2nd International Workshop on Marine Hydrodynamics Modelling

Harbin Engineering University

College of Shipbuilding Engineering

Harbin, China

May 20 – 24, 2019

International Workshop on Marine Hydrodynamics Modelling (IWMHM)

IWMHM 2019: Fluid-Structure Interaction

Welcome to the 2nd International Workshop on Marine Hydrodynamics Modelling (IWMHM). IWMHM is an annual international forum to discuss basic and applied advances to Marine Hydrodynamics Modelling by either analytical, numerical or experimental approaches. The workshop emphasizes on in-depth and advanced discussions among the participants. The workshop consists plenary sessions and technical sessions with selected contributed talks. Every year, the workshop focuses on a specific area of Marine Hydrodynamics.

The IWMHM 2019 will be held in Harbin, China, from Monday May 20, 2019 to Friday May 24, 2019. The theme of IWMHM 2019 is Fluid-Structure Interaction. IWMHM 2019 is sponsored by Harbin Engineering University.

We look forward to welcoming you at the 2nd International Workshop on Marine Hydrodynamics Modelling in Harbin, China.

Workshop Organizers:

Prof. Wenyang Duan, Harbin Engineering University, China

Dr. BinBin Zhao, Harbin Engineering University, China

Dr. Masoud Hayatdavoodi, University of Dundee, UK

Dr. Yanlin Shao, Technical University of Denmark, Denmark

PROGRAM OVERVIEW

PROGRAM, MONDAY 20th of May

08:00 - 08:25 **Morning coffee and registration**

08:25 – 08:30 **Welcome and introduction**

08:30 – 09:30

- Experimental methods for investigating the fluid structure interaction of flexible aerofoil structures in the marine environment, *Joseph Banks, University of Southampton, UK*

09:30 - 10:30

- On generation, propagation and impact of bores on coastal structures, *Masoud Hayatdavoodi, University of Dundee, UK*

10:30 – 11:00 **Coffee / Tea break** *(30min)*

11:00 – 12:00

- Block structured AMR method for the simulation of incompressible flows, *Cheng Liu, Shanghai Jiao Tong University, China*

12:00 – 13:30 **Lunch break** *(90 min)*

13:30 – 14:30

- Nonlinear hydroelastic analysis of wave-ice interaction, *Vasily Kostikov, Harbin Engineering University, China*

14:30 – 15:30

- GPU accelerated nonhrostatic model for wave-structure interactions, *Congfang Ai, Dalian University of Technology, China*

15:30 – 16:00 **Coffee / Tea break** *(30min)*

16:00 – 17:00

- Potential flow numerical tank based on TEBEM, *Jikang Chen, Harbin Engineering University, China*

18:30 – 20:30 **Dinner (Place TBA)**

PROGRAM, TUESDAY 21st of May

08:00 - 08:30 Morning coffee

08:30 – 09:30

- A focus on the hydro-structural model testing for marine structures in depressurized condition, *Claudio Lugni, CNR-INSEAN, Italy*

09:30 - 10:30

- Turbulent boundary layer separation in absence and presence of immersed boundary, *Ahmad Fakhari*, *University of Porto, Portugal*

10:30 – 11:00 Coffee / Tea break *(30min)*

11:00 – 12:00

- Wall-modeled large-eddy simulation of turbulent flows using a Lagrangian immersed boundary method, *Shizhao Wang, Chinese Academy of Sciences, China*

12:00 – 13:30 Lunch break *(90 min)*

13:30 – 14:30

- The influence of viscoelasticity and elasticity on the drag behavior, *Yonglinag Xiong, Huazhong University of Science and Technology, China*

14:30 – 15:30

- Analytical study of steady ship waves, *Hui Liang, Technology Centre for Offshore and Marine, Singapore.*

18:30 – 20:30 Dinner (Place TBA)

PROGRAM, WEDNESDAY 22nd of May

08:00 - 08:30 Morning coffee

08:30 – 09:30

- Uncertainty Quantification in Assessing Extreme and Fatigue Limit States for Offshore Structures, *Lance Manuel, The University of Texas at Austin, United States*

09:30 - 10:30

- New simple approach for predicting high order nonlinear wave loading on offshore structures, *Jun Zang, University of Bath, UK*

10:30 – 11:00 Coffee / Tea break *(30 min)*

11:00 – 12:00

- Experimental and numerical investigation on the hydrodynamic performance of multiple co-axial heave plates, *Sharif University of Technology, Iran*

12:00 – 13:30 Lunch break *(90 min)*

13:30 – 14:30

- Towards consistent and complete analysis of 2nd order wave loads on floating marine structures, *Yanlin Shao, Technical University of Denmark, Denmark*

14:30 – 15:30

- A multi-layer Boussinesq-type model for highly nonlinear and dispersive surface waves, *Zhongbo Liu, Dalian Maritime University, China*

15:30 – 16:00 Coffee/Tea break *(30 min)*

16:00 – 17:00

- On nonlinear time-domain wave-structure interaction, *Jeffrey Harris, Ecole des Ponts ParisTech, France*

17:30 – 19:30 Banquet at International Exchange Center on Campus

PROGRAM, THURSDAY 23rd of May

08:00 - 08:30 Morning coffee

08:30 – 09:30

- The hydrodynamics of harnessing energy from ocean waves, *Adi Kurniawan, Aalborg University, Denmark*

09:30 - 10:30

- Oscillating Water Columns: storms, sand & humidity, Encarni Medina-Edina-Lopez, *The University of Edinburgh, UK*

10:30 – 11:00 Coffee/Tea break *(30 min)*

11:00 – 12:00

- Wave-current interactions modelling for marine energy applications, *Vengatesan Venugopal, The University of Edinburgh, UK*

12:00 – 13:30 Lunch break *(90 min)*

13:30 – 14:30

- A high-order harmonic polynomial method for solving the Laplace equation with complex boundaries and its application to fully-nonlinear free-surface flows, *Jinbo Wang, Harbin Engineering University, China*

14:30 – 15:30

- On a fully non-linear potential flow solver SL-HOBEM and its application, *Jie Zhang, Harbin Engineering University, China*

15:30 – 15:35 Closing of Technical Program

PROGRAM, FRIDAY 24th of May

09:30 – 11:30 Technical Tour (Program TBA)

Please register your participation to technical tour at registration desk.