

The European Materials Conference
European Materials Research Society Fall Meeting
Scientific/Technical Symposia & Exhibition

15th - 18th September
Warsaw University of Technology - POLAND

Fall Meeting will be **connected with EUROMAT conference** (21st-24th September), organized by FEMS, at Warsaw University of Technology, immediately following the Fall Meeting.

Both conferences are under the auspices of the **European Materials Forum (EMF)**.

There will be a **"Materials Weekend"**, 19th-20th September, organised jointly by E-MRS and FEMS between the conferences. It will consist of lectures, tutorials, political events, etc ...



E · MRS

2015 Fall Meeting

**Final Announcement
and Call for Papers**

www.european-mrs.com

DEADLINE FOR ABSTRACT SUBMISSION:

May 25, 2015

Conference and exhibition will be held
at the Main Campus of the

Warsaw University of Technology,
Plac Politechniki 1 - Warsaw, Poland





E-MRS 2015 FALL MEETING

15th - 18th September
Warsaw University of Technology - POLAND

Introduction

The European Materials Research Society (E-MRS) was established in 1983 through the initiative of individual European Materials scientists. A number of European materials scientists who attended the MRS meetings in the U.S.A. realised that such a society could be of benefit to Europe to enhance the links between materials science and industry and to provide a voice for the materials community. Most of the problems facing the world such as energy supply and health will be solved only by breakthroughs in materials science. It is vital that the outcomes of research are utilised through technological experience and innovation for the benefit of mankind. The Fall Meeting provides the opportunity to exchange ideas, expand one's knowledge and make new contacts.

The 2015 Fall Meeting is the opening event of an exciting 'European Materials Fortnight' under the umbrella of the European Materials Forum. This unique fortnight brings together the two leading European materials societies, E-MRS and FEMS, which are holding their conferences in successive weeks and bridged by a 'Materials Weekend' to raise the public's awareness of the importance of materials science and research as well as meeting the needs of students and young researchers. The weekend will include political events, student tutorials, a young scientist's workshop and a public open day.

The Fall Meeting itself will consist of 22 parallel symposia with invited speakers, oral and poster presentations and a plenary session to provide an international forum for discussing recent advances in the field of materials science. The conference will be augmented by an exhibition of products and services of interest to the conference participants. The Conference venue is the Central Campus of Warsaw University of Technology, and is the 14th E-MRS Fall Meeting since its 2002 launch and runs in parallel with the E-MRS Spring Meeting held in France. The Fall Meeting has become increasingly multi-national and the number of symposia and participants from throughout the world has steadily increased.

This will be an exciting event which should not be missed! We look forward to welcoming you to Warsaw and your active contribution and participation in the conference.

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The Conference Organizers:



European Materials Research Society



Polish Materials Research Society



Warsaw University of Technology



Institute of Physics, PAS

Financial support from Polish Ministry of Science and Higher Education is acknowledged.



Ministry of Science
and Higher Education

Republic of Poland

Plenary Session (Friday morning, 18th September):

1. Presentation of the Jan Czochralski Award to **Professor Claes-Göran Granqvist**, Uppsala University.
Lecture by Professor Granqvist;
2. Plenary Lecture by **Professor Jerzy Buzek**, European Parliament;
3. Plenary Lecture by **Professor John Mannhart**, Max Planck Institute for Solid State Research, Germany

Poster Sessions:

1. Tuesday, 15th September
2. Wednesday, 16th September

Scheduled Symposia (15th - 18th September):

MATERIALS AND DEVICES FOR ENERGY AND ENVIRONMENT APPLICATIONS

- | | | |
|-----------|---|---|
| Symposium | A | : Materials for energy storage and conversion |
| Symposium | B | : Materials for CO ₂ capture and storage |
| Symposium | C | : Hydrogen storage in solids: materials, systems and application trends |
| Symposium | D | : 12 th international symposium on electrochemical/chemical reactivity of new materials
„Surface science: key to understand advanced materials” |
| Symposium | E | : Self-healing materials – from concepts to market |
| Symposium | F | : Materials and coatings for extreme environments |

MATERIALS FOR ELECTRONICS AND OPTOELECTRONIC APPLICATIONS AWAY FROM SILICON

- | | | |
|-----------|---|--|
| Symposium | G | : Transparent conductive materials: from fundamental understanding to applications |
| Symposium | H | : Nitride semiconductors for high power and high frequency electronic devices |
| Symposium | J | : Ferroic perovskites for advanced materials |
| Symposium | L | : Towards oxide-based electronics: growth and applications of oxide thin films and heterostructures |
| Symposium | O | : Alternative semiconductor integration in Si microelectronics: materials, techniques and applications |

NANOMATERIALS, NANOSTRUCTURES AND NANO DEVICES

- | | | |
|-----------|---|---|
| Symposium | I | : Responsive materials operating outside of thermodynamic equilibrium |
| Symposium | M | : Hierarchical assembly of nano-scale building blocks |
| Symposium | N | : Deformation at small-scale: insights from experiments and simulations |
| Symposium | P | : Electronic and optical nature of silicon nanostructures: doping, interface effects and strain |
| Symposium | Q | : Colloidal assembly of functional nanomaterials: from assembly routes to functional devices |
| Symposium | R | : Nanocarbon electrochemistry and interface |
| Symposium | S | : Molecular materials for quantum computing |

CHARACTERIZATION OF MATERIALS BY EXPERIMENTS AND COMPUTING

- | | | |
|-----------|---|--|
| Symposium | T | : High pressure as a tool to design & synthesize new High T _c superconductor, hard materials & multifunctional oxides |
| Symposium | U | : Heat transfer at short time and length scales |
| Symposium | V | : Stress, structure, and stoichiometry effects on the properties of nanomaterials |
| Symposium | W | : Nanoscale phase separations in spintronic materials, superconductors, and other systems |

Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

**Introduction and scope:**

Scientists of different communities exploring the new possibilities for materials for energy storage & conversion through their investigation. Hence, there should be E-MRS symposium dedicated to the connection between theory and experiments including both academia and industry.

The prolific growth of energy demand all over the world can be procured by the renewable energy harvesting and storage. Various new materials promise great potential for helping to solve important technological challenges in energy efficiency, storage and the conversion of renewable and sustainable energy. However, performing experiments in the laboratory scale can be quite expensive to test wide range of materials and their properties, which paves the way of computer aided theoretical prediction. Thus materials modeling come into the picture of our daily scientific life. In this symposium, computational and experimental materials scientists working both in academia and industrial environment throughout the world can discuss profoundly the future of materials for energy applications. Leading world experts will provide the insights to the complex science of novel materials for energy applications which will motivate the young researchers in this field.

The proposed workshop aims at bringing together world-leading experts in all these fields to improve interdisciplinary cooperation and overcoming traditional boundaries between scientific disciplines, especially traditional fundamental research and the applied sciences.

The scientific objectives of the proposed workshop are:

- Bring together researchers from materials science, chemical synthesis, hydrogen, catalysis, photo-catalysis, electro-catalysis, electrochemistry, fuel cells, supercapacitors, and photovoltaics to highlight recent progress and discuss challenges and opportunities in the research and development for energy applications.
- To discuss possibilities for optimizing the materials properties and device design. The interdisciplinary character of the workshop will help finding solutions for overcoming current drawbacks.
- Provide opportunity to form new worldwide interdisciplinary collaborations on nanostructured energy materials for the mutual benefit of theoretical, experimental and applied researchers.

Hot topics to be covered by the symposium

According to the theme of our symposium, which is primarily motivated by the fact of energy applications, the following area would be given:

- Solar-driven fuels: hydrogen and other organic fuels
- Hydrogen production and fuel generation
- Hydrogen storage
- Organic and Inorganic Solar Cell and Photovoltaic
- Hybrid Interfaces for the quest of novel energy efficient materials
- Supercapacitors
- Fuel cells
- Organic and Inorganic Battery Materials

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Introduction and scope:

Advanced functional materials for CO₂ capture and storages (CCS) exhibit great potential for the new solutions of "the Grand Challenges to World", as it lies in the crossing point of climate change and energy shortage. The development of high efficiency, low-cost CCS materials and related techniques is the cornerstone towards the goal. There are a lot of efforts over the world to consider carbon dioxide not only as a waste from combustion processes influencing the climate changing, but as a useful source of carbon, to produce, e.g. synfuel, methane, or methanol. However, the first step in all these processes should be a capture of CO₂ and for that some liquid, membrane or solid sorbent are necessary.

The scope of the symposium includes the mechanism, fabrication and applications of functional materials applied for carbon dioxide capture and storage (CCS). The idea of CCS is as follows: when large production facilities such as coal plants and steel mills produce carbon dioxide, the CO₂ gases are immediately separated from the other components in the flue gas. The CO₂ gas is then compressed into a liquid and transported to its final destination via pipeline or a vehicle. The carbon dioxide has then to be injected into rock formations far beneath the surface for long term storage. Alternatively, carbon dioxide can be transferred into useful products e.g. via photocatalysis or photosynthesis.

Nowadays CCS technology exist, however the current costs level is the only constraint to capturing carbon dioxide. The novel highly efficient materials which will reduce CCS energy consumption and then the price of CO₂ capture are required to alleviate this problem.

During the symposium the updated state of CCS technologies, the economical issues and CCS legislation worldwide will be discussed. The main focus of the symposium will be novel materials which are cheap, selective toward CO₂ that can be used in energy efficient processes. Such materials are not only useful for CCS application but also for classical chemistry processes like syngas purification where amine technologies may become obsolete.

There will be presented working pilot CCS installations like one in power plant in Łaziska (Poland).

The challenges of CCS technology in the frame of European energetic security, environmental impact, enhancement of public and political awareness will be discussed.

Hot topics to be covered by the symposium:

- Economic and legal issues of CO₂ emission
- Materials for CO₂ capture and storage
- Zeolites as adsorbents for CO₂
- Processes for CO₂ capture and storage
- Post combustion capture on solids in moving bed reactors
- Capture of CO₂ on porous rocks
- Shale gas and CO₂
- New solvents for CO₂ absorption
- Catalysts for CO₂ processing

Symposium Organizers:

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Introduction and scope:

H₂ storage is one of the main challenges towards a viable hydrogen economy. Materials-based storage offers distinct advantages compared to technologies using compressed gas or cryogenic liquid, and has clearly paved the way for other important energy storage applications (e.g. secondary batteries).

Over the last decade, intensive efforts have been devoted worldwide to the research and development of materials with suitable hydrogen storage properties. Enormous progress has been accomplished and the scope of materials has expanded greatly: from traditional metal hydrides to complex and chemical hydrides, and from carbon structures to metal organic frameworks, as well as nanoconfined composite materials. The rapid progress in nanoscience has opened groundbreaking directions and has guided the tailoring of materials' microstructures from bulk crystalline to amorphous state and nanostructures. At the same time advanced characterization and simulation methods have contributed to the elucidation of key mechanisms, the in-silico assessment/design of materials and the optimization of hydrogen storage systems. The accumulated knowledge has greatly inspired and promoted research in other leading edge energy storage technologies such as secondary Ni-MH and Li-ion batteries.

This symposium is organized by one of the largest networks currently aiming to push the limits in solid-state hydrogen storage, the COST Action MP1103 (<http://www.cost-mp1103.eu>) bringing together a large number of leading groups (more than 250 researchers) from within and outside Europe.

Hot topics to be covered by the symposium:

1. Hydrogen storage materials
 - Metallic, complex, chemical hydrides
 - Nanoporous sorbents
 - Nanocomposites
 - Thin films
2. Hydrogen storage fundamentals
 - Thermodynamics and Kinetics
 - Catalytic properties, reaction mechanisms, diffusion and transport phenomena
 - Advanced structural characterization
 - Modeling approaches for the description of materials and processes at different scales
3. Applications – Trends & insights
 - Stand-alone and integrated hydrogen storage systems
 - Electrochemical applications: batteries and fuel cells components
 - Metal hydride compressors
 - Thermal storage

The Symposium Proceedings will be published in a special issue of the **International Journal of Hydrogen Energy (IJHE)** following peer review

Scientific Committee:

- Francois AGUEY-ZINSOU (Univ. of New South Wales – Australia)
- Etsuo AKIBA (Kyushu University – Japan)
- Jose Ramon ARES (Universidad Autónoma de Madrid – Spain)
- Sara BALS (Univ. of Antwerp – Belgium)
- David BOOK (Univ. of Birmingham – UK)
- Darren BROOM (Hiden Isochema Ltd. – UK)
- Elsa CALLINI (EMPA – Switzerland)
- Petra DE JONGH (Utrecht University - The Netherlands)
- Patricia DE RANGO (CNRS - France)
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- Bjorn HAUBACK (IFE – Norway)
- Michael HIRSCHER (Max Planck Inst. for Intelligent Systems – Germany)
- Torben René JENSEN (Aarhus Univ. – Denmark)
- Amelia MONTONE (ENEA – Italy)
- Dag NOREUS (Stockholm Univ. – Sweden)
- Tayfur ÖZTÜRK (Middle East Technical Univ. – Turkey)
- Marek POLAŃSKI (Military Univ. of Technology – Poland)
- Eugen RABKIN (Technion - Israel Institute of Technology)
- Ewa RONNEBRO (Pacific Northwest National Laboratory – USA)
- Theodore STERIOTIS (NCSR "Demokritos" – Greece)
- Robert VARIN (Univ. of Waterloo – Canada)
- Tejs VEGGE (Technical Univ. of Denmark – Denmark)

Invited speakers (preliminary list):

- Craig BUCKLEY (Curtin Univ. – Australia)
- Radovan CERNY (Univ. of Geneva - Switzerland)
- Fermin CUEVAS (CNRS - France)
- Umit DEMIRCI (Univ. of Montpellier 2 - France)
- Martin DORNHEIM (HZG - Germany)
- Maximilian FICHTNER (Helmholtz Institute Ulm – Germany)
- Daniele MIRABILE-GATTIA (ENEA – Italy)
- Alexander SKRIPOV (Rus. Acad. Sci. - Russia)
- Pantelis TRIKALITIS (Univ. of Crete – Greece)
- Gavin WALKER (Univ. of Nottingham - UK)

Sponsors:**Symposium Organizers:****Georgia CHARALAMBOPOULOU**

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Introduction and scope:

This Symposium is aimed at following the tradition already established by the previous Symposia in Warsaw (1993, 1996, 2003, 2007, 2010), Szeged (1995, 2005), Dresden (1997), Sendai (1998), Mt.Tremblant (2001) and Krakow (2012).

The symposia in 2007 and 2010 were held in Warsaw as a part of the **European Materials Research Society (EMRS) - Fall Meetings** in order to extend the (necessary) stimulating collaboration of chemists and physicists with material scientists. Since these events were very successful, the Scientific Committee of the cyclic Symposia has decided to continue with this Symposium to be held as one of the Symposia in E-MRS Fall Meeting 2015.

The scope of our Symposium belongs to the general topic "Surface Science – key to understand advanced materials" and is aimed at promoting various opportunities for interdisciplinary collaboration of scientists from around the world in addition to presentation of new results, ideas and technologies in the field of chemical, physical properties of novel materials including nanocrystalline, amorphous materials and various kind of thin films, coatings, layers and deposits obtained by chemical/electrochemical and physical methods.

Topics covered by the symposium:

- *New perspective materials for catalysis and electrocatalysis
- *Functional nanomaterials: properties, characterization and applications
- *Chemical and electrochemical methods for surface functionalization: potential applications
- *New materials in renewable energy production
- *Solid state materials characterization - physical methods
- *Vibrational spectroscopy in "Chemistry for Materials Science"
- *Electron Spectroscopy – theory and practical applications
- *New generation of biomaterials

Invited lecturers:

Philippe Marcus, Institut de Recherche de Chimie Paris, France, **Symposium Opening Lecture**

Andrzej Calka, Faculty of Engineering and Information Sciences, University Wollongong, Australia, *Enhanced chemical reactivity of metallic and ceramic materials in plasma environment during Electric Discharge Assisted Mechanical Milling*

Neil Fox, School of Chemistry, University of Bristol, UK, *Diamond Materials for Energy Conversion*

Georg Held, University of Reading, Reading, UK

Pavel Jelinek, Nanosurf Lab, Institute of Physics of the ASCR, Prague, Czech Republic, *High resolution AFM/STM images of molecules with functionalized tips: experiment and theory*

Torben Rene Jensen, Department of Chemistry, Aarhus University, Aarhus, Denmark

Gediminas Niaura, Center for Physical Sciences and Technology, Vilnius, Lithuania, *Electrochemical SERS characterization of functional monolayers at metal surfaces*

Markus Niederberger, Laboratory for Multifunctional Materials, ETH Zürich, Switzerland, *Controlled Synthesis and Assembly of Metal Oxide Nanoparticles over Several Length Scales*

Marek Nowicki, Institute of Experimental Physics, University of Wrocław, Poland, *Solid-Liquid Interfaces Investigated by EC-STM and CV*

Isao Saeki, Muroran Institute of Technology, Mechanical, Aerospace, and Materials Engineering

Bartosz Such, Faculty of Physics, Jagiellonian University, Krakow, Poland

Grzegorz Sulka, Faculty of Chemistry, Jagiellonian University, Krakow, Poland, *Anodic valve metal oxides - synthesis and applications*

Jolanta Świątowska, Institut de Recherche de Chimie Paris, France, *Contribution of surface spectroscopic techniques to characterization of materials for electrochemical energy storage and conversion systems*

Mikito Ueda, Faculty of Engineering, Materials Science and Engineering, Ecological Materials, Hokkaido University, Japan, *Electrodeposition of Al alloys in non-aqueous liquid*

Robert A. Varin, Waterloo Institute for Nanotechnology, University of Waterloo, Canada, *Mechano-chemically synthesized novel hydride nanocomposites for low temperature hydrogen generation*

Akiko Yamamoto, National Institute for Materials Science, Tsukuba, Japan, *The effects of cells and other factors on biocorrosion of Mg and its alloys*

Symposium Lecturers:

Jan Augustyński, Faculty of Chemistry, Warsaw University, Warsaw, Poland, *Plasmonic and electrocatalytic effects of metal nanoparticles in photoelectrochemistry*

Sebastian Fiechter, Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany, *Hybrid Electrolyzers for Light Driven Water splitting - Materials for Photoelectrodes and Electrocatalysts*

Stanisław M. Filipek, Unipress Institute of High Pressure Physics of the Polish Academy of Sciences, *Interaction of selected intermetallic compounds with hydrogen under high pressure conditions*

Koji Hashimoto, Institute for Materials Research, Tohoku University, Sendai, Japan, *Renewable energy supply in the form of methane by conversion of carbon dioxide to methane via electrolytic hydrogen generation*

Paweł Kulesza, Faculty of Chemistry, Warsaw University, Warsaw, Poland, *Importance of specific interactions between support and active centers in efficient electrocatalysis and photoelectrocatalysis*

Arpad Molnar, Department of Chemistry, University of Szeged, Szeged, Hungary, *Homeopathic Catalysis*

Klaus Wandelt, Institute of Physical and Theoretical Chemistry University of Bonn, Bonn, Germany, *Metal/Electrolyte Interfaces: Atomic scale insights and control*

Proceedings: The post conference materials will be published in **Applied Surface Science**, special issue.

- Co-organizers of the Symposium (institutions, companies): **Faculty of Chemistry – University of Warsaw, OCI Vacuum Microengineering Inc., Patpol, Prevac Sp. z o.o.**

Symposium Organizers:**Marcin PISAREK**

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Introduction and scope:

The ability of a material to show autonomous or activated self-repair is of importance in view of costs, sustainability, and safety. This interdisciplinary symposium will present the latest update on various strategies to induce self-healing in structural and functional materials where damage management and self-repair is of relevance.

For a broad range of applications in various classes of materials, the ability of key components to restore the original properties after local contact, damage or fatigue would represent a promising step towards lower costs and enhanced reliability. The last few years have experienced a strong development of activities in a broad range of materials from polymers to metals, as well in academia as in industrial research. The advancing understanding of the underlying mechanisms has fertilised the development of novel approaches, materials, and synthetic procedures from the scratch. At the same time, existing materials and components were screened and optimized for their ability to self-repair, mainly on a more empirical base. The symposium aims to bring together experts from academia and industry interested in the advancement of self-healing materials, and to foster the emerging activities to transfer promising approaches and findings from the lab to application. The program will cover sessions focussing on the important material classes, including polymers, composites, concrete, ceramics, metals, and functional components, as well as on biomimetic, sustainable and comprehensive concepts, and on transfer activities and market considerations. We cordially invite contributions from all related disciplines, i. e. chemistry, physics, material sciences, engineering, mathematics and biomimetics.

One major task for the symposium is to include contributions of young researchers to encourage and support their scientific career. By emphasizing the multidisciplinary character of the field, we are aiming at an intensive exchange on ideas, concepts, and realizations for the future of self-healing materials. It should be realized that Europe is a key continent in this field with 5 EU funded programs and 4 national research programs as well as a number of more isolated research projects. More than in the previous conferences in the field, we address quantification of healing as well as studies on the underlying physics and chemistries. Also conceptual studies to identify potentially attractive self-healing materials on the basis of their general physical properties are expected.

Hot topics to be covered by the symposium:

- Self-healing polymers (intrinsic and extrinsic approaches, polymer dynamics, elastomers & thermoplastics, coatings & bulk polymers)
- Self-healing reinforced polymer composites (carbon, glass, polymeric reinforcements, (multi)functional fillers, morphology & interaction)
- Self-healing concrete and reinforced compounds (autogenous self-healing, polymeric self-healing, microbial self-healing, modelling, characterization)
- Self-healing ceramics (bulk composites ceramics & ceramic coatings, intrinsic and extrinsic mechanisms)
- Self-healing in metals (creep damage, corrosion)
- Functional components, devices, and applications (catalysts, OLEDs, TIM's)
- Quantification of self-healing properties
- Novel and biomimetic concepts towards self-healing materials
- Sustainability aspects

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**Introduction and scope:**

Intensive development of the most engineering branches from micro- and nanoelectronic and nanobiomedicine till aeronautics, automobile industry, shipping building and space devices is accompanied by formulating of new demands to the wide class of materials and coatings including composite materials and complex structures based on the metals and alloys, oxide and nonoxide ceramics, polymers and various kinds of materials reinforced by micro and nanoparticles and fibers and necessity of their exploitation in severe operation conditions. Severe operating conditions (high and cryogenic temperatures, aggressive environments, complex and alternating-sign loads, thermal cycling, enhanced pressure, microgravitation, vacuum etc.) are determined for every class of materials in separate way (for example, extreme conditions for space materials, materials for nontraditional energy and biomaterials are characterized by various parameters). The aim of symposium is the discussion of main challenges of all kinds of materials, coatings and complex structures for extreme performances with special emphasis on the novel areas of their practical using.

The need to develop materials which can perform well in severe operating environments is increasing with advances in technology and modern requirements for higher efficiency in all areas such as manufacturing, energy, transport, space, automobile industry and communications, deep-sea technologies etc. Another important driver for advanced functionalities, e.g. self-diagnosis and self-healing, comes from the incorporation of nanoscale and molecular materials components. This poses a major challenge for materials science, and requires a fundamental understanding of how the processing, microstructure, nanostructure and properties of such material interact in order to enhance their response under more severe conditions. The development of new products or components with a step change in efficiency or performance compared to existing ones, for operation in e.g. high radiation environments, highly corrosive environments, under high friction conditions, low temperature environments, deep sea or space environments, or other extreme climate conditions became more actual from year to year.

Last scientific results about investigations of bulk materials, coatings and complex structures that can function within an aggressive environment without property degradation, synthesis of new structures with useful properties will be the key topics of symposium presentations and discussions. Special attention will be paid to appropriate numerical tools (e.g. density functional theory, molecular dynamics) to capture the multi-scale evolution of damage (e.g. friction/corrosion or corrosion/irradiation synergies should be considered); and predictive modeling tools for materials operating in extreme environments.

Special time of symposia activity will be devoted to innovative researches, to the questions of technology transfer and international cooperation in the field of advanced materials for extreme environments. One of the main aim of symposium is the organization of open dialog between academicians and researches from one side and representatives of industrial sector from another side to find new possibilities of creation of materials with given complex of performance properties and to determine the new areas of application of such kind of materials.

Hot topics to be covered by the symposium:

- Principles of designing of materials and coatings, including various kinds of composite materials for operation in extreme/special conditions.
- Scientific fundamentals and computer models for the processes of manufacturing materials and coating, including various kinds of composite materials for operation in extreme/special conditions.
- Advanced technologies for production and joining materials and products for exploitation in extreme conditions.
- Structure and properties of materials and coatings, including various kinds of composite materials for operation in extreme/special conditions.
- Thermal barrier coatings for details and devices for the aerospace industry.
- Advanced technologies for recycling of industrial wastes aimed for production of structural, thermal insulating, decorating and other materials.
- Technology transfer as a catalyst of innovation development of society.

Tentative list of scientific committee members:

- Uvarova Iryna (Kiev, Ukraine)
- Ragulya Andrey (Kiev, Ukraine)
- Turkevich Vladimir (Kiev, Ukraine)
- Ilyushchenko Aleksandr (Minsk, Belarus)
- Panin Victor (Tomsk, Russian Federation)
- Kulu Priit (Tallinn, Estonia)
- Zgalat-Lodzynsky Ostap (Kiev, Ukraine)
- Gogotsi Yu. (Drexel University, USA)
- Loboda Petro (Kiev, Ukraine)
- Hipke Thomas (Chemnitz, Germany)
- Vishnyakov Leon (Kiev, Ukraine)
- Pakielia Zbigniew (Warsaw, Poland)
- Iryna Bilan (Kiev, Ukraine)

Tentative list of invited speakers:

- Shemet V (Jülich, Germany)
- Tedenac Jean-Claude (Montpellier, France)
- Dorofeef Vladimir (Novocherkassk, Russian Federation)
- Brziak Peter (Bratislava, Slovakia)
- Mileiko Sergey (Moscow, Russian Federation)
- Prikhna Tatiana (Kiev, Ukraine)
- Polezhaev Yurii (Moscow, Russian Federation)
- Savich Vadim (Minsk, Belarus)
- Gergii Tavadze (Tbilisi, Georgia)
- Konstantinova Tatiana (Donetsk, Ukraine)
- Frage Nahum (Bersheva, Israel)
- Rumyantsev Vladimir (Sankt-Peterburg, Russian Federation)
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- Berber Alik (Haifa, Israel)

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Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

**Introduction and scope:**

Transparent Conductive Materials (TCM) play a pivotal role in many modern devices such as: solar cells, flexible light-emitting devices, touch screens and flexible transparent thin film heaters. This symposium aims at exploring the most recent ways to better understand the fundamental properties of TCMs and improve their integration in devices.

Transparent, electrically conductive materials (TCM) are important components of displays, touch-screen layers, thin film solar cells, organic light-emitting diodes (OLEDs) and transparent heaters. Conductive oxides such as ITO, AZO or FTO presently have the largest market share. Recent demands for mechanical flexibility and uncertainties in the availability of rare earths spurred the search for alternatives. This symposium aims to bring together research on traditional Transparent Conductive Oxides and emerging TCMs based on graphene, carbon nanotubes, metallic nanowire networks, metallic grids, and composites. The symposium will be concerned with both experimental and modelling approaches, and with the goal of improving their integration in devices.

A compromise between electrical conductivity and transparency imposes several specific requirements including for instance the design of appropriate interfaces and layers with defined microstructures and long-term stability. This symposium will bring together scientists and engineers from universities, research institutes and industries in order to comprehend TCMs properties and work with the target of fabricating stable state-of-the-art transparent electrodes. Deposition of layers containing one or more of the abovementioned conductive nanostructures and their characterization will be the main focus. Theoretical models that provide design rules for conductive layers based on anisotropic or isotropic nanostructures will be covered. Deeper experimental or theoretical insights into the materials will be sought and correlated to mechanisms responsible for key electrical and optical properties. Another focus will be on strategies to overcome limitations of the currently available technologies, and the integration of transparent conductive materials into functional electronic devices. Several keynote speakers will be invited to present their recent scientific contributions. We will also seek industrial contributions to give an insight into the growing commercial relevance of nanostructure-based TCM.

Hot topics to be covered by the symposium:

- TCO electrical and optical properties
- Mechanisms of, and limitations for, electrical conductivity in transparent materials
- Synthesis and processing of novel types of transparent electrode materials
- Optical properties of TCMs: experimental and modelling approaches
- Interface properties of TCMs
- n-type TCOs, p-type TCOs
- Metallic nanowire networks
- Carbon nanotube and graphene based materials
- Composites of metal nanoparticles and polymers
- Composites of carbon-based nanostructures
- Combinations of oxides, metals and carbon-based TCMs
- Diffuse transparent electrodes
- Electrical, thermal, chemical stabilities of transparent electrodes
- Upscaling and advanced large-area processing
- Integration of transparent electrodes into functional devices
- Mechanical flexibility of transparent conductive materials (TCM)
- Modelling and design
- Applications

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Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

Introduction and scope:

The symposium "Nitride semiconductors for high power and high frequency electronic devices" focuses on nitride-based high power devices and challenges related to electronic transportation, energy efficiency, terahertz emission, and advanced substrates for such applications. Physical properties of GaN make this wide-bandgap material very attractive for microelectronics, optoelectronics, and solar applications.

Today, it is well acknowledged that, thanks to its very high breakdown field, high saturation velocity, high electron mobility, and respectable thermal conductivity, GaN material is a revolution in the semiconductor sector. The deployment of nitride technologies is a key issue for Europe to strengthen its competitiveness while addressing societal challenges on transportation, energy efficiency, and renewable energy. Manufacturing capabilities have been limited by the compatibility of the wafer with silicon production environment: diameter, cost, handling, and material quality.

The scope of this Symposium covers the whole value chain of GaN-based devices i.e. from material & equipment to device makers, with a specific focus on advanced substrates and power devices as well as the creation of their production. The concept of this Symposium is to design the expected technological challenges for GaN-based electronics, such as:

- i/ compatibility with silicon standard manufacturing device line: wafer damage or breaking issues due to wafer brittleness, stress, and non-standard carrier;
- ii/ requirements for competitiveness: transition to 6" and 8" diameter, how to bring GaN material and technology to a level compatible with high volume manufacturing in terms of yield, robustness, and cost;
- iii/ adequate device manufacturing: thermal management, high voltage, device manufacturing, and challenge of reliability (GaN defects, instability, growth temperature);
- iv/ GaN-based or GaN epi compatible substrates with high quality and performance in terms of defectivity, reliability, thickness, conductivity, manufacturability, diameter, and yield.

GaN has already been selected for LED and High Performance Solar Cell markets. This material is considered for CMOS nodes below 10 nm and is also particularly attractive for power applications in electronic devices operating at high temperatures, high power, very high frequencies and in a harsh environment. However, there are some barriers connected to GaN-based devices. The first one is the availability, as few GaN transistors are available in mass production. Competing manufacturers' products are non-standard and there are no second-sources. Secondly the technology so far lacks maturity. An overall device performance and GaN material defect rates need improvement.

Hot topics to be covered by the symposium:

- Substrates for GaN-based electronic devices
- Epitaxy of GaN-based structures for electronic applications
- Progress in Schottky diodes based on GaN
- Progress in HEMTs based on nitride semiconductors
- Progress in terahertz devices based on nitride semiconductors

Tentative list of scientific committee members:

- A. Piotrowska (IET, Poland)
- T. Skotnicki (WUT, Poland)
- T. Diefl (IP PAS, Poland)
- R. Dwilinski (UW, Poland)
- Z. Sitar (NCSU, USA)
- J. Freitas (NRL, USA)

Tentative list of invited speakers:

- P. Guenard (Soitec) "GaN based Advanced Substrates for electronic applications"
- M. Zajac (Ammono) "Ammonothermally grown GaN substrates for electronic applications"
- P. Coppens (ONSEMI) "GaN-on-Si MISHEMTs in the new 6" pilot line"
- A. Torres (CEA LETI) "AlGaIn/GaN HEMT on GaN-on-Si for power applications"
- E. Galván (GPTech) "Electric and thermal specifications of GaN power devices used in photovoltaic applications"
- R. Rodriguez (IUMA) "Numerical simulation and compact physical modeling of AlGaIn/GaN power HEMTs"
- T. Mrozek (Plansee) "Composite materials for inverse heat sinks"
- T. Sochacki (TopGaN) "Current status of the HVPE-GaN growth"
- M. Iwinska (IWC PAN) "HVPE-GaN growth on Smart Cut™ substrates"
- M. Germain (EpiGaN) "GaN growth on Si for RF applications"
- R. Collazo (NCSU) "Progress on power Schottky diodes based on GaN and AlN substrates"
- D. Meyer (NRL) "Millimeter wavelength RF performance of vertically-scaled GaN HEMTs"
- M. Iwaya "in situ X-ray diffraction analyses of GaInN/GaN during MOVPE growth"

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Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com


Responsive materials operating outside of thermodynamic equilibrium
Introduction and scope:

The proposed symposium will focus on materials that – akin to biological matter – operate away from thermodynamic equilibrium. Such materials are at the forefront of modern materials science research because they are capable of performing « smart », life-like functions, including responsiveness to external cues, taxis, or even self-replication.

Traditionally, materials are sought to have immutable and thermodynamically stable structures offering desired properties, be it mechanical, magnetic, electrical, thermoelectric, or other. In sharp contrast, material systems found in nature are capable of change and are operating away from thermodynamic equilibrium. It is only under the non-equilibrium conditions that cells, tissues and organisms can transmit/signal chemical information, sense and adapt to the environment, or self-replicate. One of the grand challenges of modern materials science is to develop principles for the engineering of « smart » materials that would perform at least some of these life-like properties. This challenge calls for an interdisciplinary effort bridging materials science with the chemical synthesis of responsive molecules, the self-assembly of dynamic structures, and the physics describing the fundamental principles governing the non-equilibrium regime. The Symposium we propose will bring together some of the world's leaders in this exciting area of research. Specifically, Prof. Steve Granick will lecture on his work, described in several recent Nature papers, on the synthesis and application of active colloids – that is, colloids engineered to respond to external stimuli, to move directionally, or to assemble into unusual supra-structures. Prof. Stefano Scana will describe his pioneering work (Science 2013) on light activated colloidal structures. Professor Frisc is one of the leaders of mechanochemistry research (numerous Angewandte, JACS papers) and will talk about materials (polymers, MOFs) that change upon mechanical stimuli. Prof. Lee Cronin will talk on materials that can controllably evolve (based on several of his Nature-family articles) while Prof. Sijbren Otto will narrate his exciting work on self-replicating materials (e.g., from his recent Angewandte and Science papers). Additional contributions for oral presentations and posters will be sought after the Symposium is approved. Overall, the Symposium will be a unique venue defining the current status, the key challenges, and future prospects for research on non-equilibrium materials. At the horizon of this emerging area of research lie entirely new types of « smart » materials capable of performing various tasks depending on the state of external controls, of self-optimization, self-repair, or even evolution.

Hot topics to be covered by the symposium

The symposium will cover several topics that are at the very forefront of modern materials science and often covered on the pages of leading journals including Nature or Science. **Topic will include**

- Active colloids and nanoparticles
- Non-equilibrium materials and systems
- Mechanochemistry
- Molecular evolution
- Self-replication

Tentative list of scientific committee members:

- Oren Scherman University of Cambridge, UK
- James Stuart Queen's University Belfast, UK • Mircea Dincă MIT, Cambridge, USA
- Leon Gradon Warsaw University of Technology, Faculty of Chemical Engineering, Poland
- Marcin Fialkowski Institute of Physical Chemistry, Polish Academy of Sciences, Poland

Tentative list of invited speakers:

- Steve Granick, Urbana Champaign, "New developments in active colloids"
- Stefano Scana, New York University, "Colloidal assemblies controlled by light"
- Lee Cronin, Glasgow "Nonequilibrium materials discovery and design using evolutionary programming"
- Sijbren Otto, Groningen, "Self-Synthesizing Materials and Self-Replicators from Dynamic Molecular Networks"
- Tomislav Frisc, Toronto, "Structural transformations of metal-organic materials under minimal mechanical stimuli"

Symposium Organizers:

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Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

Ferroic perovskites for advanced materials

Introduction and scope:

Physical properties of perovskite-based ferroics find applications in virtually all branches of functional materials. This symposium will gather researchers from a broad range of fields in order to discuss advances in understanding and applications of (multi-)ferroic perovskites.

The tremendous significance of perovskites in the field of functional materials originates from the versatility and flexibility of its crystal structure. Not only does the perovskite family offer various degrees of freedom for the design of materials with desired properties, but it also provides many compounds that serve as models for in-depth understanding of physical properties and phenomena. As such, the perovskite family defines a research field in itself where tight collaboration between advanced solid state theory and experiment has proven to be particularly fruitful. Ferroic phase transitions and properties, including ferroelectricity, ferroelasticity, magnetism or ferrotoroidicity, are often at the heart of functional properties of perovskites. The complex interplay of their various order parameters (polarization, magnetism, strain, distortions of the octahedral network...) has been continuously under focus, in the search for original coupling phenomena that would lay the basis for advanced materials. More recently, the detailed study of domains boundaries as objects and functional elements has been pushed forward, for it offers perspectives for technological breakthroughs in nanoelectronics. Caloric properties have also received a renewed interest, as well as light-induced phenomena, in particular for photoferroelectrics, which in turn calls for a deeper theoretical understanding, by state of the art first-principle methods, of the electronic and optical properties of perovskites. This symposium aims at bringing together experimentalists and theorists working on perovskites from a variety of fields in solid state physics. Advances in synthesis methods, fundamental understanding, characterization techniques, integration and devices will be discussed.

Hot topics to be covered by the symposium

- Structural phase transitions and critical phenomena
- Magnetoelectric and multiferroic perovskites
- Domain boundary engineering
- Interfacial properties, 2D gases
- Thin films, multilayers and heterostructures
- Advances in ab-initio calculations and experimental methods
- Electro/magneto/elasto-caloric effects
- Flexoelectricity
- Piezotronics and piezo-phototronics
- Integration and devices
- Light-induced phenomena
- Defects in ferroic perovskites
- Electronic structure and optical properties
- Antiferroelectrics
- Piezoelectrics and lead-free piezoelectrics
- Relaxors and applications

Tentative list of scientific committee members:

- B. Noheda (Netherlands)
- J. Kreisel (Luxembourg)
- M. Alexe (UK)
- L. Eng (Germany)
- J. Fontcuberta (Spain)
- B. Hilczer (Poland)
- M. Maglione (France)
- P. Ghosez (Belgium)
- M. Tyunina (Finland)
- D. Damjanovic (Switzerland)

List of invited speakers:

- P. Zubko (UK), "Domain dynamics in PbTiO₃-based superlattices"
- P. Paruch (Switzerland), "From superlattices to domain walls: tailoring functional behaviour in ferroic perovskites via artificial or intrinsic interfaces"
- M. Gregg (Ireland), to be announced
- P. Thomas (UK), "Determining Symmetry in the presence of Defects and Domains – crystal structure on the nanoscale"
- L. Bellaiche (USA), to be announced
- K. M. Rabe (USA), to be confirmed
- N. Setter (Switzerland), to be confirmed
- H. Taniguchi (Japan), "Development of oxygen-tetrahedra-based ferroelectric oxides"
- M. Viret (France), "Magnetocapacitance of BiFeO₃ at high fields and the role of inhomogeneous antiferromagnetism"
- A. Barthélémy (France), to be confirmed
- M. Stengel (Spain), "Flexoelectricity via coordinate transformations"

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Deadline For Abstract Submission: May 25, 2015

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Introduction and scope:

Transition metal oxides are ideal candidates as functional materials for next generation of electronic and energy devices. This symposium, organized by the MP1308 TO-BE COST Action "Towards Oxide-Based Electronics", is open to all scientists of the field. It warmly welcomes all contributors and participants, whether they are or are not members of the TO-BE Action. It will focus on the latest progresses in thin films epitaxial growth, on emergent functionalities at oxide interfaces, and on applications of oxides in the fields on nanoelectronics, energy, sensing and actuation.

Complex oxides, with wide variety of functional properties, are extraordinarily appealing as new materials to improve responses in existing devices or to develop radically new ones. Quite usually, oxides showing different functionality are extremely similar in terms of crystal structure, permitting the combination of multiple materials with multiple properties in epitaxial heterostructures. The unique properties of oxides, the multiple responses in heterostructures and the possible coupling between various properties can be exploited in devices of relevance in major fields. As examples, we can mention nanoelectronic memory devices, or microelectromechanical systems for microsensors and actuators.

However, the unique properties of oxides are accompanied by an unprecedented complexity that strongly conditions the properties. Very fine control of the films growth is necessary to obtain a particular microstructure and achieve reproducible functional properties. In addition of the relevance of lattice strain on the functional properties, oxygen octahedral distortions in perovskites, oxygen vacancies and cationic defects, chemical termination in surface films and interfaces, and domain walls, can be critical among others. On the other hand, films, heterostructures and superlattices with orientation different to the (001), offer new opportunities. Recent development on oxide films growth and functional properties including ferroelectricity, multiferroicity, or resistive switching, as well as tunneling devices as those based in ferroelectric barriers and emergent phenomena at oxide interfaces, including two-dimensional electron gases will be presented.

Hot topics to be covered by the symposium

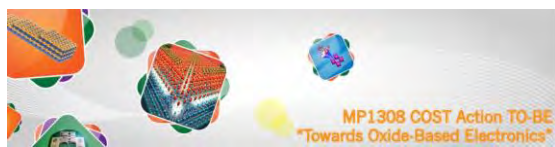
- Control of nanostructure in oxide films and influence on properties
- Real time monitoring of oxide thin films growth
- Integration of crystalline oxides with silicon
- Electrical and optical properties of oxide films
- Ferroic orders in oxide films
- Interface phenomena in oxide heterostructures
- Nanoelectronic devices based on epitaxial oxides
- Oxides as energy materials

Tentative list of scientific committee members:

- Josep Fontcuberta, ICMA-B-CSIC, Barcelona, Spain
- Thomas Schroeder, IHP, Frankfurt (Oder), Germany
- Luis Morellón, Universidad de Zaragoza, Spain
- Tamalika Banerjee, University of Groningen, Netherland
- Mark Huijben, University of Twente, Netherlands
- Salvatore Amoruso, SPIN-CNR, Naples, Italy
- Nini Pryds, Technical University of Denmark, Denmark
- María Varela, Universidad Complutense, Madrid, Spain
- Patrycja Paruch, University of Geneva, Switzerland
- Beatriz Noheda, University of Groningen, Netherlands

Tentative list of invited speakers (Partial. List. To be confirmed.):

- Fabio Miletto-Granozio, CNR-SPIN, Naples, Italy
- Jean Fompeyrine, IBM, Zurich, Switzerland
- Jacobo Santamaría, Universidad Complutense, Madrid, Spain
- Susanne Hoffmann-Eifert, Forschungszentrum Jülich, Germany
- Josee Kleibecker, Cambridge University, UK
- Matjaz Spreitzer, Jozef Stefan Institute, Ljubljana, Slovenia
- Wilfred Prellier, CRISMAT, Caen, France
- Michal Sing, Würzburg, Germany
- Hiroki Kurata, Kyoto University, Japan
- Di Xiao, Oak Ridge National Laboratory, USA

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Deadline For Abstract Submission: May 25, 2015

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Introduction and scope:

It is generally accepted that by improving control over the synthesis and assembly of nanoparticle building blocks it will be possible to produce materials with tailored and predictable properties. Furthermore, by incorporating hierarchical control into the assembly (through type, size and spatial distribution of the NPs) it will be possible to improve materials properties and performance and develop new functionalities

During the last few decades, an outstanding library of elemental, multinary, and multicomponent nanoparticle building blocks with extremely precise controlled properties have become available. To take full advantage of the huge potential of these materials in their wide range of applications, equally precise assembly strategies and technologies need to be developed. The goal of this symposium is to bring together groups developing nanoparticle assemblies, modelling the particle assembly mechanisms, and assessing the influence of order on the emergent functional properties of the assemblies for a variety of applications. The main objective is to discuss the latest developments in the field and to inspire new ideas and start new collaborations in these areas. We will address current concerns/challenges in: (i) the formation of nanoparticles with sufficient control over size and monodispersity; (ii) solution based particle assembly techniques; (iii) scaling of these processes; (iv) the selection of assembly processes to provide control over emergent properties in single- and multi-component assemblies, and ; (v) the potential of computation to guide these developments.

Hot topics to be covered by the symposium

- Mechanisms and strategies for the preparation of nanoparticle clusters and 1D, 2D and 3D nanoparticle assemblies.
- Modelling of nanoparticle self- and directed-assembly
- In-situ characterization of nanoparticle assembling
- characterization of nanoparticle assemblies
- Modelling optical and transport properties of nanoparticles assemblies
- Use and integration of nanoparticle assemblies in biomedical, energy conversion and storage, optoelectronic, photonic, and other relevant applications
- Scale-up of nanoparticle synthesis and assembly processes

Confirmed Committee members

- Prof. Jordi Arbiol, ICREA and Institut Català de Nanociència i Nanotecnologia,
- Prof. Pilar Rivera-Gil, Universitat Rovira I Virgili
- Prof. Hong Liu, Shandong University
- Prof. Kevin Ryan, University of Limerick
- Prof. Istán Lagzi, Budapest University of Technology and Economics
- Prof. Jacek Stolarczyk, Ludwig Maximilian University of Munich

Confirmed Invited Speakers

- Prof. Willem K. Kegel, Utrecht University
- Prof. Andrey Rogach, City University of Hong Kong
- Prof. Massimo Morbidelli, ETH Zurich
- Prof. Marco Lattuada, University of Freiburg
- Prof. Alesio Zacccone, Technische Universität München
- Prof. Alexander Govorov, Ohio University
- Prof. Antonios Kanaras, University of Southampton
- Prof. Stefano Sacanna, New York University
- Prof. Bartosz A. Grzybowski, Ulsan National Institute of Science and Technology
- Prof. Maksym Kovalenko, ETH Zurich & EMPA
- Prof. Beatriz Hernández-Juárez, IMDEA & Universidad Autónoma de Madrid

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Deadline For Abstract Submission: May 25, 2015

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Introduction and scope:

Mechanical properties of crystalline micro or nano objects have recently drawn intensive attention, through their high achievable yield strength and ductility. They are thus considered as model samples to investigate elementary deformation processes (dislocations, twins) close to the atomic scale.

The goal of this symposium is to bring together experimentalists (in situ TEM, SEM mechanical testing, HRTEM, tomography) and computational modellers (ab initio, MD, DD) in order to improve our knowledge on small-scale deformation processes that govern the mechanical properties on certain length scales, with a focus to bridging scaled in order to understand architecturally-controlled structural materials in the future. The symposium will focus on recent and original studies dedicated to small-scale deformation analysis. While numerous studies have been dedicated to classic metals, investigations dedicated to other materials including complex alloys, ceramics, semi-conductors and oxides are welcome. As the main goal of the symposium is to enhance the interactions between experiments and simulations, interdisciplinary studies (e.g., HRTEM + atomistic simulations) are of great interest.

Hot topics to be covered by the symposium

- Nano-mechanical testing
- Size-effects on material properties
- Deformation under extreme conditions
- Characterization of defects
- Dislocation structures in complex materials
- Role of sample synthesis, growth and preparation
- Defects-based deformation model on various length scales
- Influence of interfaces and interaction with other defects
- Experimental and numerical technical innovations
- From small scale properties to applications

Symposium Organizers:

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Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

Introduction and scope:

The symposium aims to gather scientists working on monolithic heterogeneous integration to expand silicon technology. It builds on a series of symposia that attracted a steadily increasing number of attendees. This research paves the way towards highly functionalized Silicon-based microelectronics technologies that can address challenges in our societies.

Silicon is the material of choice for manufacturing integrated circuit (IC), achieving an unbeaten level of system integration. Fundamental physical limits of Si present however major stumbling blocks for miniaturization ("More Moore") and functionalization ("More than Moore") of Si-based ICs. In parallel though, new markets driven by societal needs – mobile & low power technologies, ultra-fast data communication, cognitive systems, biomedical application – will stem from technologies where the integration of alternative semiconductors on the mature Si technology platform will be a key differentiator.

The symposium will be devoted to highlight novel breakthrough approaches that impact monolithic heterogeneous integration on silicon CMOS, be it about fundamental materials understanding, using novel integration schemes or targeting new field of application. The focus will be first on basic materials issues related to group IV (graphene, Ge, SiGe, (Si)GeSn etc.); III-V (Arsenides, Phosphides, Antimonides, etc); and x-VI (oxides, nitrides), covering fabrication and characterization. Contributions related to innovative hetero-integration techniques (advanced hetero epitaxy, wafer bonding, microstructure printing etc.) will be encouraged. Finally, a particular attention will be given to applications demanding an interdisciplinary approach, eg cognitive technologies and biomedical or environmental sensors. The productive interaction across disciplines (eg between life science and Si technology) will be critical to exploit the combined power of CMOS enhanced with new materials. It will help materials scientists to drive the exciting transition towards higher-value Si microelectronics, supporting technology that supports society

Hot topics to be covered by the symposium:Materials science, fabrication and characterization:**Group IV and III-V semiconductors:**

SiGe, Ge, and (Si)GeSn heterostructures, SOI, GOI, graphene and carbon nanotubes.

Arsenides, phosphides, nitrides and antimonides.

Oxides and nitrides:

Functional perovskites, ZnO, GaN and heterostructures, oxides with resistive or metal insulator transition, topological insulators, etc.

Integration Techniques:**Advanced heteroepitaxy:**

Epitaxial lateral overgrowth, patterned wafer approaches, self-assembly techniques

Layer Transfer and TSV

Wafer bonding, microstructure printing, die to wafer etc.

Through Silicon Via techniques etc.

Applications:**Logic and data communication:**

CMOS, high-power / frequency transistors; IR and THz lasers; modulators, photodetectors, resonators.

New computing paradigm

Native neuromorphic devices and circuits, quantum computing and communication

Biomedical application and environmental sensors

Convergence with microfluidics, plasmonics for SERS, gas sensors etc

Tentative list of scientific committee members:

- D. Buca, Juelich FZ
- F. Walker, Yale
- Y.-H. Xie, UCLA
- G. Chahine, ESRF
- R. Erni, EMPA
- R. Czajka, TU Poznan
- A. Marzegalli, U Milano
- S. Takagi, U. Tokyo
- V. Sverdlov, TU Wien
- S. Spiga, MDM-CNR
- P. Davids, Sandia Nlabs

Tentative list of invited speakers:

In order to account for possible changes, the following list include a few additional speakers with respect to the final program that will be proposed

- Dr. Jean-Marc Girard (Air Liquide Advanced Materials, USA) «Advanced precursors for semiconductor processing»
- Dr. Kristel Fobelets (Imperial College London, UK) «Conductivity and 1/f noise in Si nanowire arrays»
- Dr. Sebastian Koelling (University of Eindhoven, The Netherlands) «Advanced semiconductor characterization using Atom Probe»
- Dr. Cary Gunn (Genalyte, USA) «Silicon based assays for biomarker and protein detection»
- Dr Isabelle Berbezier (CNRS, France) «Group IV nanostructures»
- Prof. Douglas J. Paul (University of Glasgow, UK) «Silicon based THz systems»
- Dr. Charles Cornet (INSA Rennes, France) «InGaP integration on Si for photonics and energy»
- Prof. Bernd Witzigmann (University of Kassel, Germany) «Computational Physics of Nanowire Photonics Applications»
- Dr. Florencio Sanchez (ICMAB, Spain) «Functional Oxides on Silicon»
- Dr. Martin Kalbac (Uni Prag, Slovakei) «Graphene Research»
- Dr. Julie Grollier (CNRS-Thales, France) «Nanodevices for Cognitive Information Processing»
- Dr. Clement Merckling (IMEC, Belgium) «III-V integration on silicon for CMOS»
- Prof. Sasan Fathpour (University Central Florida, USA) «Heterogeneous Lithium Niobate Photonics on Silicon Substrates»
- Prof. Kristinn B. Gylfason (KTH, Sweden) «Silicon photonics for biosensing applications»
- Dr Ségalène Olivier (CEA, France) «Hybrid III-V on Silicon Lasers for Photonic Integrated Circuits on Silicon»
- Dr Stephan Wirths (Forschungszentrum Juelich, Germany) «Lasing from GeSn-based structures»

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Deadline For Abstract Submission: May 25, 2015

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Introduction and scope:

Silicon nanostructures in all dimensionalities are investigated by researchers working in both fundamental science (nanophysics, nanotechnology) and microelectronic engineering (future CMOS technologies, sensors, photovoltaics, etc.). This symposium intends to cover theoretical, experimental and application aspects of all types of Si nanostructures with emphasize on doping, surface/interface effects, and advanced metrology methods.

In fundamental science, Si nanostructures such as quantum wells, nanowires, or quantum dots are fabricated deliberately to study the properties of nanoscale Si with the aim of modification and utilization for a variety of applications. On the other hand, applied research on future Si-CMOS technologies is driven by the demand of miniaturization on the low nanometer scale to improve performance. With ongoing CMOS miniaturisation, there is a minute quantitative size difference between both disciplines which will vanish completely in the near future. Besides the well-known size dependent quantum confinement effects, Si nanostructures are highly susceptible to their surrounding and any kind of impurities. Many key material properties change due to the influence of an embedding matrix or surface terminating groups. For instance, it has been shown that surface functionalization and ensuing strain switches the fundamental band gap type from indirect to direct-like. Also, it was demonstrated that different types of dielectric matrices induce a charge transfer in Si nanostructures which creates energy offsets of electronic states. On the other hand, well established technological concepts such as majority carrier generation by impurity doping with e.g. phosphorous or boron are impeded in Si nanostructures due to self-purification, statistical problems, or failing dopant ionization due to quantum confinement. Likewise, problems with dopant diffusion in the channel region or dopant deactivation at the Si/SiO₂ interface are hot topics in Fin-FET engineering.

In order to understand, circumvent or exploit these effects sophisticated theoretical approaches (e.g. via density functional theory simulations) and advanced metrology (e.g. atom probe tomography) are crucial for the whole range of small Si nanostructures. The symposium will focus on the electronic, optical and structural properties of Si nanostructures in the context of doping, interface- and matrix-effects (including strain, interface charge transfer, surface functionalization etc.) as well as the novel measurement technologies to detect, image and probe these effects. Fundamental and applied researchers are encouraged to present their recent results and to exchange their knowledge and experience.

Hot topics to be covered by the symposium

- Silicon nanostructures (quantum dots, nanowires, quantum wells, etc.)
- Conventional doping of silicon nanostructures
- Novel doping concepts of silicon nanostructures
- Advanced measurement technologies for dopant detection
- Advances in preparation techniques and surface functionalization
- Simulation and theory of Si nanostructures
- Influence of defects and matrix effects
- Influence of surface functionalization and strain
- Optical response of Si nanostructures to surface/interface termination, strain and defects
- Fundamental optical and electronic properties of Si nanostructures: theory and experiment
- Applications of Si nanostructures
- Future and emerging nanoscale-Si CMOS concepts and technologies

Confirmed list of scientific committee members:

- C. Delerue, Lille, France
- K. Dohnalova, Amsterdam, Netherlands
- S. Dyakov, Stockholm, Sweden
- F. Gourbilleau, Caen, France
- S. Gutsch, Freiburg, Germany
- J. Heitmann, Freiberg, Germany
- S. Hernandez, Barcelona, Spain
- P. Jelínek, Prague, Czech Republic
- J. Linnros, Stockholm, Sweden
- T. Mikolajick, Dresden, Germany
- S. Mirabella, Catania, Italy
- I. Pelant, Prague, Czech Republic
- S. Strehle, Ulm, Germany
- J. Valenta, Prague, Czech Republic

Sponsors:

- Light Conversion Ltd. (www.lightcon.com)
- Carbolite Gero GmbH (www.carbolite-gero.com)
- Wiley-VCH (www.wiley-vch.de)

Confirmed list of invited speakers:

- J. R. Chelikowsky, Austin, USA (*tba*)
- T. Frauenheim, Bremen, Germany (*tba*)
- M. Fujii, Kobe, Japan ("All-inorganic colloidal Si nanocrystals")
- T. Gregorkiewicz, Amsterdam, Netherlands ("Specific processes of hot carrier cooling in Si NCs")
- A. Heinzig, Dresden, Germany ("The RFET – a reconfigurable nanowire transistor and the realization of novel CMOS circuits")
- U. Kortshagen, Minnesota, USA (*tba*)
- U. Lemmer, Karlsruhe, Germany ("Hybrid light emitting diodes using Si nanoparticles (SiLEDs)")
- M. T. Lusk, Golden, USA ("Carrier Collection and Transport in Thin Film Silicon with Tailored Nanocrystalline/Amorphous Structure")
- D. Mariotti, Ulster, UK ("Atmospheric pressure plasma for the synthesis and device integration of Si-based quantum confined nanocrystals")
- A. Meldrum, Alberta, Canada ("Surface treated free-standing silicon quantum dots for vapor sensing")
- M. Perego, Agrate Brianza, Italy ("Mechanism of dopant incorporation in Si nanostructures")
- R. N. Pereira, Aveiro, Portugal ("Electronic doping of crystalline silicon nanoparticles")
- Y. Rosenwaks, Tel Aviv, Israel (*tba*)
- H. Sigg, Villigen, Switzerland ("Top down method to introduce high strain in Si and Ge for CMOS based electronics and photonics")
- S. Smith, Sydney, Australia (*tba*)
- A. Stesmans, Leuven, Belgium (*tba*)
- I. Sychugov, Stockholm, Sweden ("Influence of surface passivation on quantum efficiency and luminescence linewidth of Si nanocrystals")
- R. Tilley, Wellington, New Zealand (*tba*)
- A. Vilan, Rehovot, Israel (*tba*)

Proceedings:

Proceedings of Symposium P will be published in *Physica Status Solidi (C)*. Upon nomination by the (Guest-) Editors selected papers may be published in *Physica Status Solidi (a)* or (b), or in special cases in *pss Rapid Research Letters (RRL)*.

Student Awards & PSS Young Researcher Award:

Please send your award applications (incl. description of work, abstract, letter of support, CV) to the organizers by August 17. Applicants have to be the main author and presenter of their contribution. Finalists will be notified and interviewed prior to the selection of the award winners.

Symposium Organizers:**Daniel HILLER**

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Deadline For Abstract Submission: May 25, 2015

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**Introduction and scope:**

The assembly of nanoparticles into complex and functional superstructures is key to achieving tailor-made materials with functional properties at the nanoscale. Novel synthesis strategies that include various classes of building blocks give rise to advanced nanomaterials like photonic crystals, multifunctional carriers for drug delivery or elaborate superlattice structures.

This symposium explores novel strategies for the assembly of functional nanomaterials. Methods for the synthesis of nanostructures include the self-assembly of functional nanoparticles, the formation of polymer-nanoparticle hybrids, or bio-inspired processes like mesocrystal formation.

Carbon nanomaterials are a prime example of building blocks for the assembly of functional nanomaterials, such as graphene-based sensors, drug delivery carriers based on nanodiamond or photoelectrodes made from arrays of nanotubes in combination with TiO₂ particles. Further building blocks are functional nanoparticles like quantum dots, mesoporous silica, superparamagnetic iron oxide or anisotropic and patchy nanoparticles. One especially exciting development of the last years is the emergence of superlattice structures based on nanoparticles with conjugated DNA-linkers, which enable the assembly of nanoparticle superstructures in a molecular-chemical approach. Another point of interest is the formation of hybrid nanomaterials assembled from a combination of nanoparticles and polymers, including bionanocomposites.

Application areas for assembled nanostructures can be found in diverse and critical fields: in drug delivery, multifunctional drug carriers are assembled from mesoporous silica or other functional nanoparticles; lab-on-a-chip devices utilize functionalized nanoparticle arrays for improved diagnostic capabilities; photovoltaics benefit from tailored nanostructured surfaces; photonic crystals are used to enhance optical devices; carbon nanomaterials begin to find their way into next generation electronics and the field of tissue engineering drives the development of materials with fine control over nanotopographical features, especially regarding the assembly of three dimensional fibrous nanostructures which are found in many natural tissues.

Hot topics to be covered by the symposium:

Contributions will address the following topics which are corresponding to possible topical sessions:

- Functional Nanostructures
- Hierarchical Materials
- Nanoparticle Self-Assembly
- Colloidal Crystals/Mesocrystals
- Photonic Crystals
- Superlattice Structures
- Colloidosomes and other Multifunctional Microcapsules
- Bionanocomposites
- Nanostructured Substrates for Tissue Engineering
- Assembly of Carbon Nanomaterials
- Colloidal Processing of Nanostructured Ceramics

Tentative list of scientific committee members:

- Fiona Meldrum, University of Leeds, UK
- Markus Niederberger, ETH Zurich, Switzerland
- Ulrich Simon, RWTH Aachen, Germany
- Markus Antonietti, MPI for Colloids and Interfaces, Potsdam, Germany
- Janne Roukolainen, Aalto University School of Science, Finland
- Liberato Manna, Istituto Italiano di Tecnologia, Genova, Italy
- Frank Caruso, University of Melbourne, Australia
- Gustaaf van Tendeloo, University of Antwerp, Belgium
- Dean Ho, UCLA School of Dentistry, USA
- Marie-Helene Delville, Institute of Chemistry-CNRS, Bordeaux, France
- Luis Liz-Marzan, University of Vigo, Spain

Tentative list of invited speakers:

- German Salazar-Alvarez, Stockholm University, Sweden
- Jan Lagerwall, University of Luxembourg
- Anna Roig, Materials Science Institute of Barcelona, Spain
- Francisco Fernandes, Université Pierre et Marie Curie, France
- Erik Reimult, University of Natural Resources and Life Sciences, Vienna, Austria
- Andrés Guerrero Martínez, Complutense University of Madrid, Spain
- Xuehua Zhang, RMIT University, Melbourne, Australia
- Joachim Bill, Stuttgart University/MPI for intelligent Systems, Stuttgart, Germany
- Sylvain Deville, CNRS, Cavailon, France

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Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

Introduction and scope:

This symposium will focus on electrochemical characterization and properties of diamond, CNTs, graphene, carbon particles and nanocomposites, etc. The key topics will include their application in electroanalysis, biosensing, electrocatalyst, electrosynthesis, environmental degradation, energy conversion and storage, etc.

This symposium will focus on the electrochemistry and interfaces based on nanocarbons, including novel carbon films (e.g. conductive diamond, fullerenes, DLC, CNTs, graphene, etc.), carbon nanoparticles (e.g. diamond nanoparticles, carbon dots, carbon powders, graphene dots, etc.) and micro-fabricated and CVD grown carbon structures (e.g. carbon foam, diamond nanowires, porous diamond, carbon nanofibers, etc.) as well as carbon nanocomposites (e.g. diamond/SiC nanocomposite films, carbon nitride, etc.). Electrochemical characterization of these nanocarbon materials in different media (including aqueous and non-aqueous solutions (organic and ionic liquids) and their interfacial properties will be covered. Of particular focus will be the relationships between the carbon bulk structure, electronic properties and surface chemistry their electrochemical performance (e.g. potential window, capacitance, redox activity, electrode kinetics and interactions, etc.). Applications of the nanocarbon materials in electroanalysis, electrocatalyst, electrosynthesis, environmental degradation, and energy storage and conversion will be covered. In vivo and in vitro electrochemical sensing, electrocatalytic reactions (e.g. catalyst support, metal-free catalytic reactions), organic synthesis using nanocarbon electrodes, electrochemical-photochemical degradation of environmental pollutants, supercapacitors and batteries from carbon nanomaterials are currently key topics in the field. The symposium will also include contributions on the fabrication, characterization, and application of micro and nanostructured carbon materials (e.g. micro-, ultramicro-, nano- electrode arrays, tips, etc.) and their characterization by scanning electrochemical microscopy, electrochemical AFM and spectroelectrochemistry.

Hot topics to be covered by the symposium

- Electrochemical properties of nanocarbons and related nanocomposites
- Simulation of carbon nanoelectrochemistry
- Synthesis of nanocarbons for electrochemistry
- Nanocarbon electrochemical and biochemical sensing
- Electrosynthesis using nanocarbon electrodes
- Electrocatalysts on nanocarbon electrodes
- Nanocarbon electrodes for environmental degradation
- Nanocarbon electrodes for electrochemical energy conversion and storage
- Electrochemistry at carbon nanostructures
- Electrochemical functionalization of nanocarbons and their applications
- Fabrication and applications of nanocarbon electrochemical devices

Confirmed list of invited speakers:

- R. L. McCreery, University of Alberta, Canada
- C.E. Nebel, Fraunhofer Institute for Applied Solid State Physics (IAF), Germany
- S. R. Waldvogel, University of Gutenberg-Universität Mainz, Germany
- M. Opallo, Institute of Physical Chemistry, Warsaw, Poland
- R. Zhou, IBM Research Center, USA
- Z. Liu, Soochow University, China
- Dai-Wen Pang, Wuhan University, China
- Paul W. May, University of Bristol, U.K.

Symposium Organizers:**Nianjun YANG**

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Deadline For Abstract Submission: May 25, 2015

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**Introduction and scope:**

Quantum computing will lead the future revolution of information technology. Current efforts in materials science focus on the physical realization of qubits and qugates. This symposium will highlight the contribution to this from the molecular materials' perspective, mainly on the manipulation of the electronic spin as the basic unit of quantum information.

Quantum information processing proposes to exploit the laws of quantum mechanics for the realization of logic operations and implementation of algorithms. The realization of Quantum Computing will outperform current classic information technology by dramatically increasing speed and providing the capacity to handle intractable problems, like the simulation of quantum systems. Current efforts focus on the physical realization of the hardware to implement these principles and very promising candidates have arisen from the materials science arena. One promising approach is encoding the qubit information in the quantum states of the electronic spin contained in molecular materials. Indeed the spin carried by molecular species has been shown to exhibit sufficiently high quantum coherence times for the realization of quantum operations and algorithms. Theoretical and empirical methods have been developed in order to predict and enhance this property, most especially in lanthanide-based qubits. The versatility of chemistry is proving highly beneficial for the design and tuning of scalable architectures able to bring about complex operations. Several proposal and prototypes of multi-qubit quantum gates have been already put forward, specifically for CNOT and SWAP operations. Current efforts focus on integrating small ensembles, or even single molecules on suitable substrates for their manipulation. These very exciting developments give great promise to this proposition. These have been possible thanks to the interdisciplinary efforts of chemists, spectroscopists, physicists and theoreticians. The symposium aims at bringing together for the first time the main actors of this very recent and rapidly growing area, as an idea to stimulate further development in this promising avenue. The speakers that have confirmed their participation belong to the various areas of expertise that have made possible these developments with their seminal publications. In addition, a prominent scholar has accepted to participate, who has recently contributed decisively, from a field other than molecular materials, to develop the goal of using spin qubits. This with the aim of visualizing the broadness of the subject.

Hot topics to be covered by the symposium (but is not limited)

- Chemical design of qubits using lanthanide and transition metal complexes
- Organic radicals for quantum computing
- Design and control of quantum coherence through chemistry
- Physical methods to unveil and study quantum entanglement within molecules
- Realization of multi-qubit quantum gates
- Pulsed and HF-EPR for the detection and characterization of quantum coherence
- Simulation of magnetic anisotropy and quantum coherence through theoretical methods
- Quantum simulation of quantum systems
- Quantum Manipulation of small molecular or atomic ensembles
- Surface nanostructuring of molecular qubits and qugates

Confirmed list of scientific committee members:

- Fernando LUIS (Spain)
- Daniel Loss (Switzerland)
- Arzhang Ardavan (UK)
- Stefano Carretta (Italy)
- Enrique del Barco (USA)
- Eugenio Coronado (Spain)

Confirmed list of invited speakers:

- Alejandro Gaita Ariño (University of Valencia, Spain) –"Rational design of coherent molecular spin qubits"
- Takeji Takui (Osaka City University, Japan) –"Milestones to molecular spin quantum computers"
- Joris van Slageren (University of Stuttgart, Germany) –"Quantum Coherence in Metal Dithiolates"
- Steven Hill (National High Magnetic Field Laboratory, USA) – "Atomic Clock Transitions in Lanthanide Molecular Qubits"
- Mario Ruben (Karlsruhe Institute of Technology, Germany) – "Molecular Quantum Spintronics"
- Andrea Morello (University of New South Wales, Australia) – "Quantum computing with spins: atoms and molecules"
- Filippo Troiani (CNR Modena, Italy)
- Paolo Santini (U. Parma, Italy)

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Deadline For Abstract Submission: May 25, 2015

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Introduction and scope:

The relation between electronic structure and the crystallographic atomic arrangement is one of the fundamental questions in condensed matter physics and inorganic chemistry. Since the discovery of the atomic nature of matter and its periodic structure, this has remained as one of the main questions regarding the very foundation of solid systems. Needless to say this has also bearings on physical and chemical properties of matter, where again the relation between structure and performance is of direct interest.

High-pressure science is a fast developing new field in condensed matter physics and may even be regarded as the exploration of an entirely new dimension. This is to a large portion of course due to the development of the diamond anvil cell (DAC) technique with which one can easily control the pressure for systems of interest in the range of several mega bars and due to increasingly sophisticated synchrotron facilities to observe some of the drastic changes effected in the physical properties. With pressure, we can tune electronic, magnetic, structural and vibrational properties of condensed matter for a wide range of applications. "Inert gases" cease to be noble and inert, and can form stoichiometric compounds; likewise, normally unreactive transition metals can form alloys with alkali metals; silicate tetrahedral frameworks, the basis of rock-forming minerals, are destroyed and replaced by silicate octahedra; carbon rings, basic structural units of polymer and organic chemistry, become unstable and are replaced by diamond-like structures. High-pressure research has been predicted to ultimately even lead to the establishment of a new Periodic Table, one which has the same elements but completely redefined physical and chemical behaviors at megabar pressures. In this sense, the field of high pressure could indeed establish itself as a dimension in physical science on a par with temperature (low- and high-temperature physics) and composition (chemistry and materials science). First of all the exploration of the megabar pressure range is highly interesting by itself, where new physics and chemistry can be expected. Second, the general problem about the equation-of-state in this pressure range is highly significant for a vast number of materials. The underlying mechanisms determining the geometrical arrangement of atoms can be elucidated by the study of matter at extreme conditions, probing a new range of electron densities. One example where high pressure can play important role, for example for search of new high Tc superconductors or Hard materials. Materials under pressure change their forms and the superconducting state of a material is strongly linked to these structural phase transition. Pressure enhances electron-phonon interactions and the corresponding critical temperature (T_c). An important byproduct from this meeting at EMRS (September, 2015) could lead to an improved understanding and performance of materials at ambient and extreme conditions.

Hot topics to be covered by the symposium

- Topological Insulators
- Hard Materials (Carbon based materials)
- Hydrogen densed materials
- Phase Change materials
- Functional Oxides
- Dilute magnetic semiconductors
- Data Driven discovery

Tentative list of scientific committee members:

- B.Johansson, KTH, Stockholm, Sweden
- S.M.Sharma, Bhabha Atomic Research Center (BARC, India)
- H.D.Hochheimer, Colorado State University, USA

Tentative list of invited speakers:

- H.K. Mao, Washington, USA & Shanghai, China
- W. Grochala, University of Warsaw, Poland*
- M. Eremets, Max-Planck-Institut für Chemie, Germany
- L.L. Sun, IOPCAS, China,
- U. Häussermann, Stockholm University, Sweden
- J. Tse, University of Saskatchewan, Canada
- K. Aoki, IMR, Tohoku, Japan
- B. Xu, Yanshan University, China
- A. Zaoui, University of Science & Technology, Lille, France

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Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

Introduction and scope:

This symposium is focused on the transfer of heat in conditions where the dynamics of carriers is affected by short time and/or short length scales. The goal is to bridge the gap between experiments and modeling, fundamental issues and applications to move towards a deeper understanding of the physics and the related devices.

Thermal and radiative properties of materials at the micro/nanoscale are not well described by laws governing their properties at the macroscopic scale. The length scale and the shape of the systems affect the dynamics of the heat carriers, electrons and phonons. Furthermore, ballistic transport and scattering at boundaries and interfaces lead to deviations from Fourier's law. Likewise, radiation emission in the subwavelength regime differs from the classical blackbody theory that characterizes the far field properties of materials.

Many applications of these effects have already been identified, ranging from energy conversion by thermoelectricity, to thermal management in nanodevices, phase change materials, magnetic memory and coherence in quantum information. Nanostructuring allows the coupling of surface waves and pave the way to the design of new monochromatic and/or directional emitters in the infrared.

Although considerable progress has been made, the fundamental understanding of heat transport at short time and length scales remains incomplete. Despite the tremendous recent advancement in thermal and radiative experimentation at the nanoscale in terms of sensitivity and accuracy, measurements with high resolution in time and space remain very challenging. Additionally, measurements on "real" structures are preferred, deposition of heaters and sensors on given samples can completely change the thermal properties. Phonon mean-free paths may cover several length scales, from the nm to μm , thereby making the computational modeling less straightforward and calling for breakthroughs in atomistic simulations accessible length scales. Nanostructuring is used for its benefits on thermal conductivity decrease for thermoelectricity but its effect on electronic transport is still under study. The understanding and use of coherent effects has been previously limited to low temperatures and is progressing towards room temperature. Interfaces between bio-molecules and solids are also of great interest though their study is still a challenge. Understanding the coupling between plasmons and phonons remains an important and rarely addressed issue. A lot of effort has been devoted to the thermal management of nanodevices, from the source by electron-phonon scattering, to the dissipation, thermal interface materials, for both cooling and thermal insulation of nanodevices.

Given the above context and open issues, this symposium will provide a forum to show and discuss latest advances on these topics. Our aim is to gather experimentalists and theoreticians from the fields of thermal conduction, near field and thermal radiation and photonic/phononic devices.

Hot topics to be covered by the symposium:

- Thermal conductivity of nanoscale materials and interfaces
- Interactions of phonons with phonons, electrons, photons and magnons
- Spanning the length scales of phonons mean free paths
- Radiative transport at subwavelength scales
- Coherent phonons and phononic crystals and coherent thermal sources
- Phonons in biology
- Thermal rectification
- Experimental characterization down to the nm
- Theory and modeling of heat transport
- Phonon-engineering based devices
- Fluctuations in low dimensional structures
- Applications to micro-electronics and medical devices, sensors, and energy conversion and storage

Scientific committee:

- Jouni AHOPELTO, Finland
- Francesc ALZINA, Spain
- Olivier BOURGEOIS, France
- Mihai CHIRTOC, France
- Davide DONADIO, Germany
- Younes EZZAHRI, France
- Séverine GOMES, France
- Karl JOULAIN, France
- Achim KITTEL, Germany
- David LACROIX, France
- Jennifer R. LUKES, USA
- Ilari MAASILTA, Finland
- Jean-François ROBILLARD, France
- Miguel RUBI, Spain
- Li SHI, USA
- G. P. SRIVASTAVA, GB
- Sebastian VOLZ, France
- Xanthippi ZIANNI, Greece

Confirmed list of invited speakers:

- Yann CHALOPIN, France "A Langevin approach of brownian relaxation for biological applications"
- Teodor GOTSZALK, Poland "Thermal metrology using scanning probe microscopy related methods"
- Nicolas HORNY, France "Experimental characterization of heat transport at interfaces, from macro- to nanoscale"
- Pawel KEBLINSKI, USA
- Samy MERABIA, France "Interfacial heat transfer: from hard to soft materials"
- Dimos POULIKAKOS, Switzerland "Thermal transport in silicon-based nano-materials"

With the aim of stimulating the participation especially from younger and promising scientists, additional invited talks will be selected among the best submitted abstracts.

Symposium Organizers:**Evelyne LAMPIN**

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Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

Introduction and scope:

Nanomaterials and nanostructures are playing an increasing role in everyday life as part of complex (miniaturized) electronic devices but also as components of modern tools for diagnosis and treatment in medicine. Because of that, preparation and characterization of well controlled complex nanomaterials and nanostructures is of paramount importance for their applications. The proposed symposium provides an interdisciplinary forum to discuss recent progress in the area of production, characterization and principal applications of nanomaterials and nanostructures.

This symposium will be the follow-up of the two symposia "Stress, structure and stoichiometry, effects on the properties of nanomaterials", held at the E-MRS Fall Meetings of 2011 and 2013 with very good attendance. Nanomaterials play now a crucial role in most aspects of advanced technologies, because of their surprising variety of functional properties. These properties can be finely tuned with a vast multitude of physical and chemical synthesis techniques. In particular, structure and stoichiometry are the key ingredients in this tuning of properties at the nanometer scale. Stress, chemical phase and presence of defects are critical factors governing the (nano)fabrication procedures. The investigation of their influence on the electric, magnetic, optical and mechanical properties of the ever growing collection of nanosystems is a crucial challenge in materials science, and it is also necessary for the engineering of the new devices to be realized for future applications. The scope of the symposium is to provide a forum for presentation and discussion of innovative methods in fabrication, characterization and modeling of nanomaterials and nanostructures: ultrathin films, nanotubes, nanopillars, nanowires, nanoparticles, with emphasis on influence of stress and stoichiometry on their properties.

Hot topics to be covered by the symposium

- Influence of the deposition process on the structure of nanomaterials
- Heterostructures and superlattices
- Investigations and engineering of interfaces in nanomaterials for enhanced properties
- Advances in small scale characterization techniques
- Use of self-organization and templates to grow nanostructures
- Strain control and its effects on functional properties
- Atomistic models for stress and defects in nanostructures
- Interface effects in magnetic, optical and electric properties of nanosystems
- Measuring and modeling friction at moving interfaces
-

Tentative list of scientific committee members:

- J. Moser (Spain)
- E. Garnet (Denmark)
- F. Ruffino (Italy)
- S. Cabrini (USA)
- D. Drouin (Canada)
- M. Schnabel (Germany)
- G. Leonhard (Austria)
- I. Boarino (Italy)
- M. Laus (Italy)
- G. Fleury (France)
- Paola Luches (Italy)
- Dimitris Niarchos (Greece)
- Socrates Pantelides (USA)
- Raluca Muller (Romania)

Tentative list of invited speakers:

- Chantal Leborgne: GREMI, Orleans, France
- Paolo Ossi, Politecnico di Milano, Italy Valentin Craciun, INFLPR, Bucharest, Romania
- Florencio Sanchez, Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain
- Dhananjay Kumar, North Carolina A & T State University, USA
- Fabien Paumier, Institut Pprime – CNRS, University of Poitiers, France
- Chi Lun Pang Chemistry Dept. University College London, UK
- Livia Giordano, Dipartimento Scienza dei Materiali, Università di Milano Bicocca, Italy

The symposium will be co-organized by the EU 7th Framework Programme under the project REGPOT-CT-2013-316014 (EAGLE)

Symposium Organizers:

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Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

Introduction and scope:

The symposium aims at bringing together researchers from both academia and large scale facilities (synchrotrons, centers for neutron scattering and for nuclear research,...) in order to present the latest advances in the synthesis and characterization of materials undergoing nanoscale phase separation, the mechanisms of phase separation, and the perspective functionality of these systems. Magnetically doped semiconductors, topological insulators, superconductors, magnetic oxides, but not only are in the focus.

The symposium aims at bringing together researchers from both academia and large scale facilities (synchrotrons, centers for neutron scattering and for nuclear research,...) in order to present the latest advances in: (i) the synthesis and characterization of materials undergoing nanoscale phase separation; (ii) the mechanisms of phase separation, and (iii) the perspective functionalities of these systems. Magnetically doped semiconductors, topological insulators, oxide and pnictide superconductors, magnetic oxides, but not only are in the focus. Particular attention will be paid to the fabrication and the structural, chemical, magnetic, optical, and transport characteristics of systems undergoing crystallographic, chemical, or electronic phase separations, which may give rise to the self-organized formation of nanostructures – e.g. dots and nanocolumns with predefined properties, controlled by the growth and co-doping protocols. In addition to fascinating physics, these materials show functionalities attractive for, e.g., flash memories, catalysis as well as various photonic, thermoelectric, and photovoltaic devices. Several tools with nanoscale resolution will be considered, including scanning probe, electron microscopy, synchrotron radiation, ion beam, neutron, and nuclear techniques as well as new families of nanoscale magnetometers. The recent progress in *ab initio* and multi-length scale simulation procedures assisting the fabrication procedures and the characterization methods as well suggesting new applications will be discussed.

Hot topics to be covered by the symposium

- Similarities and differences between phase separation phenomena in various families of materials
- New element-specific and spin-sensitive characterization methods
- Application of phase-separated magnetic systems for spintronics, electronics, catalysis as well as for various photonic, thermoelectric, and photovoltaic devices

List of scientific committee members:

- Antonio Bianconi, RICMASS, Roma, Italy
- Francesco d'Acapito, ESRF, Grenoble, France
- Bryan Gallagher, The University of Nottingham, UK
- Haraldur Pall Gunnlaugsson, CERN, Geneva and Aarhus University, Denmark
- Hideo Ohno, Tohoku University, Sendai, Japan
- Roman Puźniak, Institute of Physics, Polish Academy of Sciences, Warsaw, Poland

List of invited speakers (* not confirmed):

- Alex Amato*, Paul Scherrer Institute, Villigen, Switzerland, "Coexistence of magnetism and superconductivity as seen by muon spin spectroscopy"
- Alberta Bonanni, Kepler University, Linz, Austria "Epitaxy and characterization of self-organized modulated structures in (Al,Ga)N grown with Mn surfactant"
- Lino Miguel da Costa Pereira, Leuven, Belgium, "Electron emission channeling with radioactive ions: lattice location of impurities in semiconductors and oxides"
- Shuai Dong, Southeast University, Nanjing, China, "Surface and bulk phase separations in manganites"
- Yaniv Gelbstein, Ben-Gurion University, Beer Sheva, Israel, "Enhancing thermoelectric efficiency by phase separation in alloys"
- Matthieu Jamet, CEA, Grenoble, France, "Large scale facilities to study spinodal nanodecomposition in magnetically doped semiconductors"
- Hiroshi Katayama-Yoshida, Osaka University, Japan, "Spinodally decomposed system for catalysis and photovoltaics"
- Shinji Kuroda, Tsukuba University, Japan, "Visualization of interplay between the formation of dots and nanocolumns in (Zn,Cr)Te and (Zn,Fe)Te"
- Fumihiko Matsukura, Tohoku University, Sendai, Japan, "Effects of magnetic phase separation in (Ga,Mn)As"
- Christopher Palmstrom, University of California in Santa Barbara, USA, "Self-assembly of rare-earth pnictide nanocrystals in III-V epilayers"
- Dorota Anna Pawlak*, Centre of New Technologies University of Warsaw, Warsaw, Poland, "Bottom-up manufacturing methods for metamaterials and plasmonic materials"
- Tomasz Story, Institute of Physics, Polish Academy of Sciences, Warsaw, Poland, "Electric and thermoelectric properties of CdTe/PbTe epitaxial nanocomposite"
- Maria Varela del Arco, Universidad Complutense de Madrid, Spain, "Atomic scale studies of chemical ordering in complex oxides"
- Shengqiang Zhou, HZD, Rossendorf, Germany, "Application of ion beams to fabricate and characterize ferromagnetic semiconductors"

The symposium will be co-organized by the EU 7-th Framework Programme under the project REGPOT-CT-2013-316014 (EAGLE)

Symposium Organizers:

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Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com



Materials Weekend

In September 2015, Warsaw is the host city of a unique European Materials fortnight being held under the umbrella of the European Materials Forum. The E-MRS Fall Meeting from 15th -18th September will be followed by the 2015 FEMS Euromat conference. The E-MRS Fall Meeting and the FEMS Euromat are the largest and most important European materials events and they are being held in one city for the first time.

On Saturday and Sunday the 19th and 20th September a 'Materials Weekend' consisting of a number of special events are being jointly organised by the two societies to provide a bridge linking the two conferences. The Materials Weekend is intended to raise the profile of materials in the mind of the general public as well as including events specifically for students and young researchers.

The initiative of the two societies in seeking to show a united voice for the materials community has been welcomed by the European Commission and the Commissioner for Science, Research and Innovation and other leading figures in the Commission are expected to participate in a high profile political event.

Six tutorials focussing on Energy, Graphene, 3D characterisation, Biomaterials, Modelling and Technology transfer are being held for students and efforts are being made in an attempt to obtain the right to award ECTS points for participating students.

A meeting for young students on the basis of the 4th Krakow-Dresden-Warsaw PhD Workshop will be held each afternoon. A series of oral presentations, a poster session and a social event will complete the Workshop which will be open to all.

An Open Day for the public will be held on the Saturday and is being organised in conjunction with the Warsaw Science Festival. Materials related lectures and an exhibition will be held at the Faculty of Physics, with collaborative events at Warsaw University of Technology Faculty of Materials Science and Engineering, Faculty of Physics, Faculty of Chemistry and the Institute of Physics PAS.

Further information and details may be obtained from the webpage www.materialsweekend.pl and the E-MRS Fall Meeting Secretariat.

Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

M-ERA.NET conference at the E-MRS (15th of September)

M-ERA.NET is an EU funded network which has been established to support and increase the coordination of European research programmes and related funding in materials science and engineering. Between 2012 and 2016, the M-ERA.NET consortium has been and is still contributing to the restructuring of the European Research Area (ERA) by operating as a single innovative and flexible network of funding organisations. Annual joint calls were launched to support excellent transnational RTD projects, helping to create a stronger European RTD community whilst supporting the European economy. The M-ERA.NET project will end at the beginning of 2016. A successor project is currently planned under the H2020 ERA-NET Cofund scheme.

The M-ERA.NET conference will be held as a satellite event of the E-MRS on the 15th of September. We will present major M-ERA.NET achievements so far and will give an outlook to future funding opportunities under the M-ERA.NET follow-up project to be started in 2016. Successful RTD projects funded from M-ERA.NET joint calls will be presented by research consortia. In the afternoon there will be the opportunity for multilateral discussion, networking between the different funded projects and matchmaking for future project ideas. The M-ERA.NET team will also be available for questions.

Aim of the workshop:

- Information about transnational RTD projects funded from M-ERA.NET joint calls
- Networking between the different funded projects
- Information about the future funding opportunities
- Matchmaking for the next calls

Draft Agenda:

10:30 – 11:00	Coffee break	
11:00 – 11:30	summary of M-ERA.NET results, including results of joint calls and other joint activities	M-ERA.NET Coordinator Roland Brandenburg
11:30 – 11:45	Funded transnational Project 1	Project coordinator
11:45 – 12:00	Funded transnational Project 2	Project coordinator
12:00 – 12:15	Funded transnational Project 3	Project coordinator
12:15 – 12:30	Funded transnational Project 4	Project coordinator
12:30 – 14:00	lunch break	all
14:00 – 14:15	Funded transnational Project 5	Project coordinator
14:15 – 15:00	Discussion: lessons learned from M-ERA.NET, opportunities and needs	5 Project Coordinators, Roland Brandenburg
15:00– 15:30	Outlook & expectations from the upcoming H2020 ERA-NET Cofund on materials research as a new funding opportunity	RB
15:30 – 16:00	Coffee break	All
16:00 – 18:00	Possibility for multilateral discussion at the different project posters, questions to the M-ERA.NET team and matchmaking	All

For more information about M-era.Net visit www.m-era.net.

Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

General Information

Full information about the scientific programme, abstract submission, registration and accommodation can be found through the link to

www.european-mrs.com

For general information about the conference contact the E-MRS Fall Meeting Conference Secretary

CONFERENCE SECRETARIAT

Faculty of Materials Science and Engineering
Warsaw University of Technology
Wolowska 141
02-507 Warsaw, Poland
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Fax: +48 22 234 87 94
Email: emrs@inmat.pw.edu.pl

All additional information regarding a specific symposium should be obtained by making direct contact with the symposium organizers. The correspondence address will be found at the end of description of each symposium given in this announcement.

LANGUAGE

The conference language is English.

CONFERENCE VENUE



**Central Campus of
Warsaw University of Technology
Pl. Politechniki 1,
00-661 Warsaw, Poland**

Many places of interest are within an easy walking distance of the University. Area of the campus has a great student town atmosphere with many student pubs, which are great place to meet after symposia's and share experiences.

Good public transport connections, by metro, tramway, or by bus are available to the university from anywhere in Warsaw. Central campus lies just 10 minutes from city centre and 20-30 minutes from the Old Town.

GETTING TO WARSAW

By plane

Chopin Airport

Departures and Arrivals Information, phone + +48 22 650 4220

On-line timetable www.lotnisko-chopina.pl

Warsaw Frederic Chopin Airport, located some 12 km from the centre of the city can be easily reached by car, public bus or taxi.

<http://www.lotnisko-chopina.pl/en/passenger/access-and-car-parks>

Modlin Airport

Airport webpage: <http://www.modlinairport.pl/>

Departures and Arrivals Information, phone +48 22 346 43 60

Train: By Modlin shuttle-bus to Modlin train station, then by train (KM) to Central Railway Station. (4-5 €)

Bus: Modlin-bus connects Modlin Airport and Central Railway Station

Taxis

When using taxis in Warsaw, it is strongly recommended that you use only those with the following: the symbol of Warsaw – a mermaid – on both front doors, yellow/red stripes affixed to the glass along the front doors, a number stuck to the side of the vehicle, a hologram with the license number and the vehicle's registration number on the upper right-hand corner of the front glass and a sticker with price information per kilometer that must be displayed on the glass of the right-hand side back door. It is recommended for you to use one of the city's official Radio-Taxi companies, and order a taxi by telephone. The airport (Arrivals) is served only by 3 Radio-Taxi companies: Ele Taxi, Sawa Taxi i Super Taxi.

By train

There are three train stations in Warsaw that handle international and domestic train traffic:

Warszawa Centralna (Central Warsaw) (Aleje Jerozolimskie 54) - situated in the city center and very well connected to all of the city's districts.

Warszawa Zachodnia (West Warsaw) (Aleje Jerozolimskie 144) - thanks to the neighbouring international bus terminal, this is where people travelling in or out of the country await their transfers.

Warszawa Wschodnia (East Warsaw) (Lubelska 1) - located on the east side of Vistula River (Praga)

Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

By car

The main access roads to Warsaw are sections of three principal European routes:

- From the north: route E77 - north-south European route which runs through Central Europe: Russia (Pskov) - Estonia - Latvia - Lithuania - Russia - Poland (National highway 7: Gdańsk, Elbląg, Warsaw, Radom, Kielce, Cracow) - Slovakia - Hungary (Budapest)
- From the south-east: route E67 - north-south European route which connects Central Europe with Scandinavia: Finland (Helsinki) - Estonia - Latvia (Riga) - Lithuania - Poland (National highway 8: Białystok, Warsaw, Wrocław) - Czech Republic (Prague)
- From the west: motorway A2, route E30 - East-west European route: Ireland (Cork) - Great Britain - The Netherlands - Germany (Berlin) - Poland (National highway 2: Poznań, Warsaw, Terespol) - Belarus - Russia (Moscow - Omsk)

LOCAL PUBLIC TRANSPORT

The WUT Central Campus can be easily reached using the local public transport. The tram stop "Plac Politechniki" for lines 10, 14, 17 and 15 is 1 min. walking from the venue and the metro station "Politechnika" is 10 min. walking.

The main railway station "Warszawa Centralna" is located in the city centre about 20 min. walking or 3 min. by trams 10 and 17 from the conference venue. Trams 10 and 17 departures from the stop "Dworzec Centralny" in the direction "Wyscigi" and "Stużewiec" every 10-15 minutes. You need to get out at "Plac Politechniki" tram stop.

Both local trains (SKM -Fast Urban Railway, and KM - Masovian Railways), buses, tramways and metro require a valid ticket – one-way price is 1-2 € and can be bought in any kiosk, in ticket machines (on most bus stops or inside trains and buses) or from the bus driver.

Parking's

There is no free public parking around the Conference Venue.

The whole area of Warsaw city centre is a controlled parking zone. This rule applies from Monday to Friday, from 8 am to 6 pm. On Saturdays, Sundays and public holidays parking is free.

Warsaw Car parks system "Park & ride": <http://www.ztm.waw.pl/parkujjedz.php?c=116&l=2>

Useful links:

<http://www.ztm.waw.pl/?l=2>

<http://warsawtour.pl/en>

REGISTRATION

Online registration is obligatory, we highly recommend to issue your payment online as well, in order to avoid waiting during on-site registration.

All participants (including chairpersons, authors, presenting authors, Invited Speakers, Scientific Committee members...) must register online (abstract submission and conference registration are separate items and are not linked).

Online registration must be made by 5p.m. (EST) on July 31st, 2015 to be eligible for the early registration fee.

On-site registration will begin on Monday (September 14th, 2015), from 12:00 to 18:00 p.m. Online registration and payment is recommended to avoid long queue.

On-site payment hours:

Monday, September 14th, 2015	12:00 – 18:00
Tuesday, September 15th, 2015	08:00 - 18:00
Wednesday, September 16th, 2015	08:00 - 18:00
Thursday, September 17th, 2015	08:00 - 18:00
Friday, September 18th, 2015	08:00 - 18:00

REGISTRATION FEES**FULL RATE**

Early registration fee (before July 31th, 2015): 450 EUR

Late (after July 31th, 2015) and on-site registration fee: 500 EUR

STUDENT RATE

Early registration fee (before July 31th, 2015): 280 EUR

Late (after July 31th, 2015) and on-site registration fee: 330 EUR

Students have to present evidence of their status

The registration fee for a Regular Participant includes:

1. Admission to the Plenary Sessions, all parallel symposia and workshops (except Young Scientists Workshop)
2. Programme and Book of Abstracts
3. Conference Badge
4. Lunches and refreshments during breaks
5. Evening reception on Thursday 17th September 2015
6. Admission to the poster sessions
7. One copy of the proceedings of a named symposium

The following payment options are offered:

- Credit card (Carte Bleue, Visa, Eurocard/Mastercard)

- Cheque (to the order of E-MRS)

- Bank transfer (cf. BANK INFORMATION section)

NB: Purchase order from company are accepted too.

Deadline For Abstract Submission: May 25, 2015

www.european-mrs.com

IMPORTANT DEADLINES

- Deadline for abstract submission is 25th May, 2015
- June 22nd, 2015: Notification of acceptance and mode of presentation.
- July 31st, 2015: Deadline for registration at the early registration fee.
- after July 31st, 2015: Late registration fees apply.

Please note that the early registration fee is applicable only for participants who register and pay by 31st July, 2015.

PROCEEDINGS

The submitted papers being considered for publication will be subjected to a peer review procedure. The decisions about the deadline and procedure for submitting the papers are made by the symposium organisers. Authors of papers accepted for the conference should ensure that they have the appropriate instructions for the preparation of the manuscript.

CONFERENCE SCIENTIFIC PROGRAMME

The complete scientific program will be available on the website from mid July 2015.

ABSTRACT SUBMISSION

Abstract length: Website submissions are limited to 1500 characters. (only plain text, no figures, no formulae...)

Note: All abstracts must be submitted via E-MRS website at www.european-mrs.com

Submitting abstracts via the E-MRS is very easy and convenient. Follow the step-by-step instructions on the template, making sure that complete mailing address information is included for the presenting and contact authors. After submitting your abstract, please use the given Control ID number in all communications with E-MRS regarding the abstract UNTIL a paper number (e.g., A 8) is assigned. After that date, any change must be submitted to: emrs@inmat.pw.edu.pl (Subject: Abstract Revision) and must include your Control ID number. Please state exactly where the revisions are located (e.g., title, author, body, etc)

POSTER PRESENTATIONS

There will be two poster sessions on 15th and 16th of September. Authors presenting posters are obliged to be present at appropriate session to discuss or defend the paper.

Mandatory poster size is A0 (841×1189 mm);

No tapes or pins will be needed for hanging posters;

The posters must be removed directly after the session and the Conference Organisers assumes no responsibility for posters left up after this time.

Attendees can preview the posters during the morning, before the formal presentation.

EXHIBITION

The exhibition will be held from September 15th – 18th, 2015 in the historic Main Hall of Warsaw University of Technology, close to the technical session rooms.

The Main Hall is also the venue for all breaks between scheduled sessions to ensure maximum contact between exhibitors and participants.

The 2015 E-MRS Fall event will be an excellent opportunity for your company to meet prospective customers while you will have access to the largest group of materials specialists from over 50 countries gathered in Central Europe.

Exhibition is wonderful way to effectively spread of information about your products and to discuss or negotiate sales with participants.

July 31st, 2015: Deadline for registration of exhibitors

Companies interested in exhibiting should contact the E-MRS Fall Meeting Office, ul. Wołoska 141, 02-507 Warsaw, Poland

Tel.: +48 22 234 87 40

Fax: +48 22 234 87 94

Email: exhibition.emrs@inmat.pw.edu.pl

ACCOMMODATION & TOURISM PROGRAMME

Nobell Congressing, as an OFFICIAL HOTEL PROVIDER FOR E-MRS 2015 FALL MEETING, has a pleasure to offer you a various accommodation at discounted rates. We offer hotel accommodation in the hotels located just few steps away from a conference venue – walking distance. You may choose from a variety of hotel standards to suite all budgets. All prices are discounted especially for E-MRS 2015 Fall Meeting participants.

Book your hotel at <https://emrs.nobell.pl/hotels>.

Booking's team

Nobell Congressing

Norbert Karczmarczyk

phone: +48 22 621 67 37

email: norbert@nobell.pl

Please note that hotel booking and conference registration are on separate systems and are not linked in any way.

SOCIAL EVENTS

All participants are invited to attend the Conference Reception on Thursday September 17th, 2015 starting at 18:00. Music entertainment and refreshments will be provided as part of conference arrangements

PASSPORTS AND VISAS

All foreign visitors must possess a passport valid for at least 6 months following the conference. Some participants may require visas in order to enter Poland. Please check with your local Polish Consulate or Embassy for details regarding visa and entry requirements. Poland is now part of the Schengen area so that participants traveling within the Schengen area are not required to show passports on entering Poland.

LETTERS OF INVITATION

The Scientific Secretariat will, on request, send a personal invitation to participate. This invitation is only to assist potential participants to raise funds or to obtain a visa, and is not a commitment on the part of the organisers to provide any financial support.

LIABILITY

The E-MRS and Local Organizers of the 2015 Fall Meeting cannot accept liability for any personal accidents, loss of belongings or damage to the private property of participants, either during, or directly arising from, the E-MRS 2015 Fall Meeting. Participants are requested to make their own arrangements with respect to health, travel and property insurance before leaving for the conference. Participants who are citizens of a European Union member state may obtain an European Health Insurance Card which gives some entitlement to medical treatment whilst in Poland.

Deadline For Abstract Submission: May 25, 2015

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