

Member Society News - 11/2014



SPM – Sociedade Portuguesa de Materiais : World Materials Day 2014

The World's Materials Day is commemorated by SPM and the National Association of Engineers since 2003. This year, the event will take place on the 5th November at the University of Aveiro. As usual, a contest will be organized in order to award prizes to the best thesis on Science and Engineering of Materials presented by students of the Materials Engineering Courses of Portuguese Universities. The programme of the day will also cover the following topics, to be presented by invited speakers :

- Science, Technology and Innovation: challenges to Portugal
- Efficiency of the transfer of research and development results to the industry
- The Materials Platform: network of knowledge and innovation in materials

All information at www.spmaterials.pt

Solving the problem of energy storage

Charge2Change (C2C) super capacitors promise to solve the major difficulty associated with the use of electricity: storage. Charging your phone in seconds, with power for hours, may be a close reality. Two centuries after the



conquest of the possibility of manipulation of electricity, storage remains the main difficulty associated with its use.

The, winner of the BES National Contest of innovation in the Industrial Processes sector in 2013, the team of researchers from the Instituto Superior Técnico (IST), the Polytechnic Institute of Setúbal (IPS) and the Polytechnic Institute of Lisbon (ISEL) composed by Fátima Montemor, Sónia Eugénio and Rui Pedro Silva, Maria João Carmezim and Teresa Silva, with the collaboration of André Mão de Ferro has developed a new generation of super capacitors that combines the best of both worlds: stores more energy and gets it faster. The Charge2Change (C2C) Project uses «a new active material based on metal oxides produced by electrodeposition. This process is simple, economical, very clean and with a wide industrial application, allowing the production of electrodes for supercapacitors in a single step, reducing production costs» explains Maria de Fátima Montemor, the researcher responsible for the project. According to the research team, the new material represents a breakthrough for the production of a new generation of super capacitors with high energy and power density.

The Charge2Change (C2C) Project was started in 2012 by the above mentioned team, and funded by the Portuguese Foundation for Science and Technology (FCT). The team already has a prototype super capacitor, at laboratory scale, which is protected by a Portuguese patent. In the near future, the team intends to build a pilot scale prototype and set it up in a field application, involving, for example, the storage of energy produced by a wind turbine and / or its use in an electric or hybrid vehicle. This step requires high investment and the team is in the process of attracting investors or projects that allow consolidating the transfer of technology. Meanwhile, the team has started a company, the Charge2C-NewCAP, with the purpose of transferring this technology and bring new energy storage solutions to the market.

Rui Pedro Silva (rui.pedro.silva@ist.utl.pt)

Fátima Montemor (mfmontemor@tecnico.ulisboa.pt)

News from IOM3 Presidential Address



In 2013, the Institute of Materials, Minerals and Mining welcomed Professor Jon Binner as new president. As part of a strategy to widen the media available to its members, IOM3 has been developing IOM3 TV. Here, you can see Professor Jon Binner's condensed presidential address, Material Challenges. <http://bit.ly/JBaddress>

Industry Affiliate Scheme – A partnership with industry

In 2013, IOM3 relaunched the IAS, following an extensive restructure and this year welcomed DS Smith Featherstone and Jaguar Land Rover to the ever-growing list of members.

In addition to a wide range of member benefits, the Industry Affiliate Scheme offers organisations access to the consultancy services of the Materials Information Service who have unrivalled knowledge and understanding of materials and their processing.

<http://bit.ly/IAScheme>

IOM3 AWARDS

Nominations are invited for the Institute's Awards and Prizes for 2015. The awards cover personal achievement and published work in a range of materials sectors and applications. Some awards are designed to recognise the achievement of younger people at the start of their career.

Specific awards also recognise contributions in education and major contributions to the Institute's core activity (other than to a local society).

Certain awards can be presented to teams or to organisations as well as individuals. Most awards are open to non-members as well as members of the Institute. Each award has its own specific requirements - please refer to the full list of awards.

The deadline for nominations is 7 November 2014.

<http://bit.ly/FEMSNOMS>

EVENTS

ROLLS 5: Optimising Value Through Rolls

The event will address five themes:

1. Review of the different application fields in hot and cold flat rolling and in long products rolling.
2. Asset management aspects of rolls for the metals industries, including roll shop engineering, inventory management and inspection.
3. Latest developments and possible future trends in rolls technology.
4. Sustainability issues around rolls.
5. Evaluation of Value-in-Use and Total-Cost-of-Ownership of Rolls: models and field examples.

<http://bit.ly/femsrolls>

PARSONS 2015

The 9th International Charles Parsons Turbine Conference on 14-17 Sept 2015

Specific topics within the scope of the conference include design, materials, manufacture and operation of turbine power plant, together with issues related to increased fuel flexibility and reduction/elimination of emissions. Deadline for abstracts 30 January

<http://bit.ly/femsparsons>

News from HMS



The 4th **International Conference of Engineering Against Failure (ICEAF IV)** will be held in Skiathos, Greece on 24-26 June 2015. ICEAF IV is

co-organized by the Laboratory of Technology & Strength of Materials (LTSM) and the Hellenic Metallurgical Society (HMS), under the auspices of the *Federation of European Material Societies (FEMS)* and the *European Aeronautics Science Network (EASN)*.



ICEAF IV will be the fourth event of a biennial conference series, gathering high-level scientists and engineers from all over the world. The scope of the Conference is to attract interdisciplinary work dedicated to understanding the underlying physics of engineering failure, experimental and theoretical failure analysis, model the structural response with regard to local and global failure and structural design for preventing of engineering failure.

Information regarding ICEAF IV can be found at the official website of the conference:

http://ltsm.mead.upatras.gr/lab/lang_en/conference/view/6

Serbia

News from MRS-Serbia

The Sixteenth Annual Materials Research Society of Serbia YUCOMAT 2014 Conference was held September 1-5 in Herceg Novi, Montenegro, with 150 registered participants and presentations, out of which 27 invited plenary lectures, 41 oral and 82 posters. Two thirds were presented by foreign authors from 30 countries all over the world, while the others by national authors. The event was endorsed by FEMS and MRS and held in honour of 70th birthday of Prof. Dragan Uskokovic,



President of MRS-Serbia. The Program and the Book of Abstracts is available at <http://www.mrs-serbia.org.rs/images/YUCOMAT-2014.pdf> and on GoogleBooks.

At the Opening Ceremony was: Dr. Slobodan Milonjic (MRS-Serbia Vice-President), Prof. Ehrenfried Zschech (FEMS Past President), Prof. Dragan Uskokovic (MRS-Serbia President), Prof. Robert Sinclair (YUCOMAT International Advisory Board Chair), Prof. Dejan Rakovic and Prof. Velimir Radmilovic (MRS-Serbia Vice-Presidents)

During this conference, 17th Annual MRS-Serbia YUCOMAT 2015 Conference was announced as 20th Anniversary of the First YUCOMAT conference, to be held August 31st – September 4th, 2015, in Herceg Novi. A very impressive program and especially invited plenary lectures can be expected.

The traditional 13th Young Researchers' Conference 2014 will be held in Belgrade, Serbia, December 10-12th (<http://www.mrs-serbia.org.rs/13conference.html>).

This conference is open free-of-charge to graduate, master and PhD students and researchers younger than 35, with all oral presentations as an opportunity to hone this skill among their colleagues, mentors and professors.

France

News from SF2M

Materiaux 2014 – 24.-28.11.2014, Montpellier



The Société Française de Métallurgie et de Matériaux (SF2M) prepares Materiaux 2014 in Montpellier, organized by FFM, Fédération Française des Matériaux, and with about 30 French associations dealing with materials.

More than 1600 communications will be presented in 19 symposia, offering a large panorama of ongoing research in the area of materials, for applications in energy, medicine, mechanics, aeronautics, transportation, recycling...

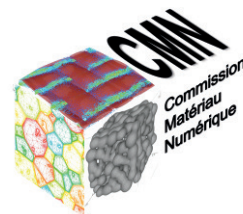
The official language is French, but undoubtedly the authors will be prepared for discussions in English.

<http://www.materiaux2014.net/>

SF2M is creating a new thematic group: **Numerical material** supported both by industrial companies and academic research laboratories. The group will

be launched during the conference Materiaux 2014 (Wednesday Nov 26th) and will be open to international cooperations. marc.bernacki@mines-paristech.fr

SF2M



Acta Materialia Gold Medal 2015

The board of Acta Materialia has awarded David Embury the Gold Medal 2015.

Professor John David Embury is recognized as one of the most outstanding personalities in the field of physical metallurgy of deformation, plasticity and fracture in materials. He has actively promoted cooperation between university and industry through the development of collaborative research, research symposia, and specialized short lectures.

<http://materials.mcmaster.ca/faculty/embury/>

He has received prestigious distinctions in the past, including the SF2M «Grande Médaille» in 2009.



News from MAE

The Hungarian Society of Materials Science (MAE) is pleased to announce the new president for the next period 2013 – 2018 is Prof. George Kaptay and new secretary Dr. Katalin Balázs. Prof. G. Kaptay is a head of Nanomaterials Department at Bay Zoltan Nonprofit Ltd. for Applied Research and professor at Miskolc University. Dr. K. Balázs is a senior scientist at Thin Film Physics Department, Institute for Technical Physics and Materials Science, Hungarian Academy of Sciences.



Prof. G. Kaptay, president of MAE Dr. K. Balázs, secretary of MAE

The general objectives of MAE for 2013 – 2018 are :

- National and international conference organization based mainly on materials science
- MAE award for young PhD students and experienced scientists
- Publishing the scientific journal
(www.kfki.hu/anyagokvilaga, www.anyagokvilaga.hu)

The X. Hungarian Materials Science Conference 2015

will be organized by scientific support of MAE. The main aim of this tenth anniversary conference is a disclosure and exchange of new results into the field of metals, ceramics, polymers and composite research. The conference will emphasize on the widely used people-centered and people-friendly technologies, materials development, material information and the results of modeling and its applications. (www.oatk.hu)

News from AIM



European Conference on Heat Treatment 2015 & 22nd IFHTSE Congress Heat Treatment and Surface Engineering : Venice Italy, 20 - 22 May 2015

AIM - Associazione Italiana di Metallurgia and the IFHTSE organise this joint event which will bring together managers, engineers and researchers from heat treatment shops, tool makers and users, suppliers of heat treatment and surface engineering plant and equipment, as

well as material scientists. The Conference will be held in Venice mainland, at NH Laguna Palace Conference Centre (Viale Ancona 2, Venezia Mestre, Venice - Italy). The Conference will cover the following topics: Thermo-chemical treatment, surface hardening, coatings, equipment, quenching, residual stress and distortion, environment, tribology and wear, modelling and simulation, reliability, energy, bulk heat treatments, and mechanical properties.

For further information : www.aimnet.it/ht2015.htm

FEMS newsletter

Editorial Committee : Hugh Dunlop (Chairman), Margarethe Hofmann-Amtenbrink, Jana Hornikova, Brett Suddell, Ehrenfried Zschech

Production : Gilles Wenger, Pi-Com, Switzerland

Please send comments and contributions to secretary@fems.org

FEMS Member Societies :

Austria: Austrian Society for Metallurgy and Materials (ASMET)

Belgium: Benelux Métallurgie (BM)

Czech Republic: Czech Society for New Materials and Technologies (CSNMT)

Czech Republic: Metal Science Society of the Czech Republic (MSS)

Estonia: Estonian Material Science Society (EMSS)

France: Société Française de Métallurgie et de Matériaux (SF2M)

Germany: Deutsche Gesellschaft für Materialkunde (DGM)

Germany: Deutscher Verband für Materialforschung und -prüfung (DVM)

Greece: The Hellenic Metallurgical Society (HMS)

Greece: Hellenic Society for the Science and Technology of Condensed Matter (HSSTCM)

Hungary: Hungarian Society of Materials Science (MAE, Magyar Anyagtudományi Egyesület)

Italy: Associazione Italiana di Metallurgia (AIM)

Italy: Associazione Italiana d'Ingegneria dei Materiali (AIMAT)

Italy: Associazione Italiana Compositi & A ni (Assocompositi)

Latvia: Latvian Materials Research Society (LMRS)

Lithuania: Lithuanian Materials Research Society (LtMRS)

Netherlands: Bond voor Materialenkennis (BvM)

Norway: Norsk Metallurgisk Selskap (NMS)

Poland: Polskie Towarzystwo Materialoznawcze (PTM)

Portugal: Sociedade Portuguesa de Materiais (SPM)

Serbia: Materials research Society of Serbia (Serbia-MRS)

Slovak Republic: Society for New Materials and Technologies in Slovakia (SNMTS)

Slovenia: Slovensko Društvo za Materiale (SDM)

Spain: Sociedad Española de Materiales (SOCIEMAT)

Sweden: Svenska Föreningen för Materialteknik (SFMT)

Switzerland: Schweizerischer Verband für Materialwissenschaft und Technologie (SVMT)

Ukraine: The Ukrainian Materials Research Society (U-MRS)

United Kingdom: Institute of Materials, Minerals and Mining (IOM3)