Engineering Mechanics Institute Conference
and Probabilistic Mechanics & Reliability Conference
May 26-28, 2021

All times are US Eastern Daylight Time

Session 1: *Wednesday, May 26, 10:15-11:45am*	***Session 4:*** *Thursday, May 27, 1:45 - 3:15pm*	***Session 7:*** *Friday, May 28, 10:15 – 11:45am*
Session 2: *Wednesday, May 26, 1:45 – 3:15pm*	***Session 5:*** *Thursday, May 27, 3:30 – 5:00pm*	***Session 8:*** *Friday, May 28, 1:45 – 3:15pm*
Session 3: *Wednesday, May 26, 3:30 – 5:00pm*	***Session 6:*** *Thursday, May 27, 6:00 – 7:30pm*	***Session 9:*** *Friday, May 28, 3:30 – 5:00pm*

EMI Minisymposia

MS 200: The Link Between Composition, Structure, and Physical Properties of Materials
Mohammad Javad Abdolhosseini Qomi, Konrad Krakowiak, Kemal Celik, Mathieu Bauchy, Enrico Masoero
Sessions: 7,8

MS 202: **Advances in Experimental, Theoretical and Computational Fracture Mechanics**
Ange-Therese Akono, Haim Waisman, Arghavan Loughalam, Arturo Montoya
Sessions: 5,6

MS 204: **Upscaling of Particle Scale Mechanics to Continuum Macroscale Phenomenology**
Kane Bennett, Duan Zhang, Anil Misra
Sessions: 8,9

MS 205: Petroleum Geomechanics Problems
Shengli Chen, Amin Mehrabian, Yanhui Han, Chao Liu, Younane Abousleiman
Session: 3

MS 206: Computational Geomechanics – in Honor of the 90th Birthday of Professor Frank L. DiMaggio
Jinhyun Choo, José Andrade, Ronaldo Borja, Qiushi Chen, Hoe Ling, Majid Manzari, SeonHong Na, Richard Regueiro, WaiChing Sun
Sessions: 1,2,4,7

MS 207: Durable Infrastructure Materials Though Experimental and Computational Material Design
Qingli Dai, Hao Wang
Session: 5

MS 209: 3D Printing Technology for Construction: Controlling Microstructural Buildup and Rheology in Cementitious Binders
(Merged with **MS 208: Microstructure and Mechanics of Low Calcium Cements**)
Emanuela Del Gado, Shiho Kawashima, Scott Jones, Roland J.-M. Pellenq, Jean Baptiste d'Espinose
Sessions: 6,7

MS 210: Integration of Physics-based Models with Data for Identification, Monitoring, Estimation, and Uncertainty Quantification
Hamed Ebrahimian, Hae Young Noh, Babak Moaveni, Yang Wang
Sessions: 1,2,3

MS 212: EMI's Objective Resilience Manual of Practice (OR-MOP)
Mohammed Ettouney
Session: 8

MS 213: Machine Learning-based Computational Modeling for Civil Engineering Applications
Alessandro Fascetti, Caglar Oskay
Sessions: 1,2,3

MS 214: Origami/Kirigami Inspired Structures and Metamaterials
Evgueni Filipov, Sigrid Adriaenssens, John Brigham, Martin Walker
Sessions: 4,5

MS 215: Architected Materials
Stavros Gaitanaros, Alireza Asadpoure, James Guest, Mazdak Tootkaboni, Lorenzo Valdevit, Pablo Zavattieri, Evgueni Filipov
Sessions: 1,2,3,4

MS 216: Robustness of Infrastructures
(Merged with **MS 241 on Analysis of Heritage Structures: Tools and Methods for Assessing Unknowns in Historic Monuments and Structures**)
Simos Gerasimidis, George Deodatis, Rebecca Napolitano, Linda Seymour, Branko Glisic, Admir Masic
Session: 8

MS 217: Characterization of Materials for Elevated Temperature Applications
Thomas Gernay, Elie Hantouche
Session: 7

MS 219: Analysis and Prediction of Wind Effects on the Built Environment
Catherine Gorle, Teng Wu, Marco Giometto
Sessions: 1,2,3

MS 221: Mechanics and Physics of Granular Materials
Mahdia Hattab, Payam Poorsolhjouy, Anil Misra, Jidong Zhao, Mourad Zeghal, Ryan Hurley, Anthony Rosato
Sessions: 1,2,3

MS 222: Meshfree, Peridynamic, and Particle Methods: Contemporary Methods and Applications
Mike Hillman, J. S. Chen, John Foster, Sheng-Wei Chi, Pablo Seleson
Sessions: 1,2,3,4

MS 223: Advances in Computer Vision and Visualization for Structural Health Monitoring
Mohammad Jahanshahi, David Lattanzi, Fernando Moreu
Sessions: 1,2

MS 225: Inverse Problems – Theory and Applications
Loukas Kallivokas, Ertugrul Taciroglu, Bojan Guzina
Session: 7

MS 226: Soil Dynamics and Wave Propagation in Geostructures
Loukas Kallivokas, Ertugrul Taciroglu, Bojan Guzina
Sessions: 1,2

MS 227: Elastic Metamaterials, Phononic Crystals, Waves, and Their Interactions
Loukas Kallivokas, Bojan Guzina, Heedong Goh
Session: 8

MS 228: 19th Symposium on Biological and Biologically Inspired Materials and Structures
(merged with **MS 229: Sixth Symposium on Molecular Scale Modeling and Experimentation**)
Dinesh Katti, Christian Hellmich, Sinan Keten, Nima Rahbar, Rouzbeh Shahsavari, Kalpana Katti, Wenjie Xia, Steve Cranford
Session: 8,9

MS 230: 5th Mini-Symposium on 4M (Modeling of Multiphysics-Multiscale-Multifunctional) Engineering Materials and Structures
Yong-rak Kim, Chung Song, Huiming Yin, Qiming Wang, Xiaoyu Song
Session: 7

MS 233: Machine Learning and Big Data-based Structural Health Monitoring
Jian Li, Hui Li, Billie F. Spencer, Jr., Yuequan Bao
Sessions: 4,5

MS 234: Modeling Mechanics of Subsurface Fractured Media
Fushen Liu, Dakshina Valiveti, Peter Gordon, Martin-D Lacasse
Session: 7

MS 236: Mechanics of Wood and Wood Based Materials
Markus Lukacevic, Peggi Clouston, Josef Fussl, Sanjay Arwade
Session: 7

MS 237: Advanced Engineering Concepts, Designs, and Technologies for Aerospace and Extraterrestrial Applications (Sponsored by ASCE Aerospace Division)
Ramesh Malla, Robert Mueller, Kris Zacny, Hongyu (Nick) Zhou
Sessions: 8,9

MS 238: Advances and Applications of Elasticity within Applied Mechanics
Euclides Mesquita, Sonia Mogilevskaya, John Brigham, Ney Dumont, Evgueni Filipov, Anil Wijeyewickrema
Session: 7

MS 239: Assessing Human-Infrastructure Interactions and their Performance
Fernando Moreu, Haeyoung Noh, Ken Loh
Sessions: 8,9

MS 240: Safety Assessment of Aging Infrastructure: From Data to Decision
Suparno Mukhopadhyay, Simos Gerasimidis, Adrian Brugger, Raimondo Betti
Sessions: 4,5

MS 242: Coupled Processes in Porous Materials: Characterization and Modeling
Pania Newell, D Nicolas Espinoza, Manolis Veveakis, Giuseppe Buscarnera, Jean-Michel Pereira
Sessions: 8,9

MS 243: Structural Health Monitoring of Dynamical Systems: Conventional and Contemporary Approaches
Vikram Pakrashi, Basuraj Bhowmik
Session: 1

MS 244: Structural Identification and Damage Detection
Costas Papadimitriou, Eleni Chatzi, Babak Moaveni
Sessions: 1,2,3

MS 245: Cementitious Materials: Experiments and Modeling Across the Scales
Bernhard Pichler, Christian Hellmich, Gilles Pijaudier-Cabot, Günther-Meschke, Franz-Josef Ulm
Session: 4

MS 246: Innovative Experimental Analysis: A Symposium Commemorating Prof. Dr. Asadollah Esmaeily (1958-2018)
Bernhard Pichler, Mija Hubler, Ali Ghahremaninezhad
Session: 7

MS 247: Multiscale Behavior of Damage and Failure Mechanics
Leong Hien Poh, Lizhi Sun, Jiann-Wen Woody Ju, George Z. Voyiadjis, Glaucio H. Paulino
Sessiosn: 1,2

MS 248: Modeling and Characterization of Brittle and Quasibrittle Fracture
Marco Salviato, Jialiang Le, Ravindra Duddu
Sessions: 1,2

MS 250: Computational Structural Performance Assessment against Natural Hazards
Petros Sideris, Mija Hubler, Maria Koliou, Andre Barbosa, Abbie Liel
Session: 8

MS 251: Computational Methods and Applications for Solid and Structural Mechanics
Soheil Soghrati, Ravindra Duddu, Timothy Truster, Ertugul Taciroglu, Guglielmo Scovazzi, Xiang Zhang
Sessions: 1,2,3

MS 252: Recent Advances in Real-time Hybrid Simulation (merged with **252: Complex Dynamics and Vibration control of Infrastructures Exposed to Single/Multiple Hazards**)
Wei Song, Richard Christenson, Chao Sun, Mariantonieta Gutierrez Soto, Lin Chen, Sriram Narasimhan
Session: 8

MS 255: Physics Informed Machine Learning for Data-driven Modeling and Discovery of Complex Systems
Hao Sun, Yang Liu, Jian-xun Wang,
Sessions: 1,2,3

MS 258: Topology Optimization: from Algorithmic Developments to Applications
Mazdak Tootkaboni, Alireza Asadpoure, James Guest
Sessions: 5,6,7

MS 260: Thermo-mechanics of pavement materials and deteriorating concrete structures (merged with MS 261)
Hao Wang, Jiaqi Chen, Roman Wan-Wendner, Mohammed Alnaggar, Jan Vorel, Giovanni Di Luzio, Gianluca Cusatis
Session: 1

MS 262: Innovations and Advances in Durability of Infrastructural Materials (merged with **MS 231:Advances in Functional Structural/Construction Materials and Materials for Energy Efficiency**
Jianqiang Wei
Sessions: 6,7

MS 263: Innovations and Advances in Passive, Active, and Semi-active Structural Control
Nicholas Wierschem, P. Scott Harvey
Sessions: 2,4

MS 264: Emerging Advances in Wind Hazard Assessment and Mitigation
Teng Wu, Yanlin Guo
Sessions: 1,2

MS 265: Integrated Computational Materials Engineering (ICME) Minisymposium
(merged with **MS 218: Composites Manufacturing and 3D Printing: Advances in Modeling, Design, Fabrication, and Applications**)
Mohammadreza Yaghoobi, George Voyiadjis, Elyas Goli
Session: 2

MS 266: Structural Instabilities: From Failure to Function
Stylianos Yiatros, M. Ahmer Wadee, Rainer Groh, C.W. Lim
Sessions: 3,4

MS 268: Performance Assessment and Damage Modeling of Coastal Structures Subjected to Hazards
Wei Zhang, Landolf Rhode-Barbarigos
Sessions: 5,6

MS 271: Nonlinear Vibrations and Dynamics
Marco Amabili
Sessions 7

(PMC Minisymposia follow on next page)

PMC Minisymposia

MS 300: Recent Advances in Performance-Based Engineering for Single and Multiple Hazards
Michele Barbato, Joel P. Conte
Sessions: 1,2,3

MS 301: Practical Applications and Value of Advanced Computational and Probabilistic Modelling in the Life-cycle of Structures
Paolo Bocchini, Helder Sousa, Alfred Strauss
Session: 7

MS 302: Modeling Deterioration of Structures and Infrastructure
Gaofeng Jia, Paolo Gardoni
Session: 7

MS 303: Characterizing Uncertainties in Response of Structures and Communities to Fire Hazard
Negar Elhami Khorasani, Jenny Sideri, Hamed Ebrahimian
Sessions: 8,9

MS 304: Advances in Probabilistic Assessment to Evaluate Robustness and Resiliency of Civil Infrastructure
Sara Khoshnevisan, Lei Wang
Session: 6

MS 305: Quantitative Resilience and Sustainability
Arghavan Louhghalam, Mohammad Javad Abdolhosseini Qomi, Hadi Meidani, Mazdak Tootkaboni, Roger Ghanem, Franz-Josef Ulm
Session: 4

MS 306: Structural Health Monitoring and Uncertainty Quantification for Infrastructure Resilience and Sustainability (merged with **MS 259: Physics-Driven Learning in Structural Health Monitoring**)
Khalid Mosalam, Selim Gunay, Umberto Alibrandi, Filippo Ubertini, Simon Laflamme
Sessions: 8,9

MS 307: Computational Decision Making under Uncertainty
Kostas Papakonstantinou, Daniel Straub, Matteo Pozzi, Charalampos Andriotis
Sessions: 1,2,3

MS 308: Advances in Artificial Intelligence for Stochastic Analysis, Control and Optimization of Structures and Infrastructure Systems
Kostas Papakonstantinou, Hadi Meidani, Arash Noshadravan, Vahid Keshavarzzadeh, Jamie Padgett
Sessions: 7,8

MS 309: Recent Advances in Stochastic Dynamics and Signal Processing Techniques
Apostolos Psaros, Ioannis Kougioumtzoglou, Antonina Pirrotta, Athanasios Pantelous
Sessions: 1,2

MS 310: Surrogate Modeling for Uncertainty Quantification, Optimization, and Statistical Inference in Engineering Applications
Abdollah Shafieezadeh, Gaofeng Jia
Sessions: 1,2

MS 311: Advances in Computational Methods for Uncertainty Quantification and Robust/Performance-based Design of Structures and Systems Exposed to Natural and Man-made Hazards (merged with **MS 270: Advances in Simulation of Stochastic Fields)**
Seymour Spence, Alexandros Taflanidis, Michael Shields, Michael Haijun Zhou, Haifeng Wang, Teng Wu, George Deodatis
Sessions: 1,2,3,4

MS 312: Multiscale Analysis and Design of Random Heterogeneous Media
George Stefanou, Sei-ichiro Sakata, Seyed Hamid Reza Sanei
Session: 1

MS 313: Advanced Analysis for Earthquake Engineering
Kevin Wong, Ting Lin, Steven McCabe
Session: 7