ICCM2021 Presentations

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Editors: Guirong Liu, Nguyen-Xuan Hung

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1. WELCOME MESSAGE

Dear Colleagues and Friends,

We are delighted to once again welcome you to the 12th annual International Conference on Computational Methods (ICCM2021). Due to the prolonged COVID-19 pandemic, ICCM2021 will be hosted through Zoom from July 4-8, 2021 by Ho Chi Minh University of Technology (HUTECH), Vietnam. As the world is adjusting to the new normal, we, as a scientific community, will need to be at the forefront of this and make the most out of every opportunity presented. This year's conference will serve as another platform to reinforce our commitment to the continuous exchange of innovative ideas and production of high-quality research works.

Since its establishment, the ICCM has been an international forum for academic and industrial researchers in areas related to computational methods, numerical modelling & simulation, and machine learning techniques. It will offer presentations on a wide range of topics to facilitate the inter-disciplinary exchange of ideas in science, engineering and related disciplines, and foster various types of academic collaborations. Publications, which have been peer-reviewed and accepted, will be showcased in the form of oral presentations at the conference. All presentations, including abstracts and papers, will be published online at our website.

The ICCM conference series were originated in Singapore in 2004, followed by ICCM2007 in Hiroshima, Japan; ICCM2010 in Zhangjiajie, China; ICCM2012 in Gold Coast, Australia; ICCM2014 in Cambridge, England; ICCM2015 in Auckland, New Zealand; ICCM2016 in Berkeley, CA, USA; ICCM2017 in Guilin, China; ICCM2018 in Rome, Italy; ICCM2019 in Singapore, and the most recent ICCM2020 in Vietnam (online).

We would like to express our most sincere appreciation to all members of the Organizing Committee, the International Scientific Committee, and other members who have worked tirelessly to make this conference possible. To the international reviewers, we thank you for your endless support in reviewing submitted abstracts and papers.

As we come to conclude our remarks, we would like to convey our gratitude for your contributions to the ICCM2021 conference. Although it is virtually held, we are beyond ecstatic for your attendance and look forward to your continued engagement as well as support for future ICCM conferences.

Professor Nguyen-Xuan Hung
Conference Chairman
CIRTECH Institute, HUTECH University of Technology
President of Vietnam Association of Computational Mechanics
Vietnam

Professor Guirong Liu
Honorary Conference Chairman
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3. SUMMARY OF PLENARY LECTURE, SEMI PLENARY LECTURE

Plenary Lecture (PL)

PL-1: On Higher-Order Shell Finite Elements and a Computational Approach for Fracture / *J.N. Reddy, Texas A&M University, United States*

PL-2: Integrated Computational Materials Engineering (ICME) for designing resilient buildings and infrastructure against extreme loads
Tuan Ngo, The University of Melbourne, Australia

Semi Plenary Lecture (SPL) (ordered by last name)

SPL-1: Large deformation modelling of coupled flow-deformation problems in unsaturated porous media using SPH method
Bui Ha Hong, Monash University, Australia

SPL-2: Model-constrained deep learning approaches for inference, control, and uncertainty quantification
Tan Bui-Thanh, University of Texas at Austin, United States

SPL-3: Hierarchical cellular structures for impact applications
Ramaiah Pattabhi Budarapu, Indian Institute of Technology, Bhubaneswar, India

SPL-4: Isogeometric Methods in Structural Analysis
Josef Kiendl, Bundeswehr University Munich, Germany

SPL-5: Efficient data-collection strategy and hyperparameter tuning for machine learning using Bayesian optimization
Jaehong Lee, Sejong University, South Korea

SPL-6: Some recent advances in Isogeometric Analysis with a special focus on structural and coupled simulations
Alessandro Reali, University of Pavia, Italy

SPL-7: CT image-based damage and fracture modelling and validation of Concrete and FRC
Zhenjun Yang, Wuhan University, China

SPL-8: Selective laser sintering of polymer composites: modelling, design, and applications
Kun Zhou, Nanyang Technological University, Singapore