



Universidade do Minho  
Escola de Engenharia

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**WEEK OF THE SCHOOL OF ENGINEERING 2014**



### **Paulo Flores presides over Technical Committee of IFToMM**

Tokio, Japan, November 2013

Paulo Flores, Full Professor of the Department of Mechanical Engineering (DEM) of the EEUM, has been nominated to preside over the Technical Committee on Multibody Dynamics of the International Federation for the Promotion of Mechanism and Machine Science (IFToMM) for the period 2014-2015. The nomination took place during the last Board Meeting of the IFToMM. Paulo Flores is the first Portuguese to preside over a Technical Committee of the Federation, which aims at promoting research, development and industrial application in the scientific domain of Machines and Mechanisms and which gathers national associations from more than 60 countries. One of the main activity concerns of the IFToMM is the reindustrialization of Europe.



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### **Most cited paper in Mechanism and Machine Theory Journal**

Professor Paulo Flores is also the author of the article “Modeling and simulation of wear in revolute clearance joints in multibody systems”, the most cited article in the scientific journal Mechanism and Machine Theory. The position refers to the ranking of the 25 most cited paper published since 2009 in this journal.

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### **Fermentum elected Agro-Industrial Start-up of the year**

Lisbon, 19th December

Fermentum, a start-up of the UMinho, won the “Agro-Industrial Start-up of the year” Award. The award was recently presented by the Portuguese Minister of Agriculture and Sea, Assunção Cristas, during the Agriculture Award 2013 Ceremony. The company Fermentum, led by Francisco Pereira and Filipe Macieira (both PhD students of Biological Engineering at the EEUM), is best known for the production of the craft beer “Letra” (“Letter”). The students drafted the project in 2008, following their Master courses related to the area and after participating in several projects in brewery. They have completed their business plan at the IdeaLab (TecMinho, UMinho) and started the scale production of the craft beer at the UMinho. Francisco Pereira and Filipe Macieira also received funding from ON.2/QREN to create a production plant in Vila Verde (Braga, Portugal), to study new recipes and test several raw materials, such as hops or malt, in order to develop different types of beer. The two-year-old company has several “letters” available in the market: A (Weiss beer), B (pilsner), C (stout) and D (red ale). Fermentum’s goal is to broaden their alphabet with special and more intense editions. Handmade beer is an emergent market in several countries.



### **Researcher of the UMinho programmes genes to develop new products**



João Guimarães, researcher at the Computer Science and Technology Centre (CCTC) of the EEUM, created a computational model which may allow the genetic programming of organisms and boost the development of new products. João Guimarães' PhD in Informatics, recently concluded, supervised by Professor Miguel Rocha, from the Department of Informatics (DI) of the EEUM, was completed in a partnership with the universities of Berkeley and Stanford, USA. The research project has been awarded and published in several leading scientific journals, such as "Nature Methods". "I have created a computational model that maps and precisely predicts the results of certain ADN combined sequences, which can be reused in several contexts and therefore contribute to the creation of added-value products for society in the future", states João Guimarães. This branch of synthetic biology has been developed for the last ten years and has large potential, namely for the pharmaceutical, therapeutic and diagnose industries.

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### **Students of Informatics Engineering create AgroSocial platform**



The finalist students of the Master Course in Informatics Engineering of the EEUM have recently launched the online platform AgroSocial, which supports the areas of agriculture, livestock, fishery and hunting. The main goal is to create a community with shared interests on the sectors while fostering its commercial, didactic and social dimensions. The project consists of a webpage with a trading area, through advertisement placements, which will allow commercial exchanges to be made between users with common interests. There is also a social and didactic side of the project. The users will have access to a "Q&A" (questions and answers) section or consult guides and training manuals in the "academy" section.

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## Former student of the UMinho teaches Informatics to Arab leaders



Sara Fernandes, 34 years old, from Guimarães, Portugal, is probably one of the Portuguese women who have worked in more Arab countries. With a degree in Computer Sciences, Sara works at the Center for Electronic Governance of the United Nations University, where governors are trained to use information and communication technologies. “This is the academic branch of the United Nations Organization, a university which aims at, in my case, training technicians from underdeveloped countries in areas such as governance and electronic education”, she refers.

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## Fibrenamics partners with PSP to produce personal protection equipment



In the framework of the agreement signed by the UMinho and the “Polícia de Segurança Pública” (PSP – National Police Force) concerning the co-operation activities on the Fibrenamics project, new materials for personal protection equipment are being developed and tested, which will then be produced by national manufacturers, avoiding the current tendency to import of most of the materials used.

Among the possibilities analysed by the Fibrenamics project, the researchers are working on the creation of lighter bulletproof vests, cut- and tear-resistant tactical suits, as well as special lighter and more resistant helmets. Raul Fangueiro, professor at the Department of Civil Engineering (DEC) and researcher at the Centre for Textile Science and Technology (2C2T) of the EEUM, is responsible for the Fibrenamics project.

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