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Scientific Program

13th International Conference and Exhibition on
*Advanced Materials and
Nanotechnology*

October 26-28, 2017 Osaka, Japan



Hosting Organization: Conference Series LLC

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08:00-08:30 Registrations

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09:00-09:25

Opening Ceremony

Keynote Forum

09:25-09:30 Introduction

09:30-10:00 Title: **New advances in MOFs photonics and applications****Abderrazzak Douhal**, Universidad de Castilla-La Mancha, Spain

10:00-10:30

Title: **Fabrication and applications of carbon nanomaterials filled multi-functional nanocomposites****Soon Hyung Hong**, Korea Advanced Institute of Science and Technology, Republic of Korea

Sessions:

Advanced Materials and Functional Devices | Engineering Materials

Session Introduction

Session Chair: **My Ali El Khakani**, Universite du Quebec, CanadaSession Co-Chair: **Marko Soderžnik**, Jožef Stefan Institute, Slovenia

10:30-10:50

Title: **Accelerating the exploration of Li/Na-Ion battery materials via enlarged crystal structure databases****Kai-Ming Ho**, Iowa State University, USA

Group Photo

Networking & Refreshments Break 10:50-11:10 @ Foyer

11:10-11:30

Title: **PbS nanoparticles/single-wall carbon nanotubes nano hybrid materials synthesis by means of the pulsed laser deposition approach and their integration into photoactive devices****My Ali El Khakani**, Universite du Quebec, Canada

11:30-11:50

Title: **Development and synthesis of polycarbonate-polyester copolymer with heat resistance****Jungup Park**, Chemicals R&D Center, Republic of Korea

11:50-12:10

Title: **Low voltage, high QBi_{1.5}MgNb_{1.5}O₇ thin film varactors****Libin Gao**, University of Electronic Science and Technology of China, China

12:10-12:30

Title: **Extruded Briquette (BREX)– New charge component for modern metallurgy****Aitber Bizhanov**, Metal and Coal Extrusion-Russia, Russian Federation

12:30-12:50

Title: **Ultrathin multifunctional composite coatings****Väino Sammelselg**, University of Tartu, Estonia

Lunch Break 12:50-13:40 @ 3F Regency DE

13:40-14:00

Title: **Tensile creep behavior and microstructural analysis of a Die-Cast Mg-4Al-4RE alloy modified by Ca-substitution of half RE****Jian MENG**, Chinese Academy of Sciences, China

14:00-14:20

Title: **Effects of loading frequency on cyclic deformation and fatigue behaviour of metastable austenitic stainless steels****Davi Pessoa**, Technische Universität Dresden, Germany

14:20-14:40

Title: **Towards minimizing the consumption of heavy rare earths in the processing of Nd-Fe-B permanent magnets by electrophoretic deposition****Marko Soderžnik**, Jožef Stefan Institute, Slovenia

14:40-15:00

Title: **Melting, forging and phase transformation of a Mn containing β stabilized γ -TiAl****Kui Liu**, Chinese Academy of Sciences, China

Session: Composite Materials

Session Introduction

Session Chair: **Rodrigo Poblete**, Universidad Católica del Norte, Chile

15:00-15:20

Title: **Multiphysics property aging as a disorder process in heterogeneous functional materials****Kenneth Reifsnider**, University of Texas Arlington, USA

15:20-15:40

Title: **Fabrication and characteristics of carbon nanotube based field-responsive composite materials****Hyung Jin Choi**, Inha University, Republic of Korea

Networking and Refreshments Break 15:40-16:00 @ Foyer

- 16:00-16:20 **Title: Engineering of 2D and 3D nanostructured hybrid composites for enhanced mechanical properties**
Bongjun Yeom, Myonji University, Republic of Korea
- 16:20-16:40 **Title: Landfill leachate treatment using activated carbon obtained from coffee waste**
Rodrigo Poblete, Universidad Católica del Norte, Chile
- 16:40-17:00 **Title: Studies on the synthesis of silica powder from rice husk ash as reinforcement filler in rubber tire tread part: Replacement of commercial precipitated silica**
Addis Lemessa Jembere, Bahir Dar institute of Technology, Ethiopia

Panel Discussions

Day 2 October 27, 2017

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Keynote Forum

- 09:30-10:00 **Title: Dielectric nano-methods for assessment of composite material integrity & properties**
Kenneth Reifsnider, University of Texas Arlington, USA
- 10:00-10:30 **Title: Polymer-derived ceramics for space applications**
S Packirisamy, Vikram Sarabhai Space Centre, India

Sessions:

Properties of Nano Materials | Carbon Nanostructures and Graphene | Nano Structures | Nano Materials | Nanotechnology-Basics to Applications

Session Introduction

Session Chair: Antonio Ribeiro, University of Coimbra, Portugal

- 10:30-10:50 **Title: Layer-by-layer self-assembly nanoparticles designed for resveratrol delivery**
Antonio Ribeiro, University of Coimbra, Portugal

Networking and Refreshments Break 10:50-11:10 @ Foyer

- 11:10-11:30 **Title: The link between microstructure and friction in metals**
Michael Chandross, Sandia National Laboratories, USA
- 11:30-11:50 **Title: Optimizing the properties of TiO₂ nanomaterials used as UV-blockers in sunscreen to maximise the efficiency and safety of the final product**
Jerome Labille, Aix-Marseille Universite, France
- 11:50-12:10 **Title: Low temperature sintering silver nanoparticle for pressure-less die attachment**
Shamik Ghosal, MacDermid Performance Solutions, India
- 12:10-12:30 **Title: 9-3- Single strand helicoidal nanofibers of photo-active polyoxazolines**
Vincent Lapinte, ICGM-IAM Universite Montpellier, France
- 12:30-12:50 **Title: Effect of copper-core carbon-shell nanoparticles on the growth of cyanobacterium microcystis aeruginosa and its mechanism**
Chao Li, Xi'an Jiaotong University Suzhou Research Institute, China

Lunch Break 12:50-13:40 @ 3F Regency DE

Young Researchers Forum

Session Chair: Shamik Ghosal, MacDermid Performance Solutions, India

- 13:40-13:55 **Title: Fiber network modified with graphene for foldable and wearable electronics**
Pietro Cataldi, Italian Institute of Technology, Italy
- 13:55-14:10 **Title: Sintering of ceramic materials using Refused Derived Fuel (RDF): A non-isothermal kinetic model**
Rababe Sani, Universite de Toulouse, France
- 14:10-14:25 **Title: Improvement of metallic nanostructure fabrication using electrochemical migration**
Shintaro Fukaya, Tohoku University, Japan
- 14:25-14:40 **Title: Effect of O₂ or H₂ gas addition to Ar gas on surface modification of fluoropolymer using atmospheric pressure plasma- application for highly adhesive AG wiring pattern on plasma-treated fluoropolymer**
Yoshinori Kodama, Osaka University, Japan
- 14:40-14:55 **Title: Effects of brazing temperature on the joining properties of GDC-LSM/metal joint for oxygen transport membranes**
Myung-Dong Kim, Yeungnam University, Republic of Korea
- 14:55-15:10 **Title: Fabrication and ion-irradiation response of SiC_f/SiC with different sintering additives for nuclear reactor applications**
Pipit Fitriani, Yeungnam University, Republic of Korea
- 15:10-15:25 **Title: Piezo-energy harvester of aligned electrospun PVDF nanofibers**
Wen-Yuan, Zeng, National Taiwan University of Science and Technology, Taiwan

15:25-15:40 **Title: Pyroelectricity of electrospun polyvinylidene fluoride/tungsten oxide nanofibrous membranes**
Min-Hui, Chou, National Taiwan University of Science and Technology, Taiwan

15:40-15:55 **Title: Effects of boric acid on the phase stability of poly (1-oxotriemethylene) solutions in the aqueous solution of ZnCl₂, CaCl₂, and LiCl**

Dae Eon Jung, Hanyang University, Republic of Korea

Networking and Refreshments Break 15:55-16:15 @ Foyer

Poster Presentations

Posters AMS-01 to AMS-15 @ 16:15-17:00

Posters AMS-16 to AMS-36 @ 17:00-17:45

Poster Judge: Antonio Ribeiro, University of Coimbra, Portugal

Poster Judge: Shamik Ghosal, MacDermid Performance Solutions, India

AMS-01 **Title: Corrosion and wear behaviour of harmonic structured SUS304L austenitic stainless steel**
Prabhat Kumar Rai, Indian Institute of Technology Kanpur, India

AMS-02 **Title: A self-corrugated surface of graphene oxide to enhance sensitivity and responsibility for various graphene oxide applications**

Seungdu Kim, Korea Aerospace University, Republic of Korea

AMS-03 **Title: Polymer-derived nitrogen-doped carbon nanocage as an enhanced oxygen electrode in Li-O₂ battery**

Heejun Kweon, Yonsei University, Republic of Korea

AMS-04 **Title: Oxidative catalytic activity from the cysteinyl bolaamphiphile assembly with hemin cofactor**
Chaemyeong Lee, Yonsei University, Republic of Korea

AMS-05 **Title: Mechanism of copper oxide nanostructured particles synthesized using silk fibroin template**

Jong Wook Kim, Seoul National University, Republic of Korea

AMS-06 **Title: Effect of Nd doping on the structural, magnetic and magnetocaloric properties of double perovskite Sr_{2-x}NdxFeMoO₆**

So Eun Jeon, Changwon National University, Republic of Korea

AMS-07 **Title: Collagen-hyaluronan in colloidal silver**

Andrea Kargerova, Brno University of Technology Purkynova, Czech Republic

AMS-08 **Title: Perpendicular orientation of lamella-forming block copolymer thin film by controlling interfacial interaction with substrate**

Jisoo Ha, Yonsei University, Republic of Korea

AMS-09 **Title: Orientation controlled gyroid structure thin films by substrate interactions in solvent vapor annealing**

Yeongsik Kim, Yonsei University, Republic of Korea

AMS-10 **Title: Influence of reaction gases on the structural and optical characteristics of Ce-oxide thin film coatings**

Zainab Jaf, Murdoch University, Australia

AMS-11 **Title: Polymeric mixed micelles as an efficient strategy for Meloxicam oral administration**

Francisco Veiga, University of Coimbra, Portugal

AMS-12 **Title: Modeling of nanoparticle surface charge for targeting glioblastoma**

Joao Sousa, Faculdade de Farmácia da Universidade, Portugal

AMS-13 **Title: One-dimensional Poly (L-Lysine)-Block-Poly (L-Threonine) assemblies as anticancer agents**

Chao-Liang Wu, National Cheng Kung University Medical, Taiwan

AMS-14 **Title: Oligopeptide-based polymers targeting Human Antigen R (HUR) for the treatment of psoriasis**

Ai-Li Shiau, National Cheng Kung University, Taiwan

AMS-15 **Title: Molecular dynamics study of graphene mobius bands: Equilibrium shapes and energies**

Yoichi Takato, Okinawa Institute of Science and Technology Graduate University, Japan

AMS-16 **Title: Complex characterization of ZK60 alloy processed by ECAP**

Florina-Diana Dumitru, National Institute for Research and Development in Environmental Protection, Romania

AMS-17 **Title: Performant cement based materials reinforced with nano-SiO₂**

Mihaela-Andreea, National Institute for Research and Development in Environmental Protection, Romania

AMS-18 **Title: Purification of waste waters contaminated with heavy metals using filters made of advanced silica based materials**

Andreea-Georgiana, National Institute for Research and Development in Environmental Protection, Romania

AMS-19 **Title: Rapid, simple detection of Oseltamivir-resistant Influenza A Virus (H275y Mutation) using gold nanoparticles-based colorimetric probe capable of specific recognition to the H275Y NA mutation**

Eun-Kyung Lim, Hazards Monitoring BioNano Research Center, Republic of Korea

- AMS-20** **Title: Development of technology for improving the durability of the hydrogen electrode in Solid Oxide Electrolyzer Cells(SOECs)**
Min Jin Lee, Inha University, Republic of Korea
- AMS-21** **Title: Fabrication and performance of Ni/MgO methane steam reforming catalysts by exsolution**
Yong Sun Park, Inha University, Republic of Korea
- AMS-22** **Title: Evolution of microstructure of CSM345 steel from the surface to the interior of multifunction cavitation**
Daichi Shimonishi, Tokyo University of Science, Japan
- AMS-23** **Title: Surface modification of low-alloy steels by a multifunction cavitation**
Masataka Ijiri, Tokyo University of Science, Japan
- AMS-24** **Title: Synthesis of high ion conductivity solid electrolyte NASICON – Glass complex**
Keun Young Yoon, Inha University, Republic of Korea
- AMS-25** **Title: Synthesis and characterization of solids with strong basic properties applied as catalysts in the synthesis of pseudo ionone**
Rodrigo Rodolfo González Jimenez, Benemerita Universidad Autónoma de Puebla, Mexico
- AMS-26** **Title: Material effects on arc characteristics and electrical contact damage**
Seulki Hwang, Myongji University, Republic of Korea
- AMS-27** **Title: The biological resistance improvement of painted stainless steel by changing paint composition and adding nano-metals**
Chi-Chi Lin, National University of Kaohsiung, Taiwan
- AMS-28** **Title: Preparation of the SAHA-Pluronic F127 nanoparticles and anticancer activity *in vitro***
Xiong Wang, Xi'an Jiaotong University Suzhou Research Institute, China
- AMS-29** **Title: Effect of substrate temperature and flow rate of hydrogen gases on the characteristics of Mzo and Igzo thin films**
Ji-Hoon Jeong, Korea University of Education and Technology, Republic of Korea
- AMS-30** **Title: Synthesis of carbon nanotubes using catalytic chemical vapor deposition**
Shatakshi Gupta, Indian Institute of Technology Roorkee, India
- AMS-31** **Title: NANOPUMP - Nanopumping effect in nanochannels by surface acoustic wave**
Insepov Zinetula Zeke, Tynyshtykbaev Nazarbayev University Research and Innovation System, Kazakhstan
- AMS-32** **Title: Virus- metal nano-composites prepared by electrodeposition**
Kyuwon Kim, Incheon National University, Republic of Korea
- AMS-33** **Title: A study on the collision characteristic of the side crash simulation with three dimensional structure**
Min-sik Lee, School of Mechanical Engineering, Pusan National University, Republic of Korea
- AMS-34** **Title: Target specific detachment of multiple RNA probes from graphene oxide using RNase H for a simple and direct molecular diagnostics**
Joong Hyun Kim, Daegu-Gyeongbuk Medical Innovation Foundation, Republic of Korea
- AMS-35** **Title: Plasma polymer fluorocarbon thin films deposited by roll-to-roll sputtering**
Sung Hyun Kim, Korea Research Institute of Chemical Technology, Republic of Korea
- AMS-36** **Title: Effect of outgassing in polymer substrate for high performance conducting oxide thin films**
Tae-Woon Kang, Korea Research Institute of Chemical Technology, Republic of Korea

Panel Discussions

Day 3 October 28, 2017

Sapphire

Sessions:

Optical Materials and Plasmonics | Energy and Harvesting Materials | Optical Materials and Plasmonics

Session Introduction

Session Chair: Jianhua Hao, The Hong Kong Polytechnic University, Hong Kong

Session Chair: Yuyan Jiang, Chinese Academy of Sciences, China

- 09:30-09:50** **Title: Electrically driven plasmon nanosource, application to a plasmonic lens**
Gerald Dujardin, Universite Paris-Sud, France
- 09:50-10:10** **Title: Smart materials for energy harvesting and thermal management- Adaptive control and self-driven devices for heat transfer**
Yuyan Jiang, Chinese Academy of Sciences, China
- 10:10-10:30** **Title: Nonlinear Optical properties of the WS₂ and its pulsed laser applications**
Yuen Hong Tsang, The Hong Kong Polytechnic University, Hong Kong

10:30-10:50 Title: **Lanthanide luminescence in nanocrystals and layered semiconductor nanosheets for biomedical and nanophotonic applications**
Jianhua Hao, The Hong Kong Polytechnic University, Hong Kong

Networking and Refreshments Break 10:50-11:10 @ Foyer

11:10-11:30 Title: **Interfacial segregation and embrittlement of elements of groups 14 and 15 in ferritic iron and steels**

Pavel LEJČEK, Institute of Physics, ASCR, Prague, Czech Republic

11:30-11:50 Title: **3D Printing Graphene Oxide Geopolymer Nanocomposites and Its Structural Failure Model**

Jing Zhong, Harbin Institute of Technology, China

11:50-12:10 Title: **Large-scale high quality monolayer graphene grown directly at 150°C via plasma-assisted thermal CVD without transfer process**

Soon-Gil Yoon, Chungnam National University, Republic of Korea

12:10-12:30 Title: **High performance of patterned sapphire substrate light-emitting diodes with embedded air void by textured Si₃N₄ intermediate layer**

Shih-Chieh Hsu, Tamkang University, Taiwan

12:30-12:50 Title: **Evaluation of carbon nanotube strength for application to composite materials**

Keiichi Shirasu, Tohoku University, Japan

Lunch Break 12:50-13:40 @ 3F Regency DE

13:40-14:00 Title: **High performance complex oxide heterostructures for nanoelectronic devices**

Sean Li, University of New South Wales, Australia

Young Researchers Forum

14:00-14:15 Title: **An atomistic approach of thiophene hydrodesulfurization over γ -Mo₂N catalyst**

Zainab Najj Jaf, Murdoch University, Australia

14:15-14:30 Title: **A bifunctional graphene oxide nanohybrid for photostimulated nitric oxide release and photothermia**

Marta Perez-Lloret, University of Catania, Italy

14:30-14:45 Title: **Improve microstructure and mechanical properties of Cf/SiC- Cf/SiC joint by TiCoNb + Nb foil**

Qiang Zhang, Harbin Institute of Technology, China

14:45-15:00 Title: **Joining of Sicf/Sic using preceramic polymers**

Dong Hyuk Jeong, Yeungnam University, Republic of Korea

15:00-15:15 Title: **Microstructure and mechanical properties of SiC/SiC joints brazed with Ti-Ni and Ti-Ni-Zr filler alloy**

Qin Qi, Harbin Institute of Technology, China

15:15-15:30 Title: **Visible-light nanoscale photoconductivity of grain boundaries in self-supported ZnO platelets**

Nastaran Faraji, School of Materials Science and Engineering, UNSW Australia, Australia

15:30-15:45 Title: **In-situ synthesis of vertical standing nanosized NiO encapsulated in graphene as electrodes for high-performance supercapacitors**

Jinghuang Lin, Harbin Institute of Technology, China

15:45-16:00 Title: **pH-sensitive amphiphilic polypeptide prodrug for NIR imaging-guided combined photodynamic therapy and chemotherapy**

Zheng Ruan, University of Science and Technology of China, China

Awards & Closing Ceremony

Networking and Refreshments Break 16:00-16:20 @ Foyer

Panel Discussions

Next in Series

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