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Awards

Researchers of the EEUM awarded by the International Association of Engineers

London, United Kingdom



Sérgio Sousa, Eusébio Nunes, Isabel Lopes and Humberto Teixeira, researchers of the Algoritmi Research Centre of the EEUM, are the authors of two recently awarded papers by the International Association of Engineers. The Merit Certificates were granted during the World Congress on Engineering, which took place in London, United Kingdom. Professor and researcher Sérgio Sousa explained that one of the awarded papers presents “a methodology which was developed by a MSc student to identify quality problems in a company”. The second paper refers to the quality of data of performance measurement regarding productivity, quality or innovation, which are frequently used by companies for decision-making processes at several organisational levels.

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Employment Day and Graduation Ceremony

Employment Day at the EEUM

Campus of Azurém, 25th January



The Employment Day at the EEUM was dedicated to the careers in Engineering, Design and Informatics. Several companies and institutions participated in the event, where they were able to present their training programmes, internships and job opportunities. The Employment Day included presentation sessions for all scientific areas, parallel sessions for specific scientific areas and several workshops. All companies participating in the event also had a booth available to welcome the students and present their projects.

Graduation Ceremony

Campus of Azurém, 26th January

The first ever Graduation Ceremony of the EEUM aimed at welcoming all students which graduated up to the 31st December 2012. The Ceremony took place at the Noble Auditorium of the Campus of Azurém and counted on the participation of a large number of graduates and their families.

During his speech, the Dean of the EEUM pointed out the effort and commitment of the graduates during their education period at the School of Engineering. The Dean also invited them to return to the EEUM to share their experiences with the new students, as examples of skilled professionals.

Project with the participation of the IPC wins funding of 500 million euros

The European Commission chose Graphene as one of the first Future Emergent Technology Flagships projects. The project aims at bringing graphene from the research laboratories to society, revolutionise industries and create economic growth and employment in Europe. The project will be undergoing for 10 years and will received funding of 500 million euros. The consortium of the Graphene Flagship joins 600 research teams from all over Europe. The Portuguese participation is led by Nuno Peres, from the School of Sciences of the UMinho, and also involves ten researchers from the universities of Minho, Porto, Aveiro and Lisbon, as well as from the International Iberian Nanotechnology Laboratory. The team from UMinho counts on the collaboration of four researchers from two Schools, including Conceição Paiva, researcher at the Institute for Polymers and Composites (IPC) and professor at the Department of Polymer Engineering (DEP) of the EEUM. Conceição Paiva's work on graphene nanoribbons from carbon nanotubes, with high potential for application in the electronics industry sector, is to be highlighted.



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Portuguese Government signs agreement with Siemens to promote engineering

Lisbon, 8th January

Aiming at strengthening the study of engineering in Portugal, the Portuguese Ministry of Economy and the Ministry of Education signed an agreement with the German multinational Siemens, in order to promote a wider knowledge of this scientific area among students from primary to higher education. The project "Engineering made in Portugal" will be launched in the current academic year. The main goal is to increase the demand for secondary education options which lead to higher education studies in engineering. Free software and automation hardware will be provided, as well as faculty training for the use of programmes and equipment. Moreover, students from professional and higher education will also be able to attend internships at Siemens. The increase of professional qualification in engineering is an opportunity to boost the reindustrialization process which is to be implemented in Portugal.



Rui Reis elected as President-Elect of TERMIS

Considering the work develop in terms of research as well as his involvement in the activities of the Society, Professor Rui Reis, director of the Biomaterials, Biodegradables and Biomimetics Research Group (3B's) of the EEUM applied to the World Presidency of the Tissue Engineering and Regenerative Medicine International Society (TERMIS). The Society was created aiming at gathering the majority of the scientific community related to the areas of Human Tissue Engineering and Regenerative Medicine in a single international society. According to the rules of TERMIS, Rui Reis will be chairing the society as President-Elect for three years, after which he will be named World President of TERMIS (2016-2018). The election of the World President is conducted online by all registered members of the Society, which at the moment counts on around 4000 members of 80 different countries, coming from the major research groups in Tissue Engineering and Regenerative Medicine in the world.



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2C2T develops anti-repellent and anti-microbial technology



The Centre for Textile Science and Technology (2C2T) of the EEUM created a technology which repels mosquito-borne diseases, such as malaria or dengue, and diseases caused by bacteria. The consumer will be able to add functional silica nanoparticles during the clothes' washing cycle, allowing the clothes to be safer, more durable (50 to 100 wash cycles) and ecological. The research project led by Jaime Rocha Gomes, professor at the Department of Textile Engineering (DET) and researcher at the 2C2T, was initiated in 2007 and is a sequence of the technology which allows the incorporation of active products into silica nanoparticles, such as anti-microbial substances, aloe-vera and, more recently, anti-mosquito substances. The project's originality and efficacy rose interest in tropical regions and also among the scientific community. The research project has been presented in several renowned conferences in USA, India, China and Spain.

Professors of the EEUM publish book "Design of Extrusion Forming Tools"

December 2012



Olga S. Carneiro and João Miguel Nóbrega, professors at the Department of Polymer Engineering (DEP) and researchers of the Institute for Polymers and Composites (IPC) of the EEUM, are the editors of the book "Design of Extrusion Forming Tools", published by SmithersRapra. The editors are the authors of two of the books' chapters, which count also on the collaboration of internationally renowned specialists from the *Centre de Mise en Forme des Matériaux* of the University of MINES Paris Tech (France), from the McMaster University (Canada), from the DEP/IPC of the EEUM and also a German researcher and entrepreneur. The main goal of the book is to provide detailed information on the project of forming tools (dies and calibrators). It describes the main problems to be faced when designing dies and calibrators, the most relevant polymer properties to be considered, the specific problems related to several types of conventional extrusion dies, and recent developments on the design of special dies and process modeling. It is expected to become a useful reference book for higher education students, teachers, researchers and engineers active in the industry.

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Researcher of the EEUM creates eletroactive paint for flexible circuits



José Gerardo Rocha, professor at the Department of Industrial Electronics (DEI) and researcher of the Algoritmi Research Centre of the EEUM, leads a research project which aims at creating eletroactive paint for printing of electrical circuits. The paint can be used in inkjet printers. The main advantages of the project are the massive reduction of the time necessary for prototype development as well as the flexibility of the circuits. Clothing is one of the possible applications, as, for instance, regarding heart rate sensors, among other projects which involve flexible electronics.

Researcher of the CT2M with second Most Cited Article of *Mechanism and Machine Theory Journal*



The article "Modeling and simulation of wear in revolute clearance joints in multibody systems", written by Paulo Flores, researcher at the Centre for Mechanical and Materials Technology (CT2M) of the EEUM, is the second Most Cited Article in the renowned journal Mechanism and Machine Theory. The position refers to the ranking of the 25 Most Cited Articles published in the journal since 2008.

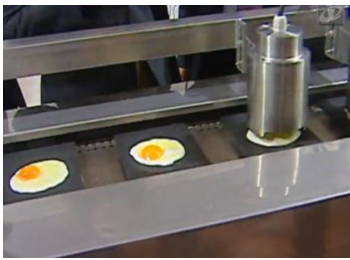
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CEB of the EEUM creates artificial blood vessels



The research group FUNCARB – FUNctional CARBohydrates Nanobiotechnology Group, from the Centre for Biological Engineering (CEB) of the EEUM, is developing artificial blood vessels based on bacterial cellulose. The main goal is to reduce vascular problems, which affect millions of people throughout the world. The use of bacterial cellulose allows the surgical process to be safer, as the risk of blood coagula is lower than that observed with other materials. The FUNCARB team, in collaboration with a team of surgeons from the Hospital de Santo António, Oporto, intends to test and revise the limitations of bacterial cellulose. Perfecting this substance may reduce the incompatibility problems which may cause severe stroke at the moment the implant is placed, which in turn allows the (post) surgical procedure to be safer.

DEB and DEM collaborate in the production of instant fried eggs



A functional prototype for the continuous production of fried eggs, developed along four years, was recently presented. The promoters of the “Egg Ready” project guarantee that the product, which is individually packed after production, is ready for consumption just as a regular fried egg, after being warmed up in the microwave oven. The project joined the Department of Biological Engineering (DEB) and the Department of Mechanical Engineering (DEM) of the EEUM with the company Derovo, creating a product which is aimed mostly at hotels and restaurants. The DEB and the DEM were responsible for two of the projects’ activities: the conservation process of the egg and the construction of the machine which will process the cooked product. At the moment, the company is working with the prototype. The full scale production operation is to be concluded by the end of 2013.

Association for Construction of Minho presents “Build Opportunities”



Following the most recent difficulties for companies in the construction sector, 40 Portuguese construction enterprises joined in order to find new business opportunities through internationalization. "Construir Oportunidades 2013" (“Build Opportunities 2013”) is the name of the project of the Association for Construction of Minho (AFCM). The main characteristic of the consortium is the cooperative effort shared by all members, in order to reach international markets. Professor José Mendes, Vice-Rector of the UMinho, referred the importance of reorganising the construction sector, so that the companies have the opportunity to establish partnerships and to present themselves to the market in a more competitive way.

ENGINews is a publication of all members of the EEUM.

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