

JULY 05TH

2h30-4h00PM

**SALA DE ATOS ACADÉMICOS,
UNIVERSITY OF AVEIRO**

**FCT
INTERNATIONAL
PARTNERSHIPS:**

***BUILDING BRIDGES
ACROSS THE ATLANTIC***

SCHEDULE | SHORT BIOS | PROJECTS

FCT INTERNATIONAL PARTNERSHIPS: BUILDING BRIDGES ACROSS THE ATLANTIC

In this session, we will discuss the impact of the FCT Go Portugal international partnerships with the US institutions of Carnegie Mellon, Massachusetts Institute of Technology, and the University of Texas at Austin. The session will commence with an open discussion involving stakeholders from the three Programs. Subsequently, there will be a showcase of three flagship projects that epitomize the existing bridges fostered by these partnerships to promote the internationalization of national scientific and higher education institutions, enhance the competitiveness of Portuguese companies, and facilitate the mobility and development of highly skilled human resources.

SCHEDULE ::::

2.30PM

OPENING REMARKS AND OVERVIEW VIDEO

"TWO DECADES AGO, THREE BRIDGES ROSE OVER THE ATLANTIC, CONNECTING PORTUGAL AND THE UNITED STATES OF AMERICA: THE STORY OF FCT'S INTERNATIONAL PARTNERSHIPS."

2.45PM

ROUNDTABLE

"BRIDGES CONNECT PLACES, SHORTEN DISTANCES, BREAK DOWN BARRIERS AND BRING PEOPLE CLOSER TOGETHER: HOW WAS MY EXPERIENCE AS A BENEFICIARY OF FCT'S INTERNATIONAL PARTNERSHIPS?" WITH THE PARTICIPATION OF:

- NUNO NUNES, CO-DIRECTOR OF THE CARNEGIE MELLON PORTUGAL PROGRAM
- PEDRO AREZES, NATIONAL DIRECTOR OF MIT PORTUGAL PROGRAM
- JOSÉ MANUEL MENDONÇA, NATIONAL DIRECTOR OF THE UT AUSTIN PORTUGAL PROGRAM
- PETIA GEORGIEVA, UNIVERSITY OF AVEIRO
- EUNICE COSTA, HOVIONE
- JORGE SÁ SILVA, UNIVERSITY OF COIMBRA

3.10PM

Q&A

3.10PM

PROJECT PRESENTATIONS

"THESE BRIDGES OFFERED VARIOUS BUT UNIQUE PATHWAYS FOR TALENTED AND BOLD PEOPLE, DISRUPTIVE IDEAS AND SCIENTIFIC KNOWLEDGE TO CIRCULATE AND MATURE: WHAT ARE THE OUTCOMES OF OUR COLLABORATIVE WORK?" WITH THE PARTICIPATION OF:

- CARLOS VIEGAS, UNIVERSITY OF COIMBRA
- EDUARDO PEREIRA, UNIVERSITY OF MINHO
- TIAGO HORMIGO, SPIN.WORKS S.A

3.50PM

Q&A

4.00PM

CLOSING REMARKS

SHORT BIOS :::

INÊS LYNCE

NATIONAL CODIRECTOR OF
THE CMU PORTUGAL PROGRAM



Inês Lynce is a Professor at IST and a researcher at INESC-ID. She is currently serving as President of INESC-ID. Inês is a well-established researcher in the broad field of artificial intelligence, namely in constraint solving and optimization. Her main contributions refer to developing search algorithms and applying those algorithms to solve practical problems. Ines received the 2008 Delloite-ULisbon award and the 2009 PremeIA award from the Portuguese Association for Artificial Intelligence. Since 2020 she has been serving on the Editorial Board of the Artificial Intelligence Journal (AIJ). She has been the co-organizer of the 2018 SAT-SMT-AR summer school and the co-chair of the 21st International Conference on Theory and Applications of Satisfiability Testing (SAT'19). Ines publishes at and is a recurrent member of the program committees of the IJCAI, AAAI, ECAI, CP, and SAT conferences.

NUNO NUNES

NATIONAL CODIRECTOR OF
THE CMU PORTUGAL PROGRAM



Nuno Jardim Nunes, is a Full professor at Instituto Superior Técnico and the President of the Interactive Technologies Institute (ITI) a research unit part of the LARSYS Associated Laboratory. He's also adjunct faculty at the Human-Computer Interaction Institute at Carnegie Mellon University. Nuno was the main proponent of the Bauhaus of the Seas vision and is currently leading the Bauhaus of the Sea Sails, a €5 million project selected under the call for the development of 'lighthouse demonstrators' of the New European Bauhaus (NEB) by the European Commission. He is currently a non-executive Member of the Board of the Regional Agency for Research, Technological Development and Innovation (ARDITI). Previously he was Vice-Rector of the University of Madeira and Head of the Exact and Engineering Sciences Dep. at U. Madeira.

PEDRO AREZES

NATIONAL DIRECTOR OF MIT
PORTUGAL PROGRAM



Pedro Arezes is, since 2016, the National Director of MIT Portugal Program. He is also the Dean of Engineering at the University of Minho and Full Professor of Ergonomics and Human Factors Engineering. Pedro is a visiting scholar at MIT and Harvard University, in the USA. Having a background in Industrial Engineering, he holds a Ph.D. in the same domain from UMinho, where he also coordinates, since 2003, the Ergonomics & Human Factors research group, being also the Director of the Ergonomics Laboratory. He has published more than 150 papers in peer-reviewed scientific journals, authored and edited more than 50 Books and book chapters, and authored more than 300 peer-reviewed papers published in international conference proceedings. During his academic career, he has been a member and/or PI of more than 30 international and nationally competitive funded research projects across several domains, with a special emphasis on the domains of Ergonomics and Human Factors, and Occupational Safety and Hygiene.

DOUG HART

CO-DIRECTOR OF MIT
PORTUGAL PROGRAM AT MIT



MIT professor of mechanical engineering, MIT Portugal Program co-director, Mechanical Engineering Controls, Instrumentation, and Robotics division head, Gordon Leadership and Undergraduate Professional Opportunity Program director, and co-founder of multiple venture backed companies. Doug is a technical advisor for numerous companies and professional organizations and involved in the commercial development of technologies ranging from satellite propulsion and autonomous drones to surgical robots. Current research focus is on energy systems for ocean robotics and shipping. B.Sc. U of I, S.M. MIT, Ph.D. Caltech.

JOSÉ MANUEL MENDONÇA

NATIONAL DIRECTOR OF UT
AUSTIN PORTUGAL PROGRAM



José Manuel Mendonça is currently a Full Professor at the Department of Industrial Engineering and Management, School of Engineering, University of Porto, and Chairman of the Board and CEO of INESC TEC. Graduated in Electrical Engineering at the School of Engineering, University of Porto, he obtained his Ph.D. in Electrical Engineering at the Imperial College of Science and Technology, University of London. Presently he is a Fellow of the IC2 Institute of the University of Texas, Austin, and a member of the High-Level Group of the European Technological Platform Manufacture.

He is the National Director of UT Austin Portugal Program and Chairman of the Board of ForestWISE CoLAB. He was Vice-President of the Innovation Agency, CEO of the Ilidio Pinho Foundation and Chairman of the Board of three technology-based companies: Tech M5 SGPS, Fibersensing SA e Kinematix SA. In addition, he was Scientific Director of the University Technology Enterprise Network (UTEN), in the UT Austin Portugal Program, National Delegate to the Program Committee in various EC R&D Programs – Innovation and SME's (FP5), Growth (FP5), NMP (FP6) and ICT (FP7) – and Coordinator and Evaluator of several European projects within the scope of the ESPRIT Program (FP4 and FP5).

PETIA GEORGIEVA

UNIVERSITY OF AVEIRO



Petia Georgieva is Associate Professor with Habilitation of Machine Learning in the Department of Electronics Telecommunications and Informatics (DETI) at University of Aveiro, Portugal, Portugal and senior researcher in the Institute of Electronics Engineering and Telematics of Aveiro (IEETA), Portugal. Her research interests include machine learning, deep learning and data mining with strong application focus on image processing, wireless communications, brain computer interfaces. Her research is funded by sponsors such as EU, Portuguese Foundation for Science and Technology (FCT) and industry. Dr. Georgieva was a CMU Portugal visiting faculty at Carnegie Mellon University Silicon Valley and Pittsburgh campi.

EUNICE COSTA

HOVIONE (MPP ALUMNA)



Eunice Costa joined Hovione in 2011 and currently leads the Research & Development area of Inhalation and Advanced Drug Delivery at Hovione. The area is responsible for formulation and manufacturing process development as well as medical device design for lung, nasal and advanced drug delivery modalities, supporting Pharmaceutical partners developing innovative and generic medicines. Since joining Hovione, Eunice has been actively researching the impact of particle engineering, particularly spray drying, formulation composition and processing on the aerodynamic performance and disposition of inhaled medicines, supervising multiple PhD and MSc thesis. Prior to that she has held positions as junior researcher in organizations such as Genentech, TNO and academia. Eunice is a Biological Engineer by training, from IST, and holds a PhD in Bioengineering Systems from the MIT-Portugal program from FCT-UNL, during which she has worked on polymer synthesis and processing for biological applications.

JORGE SÁ SILVA

UNIVERSITY OF COIMBRA



Jorge Sá Silva received his PhD in Informatics Engineering in 2001 from the University of Coimbra, where he is Associate Professor with Habilitation at the Department of Electrical and Computer Engineering (DEEC) of the Faculty of Sciences and Technology of the University of Coimbra and a Researcher of Institute for Systems Engineering and Computers at Coimbra (INESC Coimbra). He has been an invited professor at several international universities. His main research interests are Internet of Things, Network Protocols, Human-in-the-Loop, and Wireless Sensor Networks. He has been serving as a reviewer and publishing in top conferences and journals in his expertise areas. His publications include 2 books, 5 book chapters and over 170 papers in refereed national and international conferences and magazines. He participated in European initiatives and projects, some of them as leader. He actively participated in the organization of several international conferences and workshops, (e.g. he was the Workshop Chair of IFIP Networking2006, General Co-Chair of EWSN2010, General Co-Chair of Mobiquitous2015, General Vice-Chair of WoWMoM2016, General Chair of ACM Senys2021) and he was also involved in program committees of national and international conferences. He is a senior member of IEEE, and he is a licensed Professional Engineer. Currently he is also one of the vice-directors of Portuguese Engineering Association - Center Region.

CARLOS VIEGAS

UNIVERSITY OF COIMBRA



Carlos Viegas, Ph.D., is an Invited Professor at the Department of Mechanical Engineering of the University of Coimbra and head of the Field Tech Laboratory of ADAI, dedicated to the development of technological solutions in the areas of autonomous robots, remote sensing, mechatronics, and fire engineering. He is the author of more than 30 international publications, 5 patents and 6 book chapters. He currently participates in 10 research projects, acting as coordinator in 3 of them. He is also Co-Founder and Manager of 3 technological spinoffs: Bold Robotics, Lda., Hazred Lda. and Sim4Safety Lda.

EDUARDO PEREIRA

ASSISTANT PROFESSOR AT
THE UNIVERSITY OF MINHO



Eduardo Pereira holds a PhD in Civil Engineering from the University of Minho and the Technical University of Denmark. He is Assistant Professor at the University of Minho, board member of IB-S (Institute for Bio-sustainability) and member of ISISE (Institute for Sustainability and Innovation in Structural Engineering). He was involved as coordinator or team member in several projects related to Oceans Sustainability, including NEXT-SEA (Monitoring and Management of Coastal Ecosystems in a Scenario of Global Change - development of next generation biomimetic and bio receptive artificial reefs, self-monitoring and self-repairing systems), OMARE (spatial information systems, decision support and management of Marine Protected Areas - MPAs), EREDES (Oceans sustainability, marine litter and the use of biodegradable fishing nets) and FLOATIDE (Sustainable floating docks for offshore renewables). He is also collaborating with the GOAP (Global Oceans Accounting Platform) by ESCAP - United Nations for next generation sustainable development models for the Oceans, Oceans Accounting. As scientific coordinator of K2D - Knowledge and Data from the deep to space, he is deeply involved in the development of strategies for next generation oceans global monitoring for sustainability.

TIAGO HORMIGO

SPIN.WORKS S.A



Tiago Hormigo has a Masters in Aerospace Engineering from the Technical University of Delft and a Degree in Aerospace Engineering from Instituto Superior Técnico. He specialized in automatic piloting of atmospheric re-entry trajectories on Mars and started his career as a Mars Express mission Analyst (at the European Space Agency). He has worked as an Autopilot Engineer on several missions and co-founded Spin. Works in 2008, where he is currently responsible for business development in the space sector. He was also vice-president of the Space Sector Sector Commission in the AED Cluster (Aeronautics, Space and Defense) in the period 2021-2023.

ABOUT THE PROJECTS

Safeforest Project

Semi-Autonomous Robotic System For Forest Cleaning And Fire Prevention

Is a CMU Portugal Large Scale Collaborative Project, led by the company Ingeniarius, in partnership with SILVAPOR, ADAI (Associação para o Desenvolvimento da Aerodinâmica Industrial), ISR from Universidade de Coimbra and CMU (Carnegie Mellon University). Its primary objective is to revolutionize forest wildfire prevention by developing an advanced robotic system for the prevention of wildland and wildland-urban interface fires. The project led to the development of two key robots: the SCOUT drone to perform the mapping of the terrain and the identification of the forest areas to be cleared; and the semi-autonomous platform RANGER- capable of removing excess vegetation based on the preliminary mapping of the area, achieving the necessary clearing of fuel breaks. The integration of this comprehensive system allows for terrain management planning, optimizing time and cost-effectiveness. The ability for robots to navigate semi-autonomously reduces hazards for human operators, minimizes the environmental impact of land clearing by reducing, for example, the use of herbicides, and improves the adaptability to different types of terrain and weather conditions.

K2D

Knowledge And Data From The Deep To Space

K2D - Knowledge and Data from the Deep to Space, is a MIT Portugal Program flagship project, led by DSTelecom in partnership with national and internacional partners: University of Minho; INESC-TEC; ASN - Alcatel Submarine Cables; AIR CENTRE - Association for the Development of the Atlantic International Research Centre; University of the Azores; MIT - Massachusetts Institute of Technology; and Cintel - Technological Research Center of the Algarve.

K2D assumes the development of a global-scale and totally disruptive monitoring system for the oceans, capable of handling all bathymetric elevations, from the deep seabed and abyssal shelves to the surface. The extensive data collection that such a system can provide is unmatched by any other existing system.

Underwater, and particularly at extreme depths, the challenges are enormous and the environmental exposure characteristics are exceptionally hostile to conventional sensing approaches. To circumvent this problem, K2D proposes to take advantage of the already existing widespread infrastructure of undersea communications and energy transport cables to develop a network for continuous, real-time sensing of vital signals from land and in particular the oceans.

The system will include a synergistic set of components, including electronic components and autonomous underwater vehicles, which allow the collection of complex data from the oceans, including physical, chemical, biological and environmental variables.

UPGrade

Miniaturized Prototype for GRavity field Assessment using Distributed Earth-orbiting assets

The velocity at which permanent ice loss in polar caps is occurring is a key parameter that indicates how quickly sea levels will change over the next few decades as the result of global warming. uPGRADE aims at precisely estimating how the water moves in the Earth's near surface, at a regional scale, by searching for minute changes in our planet's gravity acceleration as measured from an orbiting instrument (at around 300-500km altitude).

This will primarily entail the development of a miniaturized (MEMS) space accelerometer – the mission's primary instrument – with the goal of having an accuracy on the order of 20nm/s² – a scale comparable to much larger devices used in prior missions for the same purpose (ESA's GOCE and NASA's GRACE missions), but at a small fraction of the cost. The teams at UT Austin and in Portugal will also collaborate to develop a self-stabilizing, miniaturized spacecraft with low-thrust propulsion that carries the high-accuracy accelerometer and insulates it from most sources of perturbation in order to ensure the science mission is successful: acquiring of acceleration measurements, along with precise GPS measurements and other telemetry data, to enable the precise reconstruction of the Earth's varying gravity field.

As a secondary goal, this project will also develop a generic, high-performance nanosatellite platform applicable to a broad set of commercial Earth Observation, communications, and space exploration missions and constellations.



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