USACM News

August 2023

2023 USACM Awards

We are pleased to announce the 2023 USACM Award winners. These were presented at the 17th U.S. National Congress on Computational Mechanics held in Albuquerque, New Mexico on July 24.

John von Neumann Medal

Tayfun Tezduyar, Rice University and Waseda University

For making pioneering contributions in computational FSI and enabling FSI analysis for some of the most challenging applications such as particle-laden flows, spacecraft parachutes, and car and tire aerodynamics.

Belytschko Medal

David Benson, Ansys

For outstanding contributions to the development and commercialization of computational mechanics and materials science technology, especially finite element methods for transient, large-deformation problems in solid mechanics and fluid-structure interaction.

Thomas J.R. Hughes Medal

Kenneth Jansen, University of Colorado Boulder

For contributions to variational multiscale/stabilized FEM, generalized alpha time integration, turbulence modeling/simulation, massively parallel simulation, anisotropic adaptivity, and in situ visualization as applied to aeronautical, cardiovascular, and multiphase flows.

J. Tinsley Oden Medal

Karen Willcox, The University of Texas at Austin

For contributions to model reduction and multi-fidelity methods for the design and optimal control of high dimensional systems with uncertainties.

R.H Gallagher Young Investigator

Jinhui Yan, University of Illinois Urbana-Champaign

For the contributions to developing novel computational methods for interface-coupled multiphysics systems and applications to advanced manufacturing.

Fellows

Alireza Doostan, University of Colorado Boulder

For his novel contributions to data-driven modeling and uncertainty quantification of complex engineering systems via scalable model reduction and multi-fidelity strategies.

Hector Gomez, Purdue University

For impactful and sustained contributions in phase field modeling and simulation with applications in multiphysics systems and biological systems.

Habib Najm, Sandia National Laboratories

For outstanding and sustained contributions to the development of innovative methods and algorithms for uncertainty quantification, and their application to complex, large-scale and multi-physics problems.

Siddiq Qidwai, National Science Foundation

For significant contributions to modeling of smart and polycrystalline materials and for vigorous service, leadership and promotion of the computational mechanics community.

Rekha Rao, Sandia National Laboratories

For outstanding contributions to the field of computational mechanics of complex fluids, especially those involving moving interfaces, and exemplary service as the first female vice-president of USACM.

Karen Willcox, The University of Texas at Austin

For outstanding achievements in developing scalable methods for design of predictive digital twins under uncertainty, reduced-order modeling, data-to-decisions in aerospace engineering, and her leadership roles in computational sciences and engineering.

New Thematic Conferences

The Workshop on Experimental and Computational Fracture Mechanics will be held March 4-6, 2024 at the LSU Center for Computational & Technology in Baton Rouge, Louisiana.

This workshop aims at bringing together experts in experimental and computational fracture mechanics, scientific machine learning, and

uncertainty quantification to discuss state of the art in experimental design and computational modeling for fracture mechanics.

The workshop is sponsored by the TTA on Large Scale Structural Systems and Optimal Design and the Center for Computation & Technology at Louisiana State University (LSU).

For additional information, visit: https://wfm2024.usacm.org/

Quarter Century of Peridynamics will be held April 23-25, 2024 in Tucson, Arizona

This workshop aims to review the first 25 years of Peridynamics, exchange ideas between theory, computations, and practical applications, and project paths into the future of PD research.

The workshop is sponsored by the TTA on Novel Methods in Computational Engineering and Sciences

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TTA Corner

Nanotechnology and Lower Scale Phenomena
We are continuing a webinar series this fall and will have our first iteration on August 30 from 2-3pm CDT. The speaker will be Prof. Krishna Garikipati from University of Michigan speaking on “A free energy-based framework for scale bridging in crystalline solids – with some use of machine learning methods” with discussants Harley T. Johnson, University of Illinois Urbana-Champaign and Shailendra P. Joshi, University of Houston.
Join via Zoom: (Meeting ID: 845 4127 4013/Passcode: 799065)

Student Chapter Corner

Join the community online at the USACM Student Chapter Discord Server.