7th Annual Congress on
Materials Research and Technology
February 20-21, 2017 Berlin, Germany

Scientific Program

Hosting Organizations: Conference Series LLC
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Conference Series Ltd
Heathrow Stockley Park Lakeside House, 1 Furzeground Way, Heathrow, UB11 1BD, UK, Tel: +1-800-216-6499
Email: materialsresearch@materialsconferences.org; materialsresearch@materialsconferences.com
Day 1 | February 20, 2017 | Monday

07:00-08:00 Registrations

Sylt 3

conference series.com 08:00-08:25 Opening Ceremony

Keynote Forum

Introduction
08:25-08:50 Title: Investigating materials formation with liquid-phase TEM
Jim De Yoreo, University of Washington, USA

08:50-09:15 Title: ISO-standards 14577 violate the first energy law: Can we further live with that?
Gerd Kaupp, University of Oldenburg, Germany

09:15-09:40 Title: New concept of bioreosorbable polymer-based ceramic hybrids for cardiovascular stent applications
Xiang Zhang, University of Cambridge, UK

09:40-10:05 Title: Graphene flake and graphene quantum dot-receptor sensor for detecting nerve agents
Hyoyoung Lee, Sungkyunkwan University, Republic of Korea

Coffee Break 10:05-10:20 @ Sylt Foyer

Sessions:
Materials Science and Engineering | Materials in Industry

Session Chair: Hyoyoung Lee, Sungkyunkwan University, Republic of Korea
Session Co-Chair: Nekane Guarrotxena, Spanish National Research Council, Spain

Session Introduction

10:20-10:40 Title: Smart functional nanoscale-hybrid materials: Surface modification and applications
Nekane Guarrotxena, Spanish National Research Council, Spain

10:40-11:00 Title: Ductile behavior of hard MoBC and WBC nanolaminated coatings
Petr Vasina, Masaryk University, Czech Republic

11:00-11:20 Title: Dynamics of single ions and molecules at the surface of solids in solution
Kislon Voitchovsky, Durham University, UK

11:20-11:40 Title: Design and evaluation of new ligands with highly extractability and selectivity for palladium from secondary raw material
Emad Mowafy, University of Hail, Saudi Arabia

11:40-12:00 Title: Evaluating mechanical properties of complex material structures from a new combination of calotte grinding and indentation tests
Nick Bierwisch, Saxonian Institute of Surface Mechanics, Germany

12:00-12:20 Title: Optimizing electrical conductivity and optical transparency of IZO thin film deposited by radio frequency (RF) magnetron sputtering
Lei Zhang, Winston Salem State University, USA

12:20-12:40 Title: Fabrication, optical and thermal properties of glass and crystalline rare-earth aluminates
Vijaya Kumar, University of Mysore, India

12:40-13:00 Title: Effect of process parameters and post heat treatment in the development of microalloyed HSLA tubes for torsional applications
Thendralarasu Udhayakumar, Tube Investments of India Ltd, India

Lunch Break 13:00-13:30 @ Restaurant Rienacker

13:30-13:50 Title: Effect of process parameters and post heat treatment in the development of microalloyed HSLA tubes for torsional applications
Elakkiya Mani, Tube Investments of India Ltd, India
Title: Graphite based minimum quantity dry lubrication at drilling CFRP
Robert Beckenlehner, University of Stuttgart, Germany

Title: Insights into linear supramolecular polymer formation via TPE and BODIPY containing host-guest interaction
Chinmoyananda Gouda, National Chiao Tung University, Taiwan

Sessions:
Nanomaterials | Biomaterials and Healthcare

Session Chair: Nikolay Ledentsov, VI Systems GmbH, Germany
Session Co-Chair: Yongmei Zheng, Beihang University, China

Title: Recent progress in epitaxial quantum dots for lasers and light emitting diodes
Nikolay Ledentsov, VI Systems GmbH, Germany

Title: Functional metal-ceramic nanocomposites based on tubule clay
Yuri Lvov, Louisiana Tech University, USA

Title: Characterization of nanosuspension using pulsed field gradient nuclear magnetic resonance
Haruhisa Kato, National Institute of Advanced Industrial Science and Technology, Japan

Coffee Break 15:20-15:35 @ Sylt Foyer

Title: Engineering optical Raman active nanoassemblies for nanosensor purposes
Nekane Guarrotxena, Spanish National Research Council, Spain

Title: Mechanical and topographical characterization of biomaterials, cells and tissues by enhanced atomic force microscopy
Jörg Barner, JPK Instruments AG, Germany

Title: Soft thermal nanoimprint lithography
Mark Schwartzman, Ben-Gurion University of the Negev, Israel

Title: Bioinspired gradient surfaces with controlling of dynamic wettability
Yongmei Zheng, Beihang University, China

Title: EHDA technology utilizing different bio-structure
Rita Haj Ahmad, De Montfort University, UK

Title: Electrochemical and biosynthesis of Nano-Photocatalytic materials and its applications in photovoltaic, anti-bacterial, anti-cancer and in preparation of polymer composites
Sannaiah Ananda, University of Mysore, India

Title: Synthesis and characterization of single-crystal bismuth telluride nanowires
Ming Yau Chern, National Taiwan University, Taiwan

Title: Iriartea deltoidea & Socratea exorrhiza: Sustainable production alternatives for integrated Biosystems, first stage - bioconstruction.
Lina Fernanda Mojica Sánchez, CIAM-UNIMETA, Colombia

Title: On-demand release of paclitaxel and 5-flourouracil using thermoresponsive poly(NIPAam-co-HMAm)/polyurethane partnered with alternating magnetic field induced hyperthermia on non-vascular nitinol stent
Ludwig Erik Aguilar, Chonbuk National University, South Korea

Title: Reversible and irreversible self-folding behavior of water responsive poly (vinyl alcohol) films
Amrita Rath, Indian Institute of Technology Madras, India

Title: Doxorubicin conjugated FeO4-GQD nanoparticle for magnetically targeted and ph responsive drug delivery vehicle: a two way targeted approach
Ankan Dutta Chowdhury, National Chiao Tung University, Taiwan

Panel Discussion
Day 2  |  February 21, 2017  |  Tuesday

Sylt 3

Keynote Forum

08:00-08:25  Title: Hybrid photovoltaic-piezoelectric flexible device for energy harvesting from nature
Elias Siores, University of Bolton, UK

08:25-08:50  Title: The decomposition of the solution during the formation of eutectic composites
Alex guskov, Institute of Solid State Physics of RAS, Russia

08:50-09:15  Title: Designing topological states by pressure, strain and functionalization
Udo Schwingenschloegl, King Abdullah University of Science & Technology, Saudi Arabia

09:15-09:40  Title: Graphene/h-BN heterostructures based field effect transistors employing chemical vapor deposition grown h-BN as a dielectric layer
Dae Joon Kang, Sungkyunkwan University, Republic of Korea

Sessions:
Materials Chemistry | Materials Physics | Energy Materials

Session Chair: Claude Delmas, University of Bordeaux, France
Session Co-Chair: Zhiqiang Gao, National University of Singapore, Singapore

Session Introduction

09:40-10:00  Title: Solid state electrochemistry: A tool for synthesis and characterization of solids
Claude Delmas, University of Bordeaux, France

10:00-10:20  Title: Chemical effects on metals friction at the nanometer scale
Arnaud Caron, KoreaTech, Republic of Korea

10:20-10:40  Title: Graphene oxide supported layered double hydroxide hybrids: Synthesis and applications
Mohamed Mokhtar Mohamed Mostafa, King Abdulaziz University, Saudi Arabia

Coffee Break 10:40-10:55 @ Sylt Foyer

10:55-11:15  Title: Approaches to reduce material consumptions in photovoltaics
Martha Ch. Lux-Steiner, Helmholtz-Zentrum Berlin, Germany

11:15-11:35  Title: Imaging electrons motion in semiconductor materials
Michael K L Man, Okinawa Institute of Science and Technology Graduate University, Japan

11:35-11:55  Title: Neutron scattering investigations of hydrogen storage in porous materials
Margarita Russina, Helmholtz Centre Berlin for Material and Energy Research, Germany

11:55-12:15  Title: Development of novel organic radical batteries
Shinichi Nakatsujii, University of Hyogo, Japan

12:15-12:35  Title: A dual-carbon phase modified and nanostructured nickel sulfide anode for sodium-ion batteries
Zhiqiang Gao, National University of Singapore, Singapore

12:35-12:55  Title: Hierarchical conducting polymers micro/nanostructures and their electrochemical energy conversion
Ying Zhu, Beihang University, China

12:55-13:10  Title: Environmental benign graphene quantum dots embedded halloysite nanotubes as high performance supercapacitor electrode material
Akhilesh Babu Ganganboina, National Tsing Hua University, Taiwan

Lunch Break 13:10-13:40 @ Restaurant Rienacker
Sessions:
Metallurgy and Materials Science | Advanced Materials and Devices | Characterization and Testing of Materials
Session Chair: Mikhail Lebyodkin, CNRS, France
Session Co-Chair: Mihaela Albu, Graz Centre of Electron Microscopy, Austria

13:40-14:00
Title: Development of solar grade silicon refining via metallurgical route: Thermodynamic properties of silicon based alloys
Kazuki Morita, The University of Tokyo, Japan

14:00-14:20
Title: Controlling microstructure via thermal science analysis during resistance spot welding
Peng-Sheng Wei, National Sun Yat-Sen University, Taiwan

14:20-14:40
Title: Light-induced superconductivity in an organic mott insulator induced by light-driven carrier doping
Masayuki Suda, Institute for Molecular Science, Japan

14:40-15:00
Title: Large tunnel magnetocapacitance in magnetic tunnel junctions
Hideo Kajiu, Hokkaido University, Japan

15:00-15:20
Title: Crack-closing of superelastic NiTi SMA short fibers in mortar beams
Eunsoo Choi, Hongik University, Korea

15:20-15:40
Title: Correlated versus random behavior of dislocations in jerky flow of Al-Mg alloys
Mikhail Lebyodkin, CNRS, France

15:40-16:00
Title: Large tunnel magnetocapacitance in magnetic tunnel junctions
Hideo Kajiu, Hokkaido University, Japan

16:00-16:20
Title: Quantum contact mechanics for holistic material optimization
Norbert Schwarzer, Saxonian Institute of Surface Mechanics, Germany

Coffe Break 16:20-16:35 @ Sylt Foyer

16:35-16:55
Title: Magnetic characterization of the phase transformations during synthesis of the FeWO$_4$ nanoparticles using WS$_2$ nanotubes
Gregory Leitus, Weizmann Institute of Science, Israel

16:55-17:15
Title: Advanced alloys and steels microstructure characterization by analytical high resolution scanning transmission electron microscopy
Mihaela Albu, Graz Centre of Electron Microscopy, Austria

17:15-17:35
Title: Evaluation of liquid tin corrosion on austenitic steels as well as nickel-based alloys and first tests on possible protective surface layers at high temperature
Thomas Emmerich, Karlsruhe Institute of Technology, Germany

Workshop

Title: Correlative and in-situ Materials Characterization
Said Mansour, Hamad Bin Khalifa University, Qatar
Mathias O. Mosig, Protochips, USA
Philipp Wachsmuth, JEOL, Germany

18:35-19:15
Title: Optimization of sustainable cutting conditions in turning carbon steel by CNC turning machine
Haider M. Mohammad Albu-Swelim, University of Basrah, Iraq

Title: Enhancement the mechanical properties of aluminum casting alloys (A356) by adding nanorods structures from zinc oxide
Zaid S Qassim, University of Basrah, Iraq
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Author</th>
<th>Affiliation</th>
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<tr>
<td>19:15-19:35</td>
<td>Prediction of hardness, yield strength, and tensile strength for single roll melt spinning of 5083 Al-alloy ribbons</td>
<td>Ahmad Kadhim Jassim Al-Dawod</td>
<td>University of Basrah, Iraq</td>
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<td></td>
<td>Title: Comprehensive study of chemical synthesis and dielectric parameters of holmium substituted yttrium iron garnets (Ho$<em>x$Y$</em>{3-x}$Fe$<em>5$O$</em>{12}$, x=0.1, 0.3, 0.6, 0.9, 1.2, 1.5) prepared by conventional ceramic method</td>
<td>Kausar Javed Khan</td>
<td>Lahore College for Women University, Pakistan</td>
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<td></td>
<td>Title: Water content dependent mechanical properties of biopolymer thin films: A molecular dynamics study</td>
<td>Santhosh Mathesan</td>
<td>IIT Madras, India</td>
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<td>19:35-19:55</td>
<td>Predictive wear modelling - The ultimate simulation tool for optimum tribo coatings</td>
<td>Nick Bierwisch</td>
<td>Saxonian Institute of Surface Mechanics, Germany</td>
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<td>Synthesis and characterization of conductive polymer hydrogels and the investigation of their application as biosensor hybrid for catechol detection</td>
<td>Ezer Castillo</td>
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<td>Dynamic response of a modified water tank exposed to concentrated solar energy</td>
<td>Mohammed H. Alhamdo</td>
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<td>Experimental study of the thermal behavior of heated natural composite material</td>
<td>Qasim Saleh Mahdi</td>
<td>AL-Mustansiryah University, Iraq</td>
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<td>Engineering of multi-functional composite nano-particles to address anti-microbial resistance using EHDA particle technology</td>
<td>Suleman Ramzan</td>
<td>De Montfort University, UK</td>
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<td>Rare earth Chalcogels NaLnSnS$_4$ (Ln= Y, Gd, Tb) for Selective Adsorption of Volatile Hydrocarbons and Gases</td>
<td>Fatimah Edhaim</td>
<td>King Abdullah University of Science &amp; Technology, SA</td>
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<td>19:55-20:10</td>
<td>On the friction and wear on-set of fcc metals by atomic force microscopy</td>
<td>Hui-Eun Ko</td>
<td>KoreaTech, Republic of Korea</td>
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**Poster Presentations on Day 2 (February 21, 2017) 16:20-16:35 @ Sylt Foyer**

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<th>Predictive wear modelling - The ultimate simulation tool for optimum tribo coatings</th>
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**Panel Discussions**

**End Of Day 2**

**Closing Ceremony**

**Bookmark your dates**

**15th Annual Congress on**

**Materials Research and Technology**

February 19-20, 2018    Paris, France

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