

OCEAN ENGINEERING

Session co-chairs: Huajun Li, Ocean University of China, and Leigh McCue-Weil, Virginia Tech

Ocean engineering is a tremendously broad topic which encompasses underwater exploration, manned and unmanned marine vehicles, structural design and construction, hydrodynamics, rigid body dynamics and control, coastal processes, etc.... Given the recent Deepwater Horizon emergency, in this session a key focal point will be deepwater technologies.

With the increasing global energy consumption and the declining fossil fuel resources in continent, exploitation of ocean resources, such as oil gas in deep sea, natural gas hydrate, offshore wind energy and et al., have become a key issue in the ocean engineering field. In this session, talks by James Maher and Dagang Zhang will focus on the key technologies with respect to the ocean resource exploitation from offshore to deep sea.

Virtually all researchers working in the marine environment need to develop core knowledge of hydrodynamics due to the harsh environmental conditions in which they work. This session will feature two experts on hydrodynamics, Alexandra Techet with emphasis on experimental hydrodynamics and Pengzhi Lin on computational hydrodynamics. Through these talks participants will get a brief exposure to the severity and beauty of Mother Nature's forces at sea.