



ENGINews N^o 35, 22nd November 2012

Highlight

3B's granted historic funding for Portuguese scientific project

Avepark, Guimarães, 9th November



The project "POLARIS – Unlocking the research potential of the 3B's Group, University of Minho, in the Nanomedicine field to strengthen its competitive position at the European level", from the Research Group in Biomaterials, Biodegradables and Biomimetics (3B's) of the EEUM, was granted one of the largest funding ever for a Portuguese scientific research project. The POLARIS has a global budget of 3.15 million euros (totally granted to the 3B's, member of the Associate Laboratory ICVS/3B's of the UMinho) and is 100% financed by the 7th Framework Programme of the European Commission in the category Capacities. The main objective of this project is to strengthen the research capacity of the 3B's in the area of nanomedicine, namely regarding the fabrication, modification and characterization of nano-scale materials, in order to create new strategies which can be applied in the biomedical area.

The Rector of the UMinho and several representatives of the European Commission participated in the project launch meeting

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Rui Reis is the Portuguese scientist with most publications ever

At the age of 45, Professor Rui Reis, director of the 3B's Research Group of the EEUM, is the best Portuguese scientist ever in terms of scientific publications. Rui Reis has 642 papers listed under the ISI Web of Knowledge (Thomson-Reuters), the main scientific database in the world, from which 450 papers in international magazines and 41 revision articles. 200 book chapters and nearly 1500 communications in conferences presented around the world are to be added to the previous numbers. Rui Reis has also participated in 175 conferences as invited speaker or chairman.

Rui Reis is one of the worldwide researchers with most publications, one of the most quoted (nearly 9000 quotes) and attained the largest "h factor" (49) in his scientific area – biomaterials, tissue engineering, regenerative medicine and stem cells.

The Professor has received innumerable awards, such as the Jean Leray and George Winter Awards from the European Society for Biomaterials (ESB). He is one of the very few International Fellows of Biomaterials Science and Engineering. Rui Reis has also received the ESAFORM Award, the 1st Grand Prize Novo Norte (Portuguese Award), as well as the Pfizer Award for Clinical Research, among others.



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UTAustin-Portugal Programme renewed for five more years

Lisbon, 5th November

The Portuguese Foundation for Science and Technology (FCT) and the University of Texas at Austin (UTAustin) have signed a memorandum of understanding which guarantees the continuity of the UTAustin-Portugal Programme for five more years, with an annual investment of 2 million euros. The President of FCT, Miguel Seabra, the National Programme Director, Nuno Correia and the Director of the Programme at the UTAustin, Robert Peterson, participated in the signing ceremony, as well as several representatives of some Portuguese universities which take part in this partnership. Alberto Proença, professor at the Department of Informatics (DI) of the EEUM and Programme Coordinator at our School, represented the UMinho in this event.

In this new period of collaborative research, the signed memorandum of understanding includes a new scientific area, Nanotechnologies, apart from the three previous areas (Digital Media, Advanced Computing and Mathematics). For more information on the opportunities provided by this agreement, please contact Professor Alberto Proença.

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Awards

EEUM awarded again at the BES National Innovation Competition

Lisbon, 12th November

The EEUM is involved in three of the four awards granted in the 8th edition of the BES National Innovation Competition. The awards confirm the excellence of the research performed at the EEUM and its growing applicability to industry.

In the category “Clean Tech & Industrial Processes”, the award went to the NanoPurifying System. This is the first available system which is able to treat and decontaminate air at an industrial scale. The project is a partnership of OCRAMclima and the UMinho and is coordinated by Professor Amaral Nunes, from the Department of Mechanical Engineering (DEM) of the EEUM. The innovation is destined not only to air treatment units but also for commercial use.

In the category “Natural Resources&Food”, the winner was the project PNA-FISH, a new technique for rapid diagnose of microorganisms, based on the use of nucleic acids. The project was created by Biomode, a spin-off created at the Department of Biological Engineering (DEB) of the EEUM, which aims at commercializing molecular diagnose methods based in this technology, with clinical and agro-food industrial applicability.

In the category “Health Technologies and Biotechnology”, the award went to "Porto Knee Testing Device (PKTD)", a medical device which intends to revolutionize the assessment of knee injuries of athletes, with dynamic MIRs and CAT scans. The device is developed by the Clinic Espregueira-Mendes in partnership with the 3B's Research Group of the EEUM.

In 2011, Professor Jaime Rocha Gomes, from the Department of Textile Engineering (DET), and his research team were granted the grand prize of the BES National Innovation Competition with the “NANOCOR” technology ([ENGINews n° 21](#)) and the Grand Prize BES 2010 was granted to Professor João Mano, researcher of the 3B's Research Group, with the project [Drops in Lotus](#).



Student of the EEUM wins Fraunhofer Portugal Challenge 2012



The student Sara Pimenta, from the Integrated Master Course in Biomedical Engineering of the EEUM, won the first prize in the MSc category of the Fraunhofer Portugal Challenge with her MSc thesis. The challenge is an idea contest promoted by Fraunhofer AICOS Research Centre aiming at motivating and rewarding research of practical utility, through the attribution of a scientific prize to MSc/PhD Students and Researchers.

The project, developed at the Algoritmi Research centre of the EEUM, consisted of a portable equipment which is able to identify and classify the patient's blood type of (ABO-Rh system) in five minutes, based on a spectrophotometric analysis.

In the 2012 edition of the Fraunhofer Portugal Challenge, two students of the EEUM reached the finalists group, one student in the PhD category and one student in the MSc category ([ENGINews_n° 34](#)). José Silva, PhD student of the MAPi Doctoral Programme (joint programme of the universities of Minho, Aveiro and Porto), was granted third place in the PhD category, with a project develop at the High Assurance Laboratory Research Centre (HASLab) of the EEUM. The project consists of an innovative form of immersive prototyping which allows the fast creation of prototypes of ubiquitous computing environments.

UMinho's researchers receive international award in Nepal

Nepal, 3rd to 5th November



A research team from the UMinho was awarded for the development of “t-words”, an interface which could be useful to fight literacy problems among children in the long term. The international award was granted in Nepal during the main conference in the interactive digital entertainment area – International Conference of Advances in Computer Entertainment.

The technology is constituted by physical blocs which may be recorded and recombined in order to produce different sound combinations. The “t-words” is a research and development project developed by engageLab/Algoritmi Research Centre at the EEUM, namely by the researchers Cristina Sylla and Sérgio Gonçalves, as well as Pedro Branco (professor at the Department of Information Systems - DSI - of the EEUM) and Clara Coutinho (professor at the Institute of Education of the UMinho).

Workshop C&E

Workshop Medical Devices

Campus of Azurém, 9th November



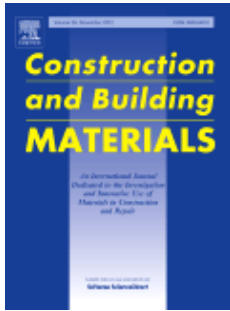
In the framework of the MIT-Portugal Programme, the School of Engineering (EEUM) and the School of Sciences (EEUM) promoted a workshop on the theme Medical Devices, which gathered researchers of the UMinho and business owners from this activity sector. The workshop aimed at fostering the creation of close links between the UMinho's research groups and the companies working in the field of medical devices.

The workshop joined more than 60 participants, among which some post-graduation students. There were several oral presentations and 20 posters were displayed.

During the meeting, several research themes were identified, which, due to their multidisciplinary and scope, may provide answers and solutions – new products, new materials, new technologies – to a set of companies. The foundations for the constitution of a collaborative network which would allow the presentation of a structured application to funding for a test-bed in the framework of the MIT-Portugal Programme have also been created.

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News



UMinho leads publications ranking on *Construction and Building Materials*

As far as published items since 2008 are concerned, the University of Minho is the worldwide leading institution in terms of publications in the ISI-A1 paper Construction and Building Materials (Elsevier).

The second and third positions in the ranking are occupied by the Chinese universities Tongji University and Wuhan University, respectively.

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EEUM participates in project for the development of smart wheelchairs



The project “IntelWheels: Smart WheelChair with Multimodal Interface” aims at developing a software/hardware kit which allows to transform any regular wheelchair in to a smart wheelchair which is able to receive voice or sensor commands, to avoid obstacles, to plan tasks or to communicate with other devices.

The project is being developed at the University of Porto (LIACC/FEUP) with the participation of the INESC-P, the University of Aveiro, the UMinho, the School of Health Technology of the Politechnic Institute of Porto (ESTSP/IPP) and the Porto Association for Cerebral Paralysis (APPC). “The idea for this project was mainly to develop a smart, low cost and low ergonomic impact wheelchair. We wanted it to be commanded by a flexible multimodal interface, which means the user is able to choose his/her own command mode (voice, head movement, among others) or even combine different modes”, explains Professor Luís Paulo Reis, from the Department of Information Systems (DSI) of the EEUM.

Pedro Arezes presents the concept of urban ergonomics



Interviewed by “Nós”, the newsletter of the UMinho, Professor Pedro Arezes, from the Department of Production and Systems (DPS) of the EEUM, presents a very recent concept in Portugal, urban ergonomics, and the main developments of this area at the EEUM. Urban ergonomics consists of the development of products, processes and objects bearing its users in mind. This means to conceive cities or their equipment in such a way that guarantees they are used effective and efficiently, while ensuring the wellbeing and safety of users. Aiming at analysing and, whenever possible, perfecting cities’ structures, the PhD thesis “Ergonomics of the urban space: developing a common denominator for orientation, perception and use of the city” is currently being developed by Patricia Alves. Three European cities with different characteristics are being analysed: Guimarães (an historical centre), Paris (worldwide metropolis) and Cologne (in one of the German city’s suburbs). Supervised by Professor Pedro Arezes, the study aims essentially at studying the urban signaling systems, i.e., the tools used to guide the users of a given city: signals, outdoors, street toponymy, among other aspects.

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CCG develops virtual assistant which interacts with people



The Centre for Computer Graphics, interface of the UMinho, has developed a virtual assistant which provides information on the companies' portfolio and is also able to interact with users in order to respond to their demands. The technology was recently launched by a Portuguese company during the "MICAM Shoevent", an international footwear exhibition, which gathered some of the most renowned designers in the world in Milan, Italy.

The virtual assistant is integrated in an information kiosk and is comprised by a horizontal control screen, which allows interaction and catalogue browsing through multitouch technology, and a vertical control screen, where the assistant is placed. This innovation may be applied to several other activities, namely assistance systems, computer games, psychological therapies, educational entertainment, arts, creativity and entertainment, digital books and advertising.

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