2019 Mach Conference
POSTER SESSION

Sponsored by: KLA

1. Numerical model for predicting the input fragment size distribution for granular flow of a highly comminuted material
   Presenter: Amartya Bhattacharjee, Johns Hopkins University

2. Modelling Hypervelocity Impact on Asteroids
   Presenter: Sakshi Braroo, Johns Hopkins University

3. Strain rate effects on the mechanical properties of glial cells
   Presenter: Amy Dagro, Johns Hopkins University

4. An Experimentally verified Finite Element model of a miniaturized Kolsky bar
   Presenter: Thomas Hannah, Penn State

5. Time-Resolved Characterization of Ballistic Testing
   Presenter: Phillip Jannotti, US Army Research Laboratory

6. Dynamic Three-Point Bend of Hard Maple: The Next Phase of Multi-piece Fracture Reduction in Major League Baseball
   Presenter: Madison Kierod, Drexel University

7. Nondestructive damage detection - Digital Image Correlation on a vibrating rod
   Presenter: Nicholas Lorenzo, US Army Research Laboratory

8. Identifying Damage Initiation of Woven Fiberglass Composites Under Compression
   Presenter: Isabella Mendoza, Drexel University

9. Fabrication of a low-cost, high-performance Scanning Electrochemical Microscope (SECM) and Nanoscale SECM Electrodes
   Presenter: Michael Guy, Morgan State University

10. Failure Behavior of Unidirectional Carbon Fiber Composites under Combined Environmental-Mechanical Compressive Loading
    Presenter: Daniel Pardo, Drexel University

11. Tailored Activation Stress in Mechanochemistry Based Sensing of Material Damage
    Presenter: Logan Shannahan, US Army Research Laboratory

12. Hypervelocity Impact Facility at Johns Hopkins University
    Presenter: Gary Simpson, Johns Hopkins University

13. Analysis of key miRNAs in the carcinogenesis of NSCLC with nano-inspect material
    Presenter: Ke Wang, Xi'an Jiaotong University

14. Quasi-Continuum Modeling of Fracture in Networked Materials
    Presenter: Ahmed Elbanna, University of Illinois, Urbana Champaign

15. Stochastic Finite Element Modeling of Carbon Nanotube Yarns Under Axial Tensile Force
    Presenter: Akbar Pirmoz, Catholic University of America

16. Structural, Electronic, and Defect Formation Characterization of Polymeric Piezo Films
    Presenter: Peker Milas, Morgan State University

17. Fracture Toughness of Silica Glass through Atomistic J-integral Approach
    Presenter: Sanjib Chowdhury, University of Delaware

18. Dynamic Transverse Compressive Strength of UHMWPE Composites
    Presenter: Jason Parker, Johns Hopkins University

19. Packing and Flow of Aspherical Frictional Grains
    Presenter: K. Michael Salerno, US Army Research Laboratory

20. Multi-Encoder Neural Networks for Predictive Material Characterization
    Presenter: Dylan Madisetti, Johns Hopkins University

21. Uncovering exploitable insight from microstructures using machine learning algorithms
    Presenter: Audrey Olivier, Johns Hopkins University

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22. Deformation Driven Dynamic Precipitation in Mg-Al and Mg-Zn Alloys: a Comparative Study
    Presenter: Suhas Eswarappa Prameela, Johns Hopkins University

23. A study on the improvement of mechanical properties of Magnesium Alloys through rolling confinement
    Presenter: Pavitra Krishnan, UNCC

24. Strain Rate Dependence of a Stabilized, Nanocrystalline Cu Alloy
    Presenter: Scott Turnage, US Army Research Laboratory

25. Improved mechanical properties of Mg-6wt.%Al alloy through differential speed rolling
    Presenter: Honglin Zhang, North Carolina A&T University

26. Equal Channel Angular Extrusion of Dilute Mg-Zn-Ca Alloys
    Presenter: Jenna Krynicki, Johns Hopkins University

27. Experimental investigation of thermoresistive response of carbon nanotube yarns and their thermosetting monofilament composites
    Presenter: Omar Rodriguez, Catholic University of America

28. A Hierarchical Multiscale Simulations Approach for Modeling Failure in Polymer Matrix Composites
    Presenter: Xiawa Wu, Johns Hopkins University

29. Micromechanical 3-Dimensional Finite Element modeling of tensile failure of unidirectional composite
    Presenter: Raja Ganesh, University of Delaware

30. Mesoscale and Continuum Models of Wave Propagation in a Woven Composite
    Presenter: Christopher Meyer, US Army Research Laboratory

31. A self-consistent parametric homogenization framework for fatigue in Ni-based superalloys
    Presenter: George Weber, Johns Hopkins University

32. Parametrically Homogenized Continuum Damage Mechanics (PHCDM) Model for Composites
    Presenter: Xiaofan Zhang, Johns Hopkins University

33. Automated Macro-scale Damage Characterization of a Plain-weave S-2 Glass/epoxy Composite Laminates
    Presenter: Enock Bonyi, Morgan State University

34. Numerical Modelling of the Deflagration to Detonation Transition in Cast Explosives
    Presenter: Rishi Gupta, Indian Institute of Technology, Delhi

35. Effects of nano-inclusions on the thermomechanical behavior of PBX
    Presenter: Babak Ravaji, Texas A&M University

36. Infrared measurement of hot spot formation in polymer bonded explosives subjected to dynamic loading
    Presenter: Suraj Ravindran, Caltech

37. Two dimensional dislocation dynamics simulation of twin nucleation in Magnesium (Mg)
    Presenter: Harsh Harsh, Johns Hopkins University

38. A phase field model of dislocation dynamics in bcc crystals
    Presenter: Xiaoyao Peng, Carnegie Mellon University

39. Influence of micro-inertia and rate sensitivity in laser-driven impact experiments
    Presenter: Sayyad Basim Qamar, Texas A&M University

40. Pressure-Shear Plate Impact Experiments on Magnesium at High Pressures
    Presenter: Suraj Ravindran, Caltech

41. Orientation Effects in the Dynamic Tensile Failure of a Rolled Mg-Al Alloy
    Presenter: Brandon D. Rowell, New Mexico Tech

42. High Throughput Mesoscale Simulations of Deformation and Failure of Magnesium Polycrystals

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Presenter: Angela Olinger, Texas A&M University

43. Role of Multi-Stage Hardening in Void Growth and Coalescence
    Presenter: Padmeya Prashant Indurkar, National University of Singapore
44. Effects of material rate-dependence on the fragmentation of a one-dimensional bar
    Presenter: Kendall Golder, Texas A&M University

45. Moving window MD formulation for predicting shock kinetic relations
    Presenter: Vinamra Agrawal, Auburn University

46. Temperature Rise Associated with Adiabatic Shear Band: Causation or Consequence
    Presenter: Yazhou Guo, Northwestern Polytechnical University

47. UQ for continuum plain-weave composite plate model under projectile impact
    Presenter: Anindya Bhaduri, Johns Hopkins University

48. Stochastic quantification of ceramic impact response using the Johnson-Holmquist II model
    Presenter: Stavros Kasinos, Imperial College London

49. Determination of Stochastic Material Properties from the field of strain measurements
    Presenter: Stephan Szyniszewski, University of Surrey (UK)

50. On micromechanics of sticky granular solids
    Presenter: Sandeep Rajendra Kumar, University of Houston

51. Development of Analytical Models for fast selection of optimal parameters for EBSD data collection
    Presenter: Noah Wade, Johns Hopkins University

52. TBD
    Presenter: Jiajie Huang, Johns Hopkins University

53. Reaction Hot Pressing and Characterization of Dense Bulk Silicon-Doped Boron Carbides
    Presenter: Michael Gagnepain, Rutgers University

54. Doping and eutectic formation of boron carbide via arc melter
    Presenter: Atta Khan, Rutgers University

55. TBD
    Presenter: Nicholas Ku, US Army Research Laboratory

56. Incorporation of TiB2 into B4C through sputter deposition and hot pressing
    Presenter: Chawon Hwang, Rutgers University

57. Effect of Carbon Concentration on Thermoelectric Properties of Boron Carbide Composites
    Presenter: Yucheng Lan, Morgan State University

58. 3D Visualization of Unfired Al2O3 Dry-Pressed Bodies
    Presenter: Ian Maher, Rutgers University

59. Unusual strain rate behavior of a cellular metal with spatial layout of ceramic spheres
    Presenter: Stefan Szyniszewski, University of Surrey (UK)

60. Real-time observation of Impact Damage in Silicon Carbide
    Presenter: TBD, Purdue University

61. Localized impact stress concentrations in soft armors due to micro-scale projectile edge geometries
    Presenter: Nesredin Kedir, Purdue University