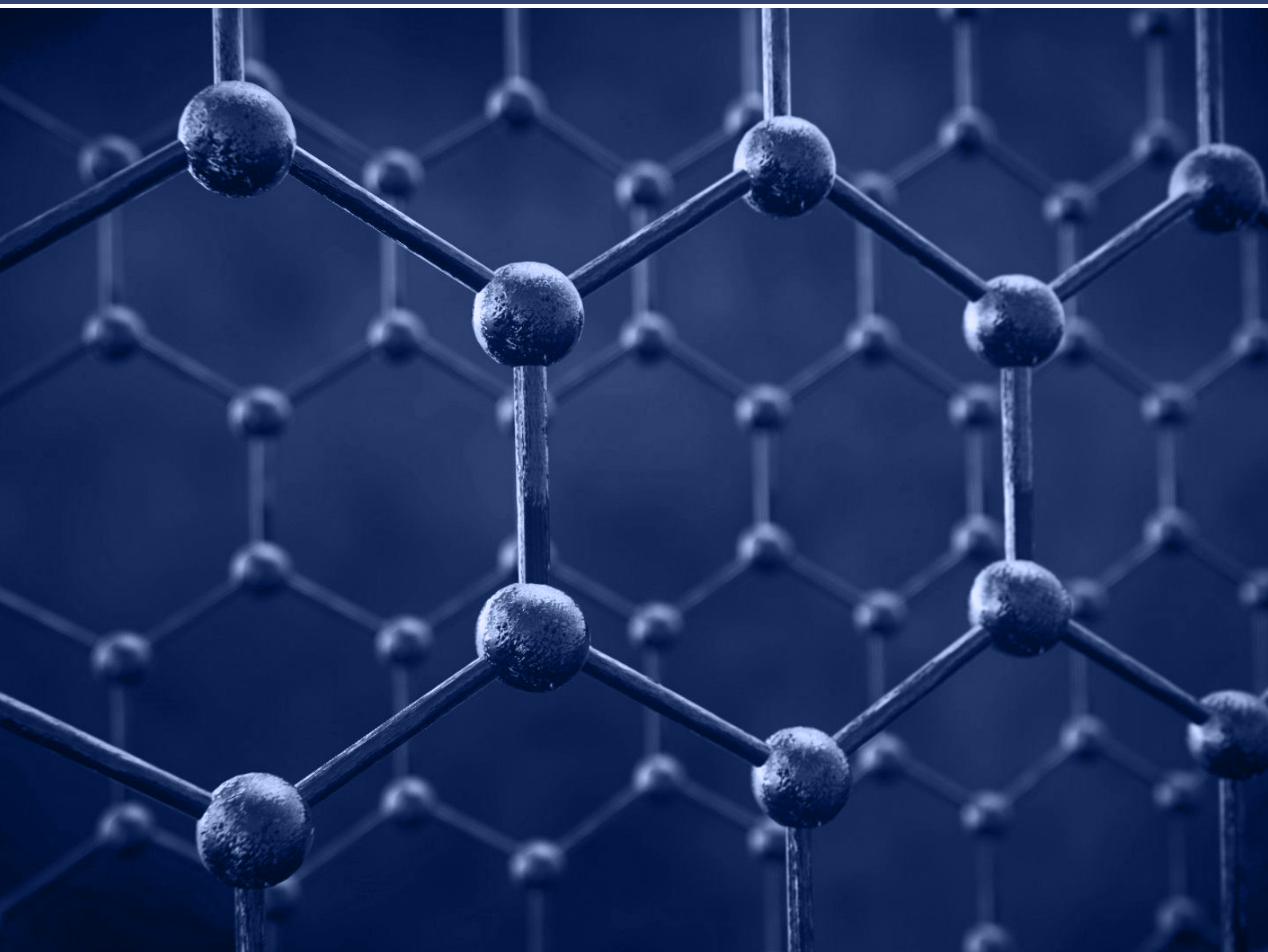


11<sup>th</sup> International Conference on

# ADVANCED MATERIALS & PROCESSING

September 7-8, 2017 Edinburgh, Scotland



**Conference Series - America**

One Commerce Center-1201, Orange St. #600, Wilmington, Zip 19899, Delaware, USA  
Toll Free: 1-888-843-8169, P: 702-508-5200, F: +1-650-618-1417

**Conference Series - UK**

Kemp House, 152 City Road, London EC1V 2NX, UK  
Toll Free: +0-800-014-8923

Balvenie Glenmorangie

conference**series**.com 09:00-09:25

# Opening Ceremony

## Keynote Forum

09:25-09:30 Introduction

**Title: Direct recording of myosin head power and recovery strokes in hydrated myosin filaments provides evidence against the swinging lever arm mechanism in muscle contraction**

09:30-09:55

**Haru Sugi**, Teikyo University Medical School, Japan

**Title: The skeleton microporous materials with coatings inside the pores for medical and dental applications**

09:55-10:20

**Leszek Adam Dobrzanski**, World Academy of Materials and Manufacturing Engineering, Poland

**Title: Single wall and multiwall WS<sub>2</sub> nanotubes synthesis and characterization - the update**

10:20-10:45

**Alla Zak**, Holon Institute of Technology, Israel

Networking and Refreshments Break 10:45-11:05 @ Academy Breakout Lounge

Sessions: Advancement in Nanomaterials Science And Nanotechnology | Coatings and Surface Engineering | Functional Materials

Session Chair: Hideo Miura, Tohoku University, Japan

## Session Introduction

11:05-11:25

**Title: Evaluation of atomic scale damages of advanced materials based on the order of atom arrangement**

**Hideo Miura**, Tohoku University, Japan

11:25-11:45

**Title: Thermokinetic modeling and simulation of complex phase transformations in the framework of advanced functional materials**

**Erwin Povoden-Karadeniz**, Institute of Materials Science and Technology, Austria

11:45-12:05

**Title: Evaluation of sputtered PZT thin films on Ti-substrates upon re-crystallization with a thin Pb-overcoat**

**Ankita ghatak**, S.N.Bose National Centre For Basic Sciences, India

12:05-12:25

**Title: Modification of ground state property on size reduction to 1D**

**Barnali Ghosh (Saha)**, S.N.Bose National Centre For Basic Sciences, India

12:25-12:45

**Title: Towards conductive textiles: coating polymeric fibres with graphene**

**Ana neves**, University of Exeter, UK

12:45-13:05

**Title: Functionalization of cocoa shell (CS) surfaces using nanoparticles and their application in CO<sub>2</sub> storage**

**Julien vieillard**, University of Rouen Normandie, France

Lunch Break 13:05-13:45 @ Traders Restaurant

Session Chair: Manfred Martin, RWTH Aachen University, Germany

13:45-14:05

**Title: Low friction, wear resistant quasicrystalline coatings**

**Jean marie dubois**, Université de Lorraine, France

14:05-14:25

**Title: Hafnium and palladium modified aluminide coatings**

**Jolanta Romanowska**, Rzeszów University of Technology, Poland

14:25-14:45

**Title: Resistive switching in highly disordered thin oxide films**

**Manfred Martin**, RWTH Aachen University, Germany

**14:45-15:05** Title: **TiO<sub>2</sub> nanotubes as potential vascular stents: Effect of oxygen plasma treatment on crystal structure and surface properties**

Metka bencina, Jožef Stefan Institute, Slovenia

**15:05-15:25** Title: **Particle size versus energetics of nanomaterials: Key parameters controlling the stability and reactivity of nanostructured materials**

Speranta Tanasescu, Institute of Physical Chemistry Ilie Murgulescu of the Romanian Academy, Romania

**15:25-15:45** Title: **Formation of carbon-based nanostructures from carbon suboxide decomposition at high pressure and temperature – a ReaxFF study**

Xavier bidault, Commissariat Energie Atomique, France

**15:45-16:05** Title: **Starch capped silver nanoparticles as colorimetric sensor for hydrogen peroxide recognition in aqueous medium**

Abdelaziz Elgamouz, University of Sharjah, UAE

### Networking and Refreshments Break 16:05-16:25 @ Academy Breakout Lounge

**Sessions: Advanced Biomaterials, Bio devices & Tissue Engineering | Advanced Ceramics and Composite Materials**

**Session Chair: Garcia Garcia Francisco, University of Edinburgh, Scotland**

**16:25-16:45** Title: **Design of nanostructured powders and mechanical properties of WC-AISI 304 stainless steel composites**

Ana senos, University of Aveiro, Portugal

**16:45-17:05** Title: **Thermal characterization of a thermoplastic resin for resin transfer molding in process conditions: Demonstrating of the feasibility of the technology**

Bailleul Jean-Luc, Laboratoire de Thermocinétique de Nantes, France

**17:05-17:25** Title: **Thermoelectric oxides processed by a laser floating zone technique**

Nuno M. Ferreira, University of Aveiro, Portugal

**17:25-17:45** Title: **LIPSS stimulate stem mesenchymal cells differentiation to osteoblasts in titanium and tantalum**

Alberto Jorge Mora, Universidad de Santiago de Compostela, Spain

**17:45-18:05** Title: **Biological cell inspired reactors for an increasing population world**

Garcia Garcia Francisco, University of Edinburgh, Scotland

**18:05-18:25** Title: **Synthesis of Nano CaCO<sub>3</sub> and Hydroxyapatite by Sol-Gel methods, on spores and in 3D-printed Ca<sup>2+</sup>-crosslinked PVA hydrogels and their use in bone regeneration**

Paul Sermon, Brunel University, UK

### Breakout @ Edradour

**Sessions: Materials Processing and characterization | Materials for Energy application & Energy storage**

**Session Chair: Alexandre Maitre, University of Limoges, France**

**11:05-11:25** Title: **Atomic layer deposition routes to monolithic integration of crystalline oxides on semiconductors**

John Ekerdt, University of Texas at Austin, USA

**11:25-11:45** Title: **Tailoring compatibility in ultrapermeable polymer blends to switch off plasticization and physical ageing**

Lau Sam, University of Edinburgh, Scotland

**11:45-12:05** Title: **Mechanism of spark plasma sintering of high temperature ceramics such as carbides**

Alexandre Maitre, University of Limoges, France

**12:05-12:25** Title: **Testing methodologies for thermo-mechanical fatigue evaluation in advanced aerospace materials**

Mark Whittaker, Swansea University, UK

**12:25-12:45** Title: **Characterization of energy materials by neutron scattering**

Martin Jones owen, Science and technology facilities council, UK

**12:45-13:05** Title: **Permanent magnets in energy applications for the clean environment**  
Spomenka Kobe, Jožef Stefan Institute, Slovenia

Lunch Break 13:05-13:45 @ Traders Restaurant

Sessions: **Advanced Materials Engineering | Materials Science and Engineering | Emerging Areas of Materials Science**

Session Chair: **Masumi Saka**, Tohoku University, Japan

**13:45-14:05** Title: **Interaction of nanoparticles with amino acids and a physiologically important model protein studied by spectroscopic techniques**  
Karolína M. Šišková, Palacký University in Olomouc, Czech Republic

**14:05-14:25** Title: **Kovacs effect and the relation between glasses, supercooled liquids and crystals**  
Francesco Aliotta, Istituto per i Processi Chimico-Fisici, Italy

**14:25-14:45** Title: **Co-electrodeposition of Zn-rich Cu-Zn-Sn metallic alloy and its conversion to  $\text{Cu}_2\text{ZnSnS}_4$  and  $\text{Cu}_2\text{ZnSnSe}_4$  photovoltaic absorber films**  
Ali Rakhshani, Kuwait University, Kuwait

**14:45-15:05** Title: **Surface mechanics design of metallic materials by cavitation peening**  
Hitoshi soyama, Tohoku University, Japan

**15:05-15:25** Title: **Fatigue analysis of a failed connecting rod in race car engine**  
Klaudio Bari, University of Derby, UK

**15:25-15:45** Title: **Crack/damage evaluation and micro-materials fabrication in the relation with electric field**  
Masumi Saka, Tohoku University, Japan

**15:45-16:00** YRF: **Heat transfer performance of double-layer porous copper produced by tape casting with lost carbonate sintering**  
Mosalagae Mosalagae, Sheffield Univeristy, UK

Networking and Refreshments Break 16:00-16:25 @Academy Breakout Lounge

Session Chair: **Klaudio Bari**, University of Derby, UK

**16:25-16:45** Title: **Advanced polydimethylsiloxane-urea copolymer based masterbatches with multiple functionality**  
Hans-Joachim Radusch, MLU Halle, Germany

**16:45-17:05** Title: **Sculpture art and fashion design**  
Mayssa El Fare, Damietta University, Egypt

**17:05-17:25** Title: **Material science and fashion design**  
Nashwa El Shafey, Damietta University, Egypt

**17:25-17:45** Title: **Structures, interactions and optical responses from polymer and polymer nanocomposites**  
Sarathi Kundu, Institute of Advanced Study in Science and Technology, India

**17:45-18:05** Title: **Recent advances in polylactic acid based blends, composites and nanocomposites for packaging and barrier applications**  
Kartikey Verma, Chandigarh University, India

**Day 2 September 08, 2017**

**Balvenie Glenmorangie**

**Keynote Forum**

**09:30-09:55** Title: **Influence of non-Newtonian behavior of polymers on their processing characteristics**  
Mosongo moukwa, PolyOne Corporation Designed Structures and Solutions LLC, USA

**09:55-10:20** Title: **Continuous nanocrystallizing of medicaments by spray flash evaporation**  
Denis Spitzer, NS3E Laboratory, ISL-CNRS-UNISTRA, France

**10:20-10:45** Title: **Hybrid biomaterials for nanobioelectronic device: toward biocomputing system**  
Jeong-Woo Choi, Sogang University, Korea

**Networking and Refreshments Break 10:45-11:05 @ Academy Breakout Lounge**

**11:05-11:30** Title: **Molten salts & molten salts technology: past, present and future in materials and processing technology**

Francisco Javier Perez Trujillo, Universidad Complutense de Madrid, Spain

**11:30-11:55** Title: **SERS tag-therapeutic drug delivery, multimodal imaging, multiplexed sensing and diagnosis metal-nanosystems**

Nekane Guarrotxena, Institute of Polymer Science and Technology, Spanish National Research Council, Spain

**Sessions: Materials Engineering and Performance | Materials For Engineering and Environmental Sustainability | Metals, Metallurgy and Materials | Polymers Science and Engineering | Optical, Electronic and Magnetic Materials**

**Session Chair: Nekane Guarrotxena**, Institute of Polymer Science and Technology, Spanish National Research Council, Spain

**Session Chair: Sylvain G.Cloutier**, École de Technologie Supérieure, Canada

**Session Introduction**

**11:55-12:15** Title: **Adsorptive removal of sulfur compounds using Cu<sup>2+</sup>-based porous coordination polymers**  
Masashi morita, Panasonic Corporation, Japan

**12:15-12:35** Title: **Key role of the liquid-surface interactions to reveal hidden elastic properties in liquids**  
Laurence Noirez, Université Paris-Saclay, France

**12:35-12:55** Title: **Influence of nickel and aluminum additions on the microstructure and tensile properties of innovative, free-carbon, 10% cobalt maraging composit steel**  
Saied Elghazaly, Central metallurgical R&D Inst, Egypt

**12:55-13:15** Title: **Functionalized well-defined polymeric nanostructures for biomedical applications**  
Efrosyni Themistou, Queen's University Belfast, UK

**Lunch Break 13:15-14:00 @ Traders Restaurant**

**14:00-14:20** Title: **The performance of polypropylene fibre reinforced concrete: Mechanical properties**  
Noor faisal Abas, Universiti Sains Malaysia, Malaysia

**14:20-14:35** YRF: **Polymeric nanoparticles and gels: modeling of dynamic behavior and properties using Discrete Element Method**  
Martin Kroupa, University of Chemistry and Technology Prague, Czech Republic

**14:35-14:55** Title: **High-performance perovskite hybrids for printable optoelectronics**  
Sylvain G.Cloutier, École de Technologie Supérieure, Canada

**14:55-15:15** Title: **Hydrogen production from water using the sun via photocatalytic processes on Au/g-C<sub>3</sub>N<sub>4</sub>/TiO<sub>2</sub> materials**  
Valerie Keller, Institute of Chemistry and Processes for Energy, Environment and Health, France

**15:15-15:35** Title: **On unified approach in description of crystalline structures in discrete space**  
Vladimir Shevcheko, Institute of Silicate Chemistry RAS, Russia

**Video Presentations**

**15:35-15:50** Title: **Engineering columnar crystals: A novel, template-based method of sequential deposition**  
Ho-kei Chan, Harbin Institute of Technology, China

**15:50-16:10** Title: **Microstructure development affected by electrode geometry during resistance spot welding**  
Peng-Sheng wei, National Sun Yat-Sen University, Taiwan

**Networking and Refreshments Break 16:10 Onwards @ Academy Breakout Lounge**

**Poster Presentations**



**Poster Judges: Speranta Tanasescu & Valerie Keller**

- AM-01** Title: **Luminescence of morphologically-controlled calcium silicon nitride particles through combined techniques of ultrasonic spray pyrolysis and carbothermal reduction/nitridation**  
Satoshi ono, Sophia University, Japan
- AM-02** Title: **Natural plant-derived polymer fabricated with sugar-containing hydroxyapatite for biocompatible bone-hemostasis**  
Yeonjeong Noh, Sophia University, Japan
- AM-03** Title: **Title: Encapsulation of oxynitride phosphors into sintered  $\text{Li}_2\text{O-ZnO-B}_2\text{O}_3\text{-P}_2\text{O}_5\text{-CaF}_2$  glass body**  
Nanako akiyama, Sophia University, Japan
- AM-04** Title: **Electrochemical decoration of  $\text{MoS}_2$  nanoplatelet arrays with Pt quantum dots for high efficient water splitting**  
Arnas Naujokaitis, Vilnius University, Lithuania
- AM-05** Title: **Detachable photocatalysts of anatase  $\text{TiO}_2$  nanoparticles: Annulling surface charge for immediate photocatalyst separation**  
Al-Hetlani, Kuwait University, Kuwait
- AM-06** Title: **Luminescence of  $\text{Mn}^{2+}$  and  $\text{Eu}^{3+}$  doped zinc phosphate glass**  
Hector Octvaio Murrieta Sanchez, Universidad Nacional Autónoma de México, México
- AM-07** Title: **: Impact of the granularity of a high-explosive material on its shock properties**  
Xavier bidault, Commissariat Energie Atomique, France
- AM-08** Title: **Green synthesized biocompatible anode in MFCs for sustainable wastewater treatments and energy recycling**  
Ying Cheng, University of Newcastle, Australia
- AM-09** Title: **Fibers made by centrifugal spinning technology**  
Jana Hlavata, Technical University of Liberec, Czech Republic
- AM-10** Title: **Preparation of composite scaffolds from micro / nano fibers and biocompatible hydrogels**  
Radek Jirkovec, Technical University of Liberec, Czech Republic
- AM-11** Title: **Study of electrically conductive water-based polyurethane**  
Valentina Caba, University of Brescia, Italy
- AM-12** Title: **Study of the mechanical and surface properties of the composites commonly used in lightweight constructions**  
Donata Kuczyska, Warsaw University of Technology, Poland
- AM-13** Title: **The study of point defect properties of Fe-Cr alloys: First-principles calculations**  
Marcin Zemla, Warsaw University of Technology, Poland
- AM-14** Title: **Materials selection for modern and mobile medical constructions**  
Agata Sotniczuk, Warsaw University of Technology, Poland
- AM-15** Title: **Hybrid polymer nanofibers**  
Stanislav Nevyhosteny, Technical University of Liberec, Czech Republic
- AM-16** Title: **One pot synthesis of acid doped polypyrrole and investigation of its visible light driven dye degradation and room temperature ferromagnetic properties**  
Sanchoyita Nag, Indian Institute of Engineering Science and Technology, India
- AM-17** Title: **Catalytic oxidation of methane into methanol over copper exchanged zsm-5 zeolites**  
Madina Ryssakova, The University of Edinburgh, Scotland

**Awards & Closing Ceremony**