USACM

USACM News

September 2021

Announcing Two Thematic Conferences

[USACM Thematic Conference on Role of Mathematical and Computational Modeling in Cancer Research](), January 10-11, 2022, Virtual

This conference seeks to bring leading computational oncology experts together in one platform to share their work and vision for integrating quantitative biological data with mechanistic mathematical models.

Organized by Prashant Jha, Ernesto Lima and Chengyue Yu of the Oden Institute for Computational Engineering and Sciences at The University of Texas at Austin.

Sponsored by the Biological Systems Technical Thrust area of USACM.

[USACM Thematic Conference on Uncertainty Quantification for Machine Learning Integrated Physics Modeling (MLIP),]() August 18-19, 2022, Arlington, Virginia

Computational models for real world systems are rapidly integrating data-driven models from the field of Machine Learning with first-principles based physics models. The uncertainty associated with each

class of models needs careful characterization and the quantification of uncertainties in outcomes of the integrated models demands for novel approaches or extensions of existing methodologies. The scope also includes their applications or extensions to many related sub-topics including digital twinning, large scale integrated computations, active decision making in UQ frameworks, etc.

The objectives of the conference are to bring together leading experts, scientists, young researchers, in these domains of interest in order to exchange about the latest developments and identity challenges and opportunities to advance the field.

Organized by:
Abani Patra, Tufts University
Serge Prudhomme, Polytechnique Montréal
Johann Guilleminot, Duke University
Jian-Xun Wang, University of Notre Dame
Nathaniel Trask, Sandia National Laboratories
Krishnakumar Garikipati, University of Michigan
Yue Yu, Lehigh University
James Stewart, Sandia National Laboratories

Sponsored by the Uncertainty Quantification and Probabilistic Modeling Technical Thrust Area of USACM.

Industry Panel at USNCCM16

During the final day of USNCCM16, a panel session on the Role of Computational Mechanics in Industry was held in an effort to expose our researchers to the industry needs for Computational Mechanics and provide a venue for discussions. Moderated by Dr. Timothy Truster, an associate professor at the University of Tennessee, and Dr. Varun Gupta,

a Computational Scientist at the ExxonMobil Upstream Research Company, this panel of invited speakers was organized to discuss current mechanics trends in industrustries and laboratories as well as foster fruitful collaborations and the transition of computational methods from academia to industry.

Panelists (from left to right): Robert Ferencz, Lawrence Livermore National Laboratory; Vinay Goyal, The Aerospace Corporation; Jacob

Rome, The Aerospace Corporation; James Sobotka, Southwest Research Institute; and Xiao-Hui Wu, ExxonMobil Upstream Research Company. **Moderators** (from left to right): Timothy Truster, University of Tennessee and Varun Gupta, ExxonMobil Upstream Reasearch Company.

TTA Corner

Uncertainty Quantification and Probabilistic Modeling

The USACM TTA on Uncertainty Quantification and Probabilistic Modeling will resume our monthly webinars on October 7 at 3pm EDT with speaker Yeonjong Shin from Brown University presenting "Mathematical approaches for robustness and reliability in scientific machine learning". Dongbin Xiu from The Ohio State University will be the discussant.
    Join via Zoom (Meeting ID: 927 5654 8524/Passcode: 934745)

Computational Fluid Dynamics and Fluid-Structure Interaction

The USACM TTA on Computational Fluid Dynamics and Fluid-Structure Interaction had its first virtual seminar on September 9 with USACM President Yuri Bazilevs (Brown University) presenting on Advanced and Practical Fluid-Structure Interaction. Our next seminar will take place on October 14 at 1pm CDT and will feature Tayfun Tezduyar from Rice University.

REGISTER

Large-Scale Structural System and Optimal Design

The USACM TTA on Large Scale Structural Systems and Optimal Design (Large-Scale) will host a monthly early-career colloquium in the fall semester 2021 on every first Wednesday of the month at 1PM CST. The

colloquium will be open to all members of the community and be held virtually via Zoom, enabling a large audience to learn about the research of early-career Large-Scale TTA members. The first seminar will be given by Prof. Evgueni T. Filipov (University of Michigan). Profs. Matthew J. Zahr (University of Notre Dame) and Jifu Tan (Northern Illinois University) will give the following seminars. Further details will be provided on the Large-Scale TTA webpage.

REGISTER

Subscribe to USACM YouTube Channel

This is a reminder that USACM now has its own YouTube Channel. We will post all Plenary and Semi-Plenary talks from USNCCM16 and will be adding more talks in the future. We encourage you to subscribe in order to get information on the latest videos uploaded. With 100 subscribers, USACM will be able to obtain a branded URL for the channel.

New Members – Join our TTAs

If you haven't already, please complete the TTA form to let us know which TTAs (Technical Thrust Areas) you would like to be a part of.