



## ENGINews N° 43, 2<sup>nd</sup> August 2013

### Awards

---

#### **Paulo Flores granted Young Researcher Award "Prof. João Martins"**

Bilbao, Spain, 25<sup>th</sup> to 28<sup>th</sup> June



Paulo Flores, professor from the Department of Mechanical Engineering (DEM) of the EEUM, was granted the Young Researcher Award "Prof. João Martins" in Applied and Computational Mechanics, by the Portuguese Association of Theoretical, Applied and Computational Mechanics (APMTAC). The award ceremony took place during the Congress of this Association, in Bilbao, Spain. This award, granted for the first time to a researcher of the UMinho, honours young researchers which stand out in any area of Applied and Computational Mechanics according to the number and impact of papers published in international scientific journals or that have significantly contributed to the advancement in this scientific area, in terms of pedagogical activity and regarding the co-operation with the industrial sector. The award is granted annually by the APMTAC since 2004.

---

#### **Researcher from the 3B's awarded by the TERMIS-EU Society**

Istanbul, Turkey, 17<sup>th</sup> to 20<sup>th</sup> June



Manuela Gomes, invited professor from the Department of Polymer Engineering (DEP) and researcher from the Research Group in Biomaterials, Biodegradables and Biomimetics (3B's) of the EEUM, was granted the "TERMIS-EU Young Scientist Award 2013" during the Annual Conference of the European Chapter of TERMIS (Tissue Engineering and Regenerative Medicine International Society).

The Young Scientist Award recognizes an individual, who has demonstrated outstanding achievements in the field of tissue engineering and regenerative medicine research, during the early stages of his career with clear evidence of a growing profile. Candidates for the TERMIS-EU Young Scientist Award must have been awarded his/her first PhD (or equivalent doctoral degree) more than 2 and less than 10 years prior to the deadline of the call. The awardee must demonstrate evidence of high quality publications in highly cited journals, leadership activities, grant income from major funding bodies and external recognition amongst the wider international TERM community. The researcher was awarded for her excellent professional background and *Curriculum Vitae* in terms of research and publications.

[More...](#)

---

## **Student from the EEUM wins International Award Imagine Cup**

Saint Petersburg, Russia, 11<sup>th</sup> July



Ana Ferraz, Master in Bioinformatics and PhD student on Electronics and Computer Engineering of the EEUM, won the first prize of the world award “Imagine Cup”, the largest international competition for technology with social purposes, promoted by Microsoft. The researcher developed an electronic piece of equipment which can be decisive to save lives, namely when accidents occur. “The system determines the blood type very quickly, in less than five minutes, in emergency situations. Due to its portability, it can be transported in ambulances, other several hospital services or mobile laboratories, enabling it to be used closer to the patient, even at the accident location”, the awarded student refers. The research project was coordinated by Professors Vitor Carvalho and Filomena Soares, from the Department of Industrial Engineering (DEI) of the EEUM.

---

## **Biomedical Engineering Student awarded in the Future Ideas competition**

Gaithersburg, USA, 14<sup>th</sup> May

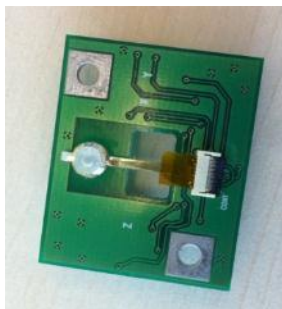


Ricardo Moreira, MSc student of Biomedical Engineering at the EEUM, was awarded for his thesis on a new mitral valve for the heart in the competition “Future Ideas”. The competition distinguished the best MSc theses completed in Europe since 2009. Ricardo Moreira developed his research in the framework of his Master course at the EEUM and concluded it during his Erasmus exchange period at the Technical University of Aachen, Germany, with the highest final classification: 20/20. The MSc dissertation entitled “A new cardiovascular bioimplant: development of a mitral valve based on a tubular structure” was coordinated by Professor Francisco Miguel Portela Gama, from the Department of Biological Engineering (DEB) of the EEUM. The student believes that his innovation based in tissue engineering will be marketed in ten years. “I am very glad to have developed a technology which can improve people’s lives”, the student referred. In practice, through this innovative process the cells are removed from the patient, a mould is prepared and then a new valve is developed from those cells which is identical to the native valve.

---

## **Best Paper Award granted to researcher from the IPC**

Minneapolis, USA, 6<sup>th</sup> to 9<sup>th</sup> May



Cátia Silva, PhD student on Polymers and Composites Engineering and researcher from the Institute of Polymers and Composites (IPC) of the EEUM, was granted the “Best Paper Award” at the I2MTC – International Instrumentation and Measurement Technology Conference. With the awarded paper, entitled “A fully integrated three-axis thermal accelerometer”, the student presented the development of a polymer-based thermal micro-accelerometer which is able to measure in three sensible axes combining polymer technologies such as microinjection moulding with silicon microtechnologies. The designed accelerometer contains four microinjected polymer pieces which fit three polymeric membranes with the metal sensor’s active elements (heating resistance and temperature sensors). The membranes and active elements are produced through spin-coating, lithography, physical deposition and RIE (reactive ion etching). The device was developed in cooperation with the INL - International Iberian Nanotechnology Laboratory. The students’ PhD is coordinated by Professors Luís Rocha (Department of Industrial Electronics) and António Pontes (Department of Polymer Engineering) of the EEUM.

---

## 2<sup>nd</sup> Place of “Student Best Paper Award“ for student of the EEUM

Eindhoven, The Netherlands, 8<sup>th</sup> and 9<sup>th</sup> July



Sara Dias, 5<sup>th</sup> year student of the Integrated MSc on Industrial Engineering and Management, was placed 2<sup>nd</sup> in the “Student Best Paper Award” category of the “Fifth International Symposium on Project Approaches in Engineering Education” (PAEE 2013). The student presented the article “Interdisciplinary programs evaluation methods: a review of literature and a model proposal for intensive projects involving academia and industry”, developed in the framework of her MSc dissertation, under the coordination of Professors Luís Dias and Rui M. Lima, from the Department of Production and Systems (DPS) of the EEUM. The dissertation project is being developed at the company Bosch Car Multimedia aiming at creating a project management model and assessing the skills’ development of students enrolled in the intensive course “Innovation and Creativity for Complex Engineering Systems”.

---

## 3B’s researcher receives Award from Chinese Government

Lisbon, 15<sup>th</sup> June



The Chinese Government decided to honour the 3B’s researcher Yan Le-Ping with an award which distinguishes excellent self-financed students working abroad. The “Chinese Government Award for Outstanding Self-Financed Students Abroad” refers to the academic year of 2012 and was handed over during an official ceremony which took place at the Embassy of China in Lisbon.

---

## PhD student has historical audience during thesis presentation

Campus de Azurém, 18<sup>th</sup> July

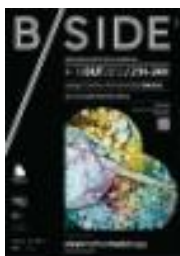


Nuno Filipe Cardoso, student from the Doctoral Programme in Electronics and Computer Engineering, presented his thesis entitled “Middleware and Tools for the Development of Security and Surveillance, Control and Comfort Systems (SVSC2-Toolkit)”, coordinated by Professors Adriano José Conceição Tavares and José Araújo Mendes, from the Department of Industrial Electronics (DEI) of the EEUM. The jury granted the student a special distinction due to the quality and relevant scientific value of the presented thesis. Public defenses of PhD thesis usually have a small audience. Unlike any other public defense, the student counted on the presence of fellow researchers, students and family members and presented his work to an audience of around one hundred participants.

---

## João Martinho Moura wins National Multimedia Award

Lisboa, 2<sup>nd</sup> July



The artistic project B/SIDE, developed by João Martinho Moura, invited Assistant Professor of the Department of Information Systems (DSI) and of the MSc on Technology and Digital Art of the EEUM, won the National Multimedia Award 2013 in the Arts and Culture category. The award is granted by APMP – Association for the Promotion of Multimedia and Digital Society. The competition included more than 150 projects. B/SIDE is a piece of interactive digital art which was displayed in the historic centre of the city of Braga in October 2012, in collaboration with the Braga Municipality. The device used active sensors in the public space and human-computer interaction techniques.

---

## UMinho is part of the winning team of RoboCup 2013

Eindhoven, The Netherlands, 24<sup>th</sup> June to 1<sup>st</sup> July



The Team FC Portugal, constituted by students from the Universities of Minho, Aveiro and Porto, conquered the 3<sup>rd</sup> place in the competition RoboCup 2013. The team also won the Scientific-Technical Challenge of the RoboCup Soccer 3D Simulation League. In addition to 10 awards obtained in Junior leagues by several Portuguese teams, the results achieved have placed Portuguese robotics in the top of worldwide research and development of robotics. RoboCup is an international robotics competition, launched in 1997. The goal of the project is to build a robot which is able to perform several tasks such as playing robotic soccer, follow and recognize people and detect victims during catastrophes.

[More...](#)

---

### UMinho launches Physics Engineering degree



In the academic year 2013/14, the University of Minho will open for the first time the Integrated Master Course on Physics Engineering. The study plan is focused on two areas – Devices, Microsystems and Nanotechnologies; Information Physics – joining the existing competences from the Department of Physics (School of Sciences) and Department of Informatics and Department of Industrial Electronics (of the EEUM). The possibilities to cooperate with INL – International Iberian Nanotechnology Laboratory will allow the students to have access to ground breaking technologies in the area of micro and nanofabrication, synthesis and characterisation of new materials and smaller scale devices, focusing on the creation of nanobiotechnology and nanoelectronics products. Information Physics will launch an area which is still underdeveloped in Portugal but which will have a large technological impact in the future, allowing the understanding and development of new methods of information treatment and communication governed by different laws of physics.

---

### Inauguration of the Advanced Centre for Post-graduate Education (CAFPG)

Couros, Guimarães, 24<sup>th</sup> June



The Advanced Centre for Post-graduate Education (CAFPG) of the University of Minho, in the Couros area, Guimarães, was inaugurated on the 24<sup>th</sup> June during a ceremony in which the Rector of the UMinho, Professor António M. Cunha, and the Mayor of the City of Guimarães, Dr. António Magalhães, participated. The opening ceremony was part of the celebrations of the “First Day of Portugal” (local holiday). The new Centre is a result of the rehabilitation of a former industrial site in the framework of the CampUrbis project and European Capital of Culture 2012. The CAFPG will contribute to boost the offer of innovative post-graduation courses (MSc, PhD, lifelong learning), attract new audiences and promote multidisciplinary education oriented towards the needs of the regional and national economic network.

---

### New Scientific Journal “Transportation Geotechnics”



The prestigious editor Elsevier will launch the new international journal “Transportation Geotechnics”. The editors are Professor António Gomes Correia, from the Department of Civil Engineering (DEC) of the EEUM, Professor Erol Tutumluer, from the University of Illinois at Urbana-Champaign, Urbana, IL, EUA, and Professor Yunmin Chen, from the Zhejiang University, Hangzhou, China. The international journal “Transportation Geotechnics” will start in 2014 and aims at publishing technical-scientific papers on all aspects of geotechnics for roads, highways, railways, airfields and waterways. Topics to be covered will include geotechnical properties of geomaterials for rational and sustainable design and construction of the aforementioned infrastructures. The journal will also consider topics such as the behaviour of compacted and stabilized geomaterials, geosynthetics, embankments for highways and high-speed trains, transition zones, dredging and waterways, as well as compaction technology, compaction management, maintenance technology, climatic effects, modeling of multi-layered structures and supporting ground under dynamic and repeated loads. and reinforcement of constructed layers and interlayers, such as freezing and thawing, , A strong topic to be covered will also include case studies that describe original work applicable to sustainable transportation infrastructure construction. The journal intends to bridge the technical-scientific gap between Pavement/Railway Engineering and Geotechnics.

---

## Researcher from the EEUM develops technological kit for electrical bicycle

GEPE Symposium, Campus of Azurém, 26<sup>th</sup> June



Rui Araújo, student from the Integrated Master Course on Computers and Industrial Electronics Engineering, developed a technological kit which is able to transform a traditional bicycle into an electrical one. The innovative project was presented during the II Symposium of GEPE - Group of Energy and Power Electronics from the Algoritmi Research Centre of the EEUM. The Be-UM – Electrical Bicycle of the UMinho can be easily marketed, especially in cities where the topography is less appealing for the use of bicycle, “broadening the universe of potential users of this ecological means of transportation”, the researcher refers.

[More...](#)

---

## Researchers from the EEUM develop Intelligent Furniture



In cooperation with researchers from the UMinho, the furniture company Nelsomóveis, located in Paços de Ferreira, Portugal, developed a new automation system applied to furniture. Bearing in mind not only the creation of furniture with *avant-garde* technological features but also people with locomotion problems or physically disabled, the company set as a goal finding a solution which allowed, for example, to increase the number of seats in the dining table, with no human intervention required, only through a mobile phone command. The project involved a team of seven professionals, from which four are researchers from the UMinho, and is coordinated by Professor Jaime Fonseca, from the Department of Industrial Electronics (DEI) and Professor António Marques Pinho, from the Department of Mechanical Engineering (DEM) of the EEUM.

---

## Researchers from the CT2M on the Top 10 of Multibody System Dynamics



The article “On the continuous contact force models for soft materials in multibody dynamics”, written by Paulo Flores and Margarida Machado (researchers from the Centre for Mechanical and Materials Technologies – CT2M – of the EEUM) and also Miguel T. Silva and Jorge M. Martins (researchers from the Institute of Mechanical Engineering – IDMEC – of the Instituto Superior Técnico), is included in the Top 10 Downloaded papers from the prestigious scientific journal Multibody System Dynamics. The paper, published in 2011, results from the cooperation work between researchers from the Group of Dynamics of Mechanical Systems from the CT2M and the IDMEC-IST.

---

## New informatics application for University Sports: U-Play



U-Play is the first platform directed towards university sports, in which it will be possible to access information on the athletes profile, team’s history and on-going competitions in several countries. Adriano Martins, one of the project’s promoters, explains that the platform intends to provide a solution for two problems: lack of availability of information on university athletes and the limited tools with which the competitions are organised. The team responsible for this project has developed two prototypes which were tested during the Informatics Engineering Futsal Tournament and the Rector’s Trophy at the UMinho.

---

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

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

The editors of the **ENGINews** are entitled to select the information to be published. Thank you for your understanding.

