m·iti
Madeira Interactive
Technologies Institute

LEARNING FROM THE PAST.
CHALLENGING THE FUTURE.

Annual Report

2017


m·iti
Madeira Interactive
Technologies Institute

CONTENTS

Annual Report 2017

A CENTRE OF DESIGN FOR GLOBAL CHANGE, CREATING SOCIOTECHNICAL SYSTEMS SUITED TO HOLISTIC CHALLENGES

ABOUT THE INSTITUTE

"M-ITI's location gives the Institute a unique status in that can do its research locally either within Madeira or close by, while guaranteeing that the research will have regional and even global impact."

M-ITI Advisory Board, 2017

The Madeira Interactive Technologies Institute (M-ITI) is a not for profit innovation institute of the University of Madeira, the youngest and smallest public university in Portugal. It is located in the Autonomous Region of Madeira, an outermost region of Europe.

M-ITI was conceived in 2000, formally integrated as a research group in 2007, and established as an Innovation Institute in 2010. M-ITI has also been a member of the National Associated Laboratory for Robotics and Systems in Engineering (LARSyS) since 2011.
In 2015, M-ITI was considered a Public Utility Institute (as published in the Jornal Oficial of 19 February 2015, series number 30).

M-ITI operates in the interdisciplinary domain of Human-Computer Interaction (HCI), encapsulating contributions from the disciplines of computer science, psychology, social sciences and design, with the goal of engaging in important scientific and technological challenges.

The location of M-ITI provides a unique setting to deploy a Living Lab for Interactive Technologies, where systems and services can be tested using open-innovation frameworks.

VISION

A centre of design for global change, creating socio-technical systems suited to holistic challenges.

Global changes - in climate or demographics; labour systems or capital flows; sustainable resource management or energy efficiency; memes or pandemics - are happening at a pace that could not have been anticipated a few decades ago. Our planet's newest mass extinction is being ushered in by the very same technologies and means of production that were the crowning accomplishments and best practices of our grandparents. It is clear that many of our approaches must change swiftly and radically. Yet, our habits of thinking, organising, and living are largely configured to address the challenges and goals of prior epochs, and most of our tools still reflect and support those old habits. Our current technologies and material culture impede rather than enable our ability to live appropriately. We must mindfully design new materialities that foster inclusive, innovative, and reflective societies in a changing world.

M-ITI aims to step into the new millennium by developing tools, systems, and techniques better suited to address its challenges. In particular: the distribution and use of natural resources, the societal and personal use of energy, global inequality of resources and opportunities, and the relationship of production and consumption all require serious reform. Reducing inequalities and social exclusion in Europe, overcoming the economic and financial crisis, and tackling unemployment require new ideas, strategies, and governance structures that bring opportunities to the young and creative generations and leverage the reflective European society to position Europe as a global actor.

The long-term vision of M-ITI is an excellence centre of design for global change, aimed at identifying fresh approaches to the design of new technologies, new means of production, and new political configurations that are better suited to the global challenges of this century. Some of these challenges might be unique to Europe but others are shared by communities around the world. By projecting M-ITI into the future of challenge-based research we envision exploring, designing for, and at times even anticipating global critical situations and opportunities for change. M-ITI is strategically placed at the intersection of the American, European and African. As a multi-disciplinary Centre combining natural and social scientists, engineers, humanists, designers, and artists, its output will be focused on the area of applied science and human-centred technology. We will develop and share methods, working proofs, and "spin-off enterprises" focused on rebalancing the relationship of people and environment, production and consumption, the local and the global.

STRATEGY AND RESEARCH INFRASTRUCTURE

M-ITI will serve as a hub for a global network to ideate, co-create, test, and document new forms of local/global production for global challenges. The goal of these efforts is not just the generation of new understanding of problem solving in an era of cheap information, but also tangible proofs of organisation through the creation of enterprises that embody and engage in that problem solving. Our research will result in human/animal/technical networked systems that are both research platforms and, more importantly, working examples of global coordination and problem solving.

M-ITI's research focus will be on developing techniques and technologies that:

1. Investigate how nature and communities are affected by - and technologies that can empower them to confront - natural, political, and economic global pressures - in particular supporting the transition to reliable, sustainable and competitive energy systems. This will lead to a climate change resilient economy and society and help to explore the opportunities related to aquatic living and marine research and bio-based industries for the blue economy;

2. Invent new design techniques to best respond to, or shepherd, complex and interrelated natural, social, and cultural global issues - that could help repositioning Europe in a changing world through new ideas, strategies and governance structures that integrate and inspire the younger and more creative generations leveraging Europe's cultural heritage to build a more inclusive, innovative and reflexive society;

3. Develop personal, business, scientific, and civic technological platforms for better understanding and situating actions, choices, and self in a global perspective - enabling the transition towards a green economy and society through eco-innovation and developing comprehensive and sustained global environmental observation and information systems.

M-ITI will develop a unique research infrastructure that leverages the identification of demonstration of breakthrough research and design situated outside of global urban capitals, including active research in, and with, the global south for which Madeira is one of the outposts for transnational EU cooperation. This research infrastructure will enable exploration of Future Coastal Urban Environments which have a particular relationship with the oceans by advancing sensing, communication, tracking and monitoring solutions to increase our understanding of the underlying resources and ecosystems. This test bed will explore the potential of healthy marine ecosystems to provide a range of services with high potential social and economic benefits for the blue economy. The test bed will focus on building a symbiotic relationship between cyber-physical and ecological systems thus becoming a platform for scientific collaboration between researchers interested in biodiversity, climate change, engineering, material science and design.

MESSAGE FROM NUNO NUNES

President of the Board

Madeira Interactive Technologies Institute (M-ITI) is one of the leading research centers in Portugal focusing on human-computer interaction and design innovation. M-ITI is a non-profit innovation institute emerging from the association of the University of Madeira, the Regional Government of Madeira and Carnegie Mellon University. It is located in the Autonomous Region of Madeira, an outermost region of Europe. M-ITI was conceived in 2000, formally integrated as a research group in 2007, and established as an Innovation Institute in 2010. M-ITI has also been a member of the national Laboratory of Robotics and Engineering Systems (LARSyS) since 2011. M-ITI's mission is to research, enable, design and create transformative experiences that empower people to lead the best possible life in harmony with their environment.

Our strategic priority was always to attract the best talent to Madeira, from students to junior and senior faculty that could help make M-ITI an excellence center in HCI research and design-driven innovation. In 2017, M-ITI is currently associated with 31 integrated members, around 114 researchers (including PhD students) and a cohort of more than 120 master and post-grad students, supported by a dedicated group of six staff members. This vibrant and enthusiastic community comes from 16 different nationalities from four continents. We welcome these people recognizing that excellence, in particular in one of the most remote regions of Europe, can only be achieved if you attract and retain the best.

We are pleased to highlight some of M-ITI's accomplishments in the last year. In 2017, we changed our statutes, clarifying the balance between the shareholders of M-ITI. The participation of the Regional Government is no longer through Madeira Tecnopolo but directly from the Region, which also takes a majority of voting rights. The University of Madeira remains the second founding member and M-ITI continues to have the role of Innovation Institute of the University. In July 2017 we held the external Advisory Board meeting, which was again a fruitful experience. The Advisory Board recommended that M-ITI continues the orientation towards becoming a center of design for global change with local relevance related to the unique geo-political positioning of Madeira. The Advisory Board also recommended a shift from a discipline-oriented focus (in HCI) to a more problem-based orientation with reference to selected themes that reflect the skills of the existing research staff. Finally, the Board recommend that M-ITI evaluates courses of action related to the governance model in particular considering a stronger connection with LARSyS and IST–U. Lisbon.

These are all important challenges for a small research institution such as M-ITI, which is again facing another FCT evaluation in 2017/18 and many regulatory changes in Portugal for scientific employment of research track faculty. The Portuguese Government is committed to increase the opportunities for scientific employment in Portugal and to move from a scholarship model of post-doctoral grants into a work contract model, which increases the responsibilities of the research institutions such as M-ITI to sustain and retain talented staff. Notwithstanding, 2017 was another record year in terms of our research projects portfolio. The yearly budget surpassed 2M€ of competitive funding and several Horizon 2020 and other European funded projects were granted.


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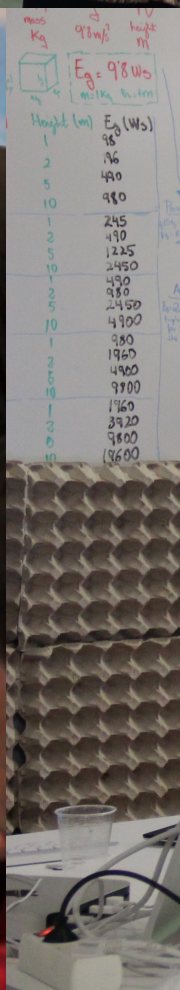
Eg = 98 Ws
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2 196
5 490
10 980
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10 4900
1 980
2 1960
5 4900
10 9800
1 1960
2 3920
5 9800
10 19600


ENERGY DEMANDS
5V
9V
12V
24V
Arduino

FOUNDING MEMBERS

M-ITI was founded in 2010 as an outgrowth of the Carnegie Mellon International partnership. Its founding members are the University of Madeira (UMa), Madeira Tecnopolo S.A. (MT) and Carnegie Mellon University (CMU). M-ITI conducts research and provides graduate training in the domain of human-computer interaction, contributing to the development of the field and addressing/engaging in important scientific and technological challenges that are both relevant to society and have significant economic impact.

MADEIRATECNOPOLO
pólo científico e tecnológico da madeira

UNIVERSIDADE da MADEIRA

Carnegie Mellon University

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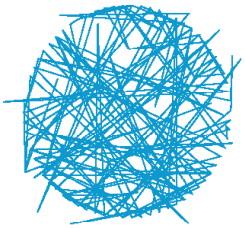
International Partnerships

Information and Communication Technologies Institute
Carnegie Mellon | PORTUGAL
AN INTERNATIONAL PARTNERSHIP

REPÚBLICA PORTUGUESA
XXI GOVERNO CONSTITUCIONAL

UT Austin | Portugal
International Collaboratory for Emerging Technologies, CoLab



LARSyS - Associate Laboratory of Robotics and Engineering Systems

LARSyS' ultimate goal is to be actively involved in a new generation of research questions and advanced training in Robotics and Engineering Systems, leading to new frontiers of knowledge and the training of skilled human resources at the best international level. Our researchers aim to create and develop new knowledge bases with impact in ocean, urban, aeronautics and space, biomedical, and future working environments, as well as to stimulate new industry-science relations and deepen our understanding of network science.
To achieve this strategy and vision, LARSyS supports its activities in the competences available in its four research centers (i.e., ISR@IST, IN+@IST, MARETEC@IST, and M-ITI@UMadeira). These centers provide specific areas of expertise in their main domains of knowledge through ten Laboratories and/or Groups, affiliating researchers that conduct specialized work in their main fields of expertise at an international level of excellence. Overall, they provide the necessary knowledge and experience to foster LARSyS scientific program.
On the top of that structure, the strategy of LARSyS is promoted and implemented through six Thematic Areas. They aim to explore new frontiers of knowledge driven by needs and markets as we envisage them today, making use of target objectives and linkages with end-users. They consider emerging themes under, on, above, in and beyond our daily human live.
Each Thematic Area has been defined together with a main target in a time horizon of 15 years (2030), without prejudice of involving other projects. They include five Areas of Application-driven Research and one area of Fundamentals. They provide a matrix-based form for the organization of LARSyS, facilitating networks of researchers from the various centers and groups to foster the exchange of ideas across disciplines and the exploration of new frontiers of knowledge in emerging themes.
The five Thematic Areas of Application-driven Research are as follows:

• OCEAN EXPLORATION and EXPLOITATION, relying on competences and human resources of DSORg (ISR/IST), MARETEC, LTPM (IN+/IST) and M-ITI.

• URBAN SYSTEMS, relying on competences and human resources of SIPg (ISR/IST), MARETEC, LIES (IN+/IST) and M-ITI.

• AERONAUTIC and SPACE SYSTEMS, relying on competences and human resources of IRSg and DSORg (ISR/IST), MARETEC, LTCES and LTPM (IN+/IST) and M-ITI.

• ENGINEERING FOR AND FROM THE LIFE SCIENCES, relying on competences and human resources of SIPg, IRSg, LASEEBg and VISLAB (ISR/IST), LTCES and LTPM (IN+/IST) and M-ITI.

• COGNITIVE ROBOTS AND SYSTEMS FOR ASSISTED LIVING AND WORKING, relying on competences and human resources of VISLAB and IRSg (ISR/IST), LTPM (IN+/IST) and M-ITI.

The Thematic Area of Fundamentals consider formal and informal networks of researchers, from various centers, aimed to explore new frontiers of knowledge in themes without any specific known application. They consider basic knowledge beyond our current applications. It is named as follows:

Distributed Information Processing and Decision Making, relying on competences and human resources of SIPg (ISR/IST), DSORg, IRSg (ISR/IST), MARETEC, LTPM (IN+/IST) and M-ITI.

The key thrust of LARSyS activity will be threefold: research, advanced training, and outreach activities, including public service. For research and advanced training, LARSyS complements its internal multidisciplinary with external cooperation by networking with highly reputed research and academic institutions and industrial partners worldwide. To this effect, impetus will be given to the exchange of scientific personnel, participation in international projects, and hiring of exceptional PhD students and senior researchers. Special attention is given to the organization of summer schools and research internships.

Advanced training initiatives are at the center of LARSyS at the best international level and involve several international partnerships, as follows:

• MIT-Portugal Program, through its overall coordination and an active involvement of researchers in the areas of Sustainable Energy Systems (SES) and Engineering Design and Advanced Manufacturing (EDAM);

• Carnegie Mellon Portugal Program, through an active involvement of researchers in the areas of Electrical and Computer Engineering (ECE), Computer Science (CS), Human Computer Interaction (HCI) and Engineering and Public Policy (EPP);

• IST EPFL Program, Joint Doctoral Initiative in the area of Distributed and Cognitive Robotics involving Instituto Superior Técnico and École Politechnique Federal de Lausanne (EFPL).

• IRGC, International Risk Governance Council, through the coordination of IRGC-Portugal, which involves five Associate Laboratories in Portugal
Outreach activities, including public service, is foreseen as one of the missions of LARSyS.

This takes the form of collaboration with public administration bodies, including governmental departments and local administrations, as well as with ONGs and, above all, basic and secondary schools and science centers.

Our target is to enhance collaboration with a diversified range of stakeholders to foster the dissemination of scientific knowledge and culture to the public at large. This has been particularly achieved by a strong involvement of LARSyS over the years in the Portuguese Ciência Viva program.
To achieve all these goals, the managing structure of LARSyS considers three complementing approaches: i) bottom-up; ii) middle-out; and iii) top-down.
The bottom-up nature of LARSyS is promoted through its Scientific Council, which includes all doctorate researchers. It is aimed to examine and approve the annual plans and reports, and to define the Governance structure of LARSyS. It meets twice a year.
The middle-out managing structure of LARSyS is promoted through each of the ten Research Groups/Laboratories and the six Thematic Areas. Each of the ten groups has a Principal Investigator (PI), and each of the six Thematic Areas has a PI and a Management Committee.
In addition, the necessary top-down management of LARSyS is used for overall coordination. It lies on a coordinating Board of Directors with the responsibility of supervising and guiding the activities of the four participating R&D units. This Board is composed by the directors of the four R&D units involved and by the PIs of the ten Thematic Areas. The President of the Board of LARSyS coordinates the Board of Directors and is elected among its members. A small Executive Board, including the directors of the four R&D units involved, supports the President for the daily management of the activities resulting from the collaboration among the participant units and to guarantee its accurate fulfilment.

The activities of the LARSyS are followed yearly by an External Advisory and Review Board, consisting of national and international experts, as established by decision of the Scientific Council.

RESEARCHERS

The researchers of M-ITI organize themselves in research groups by scientific affinity and through association with funded research projects. Each research group has a leader (Principal Investigator), who is either the main person responsible for the funded project, or who is appointed to the role by senior members of the institute to cover specific research areas of direct interest to M-ITI.

Arminda Lopes

Research Fellow

PhD from Leeds Metropolitan University, U.K, currently a professor at Polytechnic Institute of Castelo Branco and her main research area is Human Computer Interaction, Research Methods Methodologies.

Bongkeum Jeong

Research Fellow

PhD in Design Policy, Hongik University, Seoul. Post-Doc Researcher in Design & HCI, Carnegie Mellon University, Pittsburgh. Current interests lie in Policy Design for Value Added Enhancement of Visual Content Industry.

Bruna Gouveia

Assistant Professor

PhD in Nursing Sciences at the University of Porto, Biomedical Sciences Institute. Bruna is adjunct Professor at the Saint Joseph of Cluny Higher School of Nursing, Portugal; Director of the Rehabilitation Nursing Specialization Course; Coordinator of the Research Office

Catia Prandi

Postdoctoral Research Fellow

PhD Degree from University of Bologna with the thesis titled "Participatory Sensing and Crowdsourcing in Urban Environment". Since 2017 she is working as post-doc fellow at M-ITI, and as post-doc researcher at ARDITI in the H2020 CiViTAS Destinations project.

Chris Csíkszentmihályi

ERA Chair & Scientific Director

PhD (hc) from Cornish College of the Arts, has been a professor at colleges, universities, and institutes, including Distinguished Visiting Professor of Art and Design Research at Parsons the New School for Design. He cofounded and directed the MIT Center for Future Civic Media.

Cláudia Silva

Postdoctoral Research Fellow

PhD in Digital Media from the NOVA University of Lisbon within the context of the UT Austin-Portugal doctoral program. In 2016, Cláudia joined the Beanstalk team to work on a transmedia storytelling project.

David Aveiro

Assistant Professor

PhD in Computer Science and Information Systems Engineering from Instituto Superior Técnico of the Technical University of Lisbon. His teaching interests include organizational engineering, database management systems and decision support systems.

Deborah Castro Mariño

Postdoctoral Research Fellow

PhD in Communication Studies from Autonomous University of Barcelona. Her main research interests lie in the fields of television studies, digital media, and transmedia storytelling.

Diogo cabral

Assistant Professor

PhD in Computer Science from NOVA University of Lisbon (UNL). Focused on developing creativity support tools and interactions that foster and augment creativity for knowledge workers and artists, crossing Multimedia and HCI fields.

Dulce Pacheco

Postdoctoral Research Fellow

PhD in Psychology from University of Madeira. Main research interests are cooperative work, collaborative learning, multidisciplinary studies, creativity, and leadership.

Eduardo Fermé

Associate Professor

Fermé is an Associate Professor with aggregation at Uma in the area of Artificial Intelligence at the University of Madeira. Head of the Department of Informatic Engineering and Interactive Digital Media at the University of Madeira. His main topic of research is knowledge representation and reasoning, in particular belief revision and nonmonotonic reasoning.

Elise Leclerc

Executive Director

Post-Graduate Degree in English Linguistics from the University of Sorbonne Nouvelle and Masters Degree in European Affairs (Paris). Previously Lecturer in English Linguistics in la Sorbonne Nouvelle, Associate Director at Teaching Leaders (London).

Élvio Rúbio

Assistant Professor

PhD in Sport Sciences from the University of Madeira, with thesis topic on Aging, Body Composition, Physical Activity and Functional Fitness. Rúbio is an Auxiliary Professor, Department of Physical Education and Sports, University of Madeira.

Filipe Quintal

Postdoctoral Research Fellow

PhD from University of Madeira (Exploring the dimensions of eco-feedback in the wild). Main research interest in eco-feedback, energy, sustainability and how all these fields interaction with the IoT movement

James Auger

Associate Professor

PhD in Design from the Royal College of Art (UK), Auger is a designer, researcher and lecturer whose work examines the social, cultural and personal impact of technology and the products that exist as a result of its development and application.

José Luís Silva

Assistant Professor

PhD in Computer Science from the Portuguese MAP-i Consortium (University of Minho, University of Aveiro and University of Porto) and postDoc at the University of Toulouse. His main research interests lies upon Software Engineering, Human-Computer Interaction, Ubiquitous Computing and Virtual Environments.

José Nocera

Affiliate Associate Professor

PhD in Computing from The Open University, UK. Chair for UNESCO IFIP TC 13.8 working group in Interaction Design for International Development as well as Chair for the British Computer Society Sociotechnical Specialist Group. His interests lie in the sociotechnical and cultural aspects of systems design, development and use.

Julian Hanna

Assistant Professor

PhD in English Literature from University of Glasgow. With interests in literature and technology, digital humanities, islands and futures studies.

Karolina Baras

Assistant Professor

PhD in Technologies and Information Systems from University of Minho. Her research interests are ubiquitous computing, sensing well-being and Internet of things.

Lina Brito

Assistant Professor

PhD in Telecommunication systems and eletrotecnical engineering from the University of Madeira. Focus are on Wireless Sensor Networks and IoT (Internet of Things) applied to smart cities and citizens' well-being.

Lucas Pereira

Research Fellow

PhD in Computer Science from U. Madeira. Interests lie in the multi-disciplinary field of data science, including machine-learning, and intelligent user interfaces. Co-founded prsma.com, a M-ITI spin-off in sustainable energy R&D.

Luísa Soares

Assistant Professor

PhD in Psychology from Universitat Ramon Llull. Assistant professor of Psychology at University of Madeira, Center of Arts and Humanties. Researcher at University of Porto, Psychology Research Center and at LARSyS, M-ITI.

Mariacristina Sciannamblo

Postdoctoral Research Fellow

PhD in Sociology and Applied Social Sciences from University of Rome Sapienza. With interests in Participatory design, computer supported cooperative work, science and technology studies, feminist technoscience studies.

Marisa Cohn

Research Fellow

PhD in Information and Computer Science. Collaborates with the ERA Chair team in developing new and existing projects. Main research in Human Computer Interaction, Anthropology, and Science and Technology Studies for the study of sociotechnical systems.

Marko Radeta

Postdoctoral Research Fellow

Marko is the CEO of TIGERWHALE and is a Cross-Cultural Ambassador from UNESCO Club Sorbonne. He holds a PhD in Interaction Design and BSc in Computer Engineering. His research area is Emotional-aware Interaction Design and Development.

Mary Amasia

Postdoctoral Research Fellow

PhD in Chemical and Biochemical Engineering from the University of California, and a B.S. in Chemical Engineering and Materials Science from Columbia University. Has an extensive experience in leading international multi-team collaborations with industrial partners.

Mary Barreto

Postdoctoral Research Fellow

PhD in Human-Computer Interaction from the University of Madeira. Conducts postdoctoral research studies in the following areas environmental sustainability, energy, eco-feedback, behavior change and community psychology.

Maurizio Teli

Assistant Professor

PhD in Sociology and Social Research. Has worked in or coordinated several EU funded projects. He is now focusing on the design of digital technologies nurturing of the common, in particular as Research and Innovation Coordinator of the PIE News H2020 project.

Mónica Cameirão

Assistant Professor

PhD in Information Technologies and Audiovisual Media. Research on the development and clinical assessment of interactive technologies for neurorehabilitation and fitness. 2016 awardee of the ISVR Early Career Investigator Award.

Mónica Mendes

Research Fellow

PhD in Digital Media from New U. Lisbon / UT Austin|Portugal Program. Assistant professor at U. Lisbon, designer and media artist focused in art and interactivity for environmental sustainability.

Morgado Dias

Assistant Professor

PhD in Electrical Engineering from University of Aveiro. Current research interests are: Artificial Neural Networks, Field Programmable Gate Arrays, Sleep Monitoring and Renewable Energy.
Director of the PhD program in Automation and Instrumentation.

Nuno Correia

Assistant Professor

Researcher, artist and designer. Interested in interactive multi-sensorial experiences. PhD in new media from Aalto University. Since 2000, he has been teaching and conducting research in Portugal, Finland, Estonia and the UK. As artist, he has presented work in more than 20 countries. He has worked in design consultancy Fjord.

Nuno Nunes

Full Professor

Habilitation and PhD in Computer Science from University of Porto and University of Madeira. Nuno's research interests lie in the application of models to software, system and service design in particular for the domains of environmental. sustainability and participatory culture.

Parakram Pyakurel

Postdoctoral Research Fellow

Parakram is a postdoctoral research fellow at M-ITI. He holds a PhD in engineering from Florida Atlantic University and master's degree in "Planning and Operation of Energy Systems". His academic and professional backgrounds are in renewable energy systems.

Paulo Lobo

Assistant Professor

PhD in the field of analysis and design of civil engineering structures. With interests in seismic protection of structures with semi-active control devices, energy performance of buildings, rehabilitation centered on energy performance, and integration of energy production technology.

Pedro Campos

Assistant Professor

PhD in Human-Computer Interaction, from the University of Madeira, Habilitation in Informatics from the University of Aveiro. Research interests lie upon Persuasive Computing, Cognitive Augmentation, Interaction Design, Augmented Reality, Agile Software Development Methods, Interaction Design Tools.

Peter Lyle

Postdoctoral Research Fellow

PhD in the School of Design at Queensland University of Technology. With interests in computer science, interaction design and urban informatics, with a focus on communities.

Sabrina Scuri

Postdoctoral Research Fellow

Sabrina is a postdoctoral research fellow at M-ITI, where she is working on the H2020 Smart Islands Energy System (SMILE) project. In 2017 she completed her PhD in Design at Politecnico di Milano.

Sergi Bermúdez

Assistant Professor

PhD from the Swiss Federal Institute of Technology Zürich (ETHZ). Main research interests lies in neuro-rehabilitation systems, interactive technologies and robots.

Shujoy Chakraborty

Assistant Professor

PhD in Design (product semantics) from Politecnico Di Milano. Currently teaches courses in design for interactive media (DMI), design for pleasurable user experiences, theory and process of design, product development, form studies, modeling techniques, product design drawing, and 3D printing in UMa.

Simone Ashby

Assistant Professor

PhD in Computer Science and Informatics from University College Dublin. Main research interests lies in Mobile-based speech and language technologies for development (SLT4D), computational phonology, acoustic phonetics, speech synthesis, adaptive speech.

Sónia Matos

Assistant Professor

PhD from Goldsmiths College, University of London (U.K). Currently an Associate Research Faculty at M-ITI as well as a lecturer at the School of Design, University of Edinburgh. Her main research areas are Interface Design and User Experience.

Tiago Meireles

Assistant Professor

PhD in Eletrotecnic Engineering from Universidade de Aveiro. Assistant Professor, with exclusivity, at the Exact Sciences and Engineering Faculty, in the Eletrotecnic department. Since 2016 is responsible for the Hardware laboratories of the department, as well as electronic equipment and components purchase.

Valentina Nisi

Assistant Professor

PhD in Interactive Location Based Narrative from Trinity College, Dublin. Research focuses on designing and producing digitally mediated experiences in real spaces, merging architecture, context and landscape.

- President
- Executive Director
- Program Director

STRATEGIC AMBITIONS

Research Capacity

Establish M-ITI as an active player in the European Research Area by building an experienced partnering network of European excellence centers that will assist in strengthening our research capacity through know-how exchange, infrastructure setup, EU funding access and brain-drain prevention.

Human Resources

Reach distinctive and critical human capital in interactive technologies by overcoming the fragmentation of competences (typically driven by academic and not research requirements) that is currently straining M-ITI's existing human resources.

Networking

Overcome the brain drain by recruiting high quality experienced researchers, engineers and established scientists, and promoting free exchange of knowledge and people within and across the partner network.

Critical Technical Practice Lab

Improve the innovation performance by creating a unique research infrastructure based on an open innovation model that leverages Madeira as an international living lab for testing innovative interactive technologies and their social impacts.

Strategic Planning

Focus M-ITI research strategy in key application domains that correspond to important societal challenges aligned with the ERA strategic planning: entertainment and assistive technologies, creative media and digital culture, and sustainability for smart cities.

Intellectual Property

Substantially improve the RTD indicators of the Autonomous Region of Madeira and contribute to changing the economic and development paradigm, which is presently under enormous pressure due to the financial crisis.

Startups and Spin-Offs

Boost the potential of M-ITI to generate innovative ideas that can be turned into new marketable interactive systems and services through the attraction of industry and the generation of startups and spin-offs.

Development Paradigm

Enhance the use of generated knowledge through instituting an effective strategy for managing intellectual property.

SWOT ANALYSIS

A SWOT analysis portrays M-ITI's aim to develop a single strong focus that can be communicated as an umbrella vision stating a research agenda to which all members of the institute can contribute and collaborate in more group-oriented projects, the focus and vision exploit the specific characteristics of Madeira being an island and the local geographical expertise.

STRENGTHS

- High potential research faculty
- Institutional support and strategic alignment
- International connections and high-quality graduate education
- Attractiveness and high quality of life in Madeira
- Cooperation with industry
- Strong leadership
- Alignment with Madeira RIS3
- Completed the hiring of ERA Chair's R&D team

WEAKNESSES

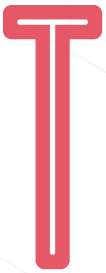
- Limited participation in the ERA
- Lack of research management structure
- Low critical mass, visibility and reputation
- Lack of in-house and large scale deployment equipment
- Lack of innovation, entrepreneurship and intellectual property management
- Insufficient laboratory space

OPPORTUNITIES

- Increased importance of HCI and design innovation in ICT
- Increased relevance for ERA ICT challenges
- Agility and empowerment of young research team
- Industry demand for design thinking
- Lower costs of research and availability of talent
- Increasing entrepreneurship mindset of our Researchers

THREATS

- Economic downturn
- Brain drain
- Competition to hire talented researchers
- Dependency from National research funds
- Internal resistance
- Lack of career development opportunities



FINANCIAL HIGHLIGHTS

In the last 5 years M-ITI generated more than 7,51M€ of research funding, multiplying by a factor of more than 6.6 the FCT structural funding. A significant component of this funding (27%) was from European sources and companies.

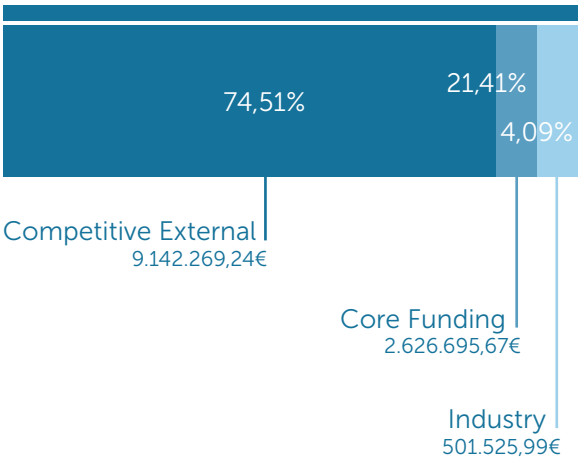
M-ITI FUNDING

	2013	2014	2015	2016	2017	Total
Fundação para a Ciência e Tecnologia, I.P. - FCT	**291.000€**	**166.000€**	**286.000€**	**593.000€**	**485.000€**	**1,821M€**
R&D Unit Pluriannual Funding	12.000€	40.000€	184.000€	489.000€	402.000€	**1,127M€**
Project Funding	255.000€	88.000€	56.000€	47.000€	37.000€	**483.000€**
Funding for PhD. PostDoc or other fellowships	24.000€	38.000€	47.000€	57.000€	47.000€	**213.000€**
Other National Sources	**494.000€**	**275.000€**	**639.000€**	**898.000€**	**1,351M€**	**3,657M€**
Public Sources	480.000€	246.000€	635.000€	887.000€	1,244M€	**3,492M€**
Companies, Industry and other private sources based in Portugal	15.000€	29.000€	3.000€	11.000€	107.000€	**165.000€**
International Sources	**33.000€**	**352.000€**	**446.000€**	**638.000€**	**563.000€**	**2,032M€**
European Comission	21.000€	352.000€	437.000€	638.000€	501.000€	**1,949M€**
Companies, Industry and other private sources not based in Portugal	12.000€	0€	9.000€	1.000€	62.000€	**84.000€**
Total	**819.000€**	**793.000€**	**1,370M€**	**2,130M€**	**2,399M€**	**7,511M€**

FUNDING SOURCES

TOTAL EXPENDITURE
in Euros €

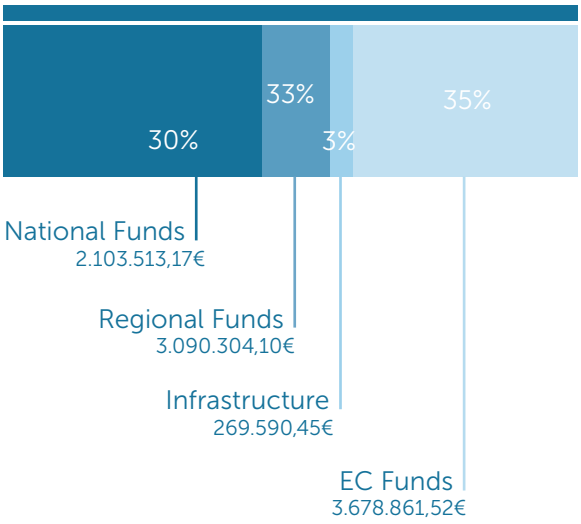
12.270.490,90€



2013
2014
2015
2016
2017

COMPETITIVE EXTERNAL FUNDS
in Euros €

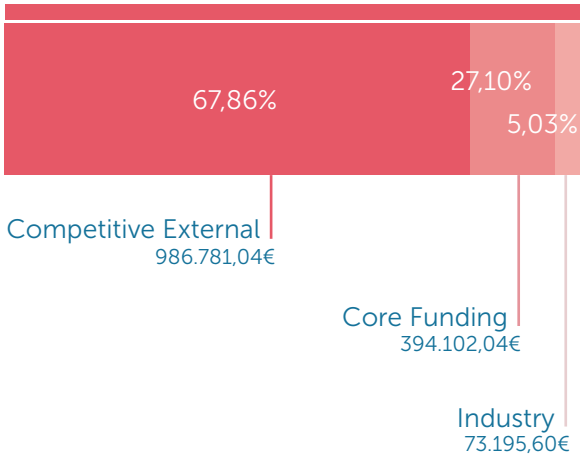
10.604.728,09€



FOR 2017

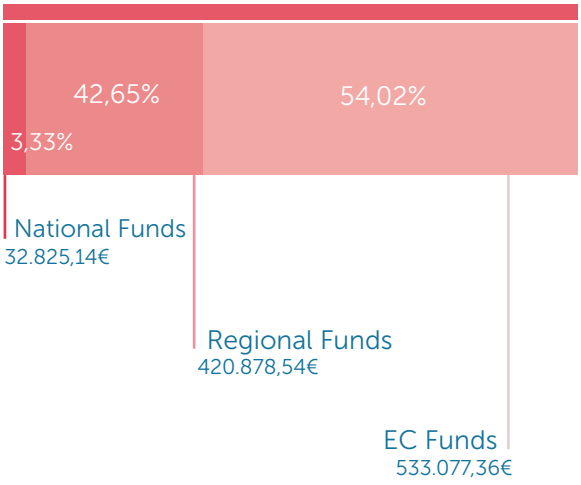
TOTAL EXPENDITURE
in Euros €

1.454.078,68€



COMPETITIVE EXTERNAL FUNDS
in Euros €

986.781,04€



27

FOSTERING RESEARCH

Currently M-ITI is involved in **19 research projects** involving a total funding of **986.781,04€**. Our current project portfolio spans the areas of neuro-rehabilitation, energy, digital culture and human-robot interaction.

M-ITI IN NUMBERS 2013-2017

8109

Total number of citations

29

Research Projects where M-ITI has been involved

621

Research publications (From Google Scholar)

173

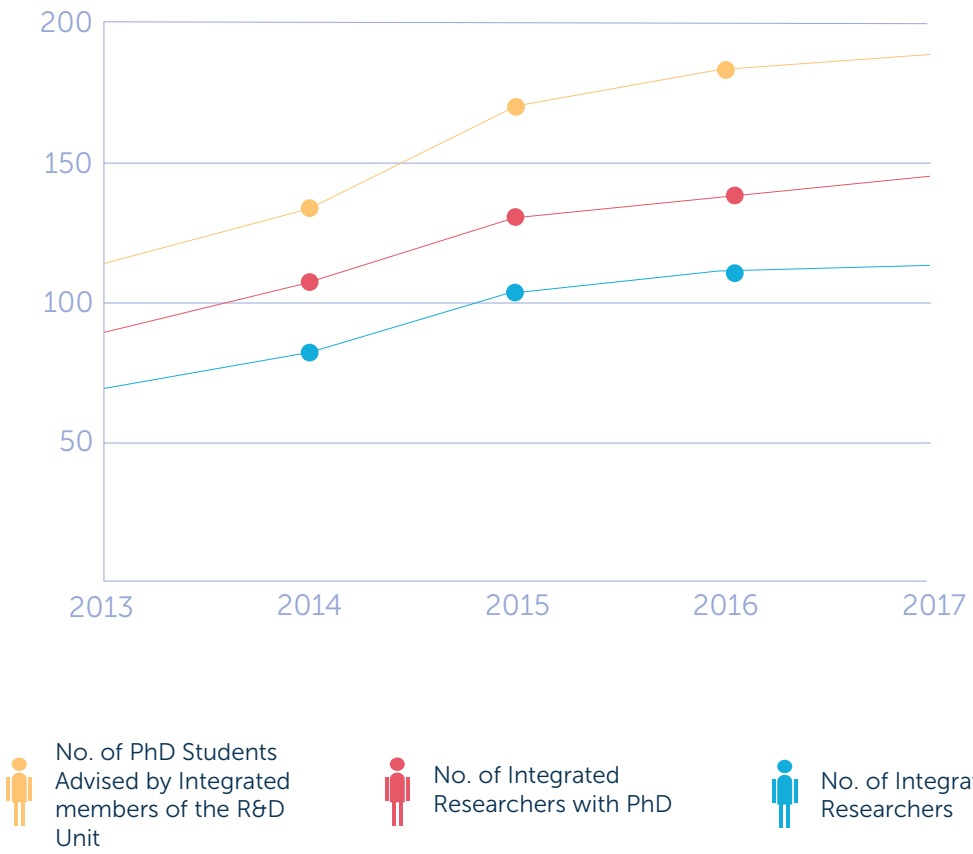
Researchers in Projects

M-ITI NUMBERS EVOLUTION 2013-2017

	2013	2014	2015	2016	2017
Citations (from Google Scholar)	1232	1306	1086	2258	2227
Active Funded Projects	15	14	13	10	19

Researchers and Students	2013	2014	2015	2016	2017	Total
No. of Integrated Researchers	69	82	103	111	114	**479**
No. of Integrated Researchers with PhD	20	25	27	27	31	**130**
No. of PhD Students Advised by Integrated members of the R&D Unit	25	26	40	46	44	**181**
No. of Research contracts with national public or Private Entities	17	14	21	15	22	**89**
No. of Research Contracts with International Bodies	2	1	6	4	10	**23**
No. of Researchers (Post-Doc grants)	-	-	-	8	12	**20**
No. of Researchers with PhD (contracts)	-	-	-	5	5	**10**

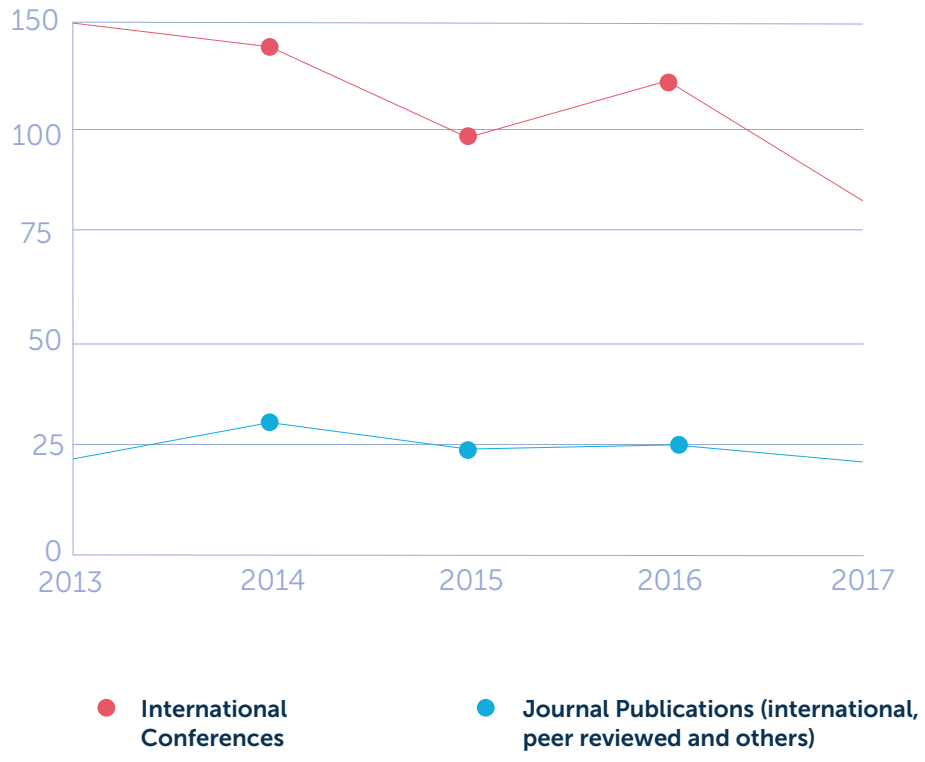
M-ITI HUMAN RESOURCES



M-ITI PUBLICATIONS AND PHD THESIS

Indicators	2013	2014	2015	2016	2017
Journal Publications (international, peer reviewed and others)	23	31	25	26	22
PhD Thesis Awarded (total)	2	2	3	3	2
PhD Thesis Awarded in Partnerhips with International Institutions (CMU, MIT and others)	0	0	1	1	0
International Conferences	102	88	73	85	61

Indicators (Scopus)	2013	2014	2015	2016	2017
Scholarly Output	82	77	83	88	106
Citations	493	277	293	218	31
Publications in Top Journal Percentiles (top 10%)	6%	14%	20%	20%	17%
Citations per Publication	6	3,6	3,5	2,5	0,3
International Collaboration	38%	39%	45%	49%	48%



KPIS OF LARSYS

Indicator	LARSyS	M-ITI	QUOTA
Integrated Researchers with a PhD	126	31	25%
PhD Students	138	44	32%
Researchers	399	114	29%
Funding			
Overall Funding 2013-2017	34,8M€	7,51M€	22%
International Funding	33%	27%	-
DCT Institutional Funding	20%	15%	-
ROIs	x5	x6,7	-
Doctoral Training			
PhD Thesis Awarded in 2013-2017	119	12	10%
Publications			
Journal Papers 2013-2017	862	127	15%
Conference Papers 2013-2017	1439	409	28%
Scientific Employment			
Hired Research Track Faculty	18	5	28%
Post-Docs	45	12	27%
Total PhD Hired	63	17	27%

IMPACT CASES

M-ITI generates a unique combination of strong research and innovation potential enabling inter-disciplinary work among scientists and engineers in examining and communicating the impact of emerging technologies in key areas of contemporary life. Leveraging on design innovation, M-ITI is well positioned to generate novel products, systems and services these emerging technologies might support.

Prototypes and research demos function as tangible and accessible demonstrations that can be used to examine how contemporary scientific research could transform our lives in the near as well as distant futures. The potential of HCI to reshape the current interdisciplinary research landscape lies in a novel relationship between science and design used to support interdisciplinary work and foster dialogue with the population of users.

1 **Biodiversity Monitoring and Awareness** The ourtermost regions of Europe (such us Madeira) host 80% of the biodiversity of Europe. Biodiversity monitoring and awareness are one of the major aspects in terms of research and impact in these regions. M-ITI is contributing to this strategic goal by implementing novel sensing and citizen science methods to understand, study and raise awareness about the biodiversity of species of Madeira Islands.

2 **Digitally Supported Participatory and Collaborative Welfare** The project combines socio-economic research with the participatory design of digital technologies in order to promote the emergence of commonfare, intended as a new form of welfare model based on social collaboration. Commonfare has already interested thousands of people through the research activities , communication activities, and public events (with the participation/organization of 15 completed events and the future organization of other 22).

3 **Enabling Audiovisual User Interfaces for Multisensorial Interaction** Enabling Audiovisual User Interfaces is a research project that investigated how human-computer interactions can be audiovisualized – that is to say, both sonified and visualized – in order to improve user experience and usability. To address this issue, a new UI (User Interface) paradigm was conceived – AVUI (AudioVisual User Interface).

4 **Energy Disaggregation and Novel Eco Feedback Approaches** The work in this topic addresses the practical implications of deploying and long-term testing Non-Intrusive Load Monitoring (NILM) and novel eco-feedback approaches in real-world scenarios.

5 **Geographic HCI** The research interests lie at the intersection between HCI, geographic information science (spatial cognition and spatial data) and ubiquitous and pervasive technologies to investigate how to provide users and communities with personalized map-based interfaces of the basis of the specific need and preferences.

6 **Human-Work Interaction Design** The core agenda is to research sociotechnical and cultural aspects of interaction design, through a program of research aimed at supporting digital inclusion with people at the margins.

7 **Improving Aging and Quality of Life** This research relies on the evidence that an independent lifestyle into the later years is associated to a person's functional fitness, in which balance and cognition have significant importance. Our studies have addressed these issues providing additional information about the aging process in older adults and supporting the development of i) feasible and safe programs focused in improving functional fitness/balance and cognition in independent-living older adults, incorporating also ICT; ii) solutions for the prototyping and development of assisted living systems.

8 **Interactive Technologies for Neurorehabilitation** This research studies the intersection of technology, neuroscience and clinical practice to find novel solutions to increase the quality of life of those with special needs. Through three externally-funded projects that were capitalized on Virtual Reality, Serious Games and Brain-Computer Interfaces to exploit specific brain mechanisms that relate to functional recovery to approach motor and cognitive rehabilitation by means of non-invasive and low-cost technologies.

9 **Interactive Storytelling and Gaming** This topic of research focuses on the design of digitally mediated interactive experiences, aiming at creating awareness and stimulating change towards societal challenges and pressing issues such as the preservation of natural and cultural patrimonies. From conception to prototyping and evaluation, the work unfolds across the domains of digital Interactive Storytelling, Gaming, and Entertainment, exploring the creation of novel experiences and evaluations paradigms for a wide variety of audiences.

10 **Physical and Digital Creativity Support Tools** Physical and Digital CST at M-ITI has been focusing on creating digital tools for enhancing human processes of creativity and merging them with physical tools and artefacts. This has led to awarded products such as Delineato, Sense-seat and PlaceToWrite. Our results provide useful insights suggesting that olfactory cues have an important role in the creative process of users and even when this type of cues are combined with auditory cues.

11 **Reconstrained Design** The Reconstrained Design Group was formed in 2016 to build on the advances made by critical and speculative design, but with the explicit aim of taking such approaches out of the gallery. The group has already influenced contemporary design practice and critical thinking about technology through exhibitions, festivals, conferences, workshops, and coverage in the media.

12 **Radio as a Service: low cost, highly connected, scalable FM radio micro-stations as a community information platform.** Radio is still an important medium in much of the world, more than a hundred years after its first commercial release. This work grows from the ERA Chair's prior work as founder and director of the MIT Center for Civic Media, based between the MIT Media Lab and the MIT Department of Comparative Media Studies. Under his leadership, Civic Media projects demonstrated new sustainable configurations of technology, labor, and community.

RESEARCH PROJECTS

AHA

Augmented Human Assistance

Start: 2014 **Finish:** 2018

The Augmented Human Assistant project is an ambitious scientific and technological endeavour that aims at providing solutions to alleviate the current and upcoming social, psychological and economical burden related to sedentarism and aging related morbidities. It brings together innovation and research in a cross-disciplinary consortium with expertise in such diverse areas such as Human Functioning and Performance, Augmented Reality (AR) technologies, serious games for health, physiological signal acquisition systems, computer vision systems, robot navigation and intelligent scene assessment.

The integrated AHA system will be composed by a mobile robotic platform with advances in perception, navigation and control skills; leveraged with an extended set of sensors for human sensing and emotional state estimation; serious gaming abilities through novel augmented reality methods yielding extended feedback modalities for physical exercising and motor rehabilitation; and a virtual coach system with technologies and techniques that assist and encourage users while they perform rehabilitation exercises, and instils better compliance with their prescribed exercise regimen. Such platform will define a new class of assistive devices for healthy, elderly and patient users, allowing new modalities of interaction and engagement not yet available in the state-of-the-art.

Selected Publications & Exhibitions

Gonçalves, A., Muñoz, J., Gouveia, E., Cameirão, M. S., & Badia, S. B. i. (2017). Portuguese Tradition Inspired Exergames for Older People - Strategic Tools to Promote Functional Fitness. In icSports 2017.

Lee, M. H., Siewiorek, D., Smailagic, A., Bernardino, A., & Badia, S. B. I. (2017). A Kinect-based Monitoring System for Stroke Rehabilitation. In icSports 2017

Muñoz, J., Gouveia, E. R., Cameirão, M. S., & Badia, S. B. i. (2017). Heart Rate Variability in Exergaming - Feasibility and Benefits of Physiological Adaptation for Cardiorespiratory Training in Older Adults by Means of Smartwatches. In icSports 2017.

Diogo Freitas; Teresa Paulino; Sergi Bermúdez i Badia; Roberto Llorens; Judith E Deutsch. (2017). Open Rehab Initiative: Second Development Iteration. Presented at the International Conference on Virtual Rehabilitation, Montreal, Canada: IEEE.

http://neurorehabilitation.m-iti.org/lab/aha-augmented-human-assistance/

Coordinators:

Mónica da Silva Cameirão
Sergi Bermúdez i Badia

Researchers

Afonso Gonçalves
Honorato Sousa
John Muñoz
Min Hun Lee
Teresa Paulino

Partners

M-ITI

IST-ID

CMU

FMH

YDreams

PLUX

Funded by

FCT, CMUP-ERI/HCI/0046/2013

Budget

€180 220

ALERT4YOU

Building a new citizen and tourist information management system, through the latest ICT (web and smartphone).

Start: 2017 **Finish:** 2019

This project counts on the construction of a new citizen and tourist information management system, through the latest ICT (web and smartphone), human centered, that allows the dissemination of alert information according to individual circumstances with complementary useful information and can be an interactive system that improves efficiency and effectiveness not only upstream of extreme events but also downstream. It is also intended to take advantage of the universality of the system in order to improve the entire tourist safety system in the regions involved. Inspired by the European ALER4EUROPE system, this new platform aims to harmonize the regions and mobilize the population for greater citizenship and a sense of security, while giving it a pedagogical and security tool in their daily lives.

Coordinators:

Chris Csíkzentmihályi
Simone Ashby

Researchers

Chris Csíkzentmihályi
Jude Mukundane
Simone Ashby

Partners

Direção Regional das Obras Públicas e Comunicações dos Açores

Associação de Municípios da Região Autónoma da Madeira

Dirección General de Seguridad y Emergencias, Cabildo Insular de La Gomera

Service Nacional de Protection Civil y Bomberos de Cabo Verde

Serviço Regional de Proteção Civil e Bombeiros dos Açores,

Serviço Regional de Proteção Civil, Núcleo Operacional da Sociedade de Informação

Funded by

Cooperation Program INTERREG V-A Espanha-Portugal MAC (Madeira-Açores-Canarias) 2014-2020

Budget

1.117.281,56€

BEANSTALK

Tools to analyse trends in tourism and marketing complemented with transmedia experience

Beanstalk is a multidisciplinary project based at the Madeira Interactive Technologies Institute, in partnership with the Associação de Promoção da Madeira (AP Madeira). Our goal is to design and prototype new analytics tools to analyse Madeiran trends in tourism and marketing and further complement this with a transmedia experience that can potentially stimulate local economy.

This project is divided into two components – the first of which focuses on the creation of a platform where it is possible to keep track of the flow of people in Madeira. The second component consists in the development of a location based storytelling experience, using everyday mobile devices, that capitalizes on the previously collected data.

Selected Publications & Exhibitions

Dionísio, M., Bala, P., Nunes, N., Nisi, V., (2017), "Fragments of Laura: Incorporating Mobile Virtual Reality in Location Aware Mobile Storytelling experiences". Full paper in ACM proceedings of MUM 2017, Nov 26-29, Stuttgart, Germany.

Dionísio, M., Bala, P., Oakley I., Nunes, N., Nisi, V., (2017) Step by Step: Evaluating Navigation Styles in Mixed Reality Entertainment Experience, Full paper in LNCS Springer proceedings of ACE 2017, 14-15 December 2017, London UK

Fragment of Laura/ Ha Vita finalist invited at the Film Interactive 2017, Festival of Interactive Comunication, Content of the Future, 17th October 2017, The Film School, Lodz, Poland

http://beanstalk.m-iti.org/

Start: 2015 **Finish:** 2018

Coordinators:

Nuno Nunes
Valentina Nisi

Researchers

Ana Bettencourt
Bongkeum Jeong
Dina Dionísio
Dinarte Vasconcelos
Duarte Teixeira
Mara Dionísio
Marko Radeta
Paulo Bala
Rui Trindade
Sandra Olim

Partners

M-ITI and Madeira Promotion Bureau (AP Madeira)

Funded by

MADEIRA 14-20 FEDER
Madeira Promotion Bureau (AP Madeira)
2015/2016

Budget

332.766,14€

ENERMAC

Renewable Energy and Energy Efficiency for the Sustainable Development of Western Africa and Macaronesian islands

Start: 2017 **Finish:** 2019

The aim of this project is to develop actions that contribute to maximize the use of renewable and indigenous energy sources, to help reduce energy dependence and promote the sustainable development of the Macaronesian and West African islands, based on the following lines of action: Energy Planning, Rational Use of Energy and Analysis of Networks and Microgrids.

The creation of a network of excellence in the field of Renewable Energies and energy efficiency will be promoted, where the knowledge generated among the participating regions will be shared, fostering the training and exchange of the research staff, in order to multiply the impact of the acquired know-how. The collaboration between institutions in these regions will allow to advance in the solution of their energy problems.

Selected Publications & Exhibitions

The Newton Machine, winner of the II Cultural International Prize
http://www.cccb.org/en/framework/file/climate-change/224133

Reconstrained Design: A Manifesto' (with Julian Hanna and Enrique Encinas), Provocation, Designing Interactive Systems, Edinburgh, UK, June 2017 http://dis2017.org/conference-program-1/

'Reconstrained Design: Confronting Oblique Design Constraints' (with Julian Hanna and Enrique Encinas), Nordes, Oslo, June 2017

Coordinators:

James Auger

Researchers

Mohammed Ali
Parakram Pyakurel

Partners

Instituto Tecnológico de Canarias, S.A. (MB),

Agência Regional da Energia e Ambiente da Região Autónoma da Madeira,

Universidad de Las Palmas de Gran Canaria,

Universidad de La Laguna, M-ITI,

Colegio Oficial de Arquitectos de Gran Canaria,

Consejería de Economía, Industria, Comercio y Conocimiento del Gobierno de Canarias,

Direção Regional da Economia e Transportes,

Federación Canaria de Municipios,

Cabildo Insular de El Hierro,

Cabildo Insular de Lanzarote,

Funded by

Cooperation Program INTERREG V-A Espanha-Portugal MAC (Madeira-Açores-Canarias) 2014-2020

Budget

122.968,19€

Find more at https://www.m-iti.org/research-projects

FI-MAC

Future Internet Macaronesian Plaftform for Business Acceleration

Start: 2016 **Finish:** 2019

The FI-MAC project has as main goal the Technological Acceleration and Internationalization of Small and Medium Enterprises (SMEs) based in Madeira, the Azores or the Canaries. FI-MAC is a project funded by the Mac-2014-2020 program of the European Regional Development Fund (Interreg) and has, as partners: from the Autonomous Region of Madeira - Madeira Interactive Technologies Institute (M-ITI) ; from the Autonomous Region of the Azores - Fundo Regional para a Ciência e Tecnologia, Câmara de Comércio e Indústria de Ponta Delgada; and from the Canary Islands - Associação Innovalia, Conselho Insular de La Palma, Fundação da Universidade de La Laguna. The FI-MAC project aims to support SMEs in the Macaronesia region in increasing their competitiveness, modernizing themselves, and "taking the leap" for internationalization using Future Internet Technologies made available by the European Commission through the FIWARE platform.

Under the Open Call of the FI-MAC project, 16 SMEs were selected to benefit from 60 hours of personalized strategic and technological consulting. These companies will have to develop a project during the year of 2018, with the support of FIWARE tools and specialists from the FI-MAC consortium to create new business opportunities at an international level. The projects of these 16 companies will be evaluated in the first quarter of 2019 by an international jury and 4 will be selected which will receive, until the end of 2019, additional specialized training in internationalization, having in mind further expansion outside the islands, improvement of their commercial strategy, participation in R&D projects and international trade agreements.

In order to inform Macaronésia SMEs about potential technological and business opportunities, the FI-MAC team at M-ITI provides an information repository regarding the architecture and Enablers made available for free by the FIWARE platform: https://fimac.m-iti.org/

http://www.fiwaremac.org/

Coordinators:

David Aveiro

Researchers

Duarte Pinto

Partners

M-ITI

Cabildo Insular de La Palma

Asociación de Empresas Tecnológicas Innovalia

FGULL. Fundación General Universidad de La Laguna

FRCT - Fundo Regional para a Ciência e Tecnologia

Câmara do Comércio e Indústria de Ponta Delgada

Funded by

Cooperation Program INTERREG V-A Espanha-Portugal MAC (Madeira-Açores-Canarias) 2014-2020

Budget

92.700,04€

LEAPFROG

Enhancing the Research and Innovation Potential of M-ITI through Human-Computer Interaction and Design Innovation

Start: 2014 **Finish:** 2019

The goal of this project is to expand the research and innovation potential of the Madeira Interactive Technologies Institute (M-ITI) of the University of Madeira through the hiring of an ERA Chair in Human-Computer Interaction (HCI) and Design Innovation (DI). The LEAPFROG HCI-DI aims at unlocking the full potential of interdisciplinary research in interactive technologies, while strengthening innovation and knowledge transfer activities in close collaboration with local and global industrial partners and contributing to the smart specialization strategy of Madeira.

Selected Publications & Exhibitions

Csíkszentmihályi, Christopher and Nuno Nunes. "Socially Responsible, Creative and Trusted Regional Innovation in Digital Era", WIRE 2017 conference, June 28-30 2017

Csíkszentmihályi, Christopher. 'Making a Fresh Start' at "The Transformative Force of the Maker," by COWERK research group, Berlin, March 2017

Armano, E., Murgia, A., Teli, M. 2017. Platform capitalism e confini del lavoro negli spazi digitali. Mimesis.

Teli, Maurizio. "Progettare tecnologie del comune." In I confini del lavoro negli spazi digitali. Armano, Emiliana, Murgia, Annalisa, Teli, Maurizio eds. Milan: Mimesis Edizioni, Roma, 2017.

Rodrigues, Gemma. "African Art and the Global Turn." In Global Art and the Practice of the University Museum, edited by Jane Chin Davidson. Routledge, 2017.

Botto, F., Teli, M.. PIE News. A public design project toward commonfare. The Journal of Community Informatics, North America, 13, aug. 2017. Available at: <http://www.ci-journal.net/index.php/ciej/article/view/1383> Date accessed: 29 Nov. 2017.

Julian Hanna, James Auger, and Enrique Encinas. 2017. Reconstrained Design: A Manifesto. In Proceedings of the 2017 ACM Conference Companion Publication on Designing Interactive Systems (DIS '17 Companion). ACM, New York, NY, USA, 177-181. DOI: https://doi.org/10.1145/3064857.3079141

Teli, M., Di Fiore, A., D'Andrea, V. 2017. Computing and the Common: A Case of Participatory Design with Think Tanks. CoDesign 13 (2): 83–95

Coordinators:

Chris Csíkszentmihályi
Nuno Nunes

Researchers

James Auger
Julian Hanna
Marisa Cohn
Mary Amasia
Maurizio Teli
Vítor Aguiar
Victor Azevedo

Partners

M-ITI

Funded by

Fp7
Regpot
ERACHAIRS
2013-1

Budget

2,637,190€

http://erachair.m-iti.org

MACBIOIDI

Promoting the cohesion of Macaronesian ORs through an ICT platform for biomedical R&ID

Start: 2017 **Finish:** 2019

The project addresses the development, transfer, private investment and global commercialization of medical technology. Clinical trials are essential, particularly for the clinical thermography product, which must demonstrate its diagnostic potential in terms of sensitivity and specificity according to the clinical applications that are posed. The introduction of products of training in the educational systems of the participating territories will open up options for the medical technology companies, and will be accompanied by an international investment and marketing strategy in which specialized entities will participate in their promotion, together with the companies which are interested. An infrastructure based on ICTs will allow the collaboration and sharing of resources of the participants, identifying excellent scientific and technological capacities potentially usable in medical technology and already existing in our regions.

Selected Publications & Exhibitions

Cameirão, M. S., Pereira, F., & i Badia, S. B. (2017, June). Virtual reality with customized positive stimuli in a cognitive-motor rehabilitation task. In Virtual Rehabilitation (ICVR), 2017 International Conference on (pp. 1-7). IEEE

https://goo.gl/y7XpHT

Coordinators:

Sergi Bermúdez i Badia
Mónica da Silva Cameirão

Researchers

Fábio Pereira
Rúben Ornelas
Yuri Almeida

Partners

M-ITI

Universidad de Las Palmas de Gran Canaria (MB, Universidad de La Laguna

Instituto de Astrofísica de Canarias

Instituto Tecnológico de Canarias

S.A., Hospital do Divino Espírito Santo de Ponta Delgada

EPE

Funded by

Cooperation Program INTERREG V-A Espanha-Portugal MAC (Madeira-Açores-Canarias) 2014-2020

Budget

241.489,30€

MITIEXCELL

Improving MITI's Excellence in R&D and Leveraging International Partnerships

MITIExcell aims to improve M-ITI's capacity in research and technological development, expanding human potential and promoting a critical mass of researchers with interdisciplinary experience in human computer interaction (HCI) seeking to investigate and develop humanistic and technological innovative solutions, that take advantage of outermost geographical position of Madeira to promote justice social, environmental sustainability and motivation of communities by new technologies and social networks. It shall also work on tools to analyse trends in tourism and marketing, complemented with transmedia experience. The three years project will be leveraging international Partnerships with Carnegie Mellon University, University of Texas at Austin and University College London, in the R&D aspect.

Selected Publications & Exhibitions

Pacheco, D., Soares, L. Does the perception of team collaboration changes with time? Study with computer science students CHI Italy 2017

Matos, S., Gieben-Gamal, E. Design and Society: Rethinking the design curriculum NORDES'17: 7th Nordic Design Research Conference

Start: 2015 **Finish:** 2018

Coordinators:

Nuno Nunes
Valentina Nisi

Researchers

Ana Bettencourt
Cláudia Silva
Deborah Castro Mariño
Dina Dionísio
Dinarte Vasconcelos
Dulce Pacheco
Gemma Rodrigues
Harry Vasanth
Mara Dionísio
Marko Radeta
Paulo Bala
Rui Trindade
Sandra Olim
Sónia Matos

Partners

M-ITI

Carnegie Mellon University

University of Texas at Austin

University College London

Funded by

Madeira 1420 (IDR)

Budget

1.554.331,83€

PIE NEWS

Poverty, Income, and Employment News

PIE News / Commonfare is a socially and politically engaged project that recognizes the precarization of lives and social relations due to the crisis of traditional welfare systems and growing social inequalities. The project aims to contribute to face such societal challenges by making visible and supporting practices of collective and individual empowerment, autonomous life, and collaboration (e.g. ethical purchasing, free software, co-housing, fab labs, coworking, time banking, social cooperatives, ethical finance, community-gyms).

PIE News / Commonfare is building a digital platform –commonfare.net– by working in close cooperation with participants –including unemployed youth, precarious workers, non-European migrants and freelancers– in three pilot countries (Croatia, Italy, The Netherlands). The overall aim is to connect people and initiatives across Europe to confront together societal issues such as low income, precariousness and unemployment. The ultimate project goal, is the promotion of the Commonfare, that is a new socio-economic model based on the valorization of social cooperation and the central stage accorded to people's everyday life conditions.

Selected Publications & Exhibitions

Sciannamblo M., Lyle, P., & Teli, M. (2018). Fostering Commonfare. Entanglements between Participatory Design and Feminism. Proceedings of DRS Design Research Society conference 2018. (Accepted for publication).

Lyle, P., Sciannamblo M., & Teli, M. (2018) Fostering Commonfare. Infrastructuring Autonomous Social Collaboration. CHI '18 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems.

Teli, M., De Angeli, A., & Menéndez-Blanco, M. (2017). The positioning cards: on affect, public design, and the common. AI & SOCIETY, 1-8.

Lyle, P., Sciannamblo M., & Teli, M. (2017) Fostering Commonfare. Strategies and Tactics in a Collaborative Project. Proceedings of the 29th Australian Computer-Human Interaction Conference.

http://pieproject.eu/

Start: 2016 **Finish:** 2019

Coordinators:

University of Trento (Italy)

Researchers

Maurizio Teli
Mariacristina Sciannamblo
Mela Bettega
Peter Lyle

Partners

M-ITI

University of Trento (Italy), Basic Income Network Italia (Italy)

Udruge Centar Za Mirovne Studije (Croatia)

Museu da Crise (Netherlands)

Dyne.org (Netherlands)

Fondazione Bruno Kessler (Italy)

Abertay University (United Kingdom)

Funded by

European Commission H2020, topic ICT- 10-2015 - Collective Awareness Platforms for Sustainability and Social Innovation

Budget

1.994.667,00€

SENSE SEAT

Start: 2017 **Finish:** 2018

The goal of this project is to research, design and deploy interactive technological furniture for office spaces that can, in a subliminal way, influence the productivity, creativity and well-being of the users. This is achieved through sensors and actuators embedded in a form factor which allows the users to focus, relax, and work.

Selected Publications & Exhibitions

Ehrenberg, N. and Campos, P. (2017). How do we Understand and Design for Future Workspaces: Identifying Openings. UD'17 Noisewise, Design research in face of current challenges to knowledge. 6th Annual Forum on Doctoral Design Research, Porto, Portugal.

Campos, P., Pestana, J., Campos, M., Freitas, P., Ehrenberg, N. And Hydzik, W. (2017). SENSE-SEAT: reimagining ergonomics for a creativity support workstation. In Proceedings of ACM European Conference on Cognitive Ergonomics (ECCE 2017), ACM. DOI: 10.1145/3121283.3121421

Campos, F. M., Ferreira, C., Pestana, J., Campos, P., Ehrenberg, N., Hydzik, W. (2017). Sense-Seat: Improving Creativity and Productivity through the Redesign of a Multisensory Technological Office Chair. World Academy of Science, Engineering and Technology, International Science Index, Computer and Information Engineering, 4(10), pp. 2751.

Gonçalves, F., Cabral, D., Campos, P. and Schöning, J. (2017). I Smell Creativity: Exploring The Effects Of Olfactory And Auditory Cues To Support Creative Writing Tasks. In Proceedings of INTERACT'17, Mumbai, India, Springer LNCS. DOI: 10.1007/978-3-319-67684-5_11

Gonçalves, F., Sousa, I. and Campos, P. (2017). Triggering Your Creativity While Writing: CreativeWall - A Novel Crowdsourcing Platform. In Proceedings of the 11th International Conference on Interfaces and Human Computer Interaction 2017 (IHCI 2017), Lisbon, July 2017.

Coordinators:

Pedro Campos

Researchers

Diogo Cabral
Frederica Gonçalves
José Luís Silva
Nils Ehrenberg
Pedro F. Campos

Partners

M-ITI

WowSystem

Nuum Studio

Funded by

IDERAM

Budget*

51.166,71€

www.sense-seat.com

*correspondent to M-ITI's provision of services

SMILE

SMart IsLand Energy Systems

SMILE is a Horizon 2020 funded project with the goal of testing and demonstrating smart grid technologies, as well as business models, within large scale projects. SMILE involves three large scale pilot projects in three Island locations in Europe (Madeira in PT, Samsø in DK and Orkneys in the UK). The objective is to test solutions while establishing mutual learning processes and providing best practice guidance for replication in other regions of Europe.

The three pilots will test different combinations of technological solutions according to local specificities and conditions and the existing infrastructure and will involve all value chain actors needed to efficiently implement projects system-wide. Moreover, cross-cutting activities among the pilots will be devoted to solve common technical, organizational, legal, regulatory and market-related issues as well as to evaluate the solutions from the economic and business points of view.

http://smile.m-iti.org/

Start: 2017 **Finish:** 2021

Coordinators:

Nuno Nunes

Researchers

Daniel Pestana
Dino Vasconcelos
Luísa Barros
Sabrina Scuri
Wilson Santos

Partners

M-ITI

Bright Curiosity

LDA (PRSMA) Empresa de Electricidade da Madeira (EEM)

Associação Comercial e Industrial do Funchal (ACIF-CCIM)

Number of Partners from other Countries

Italy (1)
United Kingdom (4)
Denmark (6)
The Netherlands (2)
Greece (2)

Funded by

Horizon 2020

Budget

12.106.046,95€

SOCIAL TECH ECO-SYSTEMS IN SUB-SAHARAN AFRICA

Start: 2016 **Finish:** 2018

The 'Social Tech Ecosystems in sub-Saharan Africa' study is a 5-month research project commissioned by a partnership of three key foundations making grants in the fields of social tech and international development: Comic Relief, Indigo Trust and Nominet Trust. The study, which started in December 2016, is combining field work in sub-Saharan Africa, desk review, a peer nomination process and a number of interviews with relevant key players. The study will result in an opendatabase and a final open access report accessible to the public. Its site will document some of the research process throughout its progress, featuring interviews, videos and analyses, as well as a link to the database and the final report when made public.

Coordinators:

Chris Csíkszentmihályi
Elise Leclerc
Gemma Rodrigues

Researchers

Cristiano Gianolla
Daniel Mwesigwa
Elise Leclerc
Gemma Rodrigues
Jude Mukundane
Kaiton Williams
Michelle Kasprzak

Partners

Comic Relief

Indigo Trust

Nominet Trust

Funded by

Nominet Charitable Foundation

Budget

38.000,00€

http://ssasoctech.squarespace.com/

EDUCATIONAL PROGRAMS

M-ITI is active in research and education in the areas of Human-Computer Interaction, Informatics Engineering and Entertainment Technology.
In all three domains M-ITI offers high-quality programs with our partners, University of Madeira, University of Lisbon, University of Porto, NOVA University of Lisbon, University of Texas in Austin and Carnegie Mellon University.

M-ITI IN NUMBERS 2013 - 2017

661

Enrollments in M-ITI's educational programs

7

Educational Programs

277

Graduated students

43

Diferent Nationalities among Students

EVOLUTION OF M-ITI STUDENTS 2010 - 2017

	2013/14	2014/15	2015/16	2016/17	2017/18	Total
PAHT Briding-program Post-graduation on Human Aspects of Technology	-	7	14	-	-	21
MEI Master in Computer Science	172	89	108	-	-	369
MHCI Master in Human Computer Interaction	18	15	24	30	14	101
MET Master of Enternainment Technology	8	7	7	-	-	22
PDMD PhD in Digital Media	-	-	7	10	9	26
NETSYS PhD in Networked Interactive Cyber Physical Systems	-	-	8	9	8	25
DEI PhD in Computer Engineering	25	26	18	18	10	97

MHCI

Professional Master in Human-Computer Interaction

www.m-iti.org/mhci

Director: **Mónica da Silva Cameirão**

A dual degree program, taught entirely in English, in collaboration with Carnegie Mellon University, Pittsburgh, USA. This 16-month international program aims to attract students from any continent and leads to two degrees awarded by Carnegie Mellon University and the University of Madeira.

The Human-Computer Interaction (HCI) Masters program prepares students to participate in the design and implementation of software systems that can be used easily, effectively, and enjoyably. With a Masters in HCI, students are prepared to contribute in the multi-disciplinary teams that typically construct software systems. Students gain a broad understanding of techniques for building successful user interfaces, design principles that make user interfaces visually clear and appealing, techniques for identifying a softwares needs and its success, and understanding the people and organizations that will use the systems.

The MHCI program has an interdisciplinary orientation, with faculty and students from Computer Science, Design and Behavioral Sciences. The program takes three semesters to complete, one semester at Carnegie Mellon and the other two at M-ITI (University of Madeira).

The MHCI Project course is an eight-month long capstone project for the Masters of HCI program and integrates the topics that the students have learned in their coursework into one "end-to-end" experience. Students work in interdisciplinary teams with an industry sponsor to produce a working prototype that serves as a proof of concept of a new service or product idea.

14 Number of students enrolled in 2017

CAPSTONE PROJECTS

TEAM STUDIO80

Carolina Gouveia, Rj Villaflor, Yunting Liu and Neeraj

Team Studio80 worked with Collab to improve the user experience of their Nubitalk offering. This team has traveled to various contact centers in Europe to better understand what needs must be met and what opportunities can be explored. The end goal is to design a scalable cloud-based contact center system that easily on-boards new users while still serving the needs of advanced users.

http://neerverma.com/capstone/modal.html

Collab is a European Multimedia Contact Center Provider with a strong heritage of innovation and has been delivering award-winning platforms to businesses of all sizes around the globe for 10+ years. Collab is part of a larger IT corporation Novabase, currently with over 2500 employees in more than 40 countries and annual turnover of approx. 260 Million USD (2015).

www.collab.com/en

TEAM CURRENT

Bria Best, Christyne Tyler, James Budday and Stephanie Liao

Team Current worked with the Electricity Museum under the Electricity Company of Madeira. They are studying renewable energy in Madeira, museum design, and guest behavior in order to create an interactive experience that delights, educates, and leaves visitors inspired about the future of energy in Madeira.

http://bestb0711.wixsite.com/currentcollective

Empresa de Eletricidade da Madeira (EEM) primary goal is to produce, transfer, distribute and commercialize energy in the Autonomous Region of Madeira.

www.eem.pt

TEAM WEAVE

Catherine Chiodo, Miki Nobumori, Mike Henderson, Sara Stalla and Trisha Suri

Team Weave studied the tourism ecosystem in Madeira to uncover guest needs in order to design a unique, sustainable service that bridges the physical and digital experience for hotel guests in Madeira.

http://weevils-first-project-a218d7.webflow.io/

Pereira & Filhos Investimentos purchased the old Gorgulho Hotel. In September this year, it was reborn as Tiles Madeira Hotel in Funchal's Lido neighbourhood.

www.tilesmadeirahotel.com

DEI

PhD in Computer Science

www.m-iti.org/node/2408

Director: **Pedro Campos**

This is a 2 year full-time PhD in Computer Science Program directed by UMa (Universidade da Madeira) in partnership with M-ITI, with the primary goal of contributing to graduate highly qualified professionals and researchers in the area of computer science.

In this PhD program, students have the chance to be co-supervised and oriented by our researchers and faculty members, also having the chance to work on their research subjects and also do several of the program courses at M-ITI's facilities - contributing for improving their skills in the areas of Human-Computer Interaction and Entertainment Technology.

The Program accepts students from the areas of computer science, software and informatics engineering, and will prepare them to conduct autonomous research projects both in the academic and economic sector. It will also give them high qualifications to think and organize complex systems as well as finding the best solutions to several and real context problems.

10 Number of students enrolled in 2017

PDMD

PhD in Digital Media

www.m-iti.org/pdmd

Director: **Valentina Nisi**

This program was created through the partnership between the FCT/UNL (Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa), the FEUP (Faculdade de Engenharia da Universidade do Porto) and UT Austin (University of Texas in Austin, United States).

This is a 4-year PhD program, that is aimed at students with a masters degree (2nd cycle Bologna or pre-Bologna) in the areas of information / communication sciences, multimedia, interactive design and all scientific and technological digital media areas. Digital media is an area that is rapidly growing and has gained increasing importance in our daily lives.

The Digital Media PhD program aims to train researchers, academics and leaders in innovative processes. This training will enable the conceptualization and development of digital products and services, having taken into account target audiences, contexts, and goals relevant to several distribution channels.

9 Number of students enrolled in 2017

NETSYS

PhD in Networked Interactive Cyber Physical Systems

www.m-iti.org/netsys

Director: **Morgado Dias**

A 4-year PhD program, in which students have one year dedicated to curricular courses and three years dedicated to research.

This program is aimed at students with a masters degree (2nd cycle Bologna or pre-Bologna) in engineering (electronic, computers, mechanical, aerospace and IT), computer science and applied mathematics and it offers a high level of expertise and skills in cyber-physical interactive systems. This PhD will provide students with the conceptual, scientific and technological tools to deal with the most challenging problems that happen in some of the most relevant real-life situations in the world.

This PhD in networked interactive cyber-physical systems aims to train researchers, professors and professionals to deal with innovative processes and situations. It also aims to enable them to analyse complex situations and to propose new solutions, as well as giving them the ability to manage multidisciplinary teams.

Number of students enrolled in 2017

PHD STUDENTS

M-ITI offers doctoral programs in collaboration with University of Madeira, University of Lisbon, University of Porto, NOVA University of Lisbon, University of Texas in Austin and Carnegie Mellon University. Our current cohort of PhD students follows.

Afonso Gonçalves

Supervisor: Sergi Bermúdez i Badia

Augmented Assistive Exergames: Healthy Exercising Through Adaptive Games in a Spatial Augmented Reality

Ana Lúcia Faria

Supervisors: Salomé Pinho (Univ. Coimbra) and Sergi Bermúdez i Badia

Design and Assessment of Virtual Reality Methods for the Cognitive Rehabilitation of Stroke

Ana Caraban

Supervisors: Pedro Campos and Evangelos Karapanos

Sustaining users' engagement with physical activity trackers

Athanasios Vourvopoulos

Supervisor: Sergi Bermúdez i Badia

Multimodal Neuro-Robotic VR system for Stroke Rehabilitation

Duarte Gouveia

Supervisor: David Aveiro

Executable Model Ontology for Temporal Intelligent Organizations in Network Systems

Fábio Darío Vieira Baptista

Supervisors: Morgado Dias and João Paulo Costeira (IST)

Rapid Hardware Implementation of New Paradigms of Artificial Neural Network (RHINPANN) for Renewable Energy Applications

Fábio Mendonça

Supervisors: Morgado Dias and Antonio García (Universidad de Las Palmas de Gran Canaria)

Monitoring and Control of Sleep Quality

Frederica Gonçalves

Supervisor: Pedro Campos

Designing and evaluating creative writing environments: a directed storytelling, ethnography-based approach

Greicy Silva

Supervisor: Nuno Nunes

Sharing Economy

John E. Muñoz

Supervisor: Sergi Bermúdez i Badia

Creation of adaptive videogames for sustain active aging: the role of biocybernetic loops in game experience

José Corujeira

Supervisor: José Luís Silva

Telerobotics augmentation of Situation Awareness through Multimodal Interfaces

Jude Mukundane

Supervisor: Chris Csíkszentmihályi

Creation of adaptive videogames for sustain active aging: the role of biocybernetic loops in game experience

Lígia Duro

Supervisor: Pedro Campos

How could the use of activity trackers offer a long-term value?

Luis Duarte Andrade Ferreira

Supervisors: Nuno Nunes and Mario Bergés (Carnegie Mellon University)

The impact of music and reminiscence therapy in the cognitive performance of Alzheimer patients using virtual environment

Mara Dionísio

Supervisors: Valentina Nisi and Nuno Correia (FCT/NOVA)

Fostering engagement and awareness about local nature and cultural capitals through mobile interactive entertainment

Maria José Ferreira

Supervisor: Evangelos Karapanos

Measuring the impact of inclusive educational interventions on students' development through wearable sensor technology

Mela Bettega

Supervisors: Maurizio Teli

Design for commons: Adopting Participatory Design to foster the connection between high and lowskilled people in Madeira

Michelle Kasprzak

Supervisor: Chris Csíkszentmihályi

Innovation in Extreme Scenarios

Min Lee

Supervisors: Sergi Bermúdez i Badia and Alexandre Bernardino (IST)

Coaching Systems

Paulo Bala

Supervisors: Valentina Nisi and Nuno Correia

Immersive Journalism

Pedro Valente

Supervisors: Nuno Nunes and David Aveiro

Adaptation of the software development effort to the organization's return of investment capabilities

Ricardo Nuno Araújo Sol de Jesus

Supervisor: Karolina Baras

Eye Hand Coordination in Interactive Information Visualization

Roham Torabikalaki

Supervisors: Morgado Dias and Álvaro Gomes (UC)

Towards the Integration of service design methods and tools in software development process.

Ruben Gouveia

Supervisor: Evangelos Karapanos

Understanding users' engagement with activity trackers.

Rui Alves

Supervisor: Nuno Nunes

Towards the Integration of service design methods and tools in software development process.

Sandy Carmo Relva Rodrigues

Supervisor: Morgado Dias

Non-Invasive Monitoring System for Photovoltaic Installations

Sara Tranquada

Supervisors: Chris Csíkszentmihályi and Nuno Correia

Internet of things

Sheikh Shanawaz Mostafa

Supervisor: Morgado Dias

Automated Sleep Apnea Hipoapnea Syndrome Detector

Vanessa Cesário

Supervisor: Valentina Nisi

Digital connected devices and mediated storytelling - between children and adults -

PHD GRADUATIONS

M-ITI congratulates our PhD students on their academic achievement.

PHD THESIS Abstracts, 2017

Pedro Valente

The GOALS Approach: Business and software modeling traceability by means of human-computer interaction: enterprise modeling language and method

Supervisor: Nuno Nunes and Marco Winckler

The management of an enterprise relies on the continuous organization and development of its business and software systems. A process that requires merging the ideas of the enterprise' systems managers, targeting the specification of business requirements and the conception and implementation of a supporting information system. This process finds obstacles in the identification and communication of requirements, and also in their transformation in software artefacts, leading to difficulties or loss of traceability between business and software models. Existing methods, languages and techniques are still not sufficiently standardized to ensure that when a business improvement is introduced, the supportive software solution will be implemented within budget and time. Methods are still too closed to the concepts of their original scientific domains, conceiving solutions which are not representative of the business and software conceptual relation and of the complexity concealed in an improvement effort, namely concerning usability and user experience. Moreover, the lack of a common modeling language and method for the conception of holistic and traceable software solutions, also refrains the performance of the enterprise development process. The GOALS Approach presents a solution to surpass these barriers by means of the specification of an enterprise modeling language that relates the business and software conceptual structures using a shared set of concepts, a notation, process, method and techniques, that allow the design of the software as a result of the business organization, ensuring traceability by means of the permanent representation of the business structure in the software structure.

PHD THESIS Abstracts, 2017

Frederica Gonçalves

New paradigms for the design and evaluation of creative writing user interfaces

Supervisor: Pedro Filipe Pereira Campos

The research evaluates different techniques for improving creativity when writing, applying them to different scenarios. We introduce a new concept, called "mild" place illusion, as a new paradigm for designing user interfaces targeted at stimulating creativity. We show that for creative tasks such as creative writing, new product ideation, and brainstorming, a "just-enough" amount of place illusion leads to a greater self-perception of creativity, as opposed to a "full-level" place illusion. Secondly, we evaluate the effectiveness of subliminal cues as a novel creativity support technique. Results showed that participants in the subliminal condition experienced more flow when writing. Thirdly, we explore the effect of auditory and olfactory cues and their combination during a creative writing exercise. Our results provide useful insights suggesting that olfactory cues have an important role in the creative process of users and also when this type of cues are combined with auditory cues. These modalities should gain more relevance on the development of environments for supporting the creative writing process. New tools for creative writers can also be used to support community-based writing projects and encourage people from all backgrounds to find their voice and tell their unique stories. Our work also addresses for the first time, a minority user group of underserved youths, by evaluating how they write using different user interfaces. We conclude that using our tools they felt more empowered to tell their unique stories and experienced increase in their mental well-being.

SELECTED PUBLICATIONS

Diana Leonor Costa, Ana Lúcia Faria, Yoram Chisik Hugvie as a therapeutic agent in the improvement of interaction skills in children with developmental disabilities: an exploratory study 14th International Conference on Advances in Computer Entertainment Technology

Vanessa Cesário, António Coelho, Valentina Nisi Enhancing Museums' Experiences Through Games and Stories for Young Audiences International Conference on Interactive Digital Storytelling (ICIDS 2017) Publisher Springer

Vanessa Cesário, António Coelho, Valentina Nisi Teenagers as Experience Seekers Regarding Interactive Museums Tours International Conference on Design and Digital Communication 2017 Publisher PCA - Instituto Politécnico do Cávado e do Ave

JE Muñoz, E Rubio, Monica Cameirão, S Bermúdez The Biocybernetic Loop Engine: an Integrated Tool for Creating Physiologically Adaptive Videogames 4th International Conference in Physiological Computing Systems.

J. Muñoz, E. R. Gouveia, Monica Cameirão, Bermúdez i Badia Heart Rate Variability in Exergaming - Feasibility and Benefits of Physiological Adaptation for Cardiorespiratory Training in Older Adults by Means of Smartwatches icSports

Monica Cameirão, Fábio Pereira, Bermúdez i Badia Virtual reality with customized positive stimuli in a cognitive-motor rehabilitation task International Conference on Virtual Rehabilitation (ICVR 2017) Publisher IEEE

Luis Duarte And Ferreira, Monica Cameirão, Bermúdez i Badia Music-based assistive feedback system for the exploration of virtual environments in individuals with dementia International Conference on Virtual Rehabilitation (ICVR 2017) Publisher IEEE

Sónia Matos The Sound Labyrinth: Computers, Constructionism and Language Learning Proceedings of the 2017 Conference on Interaction Design and Children Publisher ACM

Marko Radeta, Vanessa Cesário, Sónia Matos, Valentina Nisi Gaming Versus Storytelling: Understanding children's interactive experiences in a museum setting International Conference on Interactive Digital Storytelling Publisher Springer

Sónia Matos, Emma Gieben-Gamal Design and Society: Rethinking the design curriculum NORDES'17: 7th Nordic Design Research Conference

Peter Lyle, Mariacristina Book Revie Sciannamblo, Maurizio Teli Fostering Commonfare. Strategies and Tactics in a Collaborative Project Proceedings of the 29th Australian Conference on Human-Computer Interaction Publisher ACM

Lucas Pereira, Miguel Ribeiro, N. Nunes Engineering and Deploying a Hardware and Software Platform to Collect and Label Non-Intrusive Load Monitoring Datasets IFIP Conference on Sustainable Internet and ICT for Sustainability (SustainIT) Publisher IFIP / IEEE

Lucas Pereira Developing and Evaluating a Probabilistic Event Detector for Non-Intrusive Load Monitoring IFIP Conference on Sustainable Internet and ICT for Sustainability (SustainIT) Publisher IFIP / IEEE

S. S. Mostafa, F. Mendonca, F. Morgado-Dias, A. Ravelo-Garcia SpO2 based Sleep Apnea Detection using Deep Learning 21st International Conference on Intelligent Engineering Systems (INES 2017) Publisher IEEE

S. S. Mostafa, J. P. Carvalho, F. Morgado-Dias, A. Ravelo-Garcia Optimization of Sleep Apnea Detection using SpO2 and ANN 26th International Conference on Information, Communication and Automation Technologies Publisher IEEE

Mariacristina Book Revie Sciannamblo 'The Hard Hat Problem': Women Traveling the World of Computing 6th STS Italia Conference | Sociotechnical Environments Trento, November 24–26, 2016

Julian Hanna Top 10 Modernist Manifestos from Britain and Ireland Publisher Edinburgh University Press

Julian Hanna Flann O'Brien's Anti-Manifestos Acting Out: IV International Flann O'Brien Society Conference

Simone Ashby, Julian Hanna, Sónia Matos, Ricardo Rodrigues Words in Freedom: A Manifesto Machine as Critical Design ACE 2017 - 14TH INTERNATIONAL CONFERENCE ON ADVANCES IN COMPUTER ENTERTAINMENT TECHNOLOGY

Maria José Ferreira, Valentina Nisi, Francisco Melo, Ana Paiva Learning and Teaching Biodiversity Through a Storyteller Robot Interactive Storytelling: 10th International Conference on Interactive Digital Storytelling, ICIDS 2017 Funchal, Madeira, Portugal, November 14–17, 2017, Proceedings Publisher Springer International Publishing

Raul Paradeda, Maria José Ferreira, Carlos Martinho, Ana Paiva Using Interactive Storytelling to Identify Personality Traits Interactive Storytelling: 10th International Conference on Interactive Digital Storytelling, ICIDS 2017 Funchal, Madeira, Portugal, November 14–17, 2017, Proceedings Publisher Springer International Publishing

Gemma Rodrigues The Art of the Prototype 17th Triennial of the Arts Council of the African Studies Association, Accra, Ghana, August 8-13

Gemma Rodrigues Digitizing Cultural Heritage: Seeking a Decolonial Approach 2nd International Conference on African Cultures, held at the National Gallery of Zimbabwe, Harare, September 11-13 2017

José Corujeira, José Luís Silva, Rodrigo Ventura Effects of Haptic Feedback in Dual-Task Teleoperation of a Mobile Robot IFIP Conference on Human-Computer Interaction Publisher Springer

Nuno Costa, JC Silva, José Luís Silva Real-time app development approach for indoor monitoring Information Systems and Technologies (CISTI), 2017 12th Iberian Conference on Publisher IEEE

Pedro Valente, Thiago Silva, Marco Winckler, Nuno Nunes The Goals Approach: Agile Enterprise Driven Software Development Complexity in Information Systems Development: Proceedings of the 25th International Conference on Information Systems Development Publisher Springer International Publishing

Valentina Nisi, Mara Dionísio, Paulo Bala, Tom Gross, Nuno Nunes DreamScope: Evaluating Interactive 360 Degree Virtual Reality in a Physical Narrative Art Installation Proceedings of the 8th International Conference on Digital Arts - ARTECH 2017

Ashley Colley, Jacob Thebault-Spieker, Allen Yilun Lin, Donald Degraen, Benjamin Fischman, Jonna Hakkila, Kate Kuehl, Valentina Nisi, Nuno Nunes, Nina Wenig, Dirk Wenig, Brent Hecht, Johannes Schöning The Geography of PokéMon GO: Beneficial and Problematic Effects on Places and Movement Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems Publisher ACM

Catia Prandi, Valentina Nisi, Nuno Nunes Bus Stops As Interactive Touchpoints: Improving Engagement and Use of Public Transport Proceedings of the 12th Biannual Conference on Italian SIGCHI Chapter Publisher ACM

Vanessa Cesário, Marko Radeta, Sónia Matos, Valentina Nisi The Ocean Game: Assessing Children's Engagement and Learning in a Museum Setting Using a Treasure-Hunt Game 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems, Fun and Games and Gamification (CHIPLAY EA '17) Publisher ACM

Bongkeum Jeong, Jesús Ibáñez, Nuno Nunes, Monchu Chen A Tattooed Bracelet for Child Vaccination Records in a Developing World Context Proceedings of the 2017 Conference on Interaction Design and Children Publisher ACM

André Freitas, Lina Brito, Karolina Baras, José Silva Overview of context-sensitive technologies for well-being Internet of Things for the Global Community (IoTGC), 2017 International Conference on Publisher IEEE

Dulce Pacheco, Luísa Soares Does the perception of team collaboration changes with time? Study with computer science students CHI Italy 2017

Frederica Gonçalves, Diogo Cabral, Pedro Campos, Johannes Schöning I Smell Creativity: Exploring the Effects of Olfactory and Auditory Cues to Support Creative Writing Tasks Proceedings of 16th IFIP TC 13 International Human-Computer Interaction Conference, INTERACT 2017, Part II. Publisher Springer

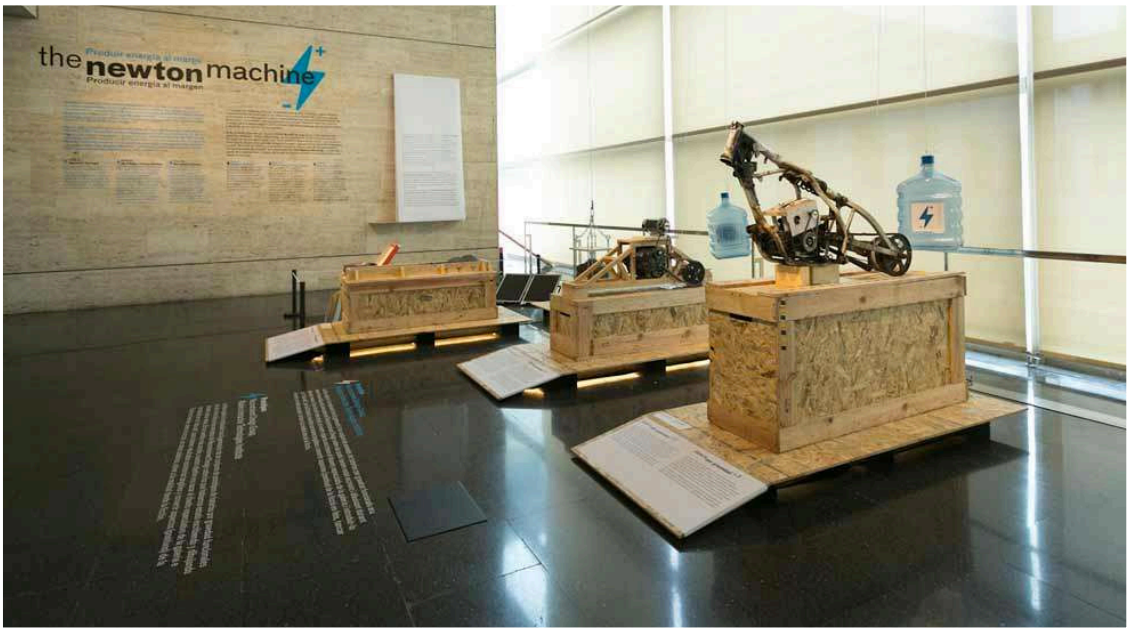
Susanne Bødker, Peter Lyle, Joanna Saad-Sulonen Untangling the Mess of Technological Artifacts: Investigating Community Artifact Ecologies Proceedings of the 8th International Conference on Communities and Technologies Publisher ACM

Nuno Nunes, Miguel Ribeiro, Catia Prandi, Valentina Nisi Beanstalk: A Community Based Passive Wi-fi Tracking System for Analysing Tourism Dynamics Proceedings of the ACM SIGCHI Symposium on Engineering Interactive Computing Systems Publisher ACM

Evangelos Niforatos, Athanasios Vourvopoulos, Marc Langheinrich Amplifying Human Cognition: Bridging the Cognitive Gap Between Human and Machine Proceedings of the 2017 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2017 ACM International Symposium on Wearable Computers Publisher ACM

Julian Hanna, James Auger, Enrique Encinas Reconstrained Design: A Manifesto DIS 2017

AWARDS AND HONORS



The Newton Machine was the winner of the II Cultural Innovation International Prize, at the CCCB, Barcelona. It's a design manual and prototype for an energy storage device, made with a local community using their tools, spare parts, and expertise. It takes us from the power socket, 'through the wall' to the energy infrastructure behind. The Reconstrained Design Group worked with Eday island, Scotland, to create this exhibition of demonstration machines. This Project will be exhibited at the CCCB Barcelona in 2018.

Researchers

Enrique Encinas, James Auger, Julian Hanna, Mohammed Ali, Parakram Pyakurel, Laura Watts (ITU)

WORKSHOPS AND TALKS

TALKS

Work and Self Determination
Brett Caraway, December 19

Digital Inclusion and Open Technology
Joseph Straubhaar & Friends, December 18

Open/Closed
Gabriella Coleman, December 17

Open Technology and Science
Jeffrey Warren, December 16

Open Data and the Law
Marcell Mars, December 15

Designing with Artefact Ecologies
Susanne Bødker, November 29

Disobidient Electronics: Protest
Garnet Hertz, October 23

Learning from Africans about African Human-Computer Interaction
Nicola Bidwell, September 4

Learning HCI Across Institutions, Disciplined and Countries, A Field Study of Cognitive Styles in Analytical and Creative Tasks
José Abdelnour Nocera, July 5

Turning into effective HCI researchers
Harold Thimbleby, June 2

Saving lives through research in healthcare computer science and HCI
Harold Thimbleby, June 2

"The Anthropocene is Merely a Symptom" Metaphysics, Technology and the Artificial
Clive Dilnot, May 24

Design/Work in our Future Cities
Liesbeth Huybrechts, May 10

Design and Developing Academic and Professional Transmedia Non-fiction Projects
Arnau Gifreu-Castells, April 20

Utopian Design and Angelus Novus- Paradise Lost or an Archipelago of Futures?
Pelle Ehn, April 19

Expressiveness and Immersion in Multimodal Virtual Environments Using Sonic Interaction Design
Eduardo Magalhães, April 6

The Power of Making
Daniel Charny, April 5

Smart Cities, Urban Informatis and Sustainability: Challenges & Opportunities
Marcus Foth, April 1

Understanding Human Behavior with Technology: Challenges, Tools & Methods
Denzil Ferreira, March 29

The EMPATIA project. From Single Democratic Innovations to Multi-channel Participatory Systems
Michelangelo Secchi, March 15

"The Design is Right and the Right Design" How to Measure and Theorize "right" in HCI and Software Engineering A to B
Ahmed Seffah, March 13

"ARMing Journalists with microboards" - How to make journalistic investigations better (and hide them from the bad guys)
Sebastian Mondial, February 17

(IP21) From Digital Rights Management to Peer to Peer Law
Melanie Dulong de Rosnay, February 15

The Business of Open
Michael Proulx, February 13

P2P Value and Share Equity: Intellectual Property in Open Value Networks
Alexandros Pazaitis, January 26

Learning From Socially Useful Production
Adrian Smith, January 25

Doing Futures Now: Is Another Design Possible?
Ann Light, January 24

SEMINARS & SYMPOSIA

Capstone Projects Final Presentations
Colégio dos Jesuítas, Funchal, December 15

M-ITI Doctoral Symposium
Museu de Imprensa da Madeira, Câmara de Lobos, Funchal, June 2

WORKSHOPS

T-Rex workshop (CTP Lab)
October 27

Laser Cutter Workshop (CTP Lab)
October 20 and November 15

FI-MAC
September 21

INSTITUTIONAL STAFF

Alexandra Mendes

Academic & HR Coordinator

Alexandra joined the Institute in February 2016 as an administrative assistant. In 2017 she started working as M-ITI's academic coordinator assisting the Masters (MHCI) and PhD programs (DEI, PDMD, NETSYS).

Ângela Barbosa

Accounting and Administrative Manager

Ângela joined the Institute in 2014. She works in team with the Financial Director to provide internal and external accounting reports. Her role includes controlling all the procurement and public hiring processes, ensure periodical analytical and general accounting and financial output.

Carlos Gomes

Financial Director

Carlos joined the Institute in February 2011. After 1 year working as project manager, he was appointed Chief Financial Officer in 2012. As CFO his role includes, elaborating the yearly budget for the Institute and guaranteeing the best practices according with the fiscal rules.

Cátia Jardim

Project Manager

Cátia joined the Institute in January 2014. As PM her role includes ensuring the projects are carried out in line with the work plan and budget, in compliance with the funding entity rules and regulations; Preparation of technical and administrative reports and deliverables; Liaison with project consortium and funding entities and support in grant writing.

Deise Faria

Project Manager

Deise joined M-ITI in December 2014. As PM, her main responsibilities are the complete management of the project in close cooperation with the Principal Investigator; Project progress monitoring; Administration of project resources including budget-related issues; Elaboration and processing financial reports; Close communication with funding entities.

Duarte Pinto

Project Manager

Duarte joined the Institute in March 2017. After a previous 3 year experience at MITI in 2011, he returned to the Institute as a project manager. As PM his role includes guaranteeing that projects are carried out in line with the work plan and budget, according to funding rules and regulations; Preparation of financial and administrative reports.

Elsa Ferreira

Communication Manager

Elsa joined the Institute in February 2016 as a project assistant working directly for the ERA Chair project. She's currently M-ITI's Communication Manager. Her role includes managing the social communication and organizing events and visits.

Harry Vasanth

System Administrator

After working as a research assistant since 2016, Harry joined the institution as the System and Network Administrator in 2017. He is in charge of the maintenance, development and integrity of M-ITI's network & system infrastructure.

Helena Barbosa

Design Assistant

After working as a research assistant since 2012, Helena joined M-ITI as a Design Assistant in December 2017. Her role includes giving support to the communication team and staff.

Nadine Pereira

Project Manager

Nadine joined the Institute in February 2017. Since then, she has been the PM of the INTERREG MAC1420 projects, which involve the control and organization of all the expenses made in the scope of the activities planned for each project and the global management of a variety of tasks that ensure its' sustainable development.

INVESTING IN THE FUTURE

M-ITI's primary goal is to keep investing in a professional infrastructure that promotes innovation, warranting that the results of our research becomes relevant to companies and has impact in our economical environment. In 2015 M-ITI invested heavily to bring management and business development professionals. A new startup, created by PhD students, was spun off and won a H2020 SME-I contract, with coaching proved by M-ITI.

Attract and retain experienced researchers from other parts of the world that will develop their scientific careers in M-ITI and therefore contribute to build critical mass and the internationalization and development of the University of Madeira, as well as to the outermost region of Madeira. This growth will be support by a two million euro grant from European funds, granted at the end of the year. International partnerships will be a pillar of M-ITI's medium and long term future, and we shall work on deepening intuitional links with CMU and University of Texas at Austin.
M-ITI is seeking funds to allocate 1000 m2 of new lab space for the implementation of the Critical Technical Practice Lab. This new shared space for M-ITI's researchers will be contiguous and integrate seamlessly with the current facilities used for M-ITI'songoing projects.

Improving the innovation performance through a unique research infrastructure that will attract researchers and industry to the Madeira Interactive Technologies "Living Lab" and promote an economic impact through the successful creation and development of startups, spinoffs and industry-funded labs capable of generating new marketable interactive systems and service.

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