OS01 – Pumping Machinery

Organizers: Satoshi Watanabe, Masahiro Miyabe
Baoshan Zhu and Jin-Hyuk Kim

This session provides an opportunity for a series of presentations on all aspects of pumping and pumping machinery from research and development through design and performance prediction to selection, applications, installations, operation and maintenance. The objective is to encourage further development of pumping technology through the reporting and exchange of information. All categories and sizes of pumps and pumping systems will be addressed, including centrifugal, mixed-flow, axial-flow and other kinds of rotodynamic pumps as well as rotary and reciprocating positive displacement pumps. Topics around which sessions will be organized are as follows:

Non-exhaustive list of suggested topics

- Experimental Developments and Techniques
- Numerical Simulation and Performance Prediction
- Design and Manufacturing Processes
- Hydraulic-Mechanical Interactions
- Planning, Evaluation, Operation
- Applications and Systems

Organizers

Satoshi Watanabe is a Professor of Mechanical Engineering, Kyushu University, Japan. His research interests lie in the wide fields of hydraulic machinery and fluid mechanics, including developments of rotodynamic pumps and hydrokinetic turbines, understanding flow physics especially flow instabilities and cavitation in pumps, numerical modeling and fundamentals of fluid flows.

Masahiro Miyabe is a Professor of Mechanical Engineering, Osaka Institute of Technology, Japan. His research field is the design optimization of fluid machinery (pumps, fans, compressors, gas turbines and wind turbines). Regarding physical phenomena, his primary research areas are unstable flow such as rotating stall, surge, and cavitation. He also has an interest in large-scale computations using open-source software.

Baoshan Zhu is a Professor of the Department of Energy and Power Engineering, Tsinghua University, China. His main research focus on fluid machinery, renewable energy, computational fluid dynamics and vortex methods. He served as a member of various academic organizations and is the organizer of the International Conference of Pumps and Fans, Tsinghua University, China.

Jin-Hyuk KIM is a Principal Researcher in Korea Institute of Industrial Technology, Korea. He is also a Professor in University of Science & Technology, Korea. His research interests are fluid machinery (fans, compressors, pumps, hydraulic turbines, and pump-turbines) designs and developments; steady and unsteady numerical analyses; statistical optimization methods; flow measurements and experimental techniques.

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