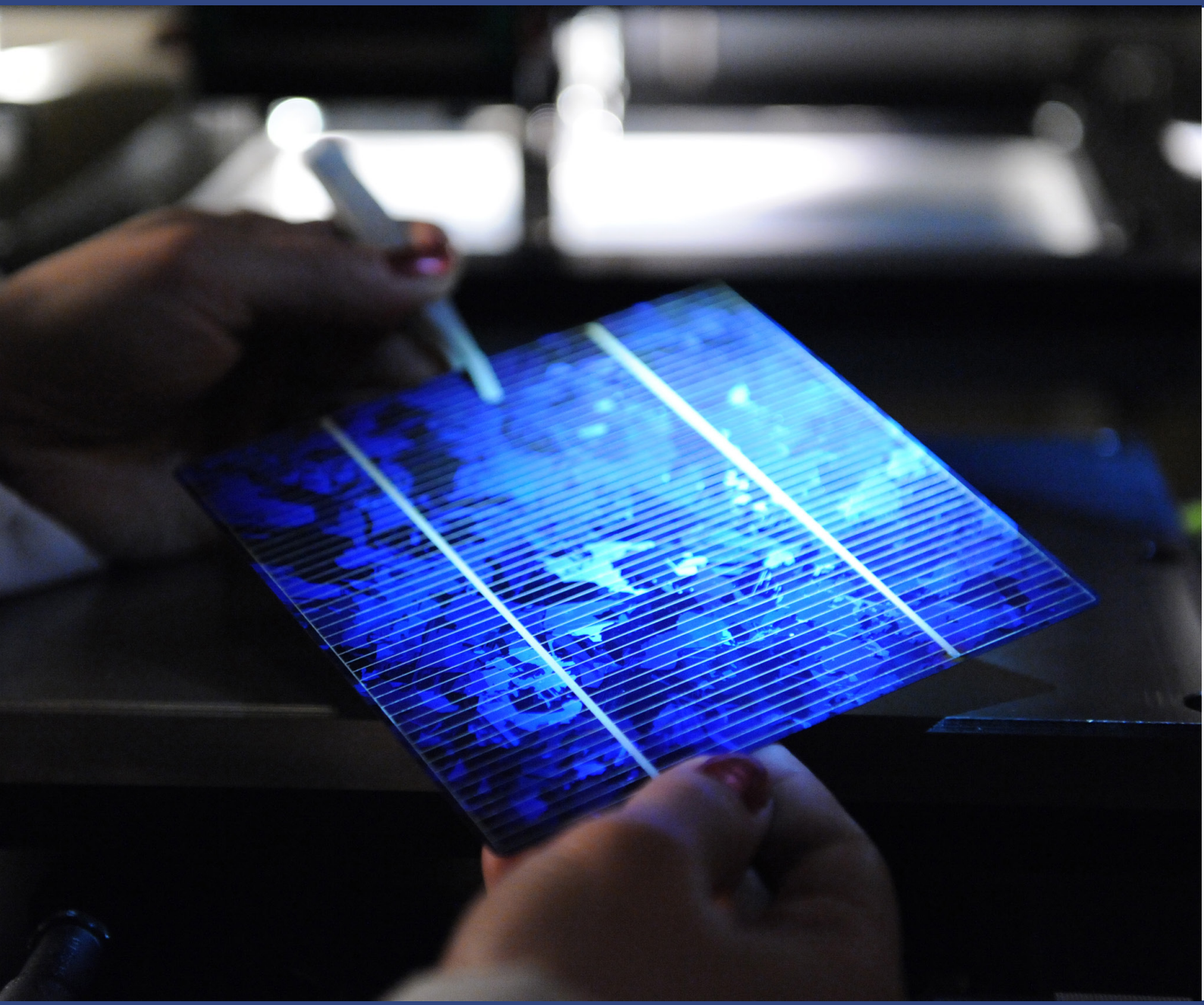
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7th Annual Congress on

# Materials Research and Technology

February 20-21, 2017 Berlin, Germany



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## Day 1 | February 20, 2017 | Monday

07:00-08:00 Registrations

### Sylt 3

conferenceseries.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 bioresorbable 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

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|---|---|
| 13:50-14:05 | **Title: Graphite based minimum quantity dry lubrication at drilling CFRP**<br>**Robert Beckenlechner,** University of Stuttgart, Germany |
| 14:05-14:20 | **Title: Insights into linear supramolecular polymer formation via TPE and BODIPY containing host-guest interaction**<br>**Chinmayananda 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

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|---|---|
| | **Session Introduction** |
| 14:20-14:40 | **Title: Recent progress in epitaxial quantum dots for lasers and light emitting diodes**<br>**Nikolay Ledentsov,** VI Systems GmbH, Germany |
| 14:40-15:00 | **Title: Functional metal-ceramic nanocomposites based on tubule clay**<br>**Yuri Lvov,** Louisiana Tech University, USA |
| 15:00-15:20 | **Title: Characterization of nanosuspension using pulsed field gradient nuclear magnetic resonance**<br>**Haruhisa Kato,** National Institute of Advanced Industral Science and Technology, Japan |
| | **Coffee Break 15:20-15:35 @ Sylt Foyer** |
| 15:35-15:55 | **Title: Engineering optical Raman active nanoassemblies for nanosensor purposes**<br>**Nekane Guarrotxena,** Spanish National Research Council, Spain |
| 15:55-16:15 | **Title: Mechanical and topographical characterization of biomaterials, cells and tissues by enhanced atomic force microscopy**<br>**Jörg Barner,** JPK Instruments AG, Germany |
| 16:15-16:35 | **Title: Soft thermal nanoimprint lithography**<br>**Mark Schvartzman,** Ben-Gurion University of the Negev, Israel |
| 16:35-16:55 | **Title: Bioinspired gradient surfaces with controlling of dynamic wettability**<br>**Yongmei Zheng,** Beihang University, China |
| 16:55-17:15 | **Title: EHDA technology utilizing different bio-structure**<br>**Rita Haj Ahmad,** De Montfort University, UK |
| 17:15-17:35 | **Title: Electrochemical and biosynthesis of Nano-Photocatalytic materials and its applications in photovoltaic, anti-bacterial, anti-cancer and in preparation of polymer composites**<br>**Sannaiah Ananda,** University of Mysore, India |
| 17:35-17:55 | **Title: Synthesis and characterization of single-crystal bismuth telluride nanowires**<br>**Ming Yau Chern,** National Taiwan University, Taiwan |
| 17:55-18:15 | **Title: Iriartea deltoidea & Socratea exhorriza: Sustainable production alternatives for integrated Biosystems, first stage - bioconstruction.**<br>**Lina Fernanda Mojica Sánchez,** CIAM-UNIMETA, Colombia |
| 18:15-18:30 | **Title: On-demand release of paclitaxel and 5-flourouracil using thermoresponsive poly(NIPAAm-co-HMAAm)/polyurethane partnered with alternating magnetic field induced hyperthermia on non-vascular nitinol stent**<br>**Ludwig Erik Aguilar,** Chonbuk National University, South Korea |
| 18:30-18:45 | **Title: Reversible and irreversible self-folding behavior of water responsive poly (vinyl alcohol) films**<br>**Amrita Rath,** Indian Institute of Technology Madras, India |
| 18:45-19:00 | **Title: Doxorubicin conjugated $Fe_3O_4$-GQD nanoparticle for magnetically targeted and ph responsive drug delivery vehicle: a two way targeted approach**<br>**Ankan Dutta Chowdhury,** National Chiao Tung University, Taiwan |
| | **Panel Discussion** |

## 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 Nakatsuji**, 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

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|---|---|
| | **Session Introduction** |
| 13:40-14:00 | **Title: Development of solar grade silicon refining via metallurgical route: Thermodynamic properties of silicon based alloys**<br>**Kazuki Morita,** The University of Tokyo, Japan |
| 14:00-14:20 | **Title:Controlling microstructure via thermal science analysis during resistance spot welding**<br>**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**<br>**Masayuki Suda,** Institute for Molecular Science, Japan |
| 14:40-15:00 | **Title: Large tunnel magnetocapacitance in magnetic tunnel junctions**<br>**Hideo Kaiju,** Hokkaido University, Japan |
| 15:00-15:20 | **Title: Crack-closing of superelastic NiTi SMA short fibers in mortar beams**<br>**Eunsoo Choi,** Hongik University, Korea |
| 15:20-15:40 | **Title: Correlated versus random behavior of dislocations in jerky flow of Al-Mg alloys**<br>**Mikhail Lebyodkin,** CNRS, France |
| 15:40-16:00 | **Title: The development of smart materials for medical applications using laser scanning micrometry**<br>**Daniel Melling,** University of Dundee, UK |
| 16:00-16:20 | **Title: Quantum contact mechanics for holistic material optimization**<br>**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 $WS_2$ nanotubess**<br>**Gregory Leitus,** Weizmann Institue of Science, Israel |
| 16:55-17:15 | **Title: Advanced alloys and steels microstructure characterization by analytical high resolution scanning transmission electron microscopy**<br>**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**<br>**Thomas Emmerich,** Karlsruher Institute of Technology, Germany |
| | **Workshop** |
| 17:35-18:35 | **Title: Correlative and *in-situ* Materials Characterization**<br>**Said Mansour,** Hamad Bin Khalifa University, Qatar<br>**Mathias O. Mosig,** Protochips, USA<br>**Philipp Wachsmuth,** JEOL, Germany |
| | **Session Introduction** |
| 18:35-18:55 | **Title: Optimization of sustainable cutting conditions in turning carbon steel by CNC turning machine**<br>**Haider M. Mohammad Albu-Swelim,** University of Basrah, Iraq |
| 18:55-19:15 | **Title: Enhancement the mechanical properties of aluminum casting alloys (A356) by adding nanorods structures from zinc oxide**<br>**Zaid S Qassim,** University of Basrah, Iraq |

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| 19:15-19:35 | **Title: Prediction of hardness, yield strength, and tensile strength for single roll melt spinning of 5083 Al-alloy ribbons**<br>**Ahmad Kadhim Jassim Al-Dawod,** University of Basrah, Iraq |
| 19:35-19:55 | **Title: Comprehensive study of chemical synthesis and dielectric parameters of holmium substituted yttrium iron garnets (HoxY3-xFe5O12, x=0.1, 0.3, 0.6, 0.9, 1.2, 1.5) prepared by conventional ceramic method**<br>**Kausar Javed Khan,** Lahore College for Women University, Pakistan |
| 19:55-20:10 | **Title: Water content dependent mechanical properties of biopolymer thin films: A molecular dynamics study**<br>**Santhosh Mathesan,** IIT Madras, India |

**Poster Presentations on Day 2 ( February 21, 2017) 16:20-16:35 @ Sylt Foyer**

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|---|---|
| MSC-01 | **Title: Predictive wear modelling - The ultimate simulation tool for optimum tribo coatings**<br>**Nick Bierwisch,** Saxonian Institute of Surface Mechanics, Germany |
| MSC-02 | **Title: Synthesis and characterization of conductive polymer hydrogels and the investigation of their application as biosensor hybrid for catechol detection**<br>**Ezer Castillo,** Adelphi University, USA |
| MSC-03 | **Title:Dynamic response of a modified water tank exposed to concentrated solar energy**<br>**Mohammed H. Alhamdo,** University of AlMustansirya, Iraq |
| MSC-04 | **Title: Experimental study of the thermal behavior of heated natural composite material**<br>**Qasim Saleh Mahdi,** AL-Mustansiryah University, Iraq |
| MSC-05 | **Title: Engineering of multi-functional composite nano-particles to address anti-microbial resistance using EHDA particle technology**<br>**Suleman Ramzan,** De Montfort University, UK |
| MSC-06 | **Title: Rare earth Chalcogels NaLnSnS4 (Ln= Y, Gd, Tb) for Selective Adsorption of Volatile Hydrocarbons and Gases**<br>**Fatimah Edhaim,** King Abdullah University of Science & Technology, SA |
| MSC-07 | **Title: On the friction and wear on-set of fcc metals by atomic force microscopy**<br>**Hui-Eun Ko,** KoreaTech, Republic of Korea |

**Panel Discussions**

**End Of Day 2**

**Closing Ceremony**

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# Materials Research and Technology

**February 19-20, 2018 Paris, France**

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