Want to see other topics featured in next month's newsletter? Want to contribute with articles or art? Please send all your feedback to Carina Borges - [cap.borges@fct.unl.pt](mailto:cap.borges@fct.unl.pt)

# Digital Media

## Appendix 1

### Cooperation Agreement between TICE and UT-Austin

TICE.PT is a non profit association recognised by the Ministry of Economy as the National Portuguese ICT Cluster and certified, since 2011, with the Bronze Label by the European Secretariat for Cluster Analysis. With headquarters in Campus Universitário de Santiago – IT, Aveiro, TICE.PT engages and mobilizes relevant actors throughout Portugal, and in particular in the regions of Braga, Porto, Coimbra and Lisbon, covering the entire value chain in the area of ICT.

ADDICT is a not for profit membership association recognised by the Ministry of Economy as the manager of the Creative Industries Cluster in Portugal and certified with the Bronze Label by the European Secretariat for Cluster Analysis. with headquarters in Praça Coronel Pacheco, 15, Porto.

The University of Texas at Austin, hereafter referred to as UT-Austin is a major research United States research university that is partnering with the government of Portugal to stimulate education and research in designated program areas, one of those being Digital Media.

The New European Media initiative is one of the recognized European Technology Platforms of the European Union's Horizon 2020. It aims to build sustainable European leadership in content, media, and the creative industries. The New European Media platform is pursuing its objective to promote an innovative European approach to convergent Media, Content and Creativity, particularly towards a Future Media Internet that will enhance the lives of European citizens through a richer media experience.

#### Considering:

\*that TICE.PT mission is "To build a platform of collaboration involving and mobilize key actors of TICE on innovation processes, I&DT, knowledge transfer, advanced training, development, production and marketing of products and services, marketing and internationalization", encompasses actions to foster the development of media and content projects;

\*that the organization ADDICT's mission is to foster a favorable environment to creation, production and distribution in the culture and creative industries sector, advocating for the interests of its stakeholders and acting as a promotion and coordinating platform, including actions to foster the development of media and content projects;

\*that both cluster associations, TICE.PT and ADDICT, have decided to collaborate towards the creation of a Portuguese initiative named NEM Portugal, which INESC TEC was invited to lead;



\*that New European Media PORTUGAL (following the NEM European Technology Platform) has a key role to foster interaction between research and industry towards the production of national positions placed in the European context that should result in a strategic agenda for the digital media

\*and finally that UT-Austin has faculty and student and expertise, an excellent research infrastructure, and a collaboration framework with several Portuguese universities in the digital media area;

We therefore propose to collaborate under the following terms:

### Objective

To establish a cooperation agreement between TICE.PT, ADDICT and UT-Austin in order to frame a set of cooperative activities within NEM Portugal.

#### Cooperation Areas

This agreement focuses especially in the following activities:

- To participate in events promoted by NEM Portugal which are considered of mutual interest, focused in digital media, through the presentation of research results or market analysis
- To contribute, in the areas of expertise of UT-Austin, to the elaboration of the strategic agenda of NEM Portugal
- When appropriate, to participate in consortia aiming

at the proposition of new innovative projects to submit in response to national or European calls

### General Guidelines

Each specific action under this agreement will be subject to a written document, which may have the form of a protocol, a contract or a simple mail/email exchange, depending on its nature, and where its coordinator from each party is identified.

### Intellectual Property Rights

The intellectual property and material property of the results of common actions shall be legally protected and shall be shared between the two institutions according to the rules agreed upon for each action.

### Management Committee

- The supervision of the general cooperation between TICE.PT, ADDICT and UT-Austin will be jointly exercised by a permanent committee with one representative appointed by each party.
- TICE.PT and ADDICT are represented by their members of NEM Portugal steering board.
- UT-Austin will be represented by a member of the UT-Austin Digital Media faculty.
- All actions shall be proposed to the institutions through the above mentioned committee and all matters unpredicted in the present agreement

will be subject to the NEM Portugal steering board appreciation.

- This committee shall propose, when deemed necessary, the renewal or any changes to this agreement or the amendment of its terms or its termination.

## Duration

This agreement shall be in force upon the signature of the legal representatives of each party and from that date on for a period of 5 (five) years, renewable in the terms to be proposed by the management committee.

UT-Austin, The University of Texas at Austin, USA

## Inaugural Ceremony 2013

### October 28.2013

11.00 - 18.00 | Parallel sessions UTEN and CoLab

- **UTEN Annual Conference: "Internationalization, Technology Commercialization and Knowledge Exchange"** Congress Centre Alfândega-Porto (in conjunction with ALTEC 2013, XV Latin-Iberoamerican Congress on Technology Management)
- **CoLab Doctoral Symposia on Digital Media, Advanced Computing, Mathematics, and Emerging Technologies** UPTEC Creative Industries Centre (Porto, Portugal)

### October 29.2013

09.00 - 17.30 | UPTEC (Porto, Portugal)

UTEN's training session for startup ventures current enrolled in the **Global Startup** initiative on business development, incubation, and acceleration

10.00 - 12.30 | UPTEC Creative Industries Centre (Porto, Portugal)

- **CoLab's Futureplaces citizen labs** (in conjunction with ALTEC 2013, XV Latin-Iberoamerican Congress on Technology Management)

14.30 - 18.00 | Sessão Nobre at Rectorate of the University of Porto (Porto, Portugal)

- **Inaugural Ceremony 2013 UT Austin-Portugal Program**

#### Opening session

14.30 – **Rector of the University of Porto**  
*José C. Marques dos Santos*

14.45 – **Secretary of State for Science**  
*Leonor Parreira*

15.00 – **Vice President of the Foundation for Science and Technology (FCT)**  
*Pedro Carneiro*

15.15 – **President of the Council of Rectors of the Portuguese Universities (CRUP)**  
*António Rendas*

**UT Austin | Portugal Program** (Round table discussions; topics: past and future activities, collaboration with industry, and entrepreneurial endeavors)

15.30 – **Digital Media**  
*Nuno Correia, Heitor Alvelos, Carlos Guedes, Sharon Strover and Karen Gustafson*

16.00 – **Advanced Computing**  
*Don Fussel and Fernando Silva*

16.30 – **Mathematics**  
*Juha Videman*

17.00 – **Emerging Technologies**  
*Paula Vilarinho and Brian Korgel*

17.30 – **UTEN/BIZ.pt**  
*José Manuel Mendonça and Marco Bravo*

#### Closing session

18.00 – **National Director, Portugal**  
*Fernando Santana*

18.15 – **Director in Austin**  
*Marco Bravo*

18.30 – **Chairman of the Advisory Board of the IC<sup>2</sup> Institute**  
*Mark Calhoun*

Agenda





# UT Austin | Portugal

INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB

Digital Media Doctoral Symposium @futureplaces 2013			
October 28th @UPTEC, Creative Industries Center (Praça Coronel Pacheco, 2, Porto)			
9h30	Intro/ Welcome	Keynote talk	Sharon Strover
10h00	Students Session #1	Student #1	Dora Santos Silva <i>Cultural Journalism in a Digital Environment – New Models and Practices</i>
		Student #2	Pedro Bastos <i>A user-adapted multimodal rig interface system approach for easy facial animation</i>
		Student #3	Soraia Ferreira <i>Location Based Transmedia Storytelling – The TravelPlot Porto Case Study</i>
		Student #4	Luis Frias <i>Biofeedback interaction design for digital storytelling</i>
11h00-11h15	Coffee break		
11h15	Students Session #2	Student #5	George Sioros <i>Syncopation as Transformation</i>
		Student #6	Filipe Lopes <i>Tuning Sound and Space</i>
		Student #7	Eduardo Morais <i>Development of open educational resources (OER) enhancing blended learning methods for Arts in Higher Education</i>
		Student #8	Ana Jorge <i>Exploring Movies through Interactive Visualizations</i>
		Student #9	Jorge Pereira <i>Stories of Chairs: the design culture involved in digital media participation</i>
12h30 - 14h00	Lunch		
14h00	Students Session #3	Student #10	Rodrigo Carvalho <i>Sound, Visuals and Movement in real-time audiovisual interactive systems</i>
		Student #11	Inês Rodolfo <i>Improving the senior's healthcare experience through digital media and meaningful use</i>
		Student #12	André Rocha <i>GROUU - Grou your own...</i>
		Student #13	Claudia Raquel Lima <i>LIBRARY NETWORK: Integrated Communication in the Context of Participatory Culture</i>
		Student #14	Rita Sá <i>Do-It-Together - Art Practice in Open Community Spaces"</i>
		Student #15	Pedro Ângelo <i>dataflower - harnessing heterogeneous systems for creative applications</i>
15h30-15h45	Coffee break		
15h45	Emerging Technologies session	Brian A. Korgel & Paula Vilarinho	
16h30	Snacks & Drinks   Gathering UT Austin   Portugal community		



• Future Places and doctoral symposium 2013 Future

WEDNESDAY 16 OCT	THURSDAY 17 OCT	FRIDAY 18 OCT	SATURDAY 19 OCT
<p><b>OPENING SESSION AND KEYNOTE: THE CHILLING EFFECTS OF SURVEILLANCE</b> Keynote by Julian York Julian York will discuss how privacy is only a small piece of the puzzle, and that surveillance impacts speech, association, and innovation progress as well. @ UPTFC PNC auditorium</p> <p><b>DIGITAL MEDIA DOCTORAL SYMPOSIUM</b> Full schedule online. @ UPTFC PNC auditorium</p> <p><b>OPENING CONCERT: DOUBLE BILL</b> The Oportsmouth Sinfonia Juno Manziaris: Darkwaters/Self-Interference @ Passos Manuel</p> <p><b>RADIO SCIENCE</b> Translating scientific knowledge to a wider audience via radio interviews. Coordinated by Lino Miguel Teixeira. @ Inside location</p> <p><b>THE OPORTSMOUTH SINFONIA</b> Following up on the legacy of Gavin Bryars, Portsmouth Sinfonia in the 1970s, this workshop invites people who have never played guitar to become the future of guitar playing. Participants will start from scratch in the morning, and will perform a concert in the evening. Coordinated by José Maria Lopes. @ UPTFC PNC PRIMP building room 0</p> <p><b>GAMES TO THE PEOPLE</b> Initiation to 3D and game development using Blender. Coordinated by Pedro Cardoso and Mariana Owen. @ CL</p>	<p><b>FREEDOM OF EXPRESSION, FREEDOM OF KNOWLEDGE: THREATS AND OPPORTUNITIES</b> Round table with Julian York, Sara Moreira, Len Macey and Victor Azeiteiro. @ UPTFC PNC auditorium</p> <p><b>GROUP SESSION: JOIN CITIZEN LABS!</b> Workshop instructors give us a sample of what we can develop collectively in the next two days. @ UPTFC PNC auditorium</p> <p><b>MULTIMEDIA AT U.PORTO</b> Join us on a journey to uncover the essence of Multimedia. Discover work developed at the U.PORTO M.A. MULTIMEDIA course since 1995, and discuss future possibilities with former and current students and teachers. @ UPTFC PNC auditorium</p> <p><b>MULTIMEDIA PERFORMANCES: KNOCK 4 + IN BETWEEN THE BOX</b> @ Inside location</p> <p><b>CONCERT: THE EAR OF FEAR</b> Electroacoustic exercise hosted by Len Macey. @ Sereirosa</p> <p><b>ETHNO-MEDIA-SCAPES, SESSION 1</b> Social interaction tools for mediating perceptions and representations. Coordinated by Pedro Carvalho de Almeida and Olga Cluque. @ UPTFC PNC PRIMP building room 0</p> <p><b>FRUGAL FOOD CHALLENGE, SESSION 1</b> The utopian meal plan. Includes lunch. Various instructors. @ UPTFC PNC auditorium</p> <p><b>RESCUING ORAL MEMORY, SESSION 1</b> Audio-visual storytelling. Coordinated by Vanessa Rodrigues and Daniel Brandão. @ UPTFC PNC PRIMP building room 0</p> <p><b>PORTUGAL PORTEFOLIO</b> Illustrating Cultural Heritage using New Media. Coordinated by Júlio Dalbeto. @ UPTFC PNC auditorium</p>	<p><b>MULTIMEDIA DOCUMENTARY</b> Session on documentary film produced at U.PORTO M.A. MULTIMEDIA. Coordinated and presented by Soraia Ferreira. @ UPTFC PNC auditorium</p> <p><b>ROUND TABLE: CONVERGING FUTURES</b> A conversation between representatives of FUTUREPLACES and the Future Cities Project. How to weave together smart technology and creative citizenship? @ UPTFC PNC auditorium</p> <p><b>CONCERT AND DINNER: MICROVOLUMES 3.28</b> If Bwana + Philippe Petit + Mia Zabelka @ Sereirosa</p> <p><b>ANALOG SOFTWARE</b> Real-world craft using software structures and representations. Coordinated by Eduardo Marais. @ UPTFC PNC PRIMP building room 0</p> <p><b>ETHNO-MEDIA-SCAPES, SESSION 2</b> Social interaction tools for mediating perceptions and representations. Coordinated by Pedro Carvalho de Almeida and Olga Cluque. @ UPTFC PNC PRIMP building room 0</p> <p><b>FRUGAL FOOD CHALLENGE, SESSION 2</b> The utopian meal plan. Includes lunch. Various instructors. @ UPTFC PNC auditorium</p> <p><b>RESCUING ORAL MEMORY, SESSION 2</b> Audio-visual storytelling. Coordinated by Vanessa Rodrigues and Daniel Brandão. @ UPTFC PNC PRIMP building room 0</p> <p><b>WTF IS BIOLOGICAL RADIO?</b> Philosophical, sci-fi and electromagnetic lab. Coordinated by Adilina Correia da Silva. @ CL</p>	<p><b>ANTIFLUFFY: BEFORE BEFORE SURGERY</b> Debut album launch for Antifluffy. Includes the recording of Futureplaces 2013 closing concert. Free copies for all attending! Meet and greet with Antifluffy + autograph session. In association with The Tapeworm. @ Passos Manuel</p> <p><b>POSTLABS: ACTION!</b> Lab outcomes converge and pick forward. @ Passos Manuel</p> <p><b>THE INTERNET'S OWN BOY</b> Film screening of Aaron Swartz biography. Directed by Brian Knappeneberger. @ Passos Manuel</p> <p><b>CLOSING KEYNOTE: RISE OF THE SUPERINDIVIDUAL</b> By Jon Phillips Kim Dotcom, Julian Assange, Dennis Rodman, Al White, and Edward Snowden are extreme individuals who have already shaped this century. Are there more? What about the lost ones? @ Passos Manuel</p> <p><b>CLOSING REMARKS</b> @ Passos Manuel</p> <p><b>CLOSING CONCERT: THE FUTUREPLACES IMPROPTU ALL-STARS ORCHESTRA PRESENTS CROONING THROUGH CHAOS</b> @ Passos Manuel</p> <p><b>GOODBYE AND HELLO WITH DJ PHILIPPE PETIT</b> @ Passos Manuel</p> <p><b>RADIO SCIENCE</b> Translating scientific knowledge to a wider audience via radio interviews. Coordinated by Lino Miguel Teixeira. @ Inside location</p>

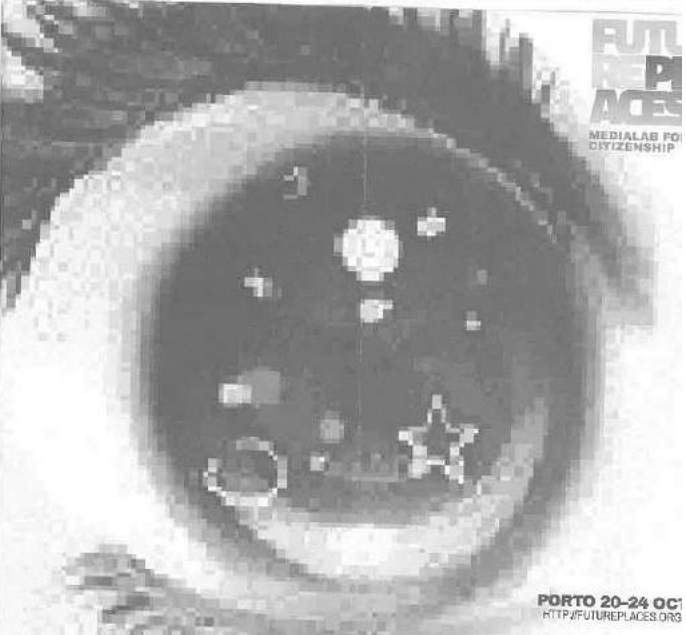
**FUTUREPLACES 2015  
MEDIALAB FOR CITIZENSHIP**

Curated by Helder Alves  
Executive manager: Patrício São Simão  
An initiative of the UTAccesim-Portugal program in digital media

**VENUES**

<b>UPTFC PNC</b> Praça Coronel Pacheco 2	<b>DAMA AFLITA</b> Rua de Póvoas 84
<b>PASSOS MANUEL</b> Rua Passos Manuel 137	<b>OPEN LAB</b> Rua dos Tufões 133
<b>GALERIA DOS LEÕES, REITORIA U.PORTO</b> Praça Gomes Teixeira	<b>UPTFC CENTRAL</b> Rua Alfredo Allen 253/61
<b>MATERIA PRIMA</b> Rua de Póvoas 54	

FULL DETAILS AT [FUTUREPLACES.ORG](http://FUTUREPLACES.ORG)





**Belo Center for New Media**  
300 W. Dean Keaton, Texas. 78712

## TIPi

**Technology and Information  
Policy Institute**  
Moody College of Communication

2504 Whitis Ave., CMA 5.102, Austin, TX 78712  
Phone: 512.471-5826  
<http://moody.utexas.edu/tipi/open-institute>  
<http://www.utatxportugal.org/>

This August, the UT Austin-Portugal Digital Media Program will hold an Open Institute. The goal of the Institute is to scope the range and meaning of "open" in contemporary participatory culture, and to examine some of the dynamics of a variety of projects developing open hardware, open software, open data usable for governmental purposes, and open access. The ways in which opening computer-based applications, platforms, and resources to a broad community can mobilize political and community participation will be a major theme of the week.



This intensive residential program will take place at the Moody College of Communication under the auspices of the Technology and Information Policy Institute. It brings together 20 doctoral students from the University of Porto, the New University of Lisbon, and the University of Texas at Austin UT, and local and international experts to explore different aspects of this emerging field.

# UT Austin | Portugal Open Institute

August 2nd (Sun) - 7th (Fri), 2015, Austin, TX



The University of Texas at Austin  
**Moody College of Communication**

## Program

**Sunday August 2: Welcome Reception**  
6:00 PM Introductions  
Texas Rivers Room Duren Residence Hall

7:00 PM Dinner at Ruby's BBQ

**Monday August 3: Open Data and Access**  
9:15 AM "Scoping Open" - Sharon Strover and Phil Doty (BMC 3.204)

10:45 AM Coffee break

11:00 AM "Open Software and Interactive Digital Media: Building Tools for the Arts and Creative Industries" - Nuno Correia (BMC 3.204)

12:30 PM Box Lunch

2:00 PM "Open Access at the HRC" - Liz Gushee; "The Archive is Always Open? Challenges to Traditional Preservation Practice at the Texas Archive of the Moving Image" - Caroline Frick (Harry Ransom Center)

**Tuesday August 4: Open Software**  
10:30 AM "Aspects of Successful (and Unsuccessful) Civic Hacking" - Chip Rosenthal (BMC 3.204)

12:00 PM Box Lunch

1:00 PM "Mapping Workshops: Introduction to OpenStreetMap; Basics of Online Maps with CartoDB" - James Seppi & Andy Wilson (BMC 3.204)



**Wednesday August 5: Open Government**  
8:30 AM Depart from the campus

9:00 AM City of Austin Council Chambers - Matthew Esquibel & Ted Lehr

11:15 AM WeWork Austin - Carly Langley

12:15 PM Return to UT Austin

12:30 PM Box Lunch

1:30 PM "Open Government Data: Is there life after transparency?" - Gustavo Magalhães (BMC 3.204)

**Thursday August 6: Open Hardware**

9:15 AM "Hardware in the Age of Openness" - Catarina Mota (BMC 3.204)

10:45 AM Coffee break

11:00 AM "Empowering People to Design: Open Networks of Things" - Pedro Ângelo (BMC 3.204)

12:30 PM Box Lunch

2:00 PM ATX Hackerspace

**Friday August 7: Miscellaneous**

11:00 AM "Open Storytelling" - Valentia Nisi (BMC 3.204)

12:30 PM Box Lunch

1:30 PM "Hip-Hop Culture and Open Spaces for Innovation: A Night at the Austin Mic Exchange" - Andrés Lombana Bermudez (BMC 3.204)

2:45 PM Coffee break

3:00 PM Participant presentations (BMC 3.204)

6:15 PM Depart from Duten Hall for Clay Pit

6:30 PM Farewell dinner at Clay Pit (no return)

- Future Places and doctoral symposium 2014

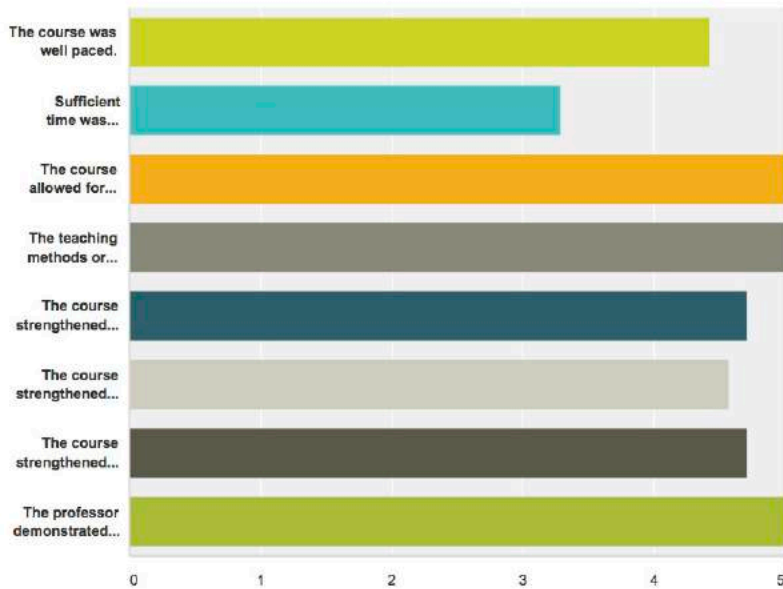


- Future Places and doctoral symposium 2015

Summer Institute 2013: Research Methods

**Q1 Please respond to the following set of statements:**

Answered: 7 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	42.86% 3	57.14% 4	0.00% 0	0.00% 0	0.00% 0	0.00% 0	7	4.43
Sufficient time was allotted for the participants' work.	28.57% 2	0.00% 0	42.86% 3	28.57% 2	0.00% 0	0.00% 0	7	3.29
The course allowed for student teacher dialogue.	100.00% 7	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	7	5.00
The teaching methods or approach used were appropriate for this type of course.	100.00% 7	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	7	5.00
The course strengthened my conceptual skills.	85.71% 6	0.00% 0	14.29% 1	0.00% 0	0.00% 0	0.00% 0	7	4.71
The course strengthened my technical skills.	71.43% 5	14.29% 1	14.29% 1	0.00% 0	0.00% 0	0.00% 0	7	4.57
The course strengthened my critical skills.	71.43% 5	28.57% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	7	4.71
The professor demonstrated great teaching effectiveness.	100.00% 7	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	7	5.00

Summer Institute 2013: Research Methods

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

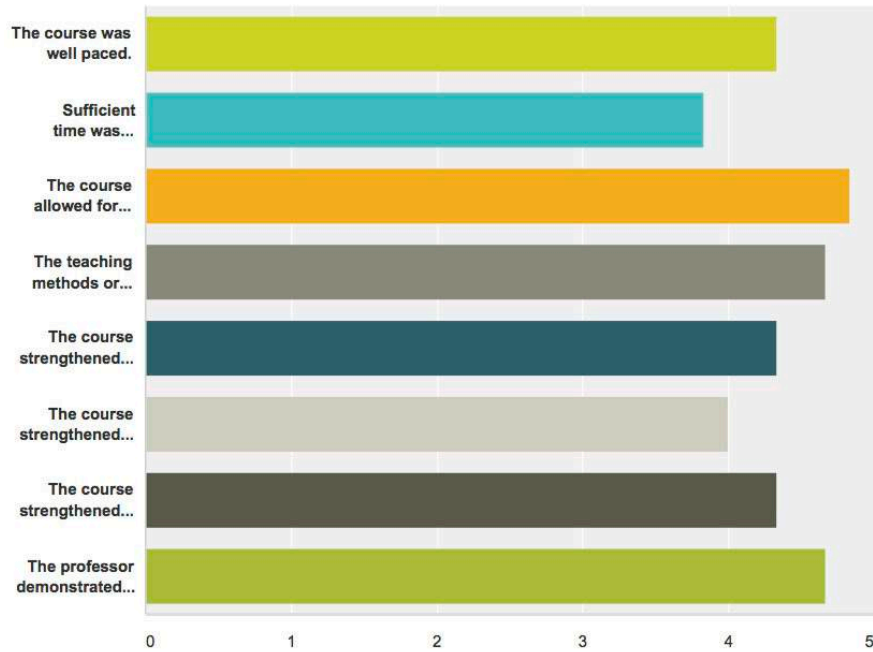
Answered: 5 Skipped: 2

#	Responses	Date
1	It was well structured and that makes all the difference. Besides that it generated debate and made us question our paths which was very important for the phase of the PhD we are in	6/27/2013 9:18 PM
2	I appreciated the exhaustive and diverse approach, while maintaining a clear focus on social sciences and research objectives.	6/27/2013 4:25 PM
3	the review of our previous work and its analysis was fundamental for our development	6/10/2013 12:40 PM
4	All the interaction in the classes and in moodle platform were very helpful and the instructor gave us all the chance to participate and tried to make our research project more strong and effective. Everything was great: the texts, examples, slideshows, the explanations and feedback.	6/10/2013 12:12 PM
5	The course made me reflect and think about what are my motivations and field of research. As I don't have an academic background, it was extremely useful to learn research techniques and methods that I can apply in future work	6/10/2013 11:58 AM



**Q1 Please respond to the following set of statements:**

Answered: 6 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	50.00% 3	33.33% 2	16.67% 1	0.00% 0	0.00% 0	0.00% 0	6	4.33
Sufficient time was allotted for the participants' work.	16.67% 1	66.67% 4	0.00% 0	16.67% 1	0.00% 0	0.00% 0	6	3.83
The course allowed for student teacher dialogue.	83.33% 5	16.67% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.83
The teaching methods or approach used were appropriate for this type of course.	66.67% 4	33.33% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.67
The course strengthened my conceptual skills.	50.00% 3	33.33% 2	16.67% 1	0.00% 0	0.00% 0	0.00% 0	6	4.33
The course strengthened my technical skills.	16.67% 1	66.67% 4	16.67% 1	0.00% 0	0.00% 0	0.00% 0	6	4.00
The course strengthened my critical skills.	50.00% 3	33.33% 2	16.67% 1	0.00% 0	0.00% 0	0.00% 0	6	4.33
The professor demonstrated great teaching effectiveness.	66.67% 4	33.33% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.67

Summer Institute 2013: HCI and Interactive Media

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

Answered: 4 Skipped: 2

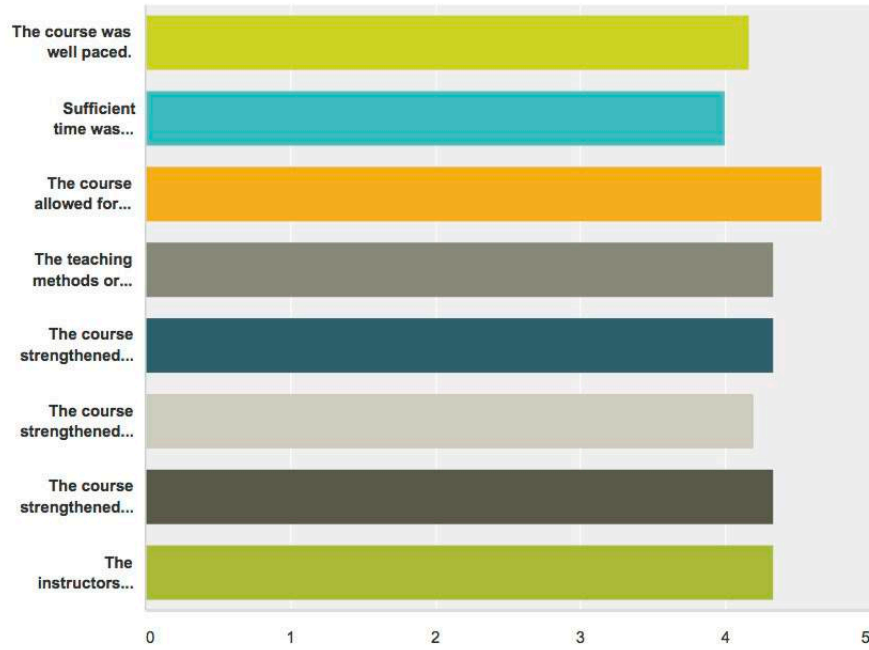
#	Responses	Date
1	The readings were well selected and very helpfull. The moodle platform assingments on the readings were a very good method to learn.	7/11/2013 4:35 PM
2	The theoretical references and resources provided, helped me to understand the context, and what I was doing. It was very useful to understand and to find the right solutions for design interaction prototyping of the application.	7/4/2013 10:59 AM
3	I think I've enjoyed it all and it gave more strenght in transmedia	7/4/2013 4:46 AM
4	Dialog and Resources inspired improvement of knowledge about course subject.	7/3/2013 5:08 PM



Interaction Design Workshop 2013

**Q1 Please respond to the following set of statements:**

Answered: 6 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	50.00% 3	16.67% 1	33.33% 2	0.00% 0	0.00% 0	0.00% 0	6	4.17
Sufficient time was allotted for the participants' work.	50.00% 3	16.67% 1	16.67% 1	16.67% 1	0.00% 0	0.00% 0	6	4.00
The course allowed for student teacher dialogue.	83.33% 5	0.00% 0	16.67% 1	0.00% 0	0.00% 0	0.00% 0	6	4.67
The teaching methods or approach used were appropriate for this type of course.	50.00% 3	33.33% 2	16.67% 1	0.00% 0	0.00% 0	0.00% 0	6	4.33
The course strengthened my conceptual skills.	50.00% 3	33.33% 2	16.67% 1	0.00% 0	0.00% 0	0.00% 0	6	4.33
The course strengthened my technical skills.	50.00% 3	0.00% 0	33.33% 2	0.00% 0	0.00% 0	16.67% 1	6	4.20
The course strengthened my critical skills.	50.00% 3	33.33% 2	16.67% 1	0.00% 0	0.00% 0	0.00% 0	6	4.33
The instructors demonstrated great teaching effectiveness.	50.00% 3	33.33% 2	16.67% 1	0.00% 0	0.00% 0	0.00% 0	6	4.33

Interaction Design Workshop 2013

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

Answered: 3 Skipped: 3

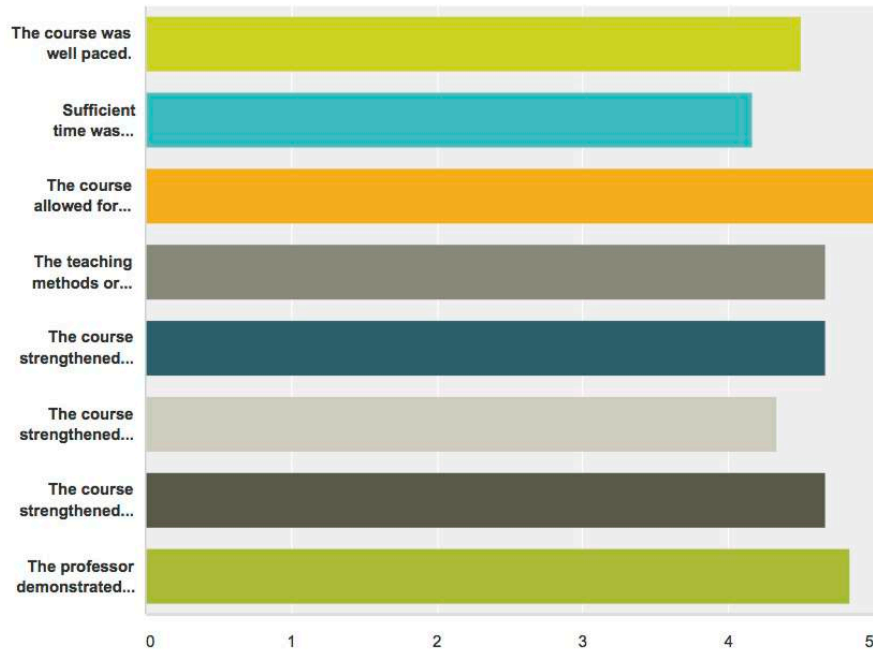
#	Responses	Date
1	The course took place in Porto which was very convenient for me. It was well organized and the instructors were well prepared. The materials provided were very helpful and interesting.	7/25/2013 10:28 AM
2	Covered the contents according to all type of participants, being an engineer, go to learn about UI design from scratch.	7/16/2013 3:56 PM
3	Interactive Design and usability concepts	7/16/2013 12:06 PM



Summer Institute 2013: Entrepreneurial Journalism

**Q1 Please respond to the following set of statements:**

Answered: 6 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	50.00% 3	50.00% 3	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.50
Sufficient time was allotted for the participants' work.	50.00% 3	16.67% 1	33.33% 2	0.00% 0	0.00% 0	0.00% 0	6	4.17
The course allowed for student teacher dialogue.	100.00% 6	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	5.00
The teaching methods or approach used were appropriate for this type of course.	66.67% 4	33.33% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.67
The course strengthened my conceptual skills.	66.67% 4	33.33% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.67
The course strengthened my technical skills.	50.00% 3	33.33% 2	16.67% 1	0.00% 0	0.00% 0	0.00% 0	6	4.33
The course strengthened my critical skills.	66.67% 4	33.33% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.67
The professor demonstrated great teaching effectiveness.	83.33% 5	16.67% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.83

Summer Institute 2013: Entrepreneurial Journalism

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

Answered: 6 Skipped: 0

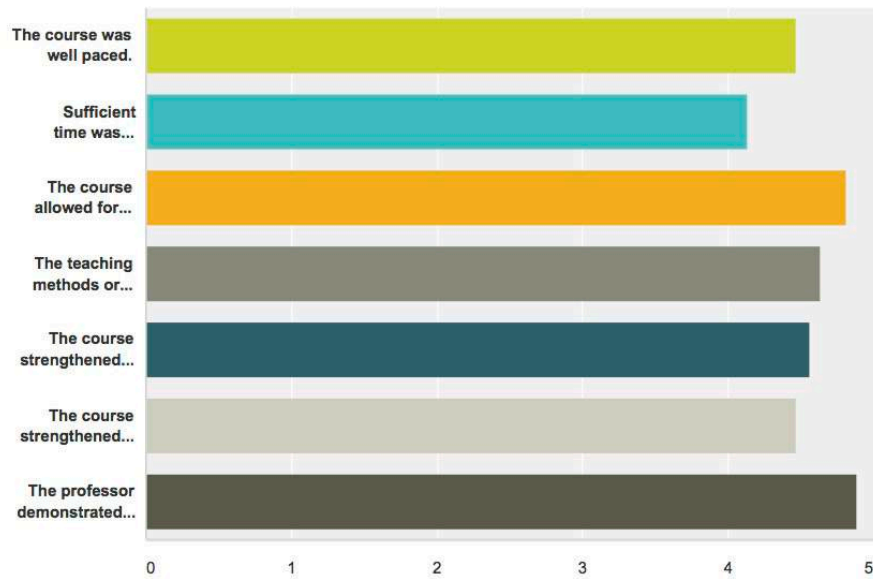
#	Responses	Date
1	Interesting topics.	7/3/2013 6:11 PM
2	I specially valued the strong focus on entrepreneurial practices and case studies.	6/27/2013 3:55 PM
3	sharing ideas with others and mutual help to build stronger projects	6/10/2013 7:49 PM
4	the introduction of other types of methods	6/10/2013 12:51 PM
5	The way the professor taught the course allowed us to understand the concepts and improve ourselves	6/10/2013 12:28 PM
6	It was a great course!	6/10/2013 12:18 PM



Summer Institute 2014: Research Methods

**Q1 Please respond to the following set of statements:**

Answered: 18 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	55.56% 10	27.78% 5	11.11% 2	0.00% 0	0.00% 0	5.56% 1	18	4.47
Sufficient time was allotted for the participants' work.	35.29% 6	41.18% 7	11.76% 2	5.88% 1	0.00% 0	5.88% 1	17	4.13
The course allowed for student teacher dialogue.	76.47% 13	17.65% 3	0.00% 0	0.00% 0	0.00% 0	5.88% 1	17	4.81
The teaching methods or approach used were appropriate for this type of course.	64.71% 11	23.53% 4	5.88% 1	0.00% 0	0.00% 0	5.88% 1	17	4.63
The course strengthened my conceptual skills.	58.82% 10	29.41% 5	5.88% 1	0.00% 0	0.00% 0	5.88% 1	17	4.56
The course strengthened my critical skills.	56.25% 9	25.00% 4	12.50% 2	0.00% 0	0.00% 0	6.25% 1	16	4.47
The professor demonstrated great teaching effectiveness.	82.35% 14	11.76% 2	0.00% 0	0.00% 0	0.00% 0	5.88% 1	17	4.88

Summer Institute 2014: Research Methods

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

Answered: 10 Skipped: 8

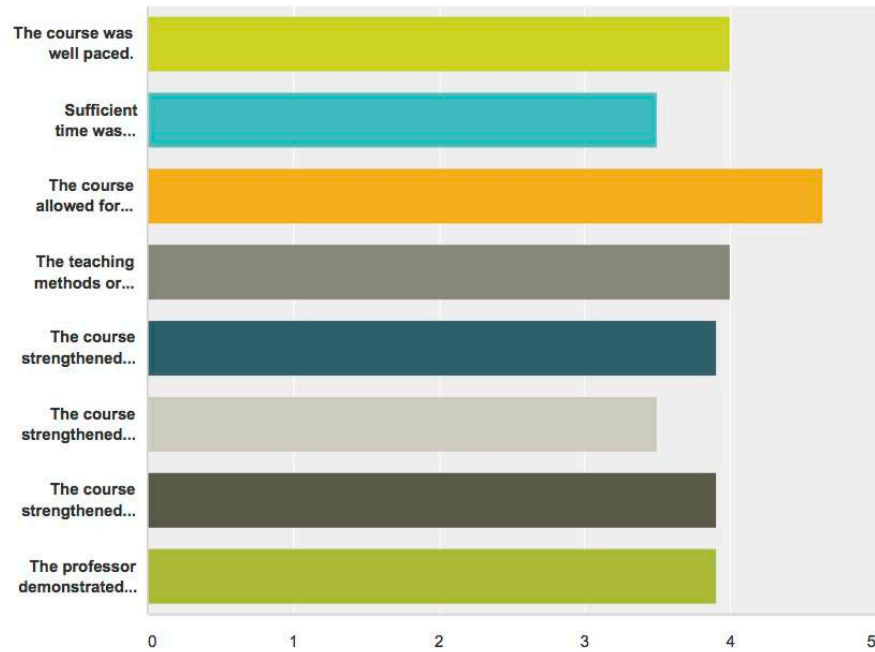
#	Responses	Date
1	The most important aspect, in my opinion, was to make us think about some personal assumptions already "fixed" upon the state of each ones us research, rising some interesting and important issues.	9/4/2014 3:18 PM
2	This meeting should happen each year and for all PHD class years as a balance of our work. It's important to have feedback from other professors than our "biased" supervisors. It could be made with more PHD professors besides Sharon Strover, to cover other knowledge areas (eg.: music; gaming...).	7/9/2014 10:57 AM
3	Being able to share my work and mostly, hear my colleagues talking about their research and doubts, helped me very much.	7/3/2014 10:25 AM
4	The topics addressed were very helpful for all participants. A pity we don't have this kind of workshop and dialogue every year to address different steps and difficulties along our research.	6/30/2014 11:15 AM
5	The dialogue and opportunity to ask about our particular concerns relatively to our work was very helpful. The method applied also helped to find some answers through other's questions. Finally, the broad knowledge of Professor Sharon also was a great contribute for the dialogue. So, aside the method also the instructor strengthened both sessions and the will of everyone to participate.	6/29/2014 3:06 PM
6	Professor have excellent communication skills, always tried to create an interactive class, answer all students questions. All topics taught are very pertinent.	6/28/2014 5:37 AM
7	I was able to find some blurry lines along my research and to better understand the steps necessary to design a proper methodology	6/25/2014 6:16 PM
8	The course reviewed basic research methods and went to cover important specific skills such as details of experiment settings, processing research figures and data presentation.	6/25/2014 3:43 PM
9	The possibility of share and listen thoughts about my work with people that never have heard about my research plans.	6/25/2014 1:18 PM
10	It covered very well the research methodology different approaches adequating those to each individual research case. Using practical examples and possible problematics and suggestions/solutions	6/25/2014 12:02 PM



Summer Institute 2014: Game Design and Development

**Q1 Please respond to the following set of statements:**

Answered: 10 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	30.00% 3	30.00% 3	30.00% 3	0.00% 0	0.00% 0	10.00% 1	10	4.00
Sufficient time was allotted for the participants' work.	20.00% 2	40.00% 4	10.00% 1	30.00% 3	0.00% 0	0.00% 0	10	3.50
The course allowed for student teacher dialogue.	55.56% 5	33.33% 3	0.00% 0	0.00% 0	0.00% 0	11.11% 1	9	4.63
The teaching methods or approach used were appropriate for this type of course.	40.00% 4	30.00% 3	20.00% 2	10.00% 1	0.00% 0	0.00% 0	10	4.00
The course strengthened my conceptual skills.	30.00% 3	50.00% 5	10.00% 1	0.00% 0	10.00% 1	0.00% 0	10	3.90
The course strengthened my technical skills.	20.00% 2	40.00% 4	20.00% 2	10.00% 1	10.00% 1	0.00% 0	10	3.50
The course strengthened my critical skills.	40.00% 4	30.00% 3	20.00% 2	0.00% 0	10.00% 1	0.00% 0	10	3.90
The professor demonstrated great teaching effectiveness.	40.00% 4	30.00% 3	20.00% 2	0.00% 0	10.00% 1	0.00% 0	10	3.90

Summer Institute 2014: Game Design and Development

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

Answered: 4 Skipped: 6

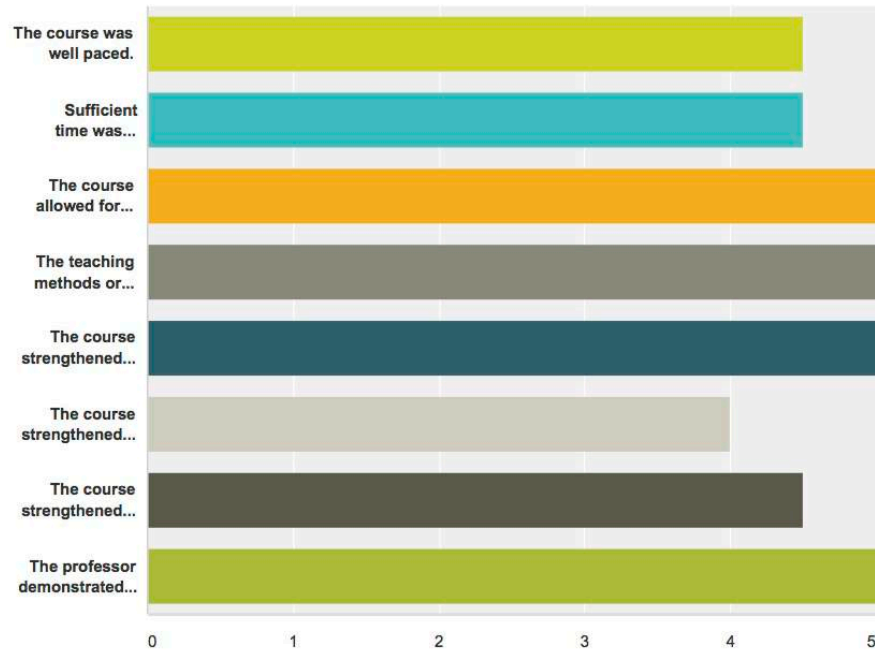
#	Responses	Date
1	I felt very lucky to have the chance to benefit from such great teaching.	8/3/2014 4:22 AM
2	The teacher was awesome.	7/21/2014 8:51 PM
3	The practical workshop was good, the teacher was always available and knew his subject. Theory was, however, lacking. It was mostly watching videos and waiting for time to pass.	7/21/2014 4:00 PM
4	Many different examples were presented, giving a broad look into games and their concepts.	7/21/2014 3:50 PM



Summer Institute 2014: Teaching and Learning with the Internet

**Q1 Please respond to the following set of statements:**

Answered: 2 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	50.00% 1	50.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	2	4.50
Sufficient time was allotted for the participants' work.	50.00% 1	50.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	2	4.50
The course allowed for student teacher dialogue.	100.00% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	2	5.00
The teaching methods or approach used were appropriate for this type of course.	100.00% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	2	5.00
The course strengthened my conceptual skills.	100.00% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	2	5.00
The course strengthened my technical skills.	50.00% 1	0.00% 0	50.00% 1	0.00% 0	0.00% 0	0.00% 0	2	4.00
The course strengthened my critical skills.	50.00% 1	50.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	2	4.50
The professor demonstrated great teaching effectiveness.	100.00% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	2	5.00

Summer Institute 2014: Teaching and Learning with the Internet

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

Answered: 2 Skipped: 0

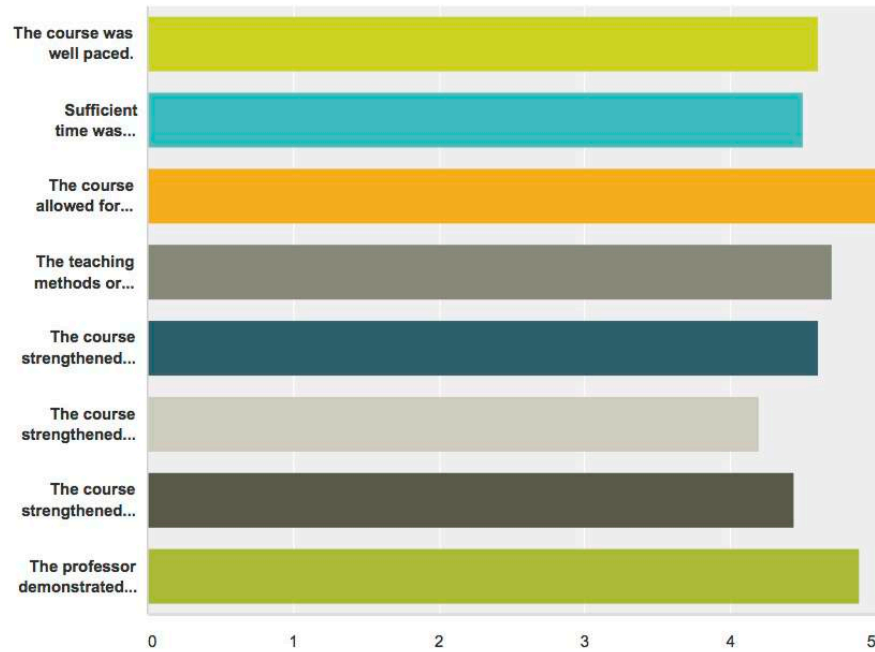
#	Responses	Date
1	Great review and discussion of selected references	6/11/2014 5:24 AM
2	The course was simultaneously demanding and consistent with my research interests. I highly valued the chance to discuss in depth with the professor.	6/10/2014 6:54 PM



Summer Institute 2014: Usability and User-Centered Design

**Q1 Please respond to the following set of statements:**

Answered: 10 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	60.00% 6	40.00% 4	0.00% 0	0.00% 0	0.00% 0	0.00% 0	10	4.60
Sufficient time was allotted for the participants' work.	60.00% 6	30.00% 3	10.00% 1	0.00% 0	0.00% 0	0.00% 0	10	4.50
The course allowed for student teacher dialogue.	100.00% 10	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	10	5.00
The teaching methods or approach used were appropriate for this type of course.	80.00% 8	10.00% 1	10.00% 1	0.00% 0	0.00% 0	0.00% 0	10	4.70
The course strengthened my conceptual skills.	70.00% 7	20.00% 2	10.00% 1	0.00% 0	0.00% 0	0.00% 0	10	4.60
The course strengthened my technical skills.	50.00% 5	20.00% 2	30.00% 3	0.00% 0	0.00% 0	0.00% 0	10	4.20
The course strengthened my critical skills.	44.44% 4	55.56% 5	0.00% 0	0.00% 0	0.00% 0	0.00% 0	9	4.44
The professor demonstrated great teaching effectiveness.	88.89% 8	11.11% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	9	4.89

Summer Institute 2014: Usability and User-Centered Design

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

Answered: 6 Skipped: 4

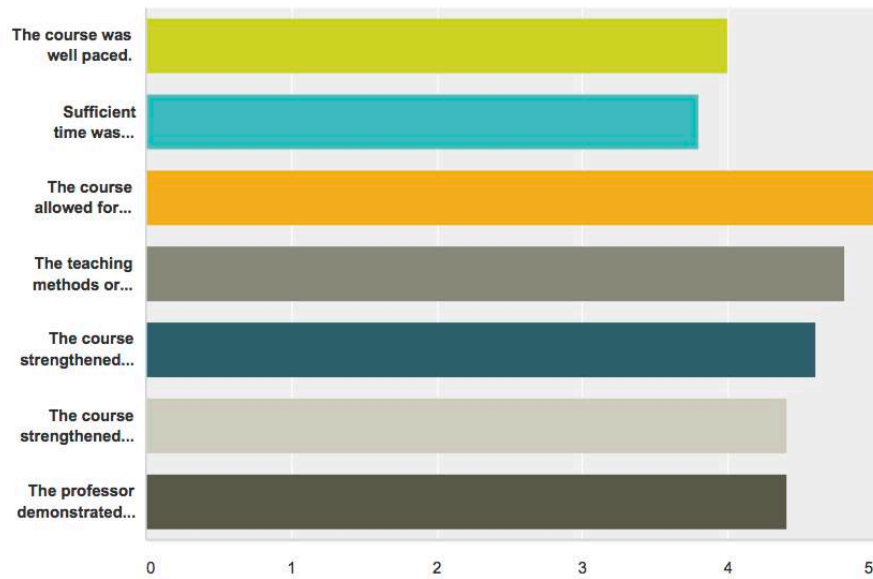
#	Responses	Date
1	The way the teacher related the subject mater with practical professional examples, the talks of expecilaised professionals from the industry	6/6/2014 12:16 PM
2	The topics were explained in a very adequate way. Specially statistics were very well presented and explained. Examples and exercises helped to understand the topics.	6/4/2014 11:00 AM
3	Professor Randolph has a lot professional experience and gavel us strong examples integrated into all doubts.	6/4/2014 5:26 AM
4	The teaching methodology was well balanced between expositive lectures and practical moments, discussions, acting outs...Oh and Skype with some well renown figures of UX was top!	6/3/2014 6:45 PM
5	Being able to discuss my projects with professor Randolph and my colleagues. Exercises in class. Recommended readings	6/3/2014 4:11 AM
6	Great teacher with good knowledge and interaction with students	6/2/2014 5:34 PM



Summer Institute 2015: Digital Media in Theory and in Culture

**Q1 Please respond to the following set of statements:**

Answered: 5 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	0.00% 0	100.00% 5	0.00% 0	0.00% 0	0.00% 0	0.00% 0	5	4.00
Sufficient time was allotted for the participants' work.	0.00% 0	80.00% 4	20.00% 1	0.00% 0	0.00% 0	0.00% 0	5	3.80
The course allowed for student teacher dialogue.	100.00% 5	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	5	5.00
The teaching methods or approach used were appropriate for this type of course.	80.00% 4	20.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	5	4.80
The course strengthened my conceptual skills.	60.00% 3	40.00% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	5	4.60
The course strengthened my critical skills.	40.00% 2	60.00% 3	0.00% 0	0.00% 0	0.00% 0	0.00% 0	5	4.40
The professor demonstrated great teaching effectiveness.	40.00% 2	60.00% 3	0.00% 0	0.00% 0	0.00% 0	0.00% 0	5	4.40

Summer Institute 2015: Digital Media in Theory and in Culture

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

Answered: 2 Skipped: 3

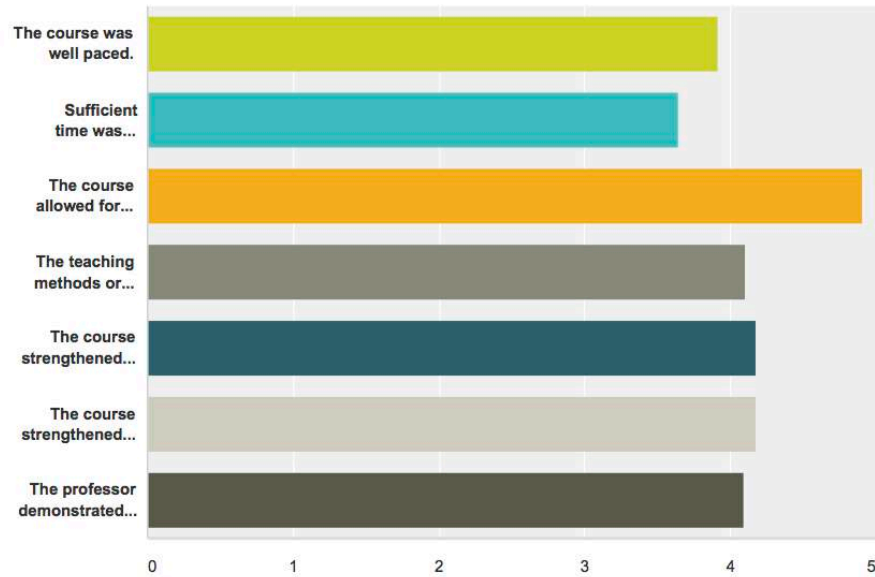
#	Responses	Date
1	Good choice of texts that completely helped to create a critical and reflexive corpus for these topics. With a good discussion of it.	6/9/2015 4:41 AM
2	The course provided the ideal environment to learn about digital media: strong bibliography and intensive study on the references; small class and critical and engaging dialogue on the topics with the classmates and the teacher. An enriching course far beyond initial expectations.	6/8/2015 2:40 PM



Summer Institute 2015: Game Design and Development

**Q1 Please respond to the following set of statements:**

Answered: 11 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	18.18% 2	54.55% 6	27.27% 3	0.00% 0	0.00% 0	0.00% 0	11	3.91
Sufficient time was allotted for the participants' work.	18.18% 2	36.36% 4	36.36% 4	9.09% 1	0.00% 0	0.00% 0	11	3.64
The course allowed for student teacher dialogue.	90.91% 10	9.09% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	11	4.91
The teaching methods or approach used were appropriate for this type of course.	20.00% 2	70.00% 7	10.00% 1	0.00% 0	0.00% 0	0.00% 0	10	4.10
The course strengthened my conceptual skills.	54.55% 6	9.09% 1	36.36% 4	0.00% 0	0.00% 0	0.00% 0	11	4.18
The course strengthened my critical skills.	45.45% 5	27.27% 3	27.27% 3	0.00% 0	0.00% 0	0.00% 0	11	4.18
The professor demonstrated great teaching effectiveness.	36.36% 4	36.36% 4	27.27% 3	0.00% 0	0.00% 0	0.00% 0	11	4.09

Summer Institute 2015: Game Design and Development

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

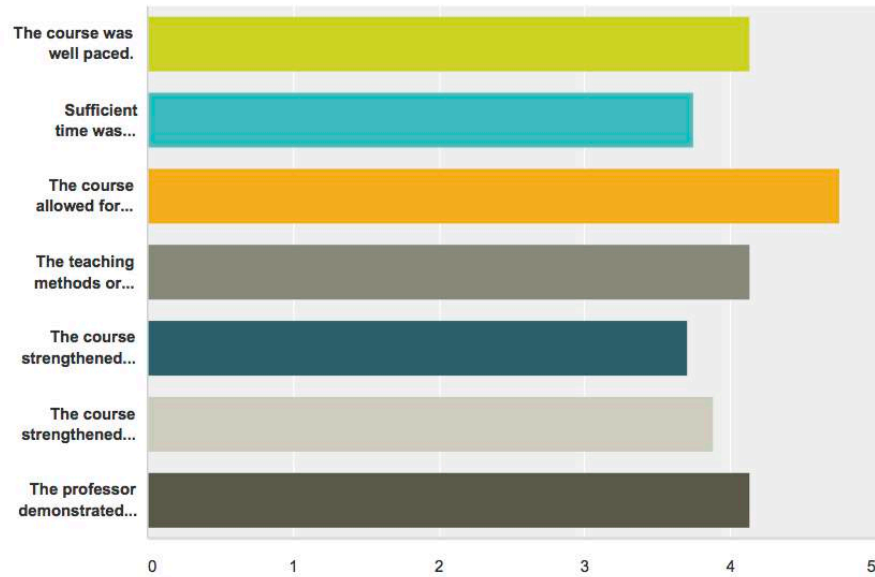
Answered: 6 Skipped: 5

#	Responses	Date
1	I appreciated the hands-on approach to game development. As every project is being made, there's always a teacher or assistant nearby to help solve issues.	7/20/2015 5:46 AM
2	I think we had the opportunity to research about a creating games program and we learn the basics from it.	7/18/2015 2:23 AM
3	I learned a lot with the videos on the web and also help of the teacher.	7/3/2015 3:43 PM
4	The Professor was very welcoming and gave me a lot of constructive feedback for my project and future work.	7/3/2015 3:15 PM
5	Interdisciplinary approach	7/3/2015 1:20 PM
6	Awsome professor.	7/3/2015 12:09 PM



**Q1 Please respond to the following set of statements:**

Answered: 8 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	37.50% 3	37.50% 3	25.00% 2	0.00% 0	0.00% 0	0.00% 0	8	4.13
Sufficient time was allotted for the participants' work.	25.00% 2	37.50% 3	25.00% 2	12.50% 1	0.00% 0	0.00% 0	8	3.75
The course allowed for student teacher dialogue.	75.00% 6	25.00% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	8	4.75
The teaching methods or approach used were appropriate for this type of course.	50.00% 4	25.00% 2	12.50% 1	12.50% 1	0.00% 0	0.00% 0	8	4.13
The course strengthened my conceptual skills.	28.57% 2	42.86% 3	14.29% 1	0.00% 0	14.29% 1	0.00% 0	7	3.71
The course strengthened my critical skills.	37.50% 3	37.50% 3	12.50% 1	0.00% 0	12.50% 1	0.00% 0	8	3.88
The professor demonstrated great teaching effectiveness.	50.00% 4	25.00% 2	12.50% 1	12.50% 1	0.00% 0	0.00% 0	8	4.13

Summer Institute 2015: Media and Information Literacy in a Digital World

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

Answered: 3 Skipped: 5

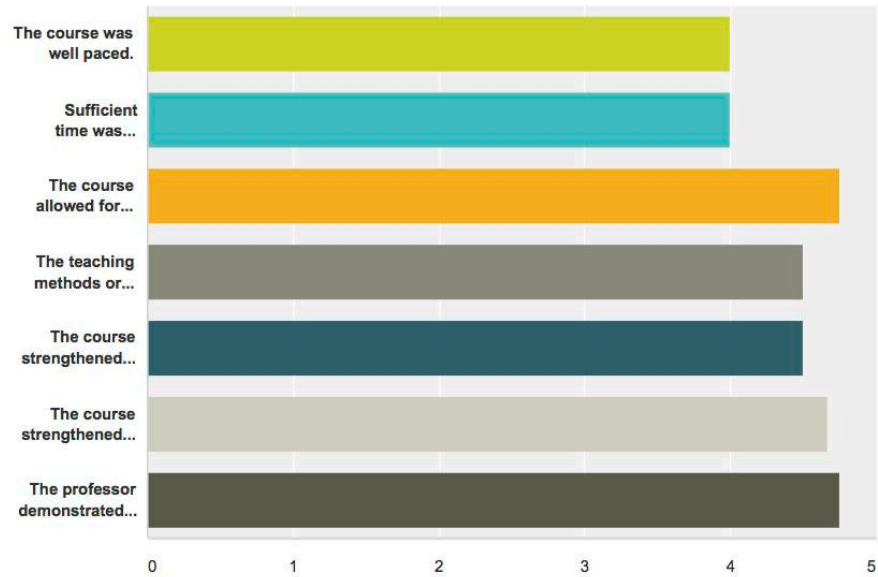
#	Responses	Date
1	Subjects very basic and superficial. Some exercises were never corrected neither had any consequences on learning process.	7/3/2015 12:40 PM
2	an informal discussion environment between lecturer and peers very relevant set of authors and thematics availability of Dr. Tyner for our discussions and research scopes	6/25/2015 8:06 AM
3	Course material and activities.	6/22/2015 11:28 AM



Summer Institute 2015: Tag You're It

**Q1 Please respond to the following set of statements:**

Answered: 4 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	0.00% 0	100.00% 4	0.00% 0	0.00% 0	0.00% 0	0.00% 0	4	4.00
Sufficient time was allotted for the participants' work.	50.00% 2	25.00% 1	0.00% 0	25.00% 1	0.00% 0	0.00% 0	4	4.00
The course allowed for student teacher dialogue.	75.00% 3	25.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	4	4.75
The teaching methods or approach used were appropriate for this type of course.	50.00% 2	50.00% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	4	4.50
The course strengthened my conceptual skills.	50.00% 2	50.00% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	4	4.50
The course strengthened my critical skills.	66.67% 2	33.33% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	3	4.67
The professor demonstrated great teaching effectiveness.	75.00% 3	25.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	4	4.75

Summer Institute 2015: Tag You're It

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

Answered: 2 Skipped: 2

#	Responses	Date
1	It was a really interesting subject, tagging. An entity without a tag is lost in cyberspace.	7/21/2015 2:41 AM
2	The flexibility of the course syllabus and the way classes were conducted by the professor, giving space for exchange of ideas and pro-active enrolling in students perspectives and projects, allowed a synergic interaction with student's and integrated their specific research into the class core subjects.	7/20/2015 2:49 PM



## Appendix 4

### Web addresses for various associated institutions, programs and projects

BioHybrid Robotics:

<http://www.biotechbodies.com/>

Technology and Information Policy Institute (with pages on the Digital Media Program)

<http://moody.utexas.edu/tipi>

PLUNC: FESTIVAL DE ARTES DIGITAIS E NOVOS MEDIA,  
LISBOA - ALMADA PORTUGAL

<http://www.plunc.pt/> associated video at <https://vimeo.com/142138553>.

2015 EHealth Symposium

<http://medical.novasearch.org/uta-ehealth-symposium-15/>

CoLab Digital Media student produces award-winning science education app

<http://naturalhistory.si.edu/exhibits/bone-hall/>

Futureplaces Medialab for citizenship

<http://futureplaces.org/>

The Gary Chapman International School on Digital Transformation

<http://digitaltransformationschool.org/2011/>

Madeira Interactive Technologies Institute

<http://www.m-iti.org>

UTAustin|Portugal Digital media group on facebook

<https://www.facebook.com/pages/UTAustin-Portugal-program-in-Digital-Media/114045318608455>

IC<sup>2</sup> Institute

<https://ic2.utexas.edu>

The Luso-American Foundation in collaboration with the National Science Foundation announces the Call for Proposals "2015 PORTUGAL – U.S. Research Networks Program".

<http://www.flad.pt/en/call-for-proposals-2015-portugal-u-s-research-networks-program/>

Interaction Design Workshop 2013

**Q4 Please use the space below to comment on the aspects of the course that you enjoyed and that have helped you learn.**

Answered: 3 Skipped: 3

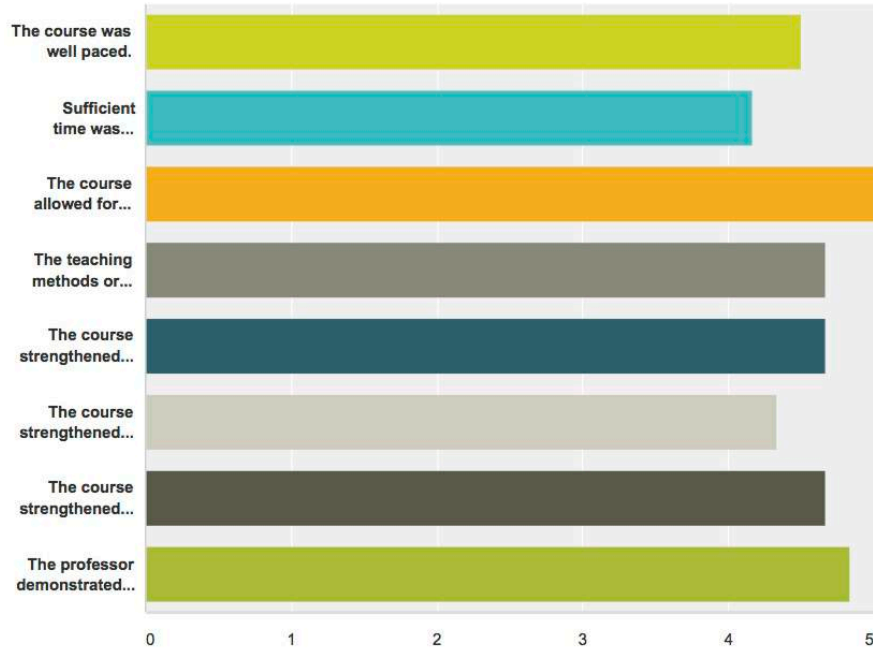
#	Responses	Date
1	The course took place in Porto which was very convenient for me. It was well organized and the instructors were well prepared. The materials provided were very helpful and interesting.	7/25/2013 10:28 AM
2	Covered the contents according to all type of participants, being an engineer, go to learn about UI design from scratch.	7/16/2013 3:56 PM
3	Interactive Design and usability concepts	7/16/2013 12:06 PM



Summer Institute 2013: Entrepreneurial Journalism

**Q1 Please respond to the following set of statements:**

Answered: 6 Skipped: 0



	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A	Total	Weighted Average
The course was well paced.	50.00% 3	50.00% 3	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.50
Sufficient time was allotted for the participants' work.	50.00% 3	16.67% 1	33.33% 2	0.00% 0	0.00% 0	0.00% 0	6	4.17
The course allowed for student teacher dialogue.	100.00% 6	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	5.00
The teaching methods or approach used were appropriate for this type of course.	66.67% 4	33.33% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.67
The course strengthened my conceptual skills.	66.67% 4	33.33% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.67
The course strengthened my technical skills.	50.00% 3	33.33% 2	16.67% 1	0.00% 0	0.00% 0	0.00% 0	6	4.33
The course strengthened my critical skills.	66.67% 4	33.33% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.67
The professor demonstrated great teaching effectiveness.	83.33% 5	16.67% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6	4.83

# Applied Mathematics



**UT Austin** | Portugal

International Collaborative for Emerging Technologies, CoLab

**Luis Caffarelli**

**Irene M. Gamba**

**Department of Mathematics and ICES**

**University of Texas at Austin**

## Inaugural Ceremony 2013



## Five main areas in the CoLab Mathematics Program at UT-Austin

- Senior Faculty and Postdoc Visits to the [Department of Mathematics](#) and [The Institute of Computational Engineering and Sciences \(ICES\)](#) at The University of Texas at Austin.
- Graduate (PhD) Students.
- Workshops at UT-Austin.
- Summer Schools and Workshops in Portugal.
- Undergraduate students in NSF Programs at UT-Austin



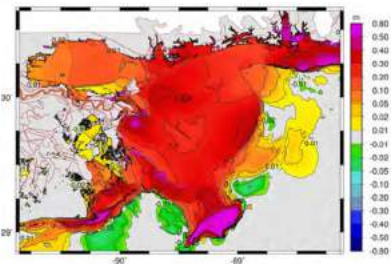
# SENIOR FACULTY & POSTDOCTORAL RESEARCH

- **Several collaborative research groups have been formed and established.**
- **Visits lasting from a week, up to a semester at the University of Texas at Austin**

## Current Groups and Research Activities

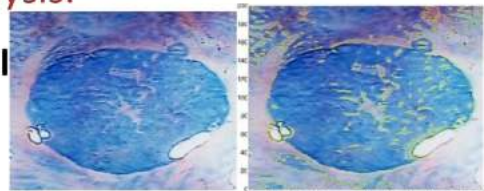
**Clint Dawson, ICES@UT Austin, Computational Hydraulics Group**  
**Juha Videman, IST, Lisbon**

Clint Dawson, Juha H. Videman: **A streamline diffusion finite element method for the viscous shallow water equations.** J. Computational Applied Mathematics 251: 1-7 (2013)



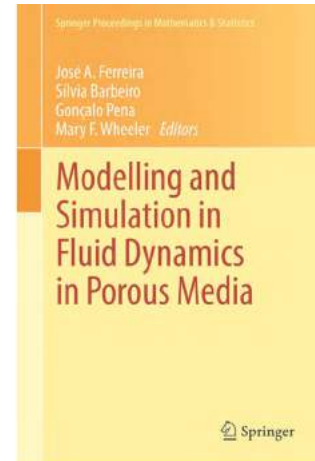
**Isabel Narra de Figueiredo, FCT/UC**  
**Chandrajit Bajaj, Bjorn Engquist, Omar Ghattas, Richard Tsai,**  
ICES-UT Austin, Center for Numerical Analysis.

**Aberrant Crypt Foci and Human Colorectal Polyps: mathematical modeling and endoscopic image processing**

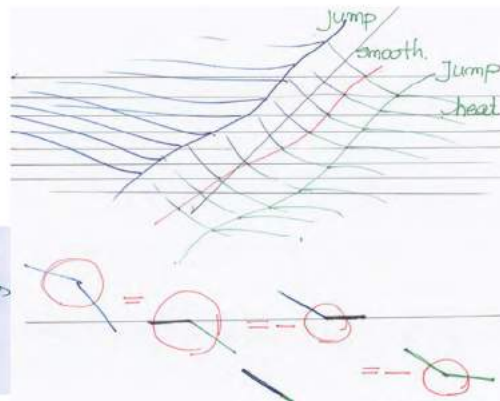
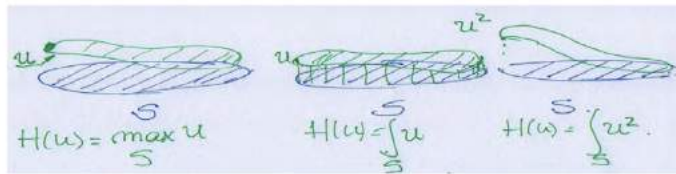


**Mary Wheeler**, ICES-UT Austin, Center for Subsurface Modeling,  
**Silvia Barbeiro, Jose A. Ferreira**, FCT/UC

**Modeling and Simulation in Fluid Dynamics in Porous Media**, Springer Proceedings in Mathematics & Statistics, Vol. 28. Ferreira, J.A.; Barbeiro, S.; Pena, G.; Wheeler, M.F. (Eds.) 2013



**Farid Bozorgnia**, IST, Lisbon,  
**Luis Caffarelli**, Math-UT Austin  
**Numerical Simulation of Segregation**



**Stefania Patrizi**, CoLab Postdoc; **Luis Caffarelli**, Math-UT Austin, **Panagiotis Souganidis**, Math-U. of Chicago

- **Research in Optimal Control**

**Raimundo Alves Leitão Júnior**, **Eduardo Teixeira**  
 Universidade Federal do Ceara, Brazil

**Jose Miguel Urbano**, FCT/UC

- **Problems involving nonlocal Optimal Control**

**Hans Koch**, Math-UT Austin

**Claudia Valls**, IST, Lisbon,

- **KAM-related renormalization group techniques to Hamiltonian PDEs such as the Boussinesq system**



# GRADUATE STUDENTS at UT Austin

- **Veronica Quitalo** (2008 – 2013) PhD-UT
- **Diego Marcon Farias** (2010 – 2013) PhD-IST
- **Rafayel Teymurazyan** (2011-2013) PhD-UL
- **Levon Nurbekyan** (2011-2012) PhD-IST

## I

### CoLab Workshops at UT Austin and at Portugal

- **Held at Mathematics and ICES at UT Austin**
- **Participants from both Portugal, UT-Austin, CMU and other USA and International Universities**
- **Experts and distinguish invited Speakers with a broad participation of junior researchers and graduate students**

# **MAMOS: Mathematics, Analysis, Modeling, Optimization and Simulation**

**October 15-26, 2007**

Organizers:

**Prof. Omar Ghattas**, ICES-UT Austin,

**Prof. Luis N. Vicente**, U. Coimbra

**Prof. Rafael de la Llave**, Math UT-Austin

**Prof. Diogo A. Gomes**, IST, Lisbon



Pictured left to right: Irene Fonseca,  
Diogo Gomes, David Kinderlehrer,  
Rafael de la Llave and Irene M. Gamba

# **Mathematical Aspects of Imaging, Modeling and Visualization in Multi- scale Biology**

**March 31 - April 04, 2009**



**Organizer:**

**Isabel Narra de Figueiredo**, FCT/UC.

**Chandrajit Bajaj**, ICES-UT Austin.



# **Classical and Random Dynamics in Mathematical Physics**

**March 31 - April 03, 2010  
Math & ICES at UT Austin**



**Organizers:**

**Prof. Diogo Gomes, ITS, Lisboa**

**Prof. Rafael de La Llave, UT-Austin**

**Prof. Jean-Claude Zambrini, FCUL, Portugal**

# **Optimization in Machine Learning**

**May 31 – June 07, 2011  
ICES & UT Austin**



**Organizer:**

**Prof. Omar Ghattas, ICES-UT Austin**

**Katya Scheinberg, Lehigh University,**

**Prof. Luis Vicente, FCT/UC, Portugal**

# Fluid Dynamics in Porous Media

Sept 12-14, 2011

Centre for Mathematics, Department of Mathematics of University  
of Coimbra, Portugal



Organizers:  
Silvia Barbeiro, UC, Portugal,  
Jose Ferreira, UC, Portugal,  
Gonzalo Pena, UC, Portugal,  
Prof. Mary Wheeler, ICES & UT Austin



# Statistical dynamics of complex systems

July 1-3, 2013

Fundação Oriente XIV Arrábida meeting  
Co-sponsored by CoLab Math&UTAustin  
Convento da Arrábida, Portugal,



## ORGANIZERS:

T. ARAUJO (ISEG, Technical University of Lisbon, Portugal)

M. C. CARVALHO (University of Lisbon, Portugal)

I. M. GAMBA (University of Texas at Austin, USA)

R. V. MENDES (Complexity Sciences Institute, Portugal)

With the participation of 19 invited International Speakers



## II

# CoLab Summer Schools and Workshops in Portugal

- **Participants from both Portugal and UT**
- **International experts invited as Lecturers for Mini-courses and Speakers at a follow-up Workshops**

CoLab Summer School 2008  
**DYNAMICAL SYSTEMS**  
**Applied and Theoretical Hamiltonian Systems**  
June 16-20, 2008  
Instituto Superior Técnico, Lisbon

Organizers:  
**Prof. Rafael de la Llave**, Math@UT-Austin,  
**Prof. Diogo Gomes**, IST/UTL

Invited lecturers and speakers included Bjorn Engquist (Math & ICES@UTAustin), Albert Fathi (École Normale Supérieure de Lyon, Unité de Mathématiques Pures et Appliquées), Rafael de la Llave (Math@UT Austin) and Konstantin Khanin (University of Toronto)



## **Kinetics and Statistical Methods for Complex Particle Systems:**

Invited Speakers included J. Acebron (IST, Lisboa) E. Carlen (Rutgers Univ.), P. Chalub (UNL, Lisboa), P. Degond (Univ. P. Sabatier, Toulouse), M. Katsoulakis (Univ. of Mass, Amhurst) and R. Pego (CMU), F. Oliveira, (UNL, Lisboa) Maria J. Oliveira (UNL, Lisboa), Ana J. Soares (U. Minho), Cedric Villani (U. Lyon and IHP, Paris)



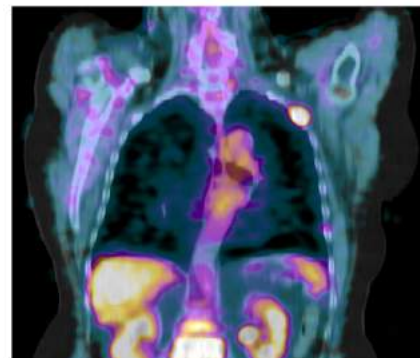
## **CoLab Summer School and Workshop on Imaging Sciences and Medical Applications**

**June 14 - 25, 2010**

**Departamento de Matemática,  
Universidade de Coimbra**

Organizers:

**Chadrajit Bajaj**, ICES-UT Austin  
**Bjorn Engquist**, ICES-UT Austin  
**Isabel Narra Figueiredo**, UC  
**Omar Ghattas**, ICES-UT Austin  
**Diogo Aguiar Gomes**, IST  
**Luis Nunes Vicente**, UC





CoLab Summer School

## **Aubry Mather Theory and Optimal Transport**

### **Nonlinear PDEs Workshop**

June 13 - 24, 2011

Instituto Superior Técnico, Lisbon

**Organizers:**

**Alessio Figalli**, Math-UT Austin

**Diogo Gomes**, IST, Lisbon

Invited speakers included Luigi Ambrosio (SNS Pisa), Patrick Bernard (CEREMADE - Université Paris-Dauphine), and Yann Brenier (Université de Nice)



CoLab Summer School & Workshop 2012

## **Mathematical Finance and Stochastic Control**

July 02 - 13, 2012

Universidade Nova de Lisboa, Lisbon

**Organizer:**

**Prof. Gordan Zitkovic**, Math@UT Austin



### III

## CoLab Participation on NSF – RTG – Research Experience for Undergraduates (REU)

- Advanced undergraduate students from Portugal were selected to attend these annual Summer Schools at UT Austin
- Morning lectures were complemented by tutorial sessions in the afternoons conducted by postdoctoral scholars and senior graduate students.

### NSF – RTG – REU 2008

## Multi-scale Modeling and Analysis: homogenization theory, computational multi-scale methods

**July 21 – August 08, 2008**  
**University of Texas at Austin**

Organizers:

**Prof. Bjorn Engquist**, Math and ICES @UT Austin

**Prof. Lexing Ying**, Math and ICES @UT Austin

**Prof. Richard Tsai**, Math and ICES @UT Austin



**NSF – RTG – REU 2009  
Summer School in Financial  
Mathematics**

**July 19 – August 08, 2009**

**University of Texas at Austin**

Organizers:

**Prof. Gordon Zitkovic, Math@UT Austin**

**Prof. Thaleia Zariphopoulou, Math@UT Austin**

16 students from Portugal, supported  
by CoLab, attended this Workshop



**NSF – RTG – REU 2010  
Introduction To The Study Of  
Long-term Behavior Of  
Nonlinear Systems**

**August 09 - 14, 2010**

**University of Texas at Austin**

Organizer:

**Prof. R. de la Llave, Math@UT-Austin**

**NSF – RTG – REU 2011**  
**Analysis, PDEs and  
Mathematical Physics**  
**July 18 - 29, 2011**  
**University of Texas at Austin**

**Organizers:**

**Prof. Thomas Chen, Math@UT Austin**

**Prof. Irene M. Gamba, ICES and Math@UT Austin**

**Prof. Natasa Pavlovic, Math@UT Austin**

**Looking ahead to 2014**

**Summer School and Workshop in Portugal**

- **UT-Austin Organizers:**
  - Prof. Michael Sacks**, Chair, Simulation-Based Engineering and Sciences; Biomedical Engineering, ICES@UT Austin,
  - Dr. Joao Soares**, Research Associate, Center for Cardiovascular Simulation, ICES@UT Austin.
- **Portuguese Organizer:**
  - Prof. Adelia Sequeira**, IST, Lisboa





***Thank you very much for  
your attention!***

***See you at Austin Math!***

