

MATERIAL ADVANTAGE GRADUATE STUDENT POSTER CONTEST
2020 Materials Science & Technology Virtual Conference and Exhibition

Complete list of 2020 poster contestants

Additive Manufacturing of Ceramic-based Materials: Process Development, Materials, Process Optimization and Applications — Poster Session

Tuesday PM November 3, 2020

Hybrid Additive Manufacturing Technology Applied to Si₃N₄ Freeform Components Fabrication: *Anna De Marzi*¹; Johanna Schmidt²; Sarah Diener³; Giorgia Franchin¹; Paolo Colombo¹; ¹Department of Industrial Engineering, Università degli Studi di Padova; ²Schunk GmbH; ³Kyocera Fin ceramics Precision GmbH

Advanced Characterization of Materials for Nuclear, Radiation, and Extreme Environments — Poster Session

Tuesday PM November 3, 2020

Effects of Post-Processing Variability on Radiation Response of Additively-Manufactured HT9: *Pengyuan Xiu*¹; Niyanth Sridharan²; Kevin Field¹; ¹University Of Michigan; ²Lincoln Electric

Ceramic and Crystal Materials for Optics and Photonics — Poster Session

Tuesday AM November 3, 2020

Self Activated Ca₃Si₂O₇ + Ca₂SiO₄:Dy³⁺ Phosphors Derived from Agro-food Wastes: *Manmeet Kaur*¹; Kulvir Singh¹; ¹Thapar Institute of Engineering and Technology

Coating and Thin Film Materials for Energy, Aerospace, Environment and Biological Applications — Poster Session

Tuesday AM November 3, 2020

Germanium Monochalcogenide Nanosheets as Anode in Metal-ion Batteries: *Shakir Bin Mujib*¹; Maren Ellis¹; Sophie Justus¹; Porter Herold¹; Gurpreet Singh¹; ¹Kansas State University

Controlled Synthesis, Processing, and Applications of Structural and Functional Nanomaterials — Poster Session

Tuesday AM November 3, 2020

Rheological Dynamics of Liquid Crystal-coupled Nanocomposites under Influence of Thermal Gradients: *Albree Weisen*¹; Harini Sridharan¹; Joshua Seylar¹; Ruel McKenzie¹; ¹The University of Akron - Department of Polymer Engineering

Integration between Modeling and Experiments for Crystalline Metals: From Atomistic to Macroscopic Scales II — Poster Session

Tuesday AM November 3, 2020

Development of a Reactive Forcefield to Model Cu-Ni Alloy Oxidation and Surface Segregation in Thermal Conditions: *Richard Garza*¹; Matthew Curnan¹; Meng Li¹; Wissam Saidi¹; ¹University of Pittsburgh

Interfaces and Phase Transformations — Poster Session

Tuesday AM November 3, 2020

Computing the Free Energy and Mobility of Cylindrical Interfaces: *Anqi Qiu*¹; Ian Chesser¹; Elizabeth Holm¹; ¹Carnegie Mellon University

Refining Alpha Microstructure via Dual-phase Interface and Twin Boundary in Beta Titanium Alloys: *Dian Li*¹; Xing Zhang²; Yiliang Liao²; Stoichko Antonov³; Yufeng Zheng¹; ¹University of Nevada, Reno; ²Iowa State University; ³Max Planck Insitut fur Eisenforschung GmbH

Late News Poster Session — Energy

Tuesday PM November 3, 2020

Silicon Carbon Nitride (SiCN) and Silicon Oxycarbide (SiOC) Functionalization of Molybdenum Disulfide (MoS₂) as Stable Battery Electrodes: *Davi Marcelo Soares*¹; Gurpreet Singh¹; ¹Kansas State University, Alan Levin Department of Mechanical and Nuclear Eng.

Materials Informatics for Images and Multidimensional Datasets — Poster Session

Tuesday AM November 3, 2020

Identifying Crack Initiation Sites with CNNs: *Katelyn Jones*¹; Elizabeth Holm¹; Anthony Rollett¹; ¹Carnegie Mellon University

Micro- and Nano-Mechanical Behavior of Materials — Poster Session

Tuesday AM

November 3, 2020

Characterization of Fatigue Damage Behavior in Unidirectional Carbon Fiber Reinforced Plastic Laminates: *Akihiro Kudou*¹; Satoshi Kobayashi¹; Toshiko Osada¹; ¹Tokyo Metropolitan University

Mechanical Behavior of Resilin-mimicking Materials: *Annaliza Perez-Torres*¹; Fuqian Yang¹; ¹University of Kentucky

Next Generation Biomaterials — Poster Session

Tuesday AM

November 3, 2020

Biocompatible Ceramics Based on Hydrated Calcium Phosphates: Tatiana Safronova¹; *Gilyana Kazakova*¹; Otabek Toshev¹; Andrey Kiselev¹; Tatyana Shatalova¹; Irina Selezneva²; Vladimir Zaitsev³; ¹Lomonosov Moscow State University; ²Institute of theoretical and experimental biophysics of RAS; ³Priorov National Medical Research Center of Traumatology and Orthopedics

Sintering and Related Powder Processing Science and Technologies — Poster Session

Tuesday PM

November 3, 2020

On the Bending of High-aspect Ratio Freestanding Aerosol Jet Printed Micropillar Arrays during Thermal Sintering: *Sandra Ritchie*¹; Mohammad Saleh¹; Rahul Panat¹; ¹Carnegie Mellon University
