

EMI 2022 STUDENT COMPETITION WINNERS
RECOGNIZED AT THE EMI 2022 CONFERENCE ON JUNE 2
DURING THE AWARDS BANQUET

COMPUTATIONAL MECHANICS STUDENT PAPER/POSTER COMPETITION

1st Place: **Preetam Tarafder**, Johns Hopkins University

Paper titled: *"Cohesive Zone Phase Field Model for Electromechanical Fracture in Nonuniform Piezoelectric Composites"*

2nd Place: **Shruti Motiwale**, The University of Texas at Austin

Paper titled: *"Material Models for Fibrous Elastomeric Biological and Bio-inspired Materials"*

3rd Place: **Mehdi Jokar**, Purdue University

Paper titled: *"Structural Simulations via Finite Element Network Analysis"*

DYNAMICS COMMITTEE STUDENT PAPER COMPETITION

Sponsored by: GeoSIG Ltd and MTS

1st Place: **Kostas Kalfas**, Southern Methodist University

Paper titled: *"Estimation of the design parameters of pressurized sand dampers from experiments"*

2nd Place: **Daniz Teymouri**, The Hong Kong University of Science and Technology

Paper titled: *"Data-Driven Reduced-Order Modeling and Response Reconstruction through A Bayesian Expectation-Maximization (BEM) Framework"*

3rd Place: **Maria Katsidoniotaki**, Columbia University

Paper titled: *"Data-driven parsimonious modeling and analysis of dynamic cerebral Autoregulation via diffusion maps"*

ELASTICITY COMMITTEE STUDENT PAPER COMPETITION

Winner: **Jian Song**, University of Colorado Boulder

Paper titled: *"Time-Domain Linear Sampling Method for In-situ Ultrasonic Imaging"*

GRANULAR MATERIALS COMMITTEE STUDENT VIDEO COMPETITION

Winner, *Computational Category*: **Abhishek Paul**, Purdue University

Paper title: *"Continuum modeling of corn stover feedstock through a compression feed screw"*

Winner, *Computational Category*: **Noor Mili**, New Jersey Institute of Technology

Paper title: *"Computational analysis of tapped density evolution in granular beds"*

Winner, *Experimental Category*: **Dawa Seo**, Northwestern University

Paper title: *"Experimental analysis of shape distribution of fragments under particle breakage with 3D X-ray tomography"*

MODELING INELASTICITY & MULTISCALE BEHAVIOR COMMITTEE STUDENT PAPER COMPETITION

Winner: **Saikat Dan**, Johns Hopkins University

Paper titled: *"Finite deformation cohesive zone phase field model for crack evolution in multi-phase piezocomposites"*

Runner Up: **Rogelio Muñeton-Lopez**, University of Missouri

Paper titled: *"A Phase-Field Formulation for Cohesive Fracture Based on the Park-Paulino-Roesler (PPR) Cohesive Fracture Model"*

Runner Up: **Ozge Ozbayram**, Johns Hopkins University

Paper titled: *"Effect of Microstructure and Surface Notch Geometry on Fatigue Crack Nucleation in Titanium Alloys"*

POROMECHANICS COMMITTEE STUDENT POSTER COMPETITION

First place: **Xiang Li**, Northwestern University

Poster: *"Coupled Flow-deformation Analyses in Creeping Landslides Catastrophic Acceleration"*

Runner-up: **Sansit Patnaik**, Purdue University

Poster: *"Role of microstructure in deformation of porous solids"*

Runner-up: **Ritaja Ray**, Northwestern University

Poster: *"Modeling the behavior of dry and saturated crushable granular media subjected to varying loading rates"*

PROBABILISTIC METHODS COMMITTEE STUDENT PAPER COMPETITION

Winner: Zhiheng Wang, University of Southern California

Paper titled: *"A Polynomial Chaos Formalism for Sensitivity and Reliability Analysis"*

STABILITY COMMITTEE STUDENT PAPER COMPETITION

Winner: **Benjamin Terry**, University of Washington

Paper titled: *"Exploring the Interaction Between Different Instability Phenomena in Vertical Axis Turbine Blades"*

Runner Up: **Garima Sharma**, Kansas State University

Paper titled: *"Experimental Vs. Numerical Stability Assessment of Anisotropic Laminated Web Cantilever Beams Under Tip Force"*

Runner Up: **Ed Wheatcroft**, University of Bristol

Paper titled: *"A Building-Block Approach to the Conceptual Design of Adaptive Structures"*

STRUCTURAL HEALTH MONITORING AND CONTROL COMMITTEE STUDENT PAPER COMPETITION

Sponsored by: Simpson Gumpertz & Heger Inc. (SGH)

1st Place: **Jingxiao Liu**, Stanford University

Paper titled: *“Telecommunication Fiber Cables into Distributed Acoustic Sensors for Vibration-Based Bridge Health Monitoring”*

2nd Place: **Yu-Ting Huang**, Purdue University

Paper titled: *“Toward Crowdsourcing-based Condition Assessment of Roads Using Deep Learning and Data Fusion”*

3rd Place: **Brandon J. Perry**, Colorado State University

Paper titled: *“Measurements of the 3-Component (3C) Dynamic Displacements of Full-Scale Structures using an Unmanned Aerial System (UAS)”*