

**2018 Mach Conference  
POSTER SESSION**

1. Fabrication of Dense B4C-Pre-ceramic Polymer Derived SiC Composite  
Presenter: Chawon Hwang, Rutgers University
2. Atomic modeling of high-speed compression of defective samples of boron carbide  
Presenter: Igor Kartuzov, IPMS NAS of Ukraine
3. Failure of Advanced Ceramics: From Intact Materials to Granular Powder  
Presenter: James Hogan, University of Alberta
4. A Combined Experimental and Computational Approach for the Observation of Rayleigh Waves and Impact Surface Motion in Glass  
Presenter: Jason McDonald, US Army Research Laboratory
6. Time-resolved x-ray imaging of void collapse in silicone and TNT  
Presenter: Michael Armstrong, Lawrence Livermore National Laboratory
7. Lattice Heat Conductivity Revisited  
Presenter: Tommy Sewell, University of Missouri-Columbia
8. Projectile penetration into synthetic clay  
Presenter: Stephan Bless, New York University
9. Damage characterisation for cement and concrete using microwave induced damage  
Presenter: Gareth Tear, Imperial College London
10. Penetration and Perforation Mechanics of Dyneema HB26  
Presenter: Bazle Haque, University of Delaware - Composite Center
11. A Novel Damage Detection Technique of Nanocomposite Carbon Fiber Reinforce Polymer  
Presenter: Michael Coatney, US Army Research Laboratory (VTD)
12. MEDE Data Science Cloud Version 2: Workgroup Based Data Science for Materials Scientists and Engineers  
Presenter: David Elbert, Johns Hopkins University
13. Developing a Hypervelocity Impact Facility at Johns Hopkins University  
Presenter: Matt Shaeffer, JHU
14. Mesoscale Informed Simulations of Shock-to-Detonation Transitions in Porous Energetic Materials  
Presenter: Nirmal Kumar Rai, The University of Iowa
15. Multiscale Modeling of Shocks Interacting with a Cloud of Particles  
Presenter: Oishik Sen, The University of Iowa
16. Dynamic Properties of 3D Woven Metallic Materials  
Presenter: Hak Yong Lee, Johns Hopkins University
17. Analytical model for granular phase transition of highly damaged ceramics  
Presenter: Amartya Bhattacharjee, Johns Hopkins University
18. Optimization of Consolidation Parameters and Characterization of Bulk Silicon Doped Boron Carbides  
Presenter: Michael Gagnepain, Rutgers University
19. High Temperature Stability of Stress-Induced Amorphous Phase in Boron Carbide of Varying Stoichiometry  
Presenter: Vlad Domnich, Rutgers University
20. Dynamic Spherical Indentation of Single Crystal Quartz to Study Amorphization  
Presenter: Kimberly Andes, Johns Hopkins University
21. Simulations of compressive and tensile response of HMX grains in HTPB and Sylgard binders  
Presenter: Akshay Dandekar, Purdue University

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- 22.** Hot-spot formation in  $\beta$ -HMX based polymer-bonded explosives due to friction at crack surfaces  
Presenter: Camilo A. Duarte, Purdue University
- 23.** 1D FEM-DEM and MPM-DEM Hierarchical Multiscale Modeling of a Split Hopkinson Pressure Bar Experiment on Dry Colorado Mason Sand  
Presenter: Erik Jensen, University of Colorado Boulder
- 24.** Analysis of powdered SiO<sub>2</sub> under dynamic shock compression  
Presenter: Dorothy Miller, Lawrence Livermore National Laboratory (LLNL)
- 25.** Three-dimensional microstructural characterization of magnesium and magnesium alloys  
Presenter: Hao Sheng, Johns Hopkins University
- 26.** In situ visualization of the dynamic failure of geomaterials using X-ray phase contrast imaging  
Presenter: Andrew Leong, Johns Hopkins University
- 27.** Direct comparison between experiments and simulations of jetting in additively manufactured lattices  
Presenter: A.K. Robinson, LLNL
- 28.** Investigation of Structural and Magnetic Properties of FePt Thin Films Grown on Si (100).  
Presenter: Atiyya Davis, Morgan State University
- 29.** Identification of Defect Formation and Propagation Mechanisms in the Piezoelectric Crystals with Fluorescent Nanoparticles  
Presenter: Joshua Samba, Morgan State University
- 30.** Boron carbide high-temperature thermoelectric nanocomposites  
Presenter: Mobolaji Zondode, Morgan State University
- 31.** Micromechanical Finite Element modeling of dynamic localization and clustering of multiple fiber breaks that lead to tensile failure of unidirectional composites  
Presenter: Raja Ganesh, University of Delaware
- 32.** Effect of Microstructure on the Transverse Compressive Strength of UHMWPE Composites at High Strain-rates  
Presenter: Jason Parker, Johns Hopkins University/ U.S. Army Natick Soldier Research, Development and Engineering Center
- 33.** Modeling fatigue crack initiation and propagation in Ti64 alloys using coupled crystal plasticity-phase field method  
Presenter: Jiahao Cheng, Johns Hopkins University
- 34.** Space Time Based Boundary Condition for Microscopic model and Explicit Homogenization  
Presenter: Zhiye Li, Johns Hopkins
- 35.** Dynamic Fracture of epoxide polymers  
Presenter: Amanda Bellafatto, Drexel University
- 36.** Microstructure characterization and compressive response of two dilatant polymeric foams  
Presenter: Kapil Bharadwaj Bhagavathula, The University of Alberta, Edmonton
- 37.** Development of an automated method for macro-scale damage characterization of a plain-weave S-2 glass epoxy composite laminate  
Presenter: Enock Bonyi, Morgan State University
- 38.** High Resolution Scanning Electrochemical Microscope with Aptamer Based Nanoscale Electrodes  
Presenter: Nafetalai Fifita, Morgan State University
- 39.** MAGNETIC CHARACTERIZATION OF GRAPHENE/Fe/SiO<sub>2</sub>  
Presenter: Moses A. Kayondo, Morgan State University

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| <p><b>40.</b> A novel approach for single UHMWPE fibre modelling and experimental validation<br/>Presenter: Dimitrios Kempesis, Imperial College</p> <p><b>41.</b> Effect of confined rolling on microstructure and mechanical properties of Magnesium Alloys<br/>Presenter: Pavitra Krishnan, UNC Charlotte</p> <p><b>42.</b> Compressive Behavior of Woven Fiberglass Polymer Matrix Composites under Multi-axial and Environmental Loading Conditions<br/>Presenter: Ariana Paradiso, Drexel University</p> <p><b>43.</b> Impact Pre-damage on Basalt Under Catastrophic Uniaxial Compression<br/>Presenter: Jacqueline Tawney, Drexel University</p> <p><b>44.</b> Fracture Properties of Group V Transition Metal Carbides<br/>Presenter: Xingyuan Zhao, Drexel University</p> <p><b>45.</b> Kinetics of microstructure evolution and spall of Mg with supersaturated vacancies<br/>Presenter: Sara Adibi, Texas A&amp;M University</p> <p><b>46.</b> High frequency in situ fatigue testing of FCC microcrystals<br/>Presenter: Steven Lavenstein, Johns Hopkins University</p> <p><b>47.</b> Effect of temperature on the suppression of twinning in a-axis textured magnesium and magnesium alloys<br/>Presenter: Roshan Plamthottam, Johns Hopkins University</p> <p><b>48.</b> Stochastic modelling of discontinuous dynamic recrystallization in magnesium alloys<br/>Presenter: Abbas Tutcuoglu, California Institute of Technology</p> <p><b>49.</b> Rate Dependence of Plastic flow and Failure in Rolled AZ31B<br/>Presenter: Meng Zhao, Johns Hopkins University</p> | <p><b>50.</b> Uncertainty propagation of a composite model using sensitivity information from NIGFEM method<br/>Presenter: Anindya Bhaduri, Johns Hopkins University</p> <p><b>51.</b> A piecewise polynomial approximation scheme based on the Hashin-Shtrikman variational principle of polycrystals<br/>Presenter: Nicolas Venkovic, Johns Hopkins University</p> <p><b>52.</b> Uncertainty Quantification of Data Collection and Data Processing in Materials Characterization<br/>Presenter: Noah Wade, JHU</p> |
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