Plenary Lectures

Relation between blood pressure and pulse wave velocity for human arteries
Yonggang Huang, Northwestern University, United States

Machine Learning based solutions of partial differential equations
Timon Rabczuk, Bauhaus Universität-Weimar, Germany

Solving problems in structural dynamics using beam elements: From collapse behaviors of buildings to torque cancelling of robots
Daigoro Isobe, University of Tsukuba, Japan

Design and testing of a rotary self-sealing component for MR fluid based devices featuring permanent magnet
Hung Quoc Nguyen, Vietnamese German University, Vietnam

Semi Plenary Lectures
(ordered by last name)

Recent Advances in Evaluating Failure Evolution with the MPM
Zhen Chen, University of Missouri, United States

Moving Morphable Component (MMC)-based Explicit Topology Optimization-Some New Developments
Xu Guo, Dalian University of Technology, China

Progress in mixed models for efficient nonlinear analysis of composite shells. Application to optimal design of smart structures
Leonardo Leonetti, Università della Calabria, Italy

Methodologies to compute fracture mechanics parameters (A revisit and some applications to large strain elastic-plastic problems)
Hiroshi Okada, Tokyo University of Science, Japan

Direct simulation approach to high cycle fatigue life prediction based on extended space-time finite element method and machine learning
Dong Qian, University of Texas at Dallas, United States

Symmetry and superposition rules proposed to apply in engineering design
Janusz Rebielak, Cracow University of Technology, Poland

Computational Modelling of 3D printed lattice structures
Jonathan Tran, RMIT University, Australia

High-pressure gas bubble dynamics and its applications
Aman Zhang, Harbin Engineering University, China

Topological insulating mechanics and generic design of metamaterials
Xiaoying Zhuang, Leibniz Universität Hannover, Germany