

ENGINews N° 32, 21st September 2012

Awards

Paper by Sérgio Lopes is Best Paper Finalist

Beijing, China, 25th to 27th July



The paper entitled "An easy-to-use and flexible Object-Oriented Framework for Extended Finite State Machines", whose main author is Sérgio Lopes, professor at the Department of Industrial Electronics (DEI) of the EEUM, has been selected as one of the 6 best papers of the conference 10th IEEE International Conference on Industrial Informatics (INDIN'12) (Best Paper Finalist).

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Publication of the CT2M awarded



The paper "Development of new spacer device geometry: a CFD study (Part I)", published in the scientific journal Computer Methods in Biomechanics and Biomedical Engineering, and written by Ricardo Oliveira, Luís F. Silva, José Teixeira (researchers of the Centre for Mechanical and Materials Technology – CT2M – of the EEUM), Senhorinha Teixeira (professor at the Department of Production and Systems – DPS – of the EEUM) and Henedina Antunes (researcher at the Life and Health Sciences Research Institute – ICVS – of the UMinho), has been awarded the Pierre Fabre Scholarship by the Portuguese Society of Pediatrics (SPP). The award is granted to papers considering the originality and impact of the journal.

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Biodegradable outdoors won special mention at the Green Project Awards



The biodegradable outdoors created by the EEUM's researchers ([ENGINews n° 28](#)) were granted with an Honorable Mention for Research and Development of the Green Project Awards, promoted by the Portuguese Environment Agency (APA), the Quercus and Grupo GCI. The project, a partnership between the EEUM and the Fernando Pessoa University (UFP) is entitled "Suporte Publicitário Biodegradável com Efeitos Camaleónicos" and is coordinated by Fernanda Viana, professor at the UFP with a PhD on Textile Engineering at the EEUM (the PhD thesis originated the project) and Jorge Neves, professor at the Department of Textile Engineering (DET) of the EEUM. The research project aims at increasing environmental protection, has applied for a patent registration and is supported by national and international industry.

UMinho and Teixeira Duarte sign co-operation agreement for civil engineering

Largo do Paço, Braga, 6th September

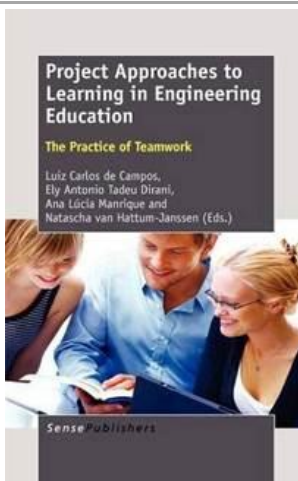


The UMinho and several companies associated with Teixeira Duarte, a Portuguese company of civil engineering, signed a scientific and technological co-operation agreement, aiming at strengthening the collaboration in research projects in civil engineering. The agreement reinforces the strong bond existing between the UMinho – as a science and technology institution, which also carries out its activity in several domains of civil engineering – and a group of companies working in several sectors of civil construction and public work, as well as property management, both national and internationally. With this agreement, the parties will be able to access each other's technological and human resources, apart from exchanging their wide experience, materialized by the Department of Civil Engineering (DEC) of the EEUM and by the project and development offices of the companies, Teixeira Duarte S.A., TDGI S.A., SOMAFEL S.A., OFM S.A. e EPOS S.A.

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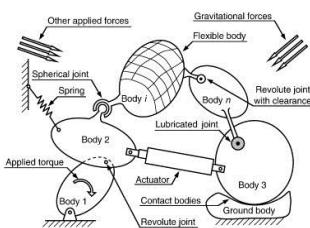
Book “Project Approaches to Learning in Engineering Education” launched

São Paulo, Brazil, 27th July



The book "Project Approaches to Learning in Engineering Education" was recently launched during the 4th International Symposium on Project Approaches in Engineering Education, which took place at the Pontifícia Universidade Católica de São Paulo (PUC-SP), Brazil. The organization of the book occurred after several discussions on the papers presented by authors during the 1st Ibero-American Symposium on Project Approaches in Engineering Education – PAEE2009, which took place in Guimarães in July 2009. The book presents several experiences and challenges found with the shift of Engineering education, particularly the contribution of the work developed by the EEUM's professors and researchers in collaboration with the Institute of Education of the UMinho.

CT2M's paper most downloaded of Journal Mechanism and Machine Theory



The paper “Compliant contact force models in multibody dynamics: evolution of the Hertz contact theory”, written by Margarida Machado, Pedro Moreira, Paulo Flores (researchers from the Centre for Mechanical and Materials Technology – CT2M – of the EEUM) and Hamid M. Lankarani (researcher from the Wichita State University, USA), is the most downloaded article of the prestigious journal Mechanism and Machine Theory. The article, published in 2012, results from the collaboration between researchers from the Dynamics of Mechanical Systems Group of the CT2M and researchers from the Department of Mechanical Engineering of the Wichita State University.

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Book by researchers of the C-TAC in the top of the sales chart of EngeBook



The book “Sustainability of Construction Materials”, by Fernando Pacheco Torgal and Said Jalali, researchers from the Centre of Territory, Environment and Construction (C-TAC) of the EEUM, maintains its position on the 1st place of the sales chart in the section “Materials and Processes – Civil Engineering” of the book dealer EngeBook for over a year. The first author is also Main Editor of the book "Toxicity of building materials", published in August 2010 by WoodHead Publishing.

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Technology is the future of textile sector



In the framework of the 41st Textile Research Symposium – TRS2012, Professor Mário Lima, Chairman of the event, mentioned that the textile technological area is the “way to go” in this sector. “The future of textile is closely linked to shifting from the idea of embroidery, shirts and socks to the application of technology on fabrics, expanding the area of textiles to biomedicine, architecture, civil engineering, among other areas”, the researcher referred. The opportunity to create added value in this area lies in research. The TRS2012 is an annual symposium, aiming at promoting textile research and facilitate the communication between scientists and technicians. The last edition of the Symposium took place at the EEUM from the 12th to the 14th September.

Researcher of the CEB develops product to combat “bee disease”



Ana Oliveira, PhD on Chemical and Biological Engineering and researcher at the Centre for Biological Engineering (CEB) of the EEUM, is involved in the creation of an innovative product which is capable of combating the American foul brood, a fatal bacterial disease of larval honeybees which causes considerable economic damages in apiculture. The research project is being developed in partnership with the zootechnical engineer Tiago Moreira, who dedicates his work to apiculture in the national region of Entre Douro e Minho (north Portugal), the National Federation of Apiculturists and the General Board of Veterinarian. “We were looking for a way to combat the problem with a solution other than antibiotics, because according to European legislation its presence in honey is not allowed. The problem would be solved with antimicrobial biological vectors, bacteriophages, which exist and are isolated in nature”, the researcher explains.

Viability of pure biodiesel for vehicles proven



Jorge Martins, professor at the Department of Mechanical Engineering (DEM) of the EEUM, has concluded the expedition of 12.350 km through South America, proving the viability of biodiesel for vehicles ([ENGINews_nº 31](#)). The natural fuel registered consumption much lower than predicted. The automobile burned 5,9% less energy than the one using petrol. The goal of this research is to draw attention to the expansion potential of biofuels and contribute to new sustainable, efficient and innovative technologies. The official website of the expedition is www.travessiab100.com.

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DEB develops biorefinery to recover waste from dairy industry



The Department of Biological Engineering (DEB) of the EEUM, in partnership with the spin-off Biotempo – Biotechnology Consulting, developed a pioneer technology which allows the recovery and valorization of waste from the dairy industry. This biorefinery transforms the cheese serum in more than a dozen added value products to be used in several production sectors, from food industry to health and cosmetics. The biorefinery is now under testing and the construction of an industrial unit is planned for this year in Brazil.

“The developed process will have a very relevant economic impact in this region, as it will allow adding value to a byproduct which, presently, constitutes a serious environmental problem”, refers José Teixeira, full professor at DEB and scientific co-ordinator of this project.



EEUM participates on project to map the world

Jorge Gustavo Rocha, professor at the Department of Informatics (DI) of the EEUM, is the national co-ordinator of the Open Street Map (OSM) project, which aims at creating free and editable global map.

The OSM counts on more than 500 thousand registered users worldwide, which contribute with geographical data on a daily basis. In Portugal, a movement has been initiated to seek for volunteers of all ages, from high school and university students to retirees. The official website of the project is www.openstreetmap.org.

Portugal and Brazil sign diploma recognition agreement

Brasília, 21^a August



The Council of Rectors of Portuguese Universities (CRUP) and the Brazilian National Association of Managers of Federal Institutions of Higher Education (ANDIFES) signed a memorandum of understanding which considers the simplification of recognition of academic degrees obtained in universities of both countries. The agreement will initially consider graduates in Engineering and Architecture.

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