



## Newsletter - September 2015

### Welcome to EUROMAT 2015 in Warsaw, Poland This year's Meeting Point for the Materials Community in Europe and abroad



The materials science and engineering community will meet in Warsaw, Poland at EUROMAT 2015. The country is well known for excellent research in materials science. A key Polish research pioneer was Jan Czochralski who created and operated the Institute of Metallurgy and Metal Sciences at the Warsaw Technical University and the Metallurgical Department at the Chemical Research Institute. These departments played a significant role in the progress of Polish industry and metal sciences. Even today the Czochralski process of crystal growth, which was invented in 1916, is important to obtain single crystals of semiconductors and precious metals. This is only one name of the many renowned scientists that are active in the field of materials science at other major universities in Poland including Krakow, the Wrocław University of Technology and the Lodz University of Technology which celebrates its 70th anniversary this year. This country of culture and Nobel Prize winners (e.g. Marie Curie) is the host of the 14th FEMS EUROMAT conference spanning the whole spectrum of materials, processes and applications. More than 1000 participants coming from the many countries of FEMS member societies and abroad will exchange in the various sessions and also in tutorials and workshops about research and development crucial for the innovation and the workforce of European industry. This year the Warsaw University of Technology - at which we are honoured to organise this event - celebrates its 100 anniversary. FEMS and E-MRS, together with the European Alliance for Materials (A4M) and in European Projects under Horizon 2020 have created a special event with the Materials Weekend (19th - 20th September 2015) to bridge between young and experienced

scientists, between politics and science and between scientists and people interested in materials.

Five renowned scientists will give plenary lectures:

- **Marek Darecki** - President and General Director WSK Rzeszów, and President of Pratt &Whitney Poland,
- **Ke Lu** - Director of Shenyang National Laboratory for Materials Science, China,
- **Antoni Tomsia** - Senior Scientist, Lawrence Berkeley National Laboratory,
- **Patrice Turchi** - Lawrence Livermore National Laboratory and President (2015) of The Minerals, Metals and Materials Society (TMS),
- **Alan Windle** - Emeritus Professor of Materials Science, University of Cambridge, UK.

The FEMS medal awardees will also give plenary lectures discussing their current research. High level speakers are invited for the G Session, which covers interdisciplinary issues ranging from education and careers, to research, development and innovation, and to strategic materials for Europe and key resource management.

The Executive Committee of the Federation of European, Materials Societies (FEMS), the Scientific and Managing Committees of EUROMAT 2015 as well as the organizing Polish Materials Society (PTM) are looking forward to seeing you in Warsaw and wish you an interesting and valuable event!

*Margarethe Hofmann, FEMS President*  
*Lindsay Greer, Scientific Chair of EUROMAT 2015*  
*Wojciech Swieszkowski, Head of the Management Committee of EUROMAT 2015*

[www.euromat2015.fems.org](http://www.euromat2015.fems.org)

# FEMS Awards 2015

The FEMS awards 2015 distinguish three scientists for their excellent track record and contributions in the area of Materials Science and Engineering. All awardees will give plenary lectures at EUROMAT 2015.



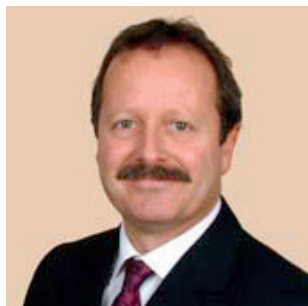
## FEMS European Materials Gold Medal 2015

### Krzysztof J. Kurzydłowski

*Professor, Warsaw University of Technology, National Centre for Research and Development*

Title of Plenary Lecture: "Progress over the last 40 years in understanding the properties of polycrystalline metals"

Professor K. J. Kurzydłowski is a graduate of the Department of Technical Physics and Applied Mathematics of Warsaw University of Technology. Initially his scientific interests included the properties of polycrystalline materials. He has studied grain-boundary effects in metals, collaborating with M.W. Grabski, K. Tangri, R.Z. Valiev, B. Ralph and R.W. Armstrong. More recently, he has focused on the fabrication and nanomaterials and on modelling their properties. Professor Kurzydłowski held and holds a number of elective positions in institutions funding research and development in Poland (The State Committee for Scientific Research, National Centre for Research and Development). He has been a member of Executive Committees for E-MRS, F4E and has served as an expert for the European Commission.



## FEMS Materials Innovation Prize 2015

### Leigh Canham

*Chief Scientist, pSiMedica Ltd UK and Hon. Professor, University of Birmingham*

Title of Plenary Lecture: "Broadening the functionality of semiconductor silicon technology via materials science"

Leigh Canham is Chief Scientist at pSiMedica Ltd UK and has over 35 years' experience conducting research on widely differing aspects of semiconducting silicon technology. Two key personal discoveries – that silicon can emit visible light efficiently (1990) and be rendered medically biodegradable (1995) have had both academic and commercial impact. Leigh has held an Honorary Professorship at the School of Physics, University of Birmingham, UK since 1999. In 2011 he was a shortlisted finalist for the "European Inventor of the Year" Award from the European Patent Office for his work on biodegradable silicon. In 2012 he became a Thomson Reuter Citation Laureate for his work on luminescent silicon.



## FEMS Materials Science & Technology Prize 2015

### Jordi Sort

*ICREA Research Professor, Universitat Autònoma de Barcelona, Spain*

Title of Plenary Lecture: "Nanoporous materials: what can they bring to the fields of magnetism, solid state lighting or spintronics?"

Jordi Sort received his PhD in Materials Science from *Universitat Autònoma de Barcelona* (UAB) in 2002. It was on the study of magnetic exchange interactions in ferromagnetic-antiferromagnetic systems. He worked for two years as Postdoctoral Researcher at the SPINTEC Laboratory (Grenoble) and subsequently spent six months at *Argonne National Laboratory* (USA). He also held long-term secondments at the *Grenoble High Magnetic Fields Laboratory* and at *Los Alamos National Laboratory*. At present, Prof. Sort leads the "Group of Smart Nanoengineered Materials, Nanomechanics and Nanomagnetism (Gnm<sup>3</sup>)" at UAB. Recently, he was awarded a Consolidator Grant from the European Research Council for the project, "Merging Nanoporous Materials with Energy-Efficient Spintronics (SPIN-PORICS)". He is also Coordinator of the "SELECTA" Marie Curie Training Network, whose aim is to use electrodeposition for environmental sustainability applications.

# The FEMS Lecturers 2014-2015

With the FEMS Lecturers Awards, FEMS sponsors selected young materials scientists to lecture throughout Europe as “ambassadors” of the materials science community. Lecturers are selected based on the significance of their work and their ability to communicate effectively. They will give keynote lectures at EUROMAT 15.



Karlsruhe Institute of Technology, Institute for Applied Materials, Germany

## Christian Greiner

After receiving his Diplom-Ingenieur from the University of Stuttgart Dr. Christian Greiner then obtained an MSc at Northwestern University, Evanston USA and a PhD at the Max Planck Institute, Stuttgart in 2007. Subsequently he has occupied several research positions including that of Postdoc. Associate at the University of Pennsylvania. Since 2013 he is Head of the Independent Research Group on “Materials under Tribological Load” at the Karlsruhe Institute of Technology (KIT). He was awarded the FEMS lectureship 2014 for his pioneering work in the field of contact mechanics and tribology. Analyzing the contact splitting phenomenon in gecko toe pads, he formulated adhesion design maps and developed bio-inspired fibrillar adhesives. He now works on the role of structural changes for nanoscale friction, and on water condensation in frictional contacts.



Centre des Matériaux, Mines ParisTech, CNRS UMR 7633, Evry France

## Henry Proudhon

After studying at Ecole Centrale Lyon for his MSc, Henry Proudhon defended his PhD at INSA in Lyon and subsequently held two post-doctoral positions, working at the University of British Columbia (Vancouver) and at the MATEIS lab. (Lyon). Today, he is working at the “Centre des Matériaux” of the Ecole des Mines Paris.

He was awarded the FEMS lectureship 2014 for his research focused on three problems in material science; i) short crack propagation, ii) plasticity in polycrystalline materials and iii) solid damage induced by contact problems. His original approach associates computer modelling in mechanics and physics with experimental developments, e.g. at ESRF, and brings direct insight between material microstructure and mechanical properties.

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## TMS – FEMS Young Leader International Scholar Program

The Minerals, Metals & Materials Society (TMS) and the Federation of European Materials Societies (FEMS) established a joint Young Leader International Scholar Program to promote young member activities and strengthen the collaborations between these international societies. Each society will identify representatives who will present a lecture at a central event of the correspondent society and will tighten the links between USA and Europe in the area of Materials Science and Engineering.



Associate Professor Materials Science and Engineering, Clemson University

## Kyle S. Brinkman

Kyle Brinkman is an Associate Professor in the Department of Materials Science and Engineering at Clemson University in Clemson, South Carolina. He received his Ph.D. in Materials Science and Engineering from the Swiss Federal Institute of Lausanne (EPFL), obtained an M.S. in Materials Science and Engineering and a B.S. degree in Chemical Engineering from Clemson University. He recently joined Clemson in 2014 from the DOE's Savannah River National Laboratory (SRNL) where he was a Principal Engineer in the Science and Technology Directorate and Program Manager for Energy Efficiency and Renewable Energy Technologies. Prior to working at SRNL, Kyle was a fellow of the Japanese Society for the Promotion of Science working in a Japanese “National Laboratory” the National Advanced Institute of Science and Technology (AIST) in Tsukuba, Japan. His research is focused on electronic ceramics for gas separation and processing in commercial and nuclear domains, structure/property relations in solid oxide fuel cell systems, and radiation tolerant crystalline ceramics for applications in nuclear energy.

# Europe's materials scientists speak with one voice : “Materials Weekend” in Warsaw

For the first time, FEMS and EMRS will hold their major events, EMRS Fall Meeting and EUROMAT Conference, in two subsequent weeks – in Poland's capital Warsaw in September this year. Both organizations will bridge the two conferences by a common “Materials Weekend” on 19th – 20th September, with the goal to strengthen materials science and engineering in Europe and to increase its visibility. Scientists and engineers will present and discuss their latest results, to meet and to network with colleagues and friends. During the “Materials Weekend”, 6 tutorial courses are organised, covering the most up-to-date topics along the materials value and innovation chain.

One of the highlights of the “Materials Weekend” will be the “Materials for Europe” meeting, a discussion forum of researchers from academia and industry with politicians. At this event, we will discuss the role of materials for a highly competitive European industry and effective approaches to coordinate research and innovation within the framework of present and future European programs and initiatives. We are honored that Clara de la Torre, Director DG Research and Innovation of the Directorate Key Enabling Technologies, will provide a strategic speech “Vision about the new challenges in the materials field”, complemented by several additional talks including the speech of Christos Tokomanis, Head of the EC Unit Nano and Converging Sciences and Technologies, on new opportunities within the Horizon 2020 program, followed by a round table discussion.

More than 70 young scientists will present their research results in a 2-days workshop and during a get-together party in the German and French Embassies. The Warsaw “Festival of Science” will be opened at Warsaw University



of Technology, the venue of the two materials conferences, with numerous activities related to advanced materials. Scientists and students will demonstrate materials-based innovations particularly to the Warsaw community. For further information about the “Materials Weekend” see <http://materialsweekend.pl>.

We are convinced that the “Materials Weekend” in Warsaw will strengthen our European community of materials scientists and engineers, and our societies will speak with one voice. This event, jointly organized by FEMS and EMRS, will be a major step to build the “Materials Common House” in Europe, a strategic program under the umbrella of the Alliance for Materials (A4M).

*Ehrenfried Zschech*  
Past President of FEMS

*Rodrigo Martins,*  
President of the Senate of EMRS

## FEMS newsletter

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

Production : Gilles Wenger, Pi-Corn, Switzerland

Please send comments and contributions to [secretary@fems.org](mailto: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 Egységület)

**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)

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