S13 – Marine energy and propulsion system

Organizers: Manabu Takao & Abdus Samad

Oceans cover more than 70% of the earth's surface and are in constant and somewhat predictable movement (tides), making them a huge source of renewable energy. Marine energy systems use turbine and rotating machinery. For example, oscillating water column (OWC) based wave energy system uses wells and impulse turbines. The tidal and marine current systems use axial or cross flow turbines. The ocean thermal energy conversion (OTEC) system is a bit complex and uses a turbine and a pump. The osmotic system uses a turbine to harvest energy. Similarly, many other rotating machines are being used to harvest such energy. This session is also including technologies of marine propulsion systems such as propeller and pump-jet. This session will comprise conceptual development, experiments, numerical, installation and review related papers. Authors are encouraged to submit relevant works and disseminate knowledge to the communities on marine energy and propulsion systems.

Non-exhaustive list of suggested topics

- Wave Energy
- Tidal Energy / Marine Current Energy
- Ocean Thermal Energy
- Osmotic Energy
- Propeller
- Pump-jet

Organizers

Manabu Takao is working as a Professor at National Institute of Technology (NIT), Matsue College, Japan. He got his M.S. degree and Dr. Eng. from Saga University, Japan. His research interests include fluid machinery and renewable energy utilization and he is particularly engaged in the research and development of air turbines used for oscillating water column-based wave energy converter.

Abdus Samad is an Associate professor at Indian Institute of Technology Madras (IITM), India, and he works mainly on marine energy, fluid mechanics and fluid machines. He is a fellow of ASME and a fellow IMechE. He reported more than 100 documents in Scopus and authored a book on Fluid Machinery (Wiley, 2019). He conducted several conferences, workshops and a seminar at IITM. He has several patents on fluid machinery and energy.

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