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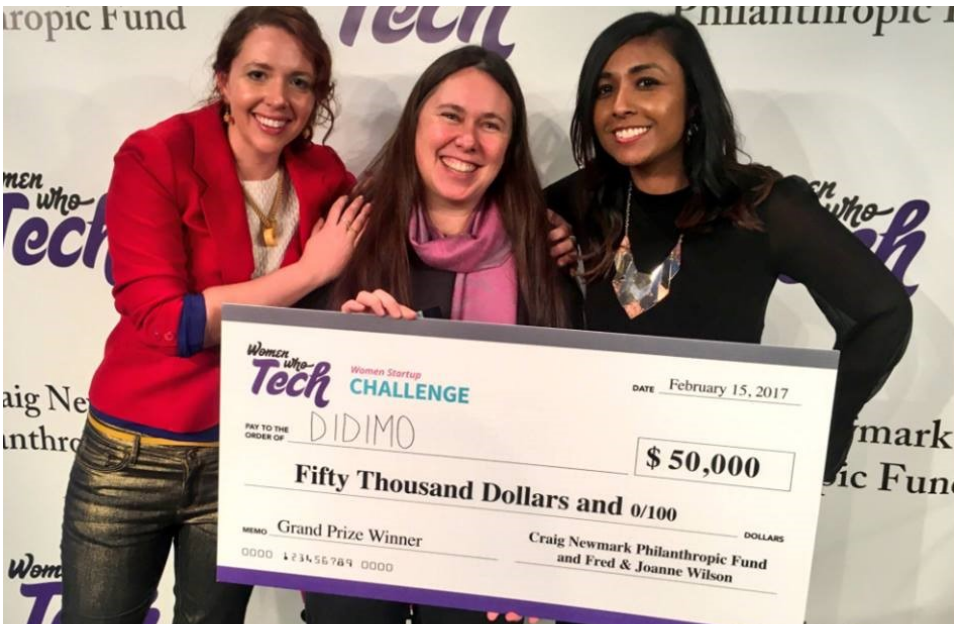
MyDidimo wins VR/AI challenge at NY



Verónica Orvalho (IT in Porto) and MyDidimo have won the Woman Startup Challenge VR and AI, that took place last February 15 at the Google Campus in New York. This was the 4h edition of the Woman Startup Challenge, an initiative organized by Women Who Tech that aims to showcase the most disruptive and value-added projects developed by entrepreneurs in the areas of VR and AI. Verónica successfully pitched MyDidimo to a panel of investors alongside nine other entries each focused on solving problems for people, businesses and the world. Her pitch, focused on the need for digital/human interaction to empower emotion and the importance of trust and empathy in those interactions, resonated with both the audience and judging panel, granting her and MyDidimo the grand prize of $50K in cash award and $35K in probono legal services.

The MyDidimo technology automatically creates 3D virtual characters from a single photo. In just 2 minutes you have a lifelike avatar that can speak, move, and represent you in a 3D world. This technology, developed in IT by a multidisciplinary team led by Verónica, can be used in games, social media, film, AR and VR. MyDidimo has already signed contracts with two companies and is close to sign deals with other four international companies (US and UK) from the fields of entertainment and advertising.

For the IT researcher and founder of MyDidimo, wining the challenge "affirms we are on the right track with MyDidimo and contributes to our forward momentum! ".

Editorial

The work contract, rather than the scholarship, should be the normal bond between a post-doc and a research institution. Post-doc scholarships should be reserved for special cases and strictly time limited. Although I fully support this position I believe some caution is in line because researchers are not teaching staff and have neither the same obligations (mainly to teach) nor the same rights (freedom of research).

Since researchers and teaching staff often work usually side-by-side and freedom of research has been a teaching staff right for a very long time, it is only natural that researchers assume (or wish) that they have the same right.

The problem is that teaching staff are paid to teach. Research for them is a pre-condition to teach well. But researchers are paid to research on specific topics with specific aims. Researchers' salaries come out of research contracts so freedom of research is just not possible. Contract researchers would most definitely be required to actively procure funding and right from the start should be conscious that this would be a component of their work that they cannot neglect.

In the last 30 years or so, some members of the teaching staff have been actively procuring contracts to fund their research. Even if it is most welcome and has been the main factor in the development of higher education, there are still teaching staff members that despise this activity and refuse to do it. I cannot possibly agree with this position but I know that it surely exists.

Carlos Salema

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IT is a private non-profit association of Universities (UA, UC, IST, UBI, UP, ISCTE-IUL), Polytechnic of Leiria, Altice Labs and Nokia, with a mission to create and disseminate scientific knowledge in telecommunications. **IT** hosts and tutors graduate and postgraduate students.

Send your news and contributions for this newsletter to: news@it.pt

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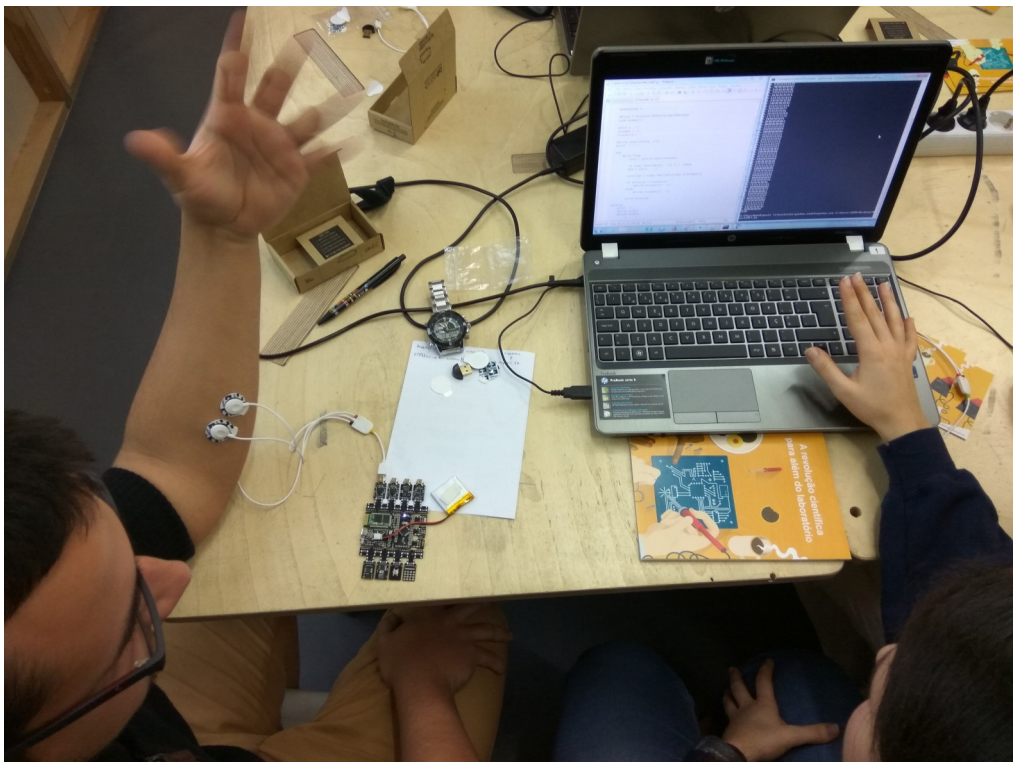
"this involves a high level of responsibility and strong commitment, since it basically defines the RF/microwave electronics research field", said the IT researcher

José Carlos Pedro is the new Editor-in-Chief of the IEEE Transactions MTT

José Carlos Pedro, from IT in Aveiro, has been appointed to serve as Editor-in-Chief of the IEEE Transactions on MTT (T-MTT), along with Luca Perregrini (University of Pavia) for the term of 2017-2019. According to José Carlos Pedro, who served the T-MTT as Associate Editor from 2005 to 2010, this is a "high prestige position among the scientific community, which is a echo of the qualitative leap that scientific research has faced during the last two decades in Portugal". With 54 years of continuous publication, the T-MTT is the most reputed international journal on RF and microwave technology.

PROJECT SNAPSHOT

IT and BITalino on "The scientific revolution beyond the lab"



The work that the Pattern and Image Analysis (PIA) Group of IT in Lisbon has been developing with the BITalino technology was chosen by the Centro Ciência Viva to be the focal point of the exhibition "Sparks - A Revolução Científica para Além do Laboratório". In an interactive module dedicated to the BITalino, created by the Pavilhão do Conhecimento and IT, visitors can observe their heart signals live. Sparks is an itinerant exhibition that portrays projects in the field of healthcare created by individuals and re-search centers with the primary goal of providing worldwide tools that would otherwise be confined within the walls of a hospital or laboratory.

In the healthcare field, BITalino can be used in cardiac self-monitoring or as a tool for handicapped people.

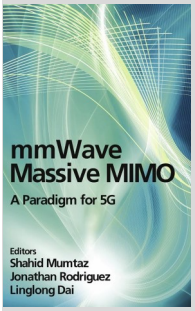
Hugo Silva, from IT in Lisbon and one of the co-founders of BITalino, told us that "Science centers in each country highlighted a local project that is representative of this movement, and in Portugal the Ciência Viva chose BITalino and the work done by IT in the transference of technology as a representative example, which was a great honour for us". In the healthcare field, BITalino can be used in cardiac self-monitoring or as a tool for handicapped people. However, it is currently used in several different contexts by artists, companies, universities and people from

(continues on page 3)

Books

E-Health Systems - Theory, Advances and Technical Applications, by J. J. Rodrigues, S. S. Compte and I. T. Diez

This book offers a global vision of all the parties involved with e-health system deployment and its operation process, presenting the state of the art in major trends for improving healthcare quality and efficiency of healthcare management.



mmWave Massive MIMO: A Paradigm for 5G, by S. Mumtaz, J. Rodriguez and L. Dai

This book is the first to hinge together related discussions on mmWave and Massive MIMO under the umbrella of 5G networks. New networking scenarios are identified, along with fundamental design requirements for mmWave Massive MIMO networks from an architectural and practical perspective.

Ambient Assisted Living and Enhanced Living Environments, by N. Garcia, C. Dobre, C. Mavromoustakis, R. Goleva and G. Mastorakis

This book separates the theoretical concepts concerning the design of such systems from their real-world implementation. IT bridges theory and practice, introducing the instruments needed by professionals in their activities.

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PROJECT SNAPSHOT — IT and BITalino on the scientific revolution beyond the lab (*continued from p. 2*)

various different fields, being a case of success in establishing a link between science, industry and society.

Inaugurated on January 26, the exhibition will be at the Pavilhão do Conhecimento until March 22, promoting several activities such as panels of discussion between researchers and the general public, like the "Café de Ciência – Novas tecnologias, participação pública e cuidados de saúde no futuro", in which Ana Fred, also from BITalino and IT in Lisbon, participated as one of the guest researchers. Also, on the last February 18, Hugo Silva delivered a workshop entitled "Getting started with BITalino", that received a very positive feedback from the participants that filled the room. One of the activities involved the sonification of muscle signals, which was particularly captivating to the participants, "ending the workshop with a very archaic muscular orchestra", said Hugo Silva. Overall, the IT researcher classified the IT contribute to this event as a "huge success and a fantastic opportunity to showcase the group and the IT work to the general public".

http://www.cienciaviva.pt/projectos/sparks.asp

Minister Manuel Heitor visited IT in Aveiro

In the context of a series of "Conversas com Investigadores", Manuel Heitor, the Portuguese Minister of Science, Technology and Higher Education, visited IT in Aveiro on the last February 17. Manuel Heitor was welcomed by the President of IT Carlos Salema, by the Directors of IT in Aveiro, and by the vice-rectors of the University of Aveiro. Following a brief presentation of IT by Carlos Salema, the Minister Manuel Heitor visited the laboratories of the different scientific areas of IT, where he had the opportunity to get acquainted with some of the most relevant research being developed at IT in Aveiro. The visit ended with an open session that gathered several IT researchers, where Manuel Heitor presented the government´s most recent initiatives addressing the scientific employment and the collaborative laboratories. As stated by the Ministery of Science, Technology and Higher Education, "This initiative aims to ensure the involvement of these communities in strengthening the conditions for the scientific activity in Portugal, in addition to hold the institutions as co-responsibles for the conditions of stimulating the scientific employment in Portugal. During the next weeks, the Conversas com Investigadores will include meetings with several scientific institutions, unions and researchers´ associations.

Newsflash

IT researchers win the Pfizer Clinical Research Award 2016

The IT researchers Miguel Coimbra and Diogo Abrantes were part of a multi-disciplinary team whose work was awarded the Pfizer Clinical Research Award 2016. The IT team created the technological platform that allowed the data entry, storage and analysis of all involved research data.

IT technology distinguished by the University of Porto

Miguel Coimbra (IT) and Gerardo Oliveira (Faculty of Medicine of the UP) were distinguished in the Pedagogical Innovation Awards 2016 of the University of Porto for their project "Ensino Interactivo e avaliação da auscultação cardiopolmunar através de pacientes virtuais".

IT researcher with three papers on the APS journals Editors´ spotlight

Mário Silveirinha, from IT, and his research team had three papers featured as Editors´ Suggestions on the Physical Review B of the American Physical Society – APS journals. According to the PRB announcement, the Editors´ Suggestions lists "a small number of papers published in *Physical Review B* that the editors and referees find of particular interest, importance, or clarity".

Daniel Dinis wins the Best Live Demo Award at the REC 2017

Daniel Dinis, from IT in Aveiro, received the award for the Best Live Demo in the XIII Jornadas sobre Sistemas Reconfiguráveis (REC 2017) with the work "Designing Frequency Agile FPGA-based All-Digital RF Transmitters".

Latest concluded PhDs hosted by IT

Miguel Bergano

Wideband Digital Polarimeter for Radioastronomy Applications

PhD in Electrical Engineering, University of Aveiro, January 2016, supervised by Armando Rocha, Luis Cupido and Domingos Barbosa. This thesis describes the Design of a new 10 GHz (X-band) polarimeter with a 1 GHz bandwidth digital back-end for radio astronomical large sky area survey. The receiver back-end implements a complex cross-correlator capable of measuring the full Stokes vector of the incoming received signal of 1 GHz bandwidth. Miguel is currently a Research and Developer Engineer at Wiseware Lda. at Gafanha Encarnação, Ilhavo

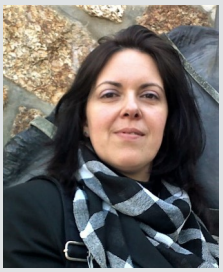
Joana Farinhas

Highly Efficient Polymer-based Photovoltaic Cells Through Morphology Control

PhD in Materials Engineering, IST, May 2016, supervised by Jorge Morgado and Ana Charas. This thesis presents several approaches to enhance the efficiency and lifetime of organic photovoltaic cells. Upon modification of the organic/active layer morphology, the inclusion of selective charge transport interlayers, or the exploitation of active layers with multiple active materials (ternary systems), significant improvements on the devices´ performance were demonstrated. Joana is currently a Post-doc researcher at IT.

Ângela Oliveira

Automatic Quantification and Classification of Breast Density in 2D Ultrasound Images



PhD in Computer Science and Engineering, University of Beira Interior, May 2015, supervised by Mário Freire and José Moutinho. This thesis proposes new approaches for evaluating breast density on ultrasound images. Breast density may be computed using a semiautomatic method based on the manual selection of the glandular area of breast images and automatic thresholding of the interval of gray intensity or using an automatic method based on automatic extraction of the glandular area and Otsu thresholding. Ângela is a Professor at the Polytechnic Institute of Castelo Branco.

Nelson Silva

Development of several biosensors for acrylamide determination based on whole cells of *Pseudomonas aeruginosa:* A comparative study.

PhD in Analytical Chemistry, University of Lisboa, July 2016, supervised by Manuel José de Matos and Maria da Silva Rocha. The thesis presents a comparative study based on the performance of different types of electrochemical biosensors developed for acrylamide determination in foodstuff, drinking water and wastewater. Nelson is currently a professor at Instituto Superior de Engenharia de Lisboa of Instituto Politécnico de Lisboa.

Where are you now?

Asal Kiazadeh

I did my Ph.D research at University of Algarve (2010-2013) under the supervision of Prof. Henrique L. Gomes in collaboration with Philips Research Laboratories, Prof. D. M (Dago) De Leeuw and Prof. S. C. J. Meskers from Eindhoven University of Technology, Netherlands. During my graduate research, I developed a tremendous interest and passion for research in the area of resistive switching memories (memristor devices) from fabrication to electrical characterization. Investigating the operating mechanism of different device structures by applying novel experimental set-ups sheds light on the physics of the memristor technology. The project was ended on schedule, within scope, and was of high quality. I am forever grateful to Prof. Henrique L. Gomes and for his expertise in the area. During the work with him, I have learned much more than what is required for my research. After my Ph.D graduation I received a Post-Doc grant from FCT in the area of physics and joined the group of Prof. Pedro Barquinha at i3N/CENIMAT of Universidade NOVA de Lisboa. My work was concentrated on instability mechanisms of thin-film oxide transistors for display application. Since 2015, CENIMAT provides me the opportunity to continue working on memristor-based devices by supervising master students and a PhD student. Currently, I am lecturing a course on electronic information storage entitled “Gravação Eletrónica de Informação” for master students (physics, nanotechnology, and electronics). The entire course content (theory and practical) was provided by me and Dr. Joana Vaz Pinto.