



## Escola de Engenharia da Universidade do Minho

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# ENGINews



## ENGINews N° 30, 13<sup>th</sup> July 2012

### Facebook EEUM

#### EEUM is on Facebook!



The EEUM joined the social networks and launched a page on Facebook. This official page aims at bringing together the School and the community.

Every member of the EEUM is invited to contribute to the page by sending news, information on events or photos to [sec-pres@eng.uminho.pt](mailto:sec-pres@eng.uminho.pt).

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Visit the EEUM's page on Facebook: [www.facebook.com/escoladeengenhariaum](http://www.facebook.com/escoladeengenhariaum)

### Awards



#### Professor Rui Reis is a Honorary Member of the SPAT

15<sup>th</sup> June

The Portuguese Society of Arthroscopy and Sports Traumatology (SPAT) granted the title of Honorary Member to Professor Rui Reis, director of the Biomaterials, Biodegradables and Biomimetics Research Group (3B's) of the EEUM and President of the Associated Laboratory ICVS/3B's. In this ceremony, Professor João Espregueira Mendes, senior researcher of the 3B's, was also honoured.

### News

#### Portuguese Prime-minister supports partnership between UMinho and Bosch

Largo do Paço, Braga, 4<sup>th</sup> July



The Prime-minister, Pedro Passos Coelho, supported the partnership celebrated between UMinho and Bosch Car Multimedia Portugal S. A, which will allow the creation of an Innovation and Technological Development Centre (I&TD).

The project, which includes an investment of 15 million euros for the next five years, has been considered a national strategic interest project by the Portuguese Government. The Rector of the UMinho, Professor António M. Cunha, and the administrators of Bosch Car Multimedia Portugal, Johannes Sommerhäuser and Sven Ost, were present in the protocol signature ceremony. The I&TD Centre will use existing facilities at Bosch and UMinho, bringing the institutions together in mutual interest activities. The partnership will involve 90 researchers and faculty of the UMinho, including 30 scholars to be contracted. The projects to be developed include new electronic devices and controllers, multimedia products based on smart screens, programmed stability system sensors, among others. The investment will be mainly directed to scientific knowledge production and acquisition of new technologies.

## Second meeting of the Advisory Council of the EEUM

Campus of Azurém, 22<sup>nd</sup> June



The Advisory Council (CCs) of the EEUM is the consultative body to advise the government bodies regarding strategic definition subjects, as well as issues related to pedagogical, scientific and interaction with society activities.

During its second meeting, the CCs analysed the implementation of the Strategic Plan of the EEUM, congratulating the School for its progress during the year of 2011 regarding the several activity indicators. An interesting and fruitful discussion on the theme “The impact of globalization in education for Science and Technology” followed.

The external personalities which are part of the CCs are: Henrique Neto, entrepreneur; Eng<sup>o</sup> António Manuel Gonçalves Maia Miranda, Consultant, Triconsulte; Eng<sup>o</sup> Luís Mira Amaral, CEO of Banco Bic; Eng<sup>o</sup> António Manuel Queirós Vasconcelos da Mota, President of the Administration Board of Mota Engil, SGPS, S.A.; Eng<sup>o</sup> Rui Pereira de Melo, Managing Director of *Critical Software*; Professor Michel Declercq, Head of Strategic European Relations of the *École Polytechnique Fédérale de Lausanne*.

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## 3B's co-promotes Multipolar Centre for the Valorization of Marine Resources and Residues

Leça da Palmeira, 2<sup>nd</sup> July

The North Regional Coordination and Development Commission (CCDR-N), the 3B's Biomaterials, Biodegradables and Biomimetics Research Group (Associated Laboratory ICVS/3B's) of the EEUM and the IBEROMARE project partnership promoted a public presentation session of the Multipolar Centre for the Valorization of Marine Resources and Residues, destined to the reutilization and valorisation of marine residues and species.

The 3B's is the main partner of the IBEROMARE project. This project, which gathers eight more Portuguese and Spanish partners, is funded by FEDER (European Regional Development Fund) in the framework of the POCTEP (Operational Programme for Cross-border Cooperation: Spain-Portugal), which aims at improving competitiveness, promoting employment and enhancing socio-economic and institutional integration in the border regions, based on marine resources of coastal areas.

The Multipolar Centre for the Valorisation of Marine Resources and Residues will be an advisory and support centre to industry and public and private institutions on the valorisation of marine resources and residues, applied to food, cosmetics, biomedical and pharmaceutical areas.

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## Visit of the Brazilian Air force

Campus de Azurém, 25<sup>th</sup> June



The EEUM received the visit of a delegation of the Brazilian Air force (FAB), in the framework of a seminar organized between the UMinho and the FAB aiming at strengthening the agreement on educational development and applied scientific research celebrated between the two institutions. The project started five years ago and allowed dozens of FAB officials to increase their professional competences, preparing themselves to the current challenge of the Brazilian sustainable development.

## **DEI of the EEUM and Hospital of Guimarães develop innovative capsule**



The Department of Industrial Electronics (DEI) of the EEUM, in partnership with the Service of Gastroenterology of the Hospital of Guimarães, is developing a wireless and remote controlled device which will allow an early diagnosis of the inflammatory bowel disease. The device is being developed in the framework of the NFCE Project (New Functions with Endoscopic Capsule) which will allow directing and commanding the capsule from the exterior, not only with one camera, as currently, but with two cameras. The research, exclusive in Portugal and innovative worldwide, has attained important advancements in aspects related to the capsule's locomotion and lighting. This is a non-invasive diagnostic method, through a "pill-like" device, which is inserted through the mouth and which transmits information to the doctor. The method had already been used to observe the small intestine, but it is now being improved.

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## **ICVS/3B's wants to recreate and replace lost menisci**



The crossing between science and sports results in a partnership which has been proposing a new generation of therapies, on the one hand, for the treatment of sports injuries in top-level athletes and, on the other hand, promoting health through the decrease of the degenerative process at musculoskeletal level.

This research, which joins the Associated Laboratory ICVS/3B's of the UMinho with a group of specialists in several research areas, develops clinical intervention methodologies which aim at suppressing the dissatisfaction degree verified in most of the current therapies.

The developed work refers to multiple therapeutic approaches, from osteochondral lesions, such as meniscus lesions, to ankle and several articular lesions, but which could also be applied to other tissues such as tendons and muscles. The level of achieved results has already earned international recognition, namely through the European award in sports traumatology recently granted to Hélder Pereira, orthopaedist and project researcher.

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## **Submarine robot collects information from the seas of Azores**

A submarine robot is collecting information from the seas of Azores in order to study maritime sponges located in the coastal area of the São Miguel island.

The European project SPECIAL – Sponge Enzymes and Cells for Innovative Applications, funded by the 7<sup>th</sup> Framework Programme in the area of Biotechnology, is co-ordinated by Professor Rui Reis, director of the 3B's Research Group of the EEUM, and aims at finding and developing technologies for the biotechnological production of cellular metabolites and biomaterials from marine sponges.

Eleven research teams from seven countries are currently participating in the project. Portugal is represented by the 3B's, project co-ordinator, and CIBIO-Açores.

This kind of remote control and foreign fabrication device is commonly used in Azores and its peculiarity is that it is a national product developed in Portuguese universities.



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## **engageLab creates engagePress publisher**

Digital Creation Laboratory, Guimarães, 4<sup>th</sup> July



Pedro Branco, professor at the Department of Information Systems (DIS) of the EEUM and Nelson Zagalo, professor at the Institute of Social Sciences of the UMinho, presented the new "art+science" publisher, engagePress, which will work as a publisher for the engageLab laboratory of the UMinho.

The aim of this new publisher is to guarantee a higher transfer level of academic work to society. In order to do so, all works will be published under Creative Commons. The promoters believe that the world needs to set free from copyright restrictions regarding knowledge. The books are edited in Pdf and iPad formats. The first titles to be published were "Jogar com Histórias de Damas" and "Contos e Jogos", from the authors Raquel Pinto and Liliana Rocha, respectively.

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## Ergonomics Laboratory studies school furniture



A study developed by the Ergonomics Laboratory of the EEUM was initiated in 2009 and was completed with the recent presentation of the doctoral thesis in Systems and Industrial Engineering of Maria Antónia Gonçalves, researcher of the Industrial and Technology Management Centre (CGIT) of the EEUM. The doctoral thesis was oriented by Professor Pedro Arezes, co-ordinator of the research group on Human Engineering of the EEUM. In this study, an incompatibility was verified between the dimensions of students and the furniture, which could be responsible for several problems in the short or medium term, including significant postural deviations in the vertebral column, which could lead to back and neck pain, as well as harmful cognitive effects, such as hyperactivity, loss of interest and a consequent low quality learning output.

Maria Antónia Gonçalves intends to develop a methodological guide to adjust furniture according to the children's height, as well as to develop, in co-operation with NAUTILUS, S.A., lead industry in school furniture, a prototype of a type of furniture with adequate conditions to accommodate a larger number of children of the considered age group.

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## New courses at the EEUM



By offering new educational projects, the EEUM aims at strengthening its educational offer in multidisciplinary areas, seeking to attract new publics and new talents.

For the academic year of 2012/2013, the EEUM's educational offer is broadened with the 1<sup>st</sup> cycle degree on Product Design (in partnership with the School of Architecture) and the Integrated Master Course in Engineering and Information Systems Management, which results from the conversion of the 1<sup>st</sup> cycle degree on Technologies and Information Systems into an integrated master course, approved by the A3ES (Agency for Assessment and Accreditation of Higher Education). The Doctoral Programme on Waste Management and Treatment, a multidisciplinary and innovative project in the European area, will also be launched.

The Integrated Master Course in Physics Engineering (in co-operation with the School of Sciences) is also accredited and is expected to start in the academic year of 2013/2014.

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## CITEPE has a new name: Industrial and Technology Management Centre



The Scientific Council of the Interdisciplinary Centre for Production Technology and Energy (CITEPE) of the EEUM proposed that its name should be altered to Industrial and Technology Management Centre (CGIT), aiming at reinforcing the importance of stressing that the EEUM has research competences in Engineering and Industrial Management, and the new name portrays this fact unequivocally.

The CITEPE's request was formally authorized by the Rector of the University of Minho and by the Foundation for Science and Technology (FCT), and the centre consequently adopted its new name: Industrial and Technology Management Centre (CGIT).

**ENGINews** is a publication of all members of the EEUM.

Please send your news to [divulgacao@eng.uminho.pt](mailto:divulgacao@eng.uminho.pt)



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