S9 - Pumping machinery

Organizers: Satoshi Watanabe & Young-Seok Choi

This session provides an opportunity for a series of technical presentations on all aspects of pumping machinery and pumping function from research and development perspectives, for all categories and sizes of pumps, including centrifugal, axial-flow and other kinds of rotodynamic pumps as well as rotary and reciprocating positive displacement pumps. Topics of this session will include (but not limited to) the design, selection, applications, installations, operation and maintenance of pumps, internal fluid flow analysis, experimental analysis including flow visualization, stability, complex fluid flow phenomena, cavitation and multi-phase flows, rotordynamics, fluid-structure interaction, and so on.

Non-exhaustive list of suggested topics

- Novel hydraulic design and optimization methods
- CFD simulation and experimental techniques
- Flow instabilities, cavitation and multi-phase flows
- Unsteady flows, pressure fluctuations, noise and vibration
- Fluid-structure interaction (FSI) and rotordynamics
- Operation, monitoring, controls and diagnostics
- Applications and systems

Organizers

Satoshi Watanabe received his Ph.D. in Mechanical Engineering from Osaka University, Japan in 1997. Currently, he is a Professor at Department of Mechanical Engineering, Kyushu University (Fukuoka, Japan). His research interest lies in the field of hydraulic machinery from the development of new types of machines to the fundamental flow physics, especially cavitating flow

Young-Seok Choi received his B.S. degree from Seoul National University in 1988, and his M.S. and Ph.D. in Mechanical Engineering from the same university in 1990 and 1996, respectively. He is currently a Principal Researcher in Korea Institute of Industrial Technology (KITECH) and a Professor at University of Science and Technology (UST). His research interests include Computational Fluid Dynamics and design optimization of turbomachinery

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