COLABSQUARE

UT Austin | Portugal International Collaboratory for Emerging Technologies, CoLab

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YOU CAN FIND IN THIS COLABSQUARE EDITION:

FOTOCATGRAF PROJECT AT GREEN BUSINESS WEEK

The project FOTOCATGRAF, funded under the programme UT Austin|Portugal – FCT, Emerging Technologies, participated in the Green Business Week – National Week for Green Growth, which took place at Lisboa Congress Centre, Lisbon, Portugal between the 1st and 3rd of March 2016.

The project FOTOCATGRAF was represented with a booth at the trade fair AcquaLiveExpo – Water, Waste and Environment publicizing its innovative graphene-based photocatalyst technology by which wastewater treatment plants are able to improve their processes for degradation of emerging pollutants such as pharmaceuticals, hormones and their metabolites, contributing to a safe and sustainable water supply, which is one of the grand global challenges of the 21st century.

About FOTOCATGRAF project

FOTOCATGRAF project aims at producing a new generation of high-performance graphene-based photocatalysts for the removal of emerging pollutants – pharmaceuticals – from the wastewater treatment plants (WWTPs) of the centre region of Portugal, monitored by Águas do Centro Litoral (AdCL), S.A., Grupo Águas de Portugal.

It refers to a nanotechnology-enabled photocatalytic water treatment process, which constitutes a new solution to develop the next-generation of water supply and wastewater treatments to produce higher

Clara Pereira presenting the project.

quality water using less energy and with lower costs, fulfilling one of the GBW main pillars: AcquaLiveExpo – Water, Waste and Environment.

Based on the continuous interaction between the industrial partner AdCL, Águas de Portugal, and the Research Teams REQUIMTE-University of Porto, CICECO-University of Aveiro and INESC-TEC, with the collaboration of UT Austin (USA), the photocatalytic performance of the innovative graphene-based photocatalysts will be firstly evaluated at laboratorial scale in the degradation of wastewater samples supplied by AdCL. The most efficient nanophotocatalysts will be then produced at pilot scale and introduced in a pilot WWTP of AdCL. Complementary toxicity studies will be considered as an assessment factor for the selection of the best treatment.

Furthermore, an electrochemical sensor will be designed to read the electric impulse associated with graphene-based electrocatalyst detectors. The sensor will be integrated with off-the-shelf microcontrollers to form wireless sensor networks that can be deployed on the pilot WWTP and allow for automatic, high cadence or even real-time, collection of data to monitor the concentration of the most persistent and prejudicial pharmaceuticals for the environment. The resulting data can then be mined to detect patterns that will allow a deeper understanding of the usage and life-cycle of these pollutants in the environment and, also, to make the photocatalyst requirements in the wastewater treatment station more sustainable and cost-effective.

The project structure, objectives, consortium, working packages, outputs and preliminary results were presented in the GBW trade fair by Dr. Clara Pereira, a researcher from REQUIMTE-UP, during an oral presentation in the forum AcquaLiveExpo.
Flyers were also distributed within the booth by other team members: Dr. Cristina Freire (PI) from from REQUIMTE-UP, Dr. Cristina Matos from REQUIMTE-ISEP and Dr. Ana Estrada from CICECO-UA.

About the Green Business Week

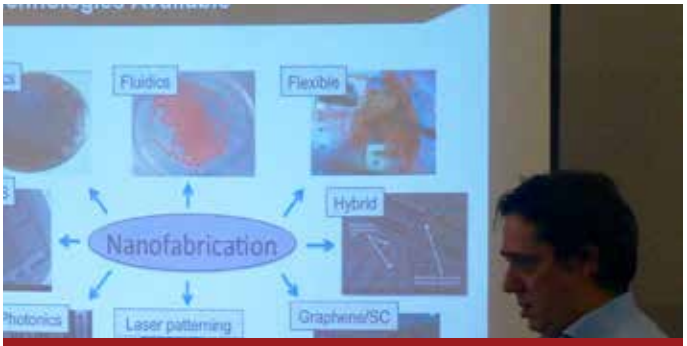
The AIP Foundation (Portuguese Industrial Association) organized the Green Business Week – National Week for Green Growth with the support of Environmental Ministry and several partners.

The Green Business Week (GBW) is a booster event of economic growth, skilled and sustainable employment, science and research, technology, innovation and entrepreneurship, leveraged by the growth in the world of the Green Economy, which records values above 4% per year.

The main pillars were:
SmartCitiesLive – Solutions for SmartCities and Smartgrids
AcquaLiveExpo – Water, Waste and Environment
EnergyLiveExpo – Energy, Energy Efficiency, Renewable Energy, Climate Change and Information Technologies.

FOTOCATGRAF Project Team (from left to right) Cristina Freire (PI), Cristina Matos, Ana Estrada and Clara Pereira.

5TH EMERGING TECHNOLOGIES WORKSHOP: PROMOTING COLLABORATIONS



A presentation moment. Joao Gaspar from INL presenting his R&D activities.

The 5th Emerging Technologies Workshop organized by Paula Vilarinho was held at the University of Aveiro (Auditório Mestre Hélder Castanheira, Livraria da Universidade de Aveiro) on February 24th.

The workshop gathered all UT Austin | Portugal program academic areas: Advanced Computing, Digital Media, Emerging Technologies and Mathematics, aiming at fostering the collaboration between the areas.

During this one day meeting over 50 scientists attended the workshop, coming from different universities in Portugal: University of Aveiro, University of Coimbra, University of Lisbon, University of Minho, University of Porto, New University of Lisbon and International Iberian Nanotechnology Laboratory (INL). Two guests from The University of Texas at Austin were also present, Dr. James Sham and Professor Paulo Ferreira.

The Vice-Rector for Research at the University of Aveiro, Professor José Fernando Mendes welcomed the participants to the meeting and Prof. Fernando Santana the National Director Portugal of The UT Austin | Portugal Program strengthen the importance and timing of this Workshop. In this phase of the program and in the next one is crucial that interdisciplinary among the four areas is promoted.

The Opening session. From wright to left Professors Fernando Santana (FCT UNL), José Fernando Mendes (UA) and Paula M. Vilarinho.

The brainstorming meeting around on establishing R&D collaborations between the different areas started with a morning session in which participants presented their research achievements and scope of their interests. James Sham lecture on "Creating collaboration between artists and scientists / engineers" was the motto for the group work that followed. The afternoon's brain storming sessions were devoted to discussions in the form of round-tables combining scientists from different areas, aiming to establish possible collaborations and create ideas for project proposals.

Working groups during brain storming session.

After each 15 minutes of brain-storming the teams were changed and ideas for projects collected. Around 30 ideas for common projects were selected.

The workshop ended with a visible excitement of the participants, looking forward to continue their collaborations started during that day.

The group photo.

CREATING COLLABORATION BETWEEN ARTISTS AND SCIENTISTS / ENGINEERS

On February 24th, in the context of the 5th Emerging Technologies Workshop, James Sham (UT Austin) gave a lecture entitled "Creating collaboration between artists and scientists / engineers".
The session was held at Auditório Mestre Hélder Castanheira, Auditório da Livraria da Universidade de Aveiro.

James Sham during his lecture.

Bio James Sham

James Sham is an inter-disciplinary contemporary artist whose research focuses on interfacing technologies and material processes from a variety of disciplines within contemporary art. His artwork has been exhibited in venues as diverse as the Tate Modern (London), Appetite Gallery (Buenos Aires), Kunstprojects (Berlin), The Open Works Institute (Bucharest), White Box Gallery (New York City), and the Asian Arts Initiative (Philadelphia) and has screened and published on European Cable Network Broadcast (Germany and France), the Ellensburg Film Festival (Seattle) among others. Having received an MFA in Sculpture & Extended Media from Virginia Commonwealth University in 2008, and a BA in Studio Art and Philosophy from Dartmouth College in 2005, Sham is now based in Austin, Texas and Washington, DC, where he is Assistant Professor of Sculpture in the Department of Fine Arts and Art History at George Washington University.

PROFESSOR RUI L. REIS ELECTED TO THE NATIONAL ACADEMY OF ENGINEERING

Professor Rui L. Reis, Vice Rector of the University of Minho, was elected to the (United States) National Academy of Engineering (NAE).

According to NAE's official press release, Dr. Rui L. Reis, a Full Professor of Tissue Engineering, Regenerative Medicine and Stem Cells, at the Department of Polymer Engineering, School of Engineering, University of Minho, was recognized "for his contributions to biomaterials and tissue engineering in regenerative medicine".

Rui L. Reis is among 22 foreign members elected this year by the NAE, alongside with the 80 new U.S. members, bringing the total U.S. membership to 2,275 and the number of foreign members to 232.
Prof. Rui L. Reis is the first member from Portugal to be elected in the National Academy of Engineering.
Election to the National Academy of Engineering is among the highest professional distinctions accorded to an engineer. Academy membership honors those who have made outstanding contributions to "engineering research, practice, or education, including, where appropriate, significant contributions to the engineering literature" and to "the pioneering of new and developing fields of technology, making major advancements in traditional fields of engineering, or developing/implementing innovative approaches to engineering education."

In the UT Austin | Portugal Program Rui L. Reis and other collaborators at the University of Minho interact and collaborate with Prof. Nicholas A. Peppas of UT on the development of advanced scaffolds for tissue engineering and regenerative medicine.

For more information and for a complete list of all new members, please visit NAE's official news.

MASTERCLASS DATA2FORM

The Masterclass data2form, a MIL initiative (Media Innovation Labs, University of Porto) with support from UT Austin program | Portugal, organized by Professor Bruno Giesteira (FBAUP, Design Department) took place 14th and 15th February at the MIL Auditorium (Porto) and counted with lecturers Ana Isabel Carvalho and Ricardo Lafuente, of the "Journalism ++", aimed to introduce the bases and nuances of the areas of information design and data visualization.

These disciplines have been gaining prominence over the last decade, underpinned by growing interest in fields such as journalism, date science and graphic design for the informative and educational potential of complex information of visual representation.

An extensive historical evolution of the representation of information and data, complemented with the exploration of various examples and key figures approach from the Middle Ages to the present day and the immediate future was exposed. Practices, tools and contemporary workflows in areas such as data journalism were also articulated. At the same time, were also provided practical resources and visualization projects demonstrations.

A video of the event is available here.

Lecturers Ana Isabel Carvalho and Ricardo Lafuente.

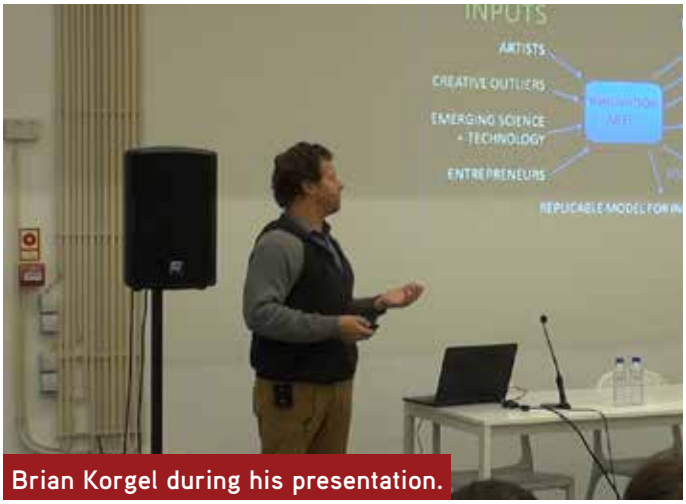
INNOVATION ARTS AND THE CONCEPTION OF RAPID DESIGN PIVOT

As an organisation of the Media Innovation Lab at the University of Porto, with the support of the UT Austin | Portugal Program, Brian Korgel was in Porto on the 15th of February to talk about how artists can partnership with scientists to innovate.

Citing Brian Korgel "The concept of Innovation Arts is founded on the idea that innovation and technology development/implementation/commercialization can be significantly accelerated by creating collaborations between artists, creative designers, science/technology pioneers and entrepreneurs. At UT Austin, James Sham (visiting professor of Art & Art History) and I have been working to create collaborations between artists and scientists/engineers."

The project began with funding from Skolkovo Institute of Technology (Skoltech) in Moscow, Russia, called Rapid Design Pivot led by Korgel, Sham and Adam Bock, Senior Lecturer in Entrepreneurship at the University of Edinburgh (UK). Rapid Design Pivot aimed to partner inventors and artists to produce art exhibitions and technology prototypes using state-of-the-art scientific discoveries and technological advances as a creative medium. Within an environment that encourages breaking of norms by introducing artists and creative outliers into the design process to catalyze partnerships between artists and developers, the goal has been a range of outcomes as vast as they are diverse: On one side of the spectrum, art projects that are created with otherwise unavailable materials, interdisciplinary expertise and resources; whereas, on the other side of the spectrum, artists have the opportunity to make work without any disciplinary boundary with other experts—this could lead to spin-off ventures, start-ups and a plethora of opportunities for true innovation and impact. Rapid Design Pivot encompassed research from all three facets of Entrepreneurship, Technological Innovation and Contemporary Art. Expanding on industrial designer Raymond Loewy's concept of MAYA (Most Advanced, Yet Acceptable): if the most advanced innovations have social acceptability as their limits, we aim to expand the "fringe" of innovation by introducing creative outliers to purposefully create pivots in thinking when it comes to development. By partnering artists with scientists and inventors, we aim to interface the developments that are "Most Advanced," with the ideas in creative practice that from the outside seem "Barely Acceptable." After the end of Skoltech funding, the project now continues with additional funding from UT Austin and the first art installation is scheduled for February, 2017, called Omnibus Filing involving artworks from James Sham, Patrick Killoran, Daniel Bozhkov and Steven Brower.
An audience composed of Faculty, researchers and PhD students from science and arts had the chance to listen and share ideas about this issue. This partnership can be extremely fruitful for future research projects.

Bio Brian A. Korgel



Brian Korgel during his presentation.

Brian A. Korgel is the Edward S. Hyman Chair in Engineering and T. Brockett Hudson Professor of Chemical Engineering at the University of Texas at Austin. He directs the Industry/University Research Center (I/UCRC) for Next Generation Photovoltaics, the Emerging Technologies area of the UT|Portugal program and serves as Associate Editor of the journal Chemistry of Materials. He received his PhD in Chemical Engineering from UCLA in 1997 and was a post-doctoral fellow at University College Dublin, Ireland, in the Department of Chemistry.

He works at the intersection of nano & mesoscopic materials chemistry and complex fluids, tackling problems in lithium ion batteries, photovoltaic devices and medicine. He has given more than 260 invited talks and has published 240 papers. He has been Visiting Professor at the University of Alicante in Spain, the Université Josef Fourier in France and the Chinese Academy of Sciences in Beijing. He has co-founded two companies, Innovalight and Piñon Technologies, and received various honors including the 2012 Professional Progress Award from the American Institute of Chemical Engineers (AIChE) and election to Fellow of the American Association for the Advancement of Science (AAAS).

CREATIVE COLAB '16"

Creative Colab '16" was an invitation to explore and discuss various perspectives on digital media, drawn from the intersections between creativity and collaboration that took place on the 5th of February, in UPTEC-PINC, Porto. The discussion unfolded on three main vectors: audience+market, storytelling, and interaction. This session was an initiative of the students of the first year of Digital Media Doctoral Program at University of Porto, Madeira Interactive Technologies Institute, and the University of Texas at Austin, with the generous Support of UPTEC-PINC.

Following a seminar structure, three guests presented diverse views on each subject, offering their viewpoints as researchers and practitioners in digital media:
Ana Correia de Barros [Audience + market]

Valentina Nisi [Storyteling]

Peter Beyls [Interaction]

The audience was encouraged to partake in a final roundtable with the speakers, moderated by Daniel Catalão. The discussion identified several insights on technology and interaction, as well as new questions and concerns, brought by emerging technologies into the fields of creativity and collaboration.

A video of the event is available here.

For more information please visit the event's website.

UTEN GLOBAL STARTUP PROGRAM: ORIENTATION WEEK FOR ACCELERATION COHORT

The IC2 Institute hosted the Global Startup Program's Orientation Week for the acceleration companies.

Held from February 1st to 5th, this year's Orientation Week brought to Austin the leaders of 10 of the most promising Portuguese technology ventures carefully selected from among dozens of applicants to be part of the GSP 2016 cohort, and promoted soft-landing learning and facilitate networking and matchmaking among entrepreneurs, major corporations, venture capital firms, angel investors, incubator directors, and international service providers interested in actionable knowledge about doing business in the United States and in particular the process of going global.

The Portuguese companies that visited Austin represent sectors including cleantech, data analytics, industrial applications, eCommerce/B2C, and healthcare. These were Watt-IS, BeMicro, Ciengis, Coolfarm, Findster, Petable, BeeVeryCreative, Peekmed, Sword Health, and doDOC.

The events scheduled helped reduce risk, open markets, and connect a select group of eight Portuguese technology-based companies with professionals in the Austin entrepreneurial ecosystem to help grow these companies globally, particularly in the United States.

During the week, companies were trained to deliver effective communication of their value proposition to the Austin community through a success committee mastermind with more than 30 mentors at the IC2 Institute and featured on a startup community immersion event at the Capital Factory for more than 50 Austin technology leaders.

Tangible results during the orientation week:

- Coolfarm is negotiating a potential pilot with a Texas company.
- Petable is discussing a trial project with a local veterinarian clinic and further the development of their platform by adding some new features.
- Findster sold 3 units of their product and has a trial going on with a local company for feedback.
- Sword Health has pilot confirmed verbally, a NDA signed, and a Business Agreement and contract approval in process with one of the most famous hospitals in town. Had several meetings with orthopedics and clinic directors

- PeekMed had multiple meetings with orthopedic customers and is exploring a pilot project.
- BeMicro had one-on-one engagements with business people in the solar power industry and system integrators and a meeting with a potential USA distributor is in the works.

PORTUGUESE DELEGATION IN AUSTIN A SUCCESS!

TIPI had the honor and pleasure of hosting a delegation of Portuguese researchers from a variety of universities for a full week of scheduled events during January 22-27, 2016.

The goal of the various meetings was to continue to foster and create research collaborations between UT Austin and Portuguese researchers.

Delegates included: Nuno Correia, Rui Rodrigues, António Coelho, Raul Vidal, Sério Nunes and Manuel Damásio.

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The week started out with a series of dynamic student presentations followed by numerous exploratory meetings all related to digital media:

- RB Brenner/Virtual Reality
- B Pennycook/New iniciatives at the Butler School of Music
- J Bernhardt/Health Communications
- B Korgel/Applied Science at the atomic and molecular scale
- P Toprac/Gaming

and culminating with an outstanding conference hosted at the I-School, with Randolph Bias as Master of Ceremonies!

Knigth Center visit

Rosental Alves was our gracious host has he led our delegation trough a historical timeline of the creation of the Knight Center at UT. Confronted by a series of funding challenges, Alves shared his innovative and astute ways of ensuring funding through the years. Sharon Strover and Cecilia Garrec were present along with Knight Center staff members for this informative and entertaining talk!

Diana Marques in "The Women in Science" project

Diana Marques, Digital Media PhD student, from University of Porto, participates in "The Women in Science" project by Ciência Viva that features more than 100 Portuguese women whose careers are related to science. The project, which was released on March 8 in celebration of the International Women's Day, is composed of portraits of the selected women taken by five different photographers, and brief statements from each about their life and career in science. All images and accompanying texts can be seen on an interactive kiosk at the Pavilion of Knowledge in Lisbon as well as on a printed book published by Ciência Viva. The distinguished women represent the many specializations in science, from microbiology to space exploration, from chemistry to sociology, from computer science to science history; and their contributions to the advancement and distribution of human knowledge and their roles in society can one day inspire younger generations of explorers.

"I was honored to be invited to this project and contribute with a different angle to a career in science as a scientific illustrator and animator", Diana says. "For over ten years I've been inspired by scientists and have worked side by side with them and with publishers, museum professionals, journalists and many others to diffuse the scientific messages. Accompanying my portrait at the Women in Science project you can read "representing science with static and moving images is my profession and passion. As a visual communicator I aim to simplify and beautify the scientific words to captivate and to promote interpretations. The results are to be seen in a book or museum close to you".

Photo Credits_Clara Azevedo (Ciência Viva).

Digital Media PhD Graduates

PAULO ROSA

Thesis: Minimal Computation Structures for Visual Information Applications based on Printed Electronics

In the early nineties, Mark Weiser wrote a series of seminal papers that introduced the concept of Ubiquitous Computing. Accordingly to Weiser, computers require too much attention from the user, drawing his focus from the tasks at hand. Instead of being the centre of attention, computers should be so natural that they would vanish into the human environment. Computers become not only truly pervasive but also effectively invisible and unobtrusive to the user. This requires not only for smaller, cheaper and low power consumption computers, but also for equally

convenient display solutions that can be harmoniously integrated into our surroundings. With the advent of Printed Electronics, new ways to link the physical and the digital worlds became available. By combining common printing techniques such as inkjet printing with electro-optical functional inks, it is starting to be possible not only to mass-produce extremely thin, flexible and cost effective electronic circuits but as well to introduce electronic functionalities into products where it was previously unavailable. Indeed, Printed Electronics is enabling the creation of novel sensing and display elements for interactive devices, free of form factor. At the same time, the rise in the availability and affordability of digital fabrication technologies, namely of 3D printers, to the average consumer is fostering a new industrial (digital) revolution and the democratisation of innovation. Nowadays, end-users are already able to custom design and manufacture on demand their own physical products, accordingly to their own needs. In the future, they will be able to fabricate interactive digital devices with user-specific form and functionality from the comfort of their homes.

This thesis explores how task-specific, low computation, interactive devices capable of presenting dynamic visual information can be created using Printed Electronics technologies, whilst following an approach based on the ideals behind Personal Fabrication. Focus is given on the use of printed electrochromic displays as a medium for delivering dynamic digital information. Accordingly to the architecture of the displays, several approaches are highlighted and categorised. Furthermore, a pictorial computation model based on extended cellular automata principles is used to programme dynamic simulation models into matrix-based electrochromic displays. Envisaged applications include the modelling of physical, chemical, biological, and environmental phenomena.

The main contributions of this research work can be listed as:

- Contextualization of the potential of Printed Electronics and Personal Fabrication in driving Ubiquitous Computing;
- Development of task-specific, visual information applications using direct addressing and passive-matrix addressing electrochromic displays and open source hardware;
- Systematization of visual content types in electrochromic displays;
- Reframing of the use of Pictorial Entities as a tangible way of experimenting with complex systems through the use of matrix addressing electrochromic displays.

DORA SANTOS SILVA

Dora Santos Silva finished her PhD thesis, entitled "Cultural Journalism in a Digital Environment: New Models, Practices and Possibilities", which was approved unanimously with Very Good at FCSH/UNL in January 28th.

Here is her testimonial:

"My PhD was one of the most challenging and enriching experiences of my life. It was an opportunity to immerse myself in an area which I am passionate about and to discover so many others, to meet people with amazing research pursuits and enthusiastically engage with them, and to experience other academic realities.

My research proposed to examine how European media which specialize in culture or have an important cultural section are innovating in a digital environment. Specifically, I intended to see how these innovation strategies are being taken in relation to: the approach to culture and dominant cultural areas; the editorial model (content presentation and delivery, news values, genres and angles); the use of hypertextuality, multimediality, interactivity and other digital features to enhance long-form and short-form culture stories; brand identity, extensions and positioning in a digital environment; engagement with the public and "prosumers"; sustainable business models.

This was perhaps, to the best of my knowledge, the first systematic study on cultural journalism in the digital environment using a quantitative and qualitative approach to address the above-mentioned objectives and considering innovation as a motto or driver.

The first four chapters of the thesis are dedicated to the state of the art of the central concepts of the research: culture, cultural journalism, digital journalism and media innovation.

Chapter V addresses the research design. To answer eight research questions I conducted a mixed-methods study, combining case studies of four media projects, which integrates qualitative web features and content analysis with quantitative web content analysis. I selected as case studies two major general-interest journalistic brands which started as physical newspapers – The Guardian

(London, UK) and Público (Lisbon, Portugal) – a magazine specializing in international affairs, culture and design – Monocle (London, UK) – and a native digital media project that was launched by a cultural organization – Notodo, by La Fábrica.

Chapter VI shows the findings, which resulted from observations and collection of data between 1st January 2013 and 31st March 2015, and web content analysis from the same period with a total sample of 1372 journalistic pieces. The data method collection was complemented by face-to-face qualitative interviews with 16 professionals from the four case-studies mentioned, and by visits to their headquarters.

In the end, the findings suggest, on one hand, that we are witnessing a paradigm shift in culture coverage in a digital environment, challenging traditional boundaries related to cultural themes and scope, news values, genres, content delivery, engagement and business models. Innovation in the analyzed media lies especially along the dimension of product (format and content), brand positioning and process (business model and ways to engage with users). On the other hand, there are still perennial values that are crucial to innovation and sustainability, such as commitment to journalism, consistency (to the reader, to brand extensions and to the advertiser), intelligent differentiation and the capability of knowing what innovation means and how it can be applied, since this thesis also confirms that one formula doesn´t suit all. Changing minds, exceeding cultural inertia and optimizing the memory of the digital platforms, looking at them as living, organic bodies, which continuously interact with the readers in many different ways, and not as a closed collection of articles, are still the main challenges for some media.

Looking toward a promising future, I also include in the final chapter a set of good practices that have proven to be successful in the analyzed case studies. This is our contribution to Jeff Jarvis' famous question "Now that your Internet has ruined news, what now?"

As it was not at all a solitary experience, I would like to express my gratitude to all the people with whom I shared it, and especially my dear PhD advisor, Prof. António Granado, the inspirational Profs. Rosental Alves and Sharon Strover, all the editors and journalists from my four case-studies with whom I had the privilege to talk to, my PhD colleagues, my family and the UT Austin Portugal CoLab program itself."

FILIPE LOPES
Thesis: Musical composition with the space

My work has focused on issues that deal with a very popular field of study: Sound and Space. We all know that any musical work takes place at a specific time and place, so, what makes a musical work specific to a given location? Does it makes sense to embrace space in its expressive fullness? If yes, how to do it? My investigation presents a musical composition model in which space is deeply implicated in the creative and musical interpretative process. The word complicity is used to define the implication of space in the musical composition, indicating the idea of space and music being articulated but also envisaging numerous levels of engagement. Based on that idea, I defined what is musical composition in space, musical composition for space and finally musical composition with space. The latter represents the higher form of complicity and consists of three different but complementary phases: the repertoire of articulations, the systematization of the repertoire of articulations and the musical performance.

The PhD was a very important step in my academic life but also, and not least, in my personal, professional and compositional life. Definitely one of the hardest things I achieved with many ups and downs, nevertheless, very interesting. It was challenging to have to ask myself pertinent questions that do not have a single answer and need to be researched, as well as to prepare all the conceptual methodologies and practical work that could led me to come up with a robust hypothesis. To be able to create musical works to test the hypothesis I propose was very inspiring and one of the reasons I started this PhD. I had the pleasure of spending three months in Austin with my good friend Rui Dias and benefit from the help of Prof. Bruce Pennycook that, in addition to welcome us in a very generous and friendly way, provided me the contact with musical works that would shape my research method as well as very rich theoretical discussions. The UT Austin program was indeed very important in making a decision about where I would go to do my PhD as it was also very important the opportunity to work closely with my mentor Prof. Carlos Guedes.

About the future we know little but I think I made a very good decision to join this program. I have become much more critical about my creative work, my compositional ideas and interests, much more mature in how to solve problems and more aware of the exciting relationship regarding sound, music and space.

UPCOMING EVENTS

Futurália 2016

16-19 March

www.futuralia.fil.pt

ONGOING OPPORTUNITIES

FLAD Healthcare 2020 | 2016

Deadline – 18th March

http://www.flad.pt/aviso-flad-healthcare-2020-concurso-2016/

Joint Transnational Call of ProSafe CSA (Research and innovation projects in nanomaterials safety)

Deadline – 20th May

https://www.fct.pt/apoios/cooptrans/csa/prosafe/index.phtml.en

More opportunities in http://www.fct.pt/concursos/index.phtml.en

USEFUL LINKS

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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