



## ENGINews Nº 20, 30th november 2011

### Awards

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#### Students from the EEUM awarded at Fraunhofer Portugal Challenge



Two students from the EEUM are included in the six finalists of the Fraunhofer Portugal Challenge. The challenge is an idea contest promoted by Fraunhofer AICOS aiming at motivating and rewarding research of practical utility, through the attribution of a scientific prize to MSc/PhD Students and Researchers from Portuguese Universities in the areas of ICT, Multimedia and other related Sciences.

Rui Barbosa, PhD student, has developed an artificial intelligence system which is capable of managing and operating financial instruments (stocks and investment funds), allowing to replace the humans working in this sector in some situations.

Waldir Pimenta, MSc student, proposes a new form of facial recognition which will allow this process to be quicker and more effective.

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### News

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#### Paulo Sampaio nominated for the “40 New Voices of Quality” list



Professor Paulo Sampaio, from the Department of Production and Systems (DPS) of the EEUM, has been included in the list entitled “40 New Voices of Quality”, published by the Quality Progress journal of the American Society for Quality (ASQ), November edition.

This list represents the recognition of the most accomplished, promising and devoted quality professionals under the age of 40, where Paulo Sampaio joins worldwide renowned professionals.

“Quality is important all around the world, as it allows the organisations to improve their products and services, in order to satisfy their clients and other stakeholders. The result is very clear: quality makes our companies, our organisations and our world a better place”, states Paulo Sampaio, 33 years old.

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## Partnership between the School of Engineering and the School of Architecture



In an interview to the newspaper “Expresso do Ave”, the Dean of the School of Engineering, Professor Paulo Pereira, identifies the partnership between the School of Engineering and the School of Architecture of the UMinho, namely concerning the Institute of Design, as a good example of the relationship between engineering and architecture, due not only to the proximity of the subjects but also to the importance and quality of the work which results from this synergy.

“The relationship between Engineering and Architecture is one of the most natural amongst the several scientific areas, as it is not possible to build quality heritage without any of the two”, Professor Paulo Pereira refers.

The fruitful co-operation continues with the education project in Product design, which will be based in the Couros area. This project will contribute to the creation of a new industrial cluster, namely the creative, technical, artistic and cultural industry. The new professionals should earn the attention of the industries which are already based in Guimarães, and which are essential to the creation of new functional and attractive products.

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## ISISE participates in innovative project for cultural heritage



The origin of the NIKER project (New integrated knowledge based approaches to the protection of cultural heritage from earthquake induced risk) is a European initiative to promote the cultural heritage protection. The project tackles the problem of earthquake-impact on cultural heritage assets starting from the basic consideration that efficient protection, with substantial guarantee of compatibility and low-intrusivity, can only be achieved with minimum intervention approach.

Professor Paulo Lourenço, from the research centre ISISE (Institute for Sustainability and Innovation in Structural Engineering) of the EEUM, is a co-coordinator of the project, which involves eighteen international research centres.

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## DEC contributes to urban sustainability guide



A research team from the Department of Civil Engineering (DEC) of the EEUM is preparing an urban sustainability certification system in Portugal. The system is being developed by the Building Physics and Construction Technologies Laboratory (LFTC). Professors Luis Bragança and Ricardo Mateus explain that the evaluation range of the city areas will consider a range of classification from “excellent” to “unsustainable”, according to parameters such as proximity to services, urban coherence and environmental respect.

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## Visit from Universidade Estadual Paulista “Júlio de Mesquita Filho” and Universidade Estadual de Ponta Grossa, Brazil

23rd and 28th november



A delegation from the Universidade Estadual Paulista “Júlio de Mesquita Filho”, Brazil, with members of the Faculties of Engineering from Bauru, Guaratinguetá and Ilha Solteira, has visited the EEUM on the 23rd November.

On the 28th November, the EEUM has also welcomed the Vice-Rector and Pro-Rector from the Universidade Estadual de Ponta Grossa, Brazil.

With both visits, the EEUM has had the opportunity to introduce its facilities and to discuss the present co-operation relationships as well as future collaboration projects.

The EEUM thus strengthens its international co-operation network, which privileges especially Brazilian institutions.



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## 2C2T introduces innovative application of textile fibers



The Science and Textile Technology Centre (2C2T) of the EEUM devotes its research, amongst other projects, to the creation of post-operative clothing, such as garments which help healing or underwear for incontinence. “There are several applications of fibers in health, namely implantable applications. Regarding underwear, the goal is to improve the well-being of patients suffering from incontinence”, explains Professor Raul Fangueiro, researcher at the 2C2T.

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## Importance of cryopreservation of stem cells



Research on tissue engineering in regenerative medicine is undergoing at the Biomaterials, Biodegradables and Biomimetics Research Group (3B's) of the EEUM. The 3B's is the largest European research group working in this area.

Professor Rui Reis, the director of the research group, has participated in the programme “Linha da Frente”, aired on RTP1 (public television channel), which was dedicated to the theme “Life at minus 196° C”. “The individual’s own cells could allow him/her to find a cure for a certain situation or to regenerate a certain tissue, so the question is: should we keep these cells or not?”, states Professor Rui Reis. “In 10 or 30 years there will certainly be many more applications for stem cells”.

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## Robotics of the EEUM develops therapy for autism spectrum disorders



The Algoritmi Centre of the EEUM, in partnership with the APPACDM, is developing a project which comprises the use of robots as a communication and interaction means for students with autism spectrum disorders. Experiences confirm that the students are able to develop new tasks, such as sitting in a different place to play with a robot or develop an activity with a colleague, such as they had done before with a robot.

“The activities aim at encouraging the students to interact, ask questions and participate in games and initiatives along with other people”, explains Professor Filomena Soares, head researcher.

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