

15th International Conference and Exhibition on

MATERIALS SCIENCE AND ENGINEERING

3rd International Conference on

&

APPLIED CRYSTALLOGRAPHY

November 07-08, 2018 | Atlanta, USA



Day 1 November 07, 2018
Conference Hall: Concord A/B

08:00-09:00 Registrations

09:00-09:10 Opening Ceremony

Keynote Forum

- 09:10-09:50** **Introduction**
Title: Design of metamaterials using transformation physics
Ramesh K Agarwal, Washington University in St. Louis, USA
- 09:50-10:30** **Title: Protein crystallization by mutational surface engineering**
Zygmunt Derewenda, University of Virginia, USA

Networking & Refreshment Break 10:30-10:50 @ Foyer

- 10:50-11:30** **Title: When crystallography alone fails, it can use help from tin-119 Mossbauer spectroscopy**
Georges Denes, Concordia University, Canada

Panel Discussion & Group Photo 11:30-11:40

Sessions I: Materials Science & Engineering | Nanotechnology in Materials Science | Batteries and Energy Materials | Advanced Crystallography | Crystallography in Biology | Crystallography in Materials Science

Session Chair: Gen Long, St. John's University, USA

Session Introduction

- 11:40-12:05** **Title: Transient expression of monoclonal antibody and bispecific fragments, and fragment/antigen complexes for pharmaceutical discovery research**
Ramesh Iyer, AbbVie Inc, USA
- 12:05-12:30** **Title: XRD and nanostructures based third generation solar cell**
Gen Long, St. John's University, USA
- 12:30-12:55** **Title: Rugged nanoparticle tracers for mass tracking in explosive events**
Lance Hubbard, Pacific Northwest National Laboratory, USA

Lunch Break 12:55-13:55 @ Foyer

- 13:55-14:20** **Title: Heterospin crystal – new sensor to the external pressure**
Victor Ovcharenko, International Tomography Center, Russia
- 14:20-14:45** **Title: Multi-national rare earth materials value chain & research facility**
James Kennedy, ThREE Consulting, USA
- 14:45-15:10** **Title: The impact of crystallization conditions, protein constructs and space groups on structure-based drug design**
Orly Dym, Structural Proteomics Unit, Israel
- 15:10-15:35** **Title: Microstructure and high temperature properties of Al rich diffusion zone on the surface of 9% Cr steel P92**
Olga Tsursumia, Georgian Technical University, Tbilisi, Georgia

Networking & Refreshment Break 15:35-15:55 @ Foyer

- 15:55-16:20** **Title: SERS stem cells bio-sensor based on Au/ SiO₂ colloidal crystals substrates**
Juan Carlos Salcedo Reyes, Pontifical Xavierian University, Colombia

Panel Discussion 16:20-16:30

Sessions II: Emerging technologies in materials science | Polymer Science and Technology | Materials Chemistry and Physics | Chemical Crystallography | Crystal Growth and Crystallization | X-ray Techniques in Crystallography and Applications

Session Chair: Lance Hubbard, Pacific Northwest National Laboratory, USA

Session Introduction

- 16:30-16:55** **Title: Inorganic, hybridized and living macrocellular foams: "Out of the box" heterogeneous catalysis through the integrative chemistry input**
Renal Backov, Massachusetts Institute of Technology, USA
- 16:55-17:20** **Title: Polymorphic hydrogen bonded, disordered and photoreactive crystals**
Bruce S Hudson, Syracuse University, USA
- 17:20-17:45** **Title: Properties of mechanically alloyed Fe-Al-Si alloys compacted by spark plasma sintering**
Filip Prusa, University of Chemistry and Technology Prague, Czech Republic

Panel Discussion 17:45-18:00

Day 2 November 08, 2018

Conference Hall: Concord A/B

Keynote Forum

- 09:00-09:40 **Title: Overview of solar cell R&D and approaches to automobile applications**
Masafumi Yamaguchi, Toyota Technological Institute, Japan
- 09:40-10:20 **Title: Topotactic anion exchange in epitaxial films — Synthesis advantages and characterization challenges**
Mark A Zurbuchen, University of California at Los Angeles, USA

Networking & Refreshment Break 10:20-10:40 @ Foyer

- 10:40-11:20 **Title: Design of lipid and peptide antigens for immune cells using X-ray crystallography**
Dirk M Zajonc, La Jolla Institute for Allergy and Immunology, USA

Poster Presentations 11:20-11:30

Poster Judge: Ramesh K Agarwal, Washington University in St. Louis, USA

- MC 01 **Title: Fabricating superhydrophobic surfaces for self-cleaning applications by two-step simple spray coating process**
Abuduliken Bake, King Fahd University of Petroleum and Minerals, Saudi Arabia
- MC 02 **Title: Modelling and simulation of MEMS based pressure sensors for industrial applications**
Vemireddy Hanumakoti, Lakireddy Bali Reddy College of Engineering, India
- MC 03 **Title: A numerical analysis of the dependence of absorbed power on the size of ZnO/Au nanorod in ZnO/Au (nanorod)-PbS (quantum dot) hybrid structure**
Kanij Mehtanin Khabir, University of Dhaka, Bangladesh
- MC 04 **Title: Efficiency enhancement of anaerobic digester in microbial fuel cell through use of *R. albus***
Diane Moon, The Gwinnett School of Mathematics, Science, and Technology, USA
- MC 05 **Title: Rugged nanoparticle tracers for mass tracking in explosive events**
Ryan Sumner, Pacific Northwest National Laboratory, USA

Best Poster Award Distributuion 12:30-12:40

Lunch Break 12:40-13:40 @ Foyer

Sessions: Materials Science & Engineering | Nanotechnology in Materials Science | Batteries and Energy Materials | Advanced Crystallography | Crystallography in Biology | Crystallography in Materials Science

Session Chair: Dirk M Zajonc, La Jolla Institute for Allergy and Immunology, USA

Session Introduction

- 13:40-14:05 **Title: The properties of multifunctional two-dimension nanocomposite produce by Langmuir-Blodgett technique base on using single-walled carbon nanotubes**
Ali Al-Mafarage, Wright State University, USA
- 14:05-14:30 **Title: Magnetic fluctuations in single-layer FeSe**
Tatsuya Shishidou, University of Wisconsin-Milwaukee, USA
- 14:30-14:55 **Title: Serial crystallography of a G-Protein coupled receptor using polychromatic synchrotron radiation source**
Ming-Yue Lee, Arizona State University, USA
- 14:55-15:20 **Title: Hybrid photoresists based on organic metals clusters and ligands**
Davoud Dastan, Georgia Institute of Technology, USA

Networking & Refreshment Break 15:20-15:40 @ Foyer

- 15:40-16:05 **Title: Facile one-step synthesis of porous graphitic carbon nitride nanosheets/oxidized multi-wall carbon nanotubes composite for simultaneous anodic stripping voltammetric detection of heavy metals in food samples**
Vinoth Kumar Ponnusamy, Kaohsiung Medical University, Taiwan
- 16:05-16:30 **Title: Self-healing PMMA nanocomposites**
Maihemuti Maimaitituersun, Istanbul Technical University, Turkey
- 16:30-16:55 **Title: The optimized PV-UPFC Hybrid network for power quality improvement load by an improved distribution algorithm: A best performances from combination of the proposed PV systems and unified power qualitycontrollers**
Milissa Kate, University of Bejaia, Algeria

Panel Discussion 16:55-17:05

Young Research Forum

- 17:05-17:20 **Title: High entropy CoCrNiFe-X alloys prepared by mechanical alloying**
Andrea Skolakova, University of Chemistry and Technology Prague, Czech Republic
- 17:20-17:35 **Title: Facile synthesis of Ni-doped ZnFe₂O₄ nanoparticles supported on carbon black as efficient electrocatalyst for oxygen reduction reaction in fuel cells**
Maryam Kiani, Sichuan University, China
- 17:35-17:50 **Title: Fiber-reinforced magneto-polymer matrix composites (FR-MPMCs)**
Muhammad Musaddique Ali Rafique, RMIT University, Australia

Panel Discussion 17:50-18:00

Day 02 Concludes...

