OS11 – Cavitation & Multiphase Flows

Organizers: Yuka Iga, Mohamed Farhat

This OS covers fundamental and applied research on cavitating flows, condensing mi st flows, gas-liquid two-phase flows, solid-liquid two-phase flows, gas-solid two-phase flows, and other multiphase flows. Research from the perspective of material damage, such as cavitation erosion and high-speed liquid droplet impingement, is also included. The latest computational and experimental methods, including physical modeling of elementary processes such as inception, phase change, and heat transfer, high-performance computation of the flow fields, and high-resolution measurements, are also included. Contemporary topics such as hydrogen cavitation and boil-off hydrogen gas, which are multiphase flow problems that arise in fluid machinery related to carbon neutrality, are also welcome.

Non-exhaustive list of suggested topics

- Bubbles
- Dloplets
- Sheet, cloud and vortex cavitation
- Mist flow
- Nucleation
- Erosion
- Atomization
- Experiment methods
- CFD and modelling
- X-ray diagnostics
- Themodynamic effect

Organizers

Yuka IGA is professor at Institute of Fluid Science, Tohoku University, Japan. Her main research interests are cavitation and phase change, especially in cavitation instabilities in liquid propellant rocket turbopump and thermodynamic effect of cavitation in cryogenic fluid.

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