Jellyfish are gelatinous plankton and a major group in the oceans. Jellyfish vary in size from millimetres to many centimetres and occupy a variety of habitats in all season. Jellyfish are often critically important planktonic predators of fish larvae and other zooplankton. Occurrence of swarms of jellyfish and unusually high abundances of gelatinous carnivores have increased greatly in recent years. These changes in jellyfish occurrence and abundance correlate with hydroclimatic changes or anthropogenic causes. Changes in jellyfish abundance also have large socio-economic effects. Despite the ecological and economic importance of jellyfish however, even basic aspects of their biology and ecology, such as taxonomic diversity, abundance, distribution and role in ecosystem dynamics still remain enigmatic.

Marine science has a long history in the UK and Japan. Scientists in these two countries are at the forefront of efforts to understand the roles of jellyfish in marine systems using approaches that include rearing and observation methods, molecular genetics, spatial-temporal surveys of the plankton and in-situ behavioural observations with state of the art midwater and deepwater submersibles (e.g. the Japanese PICASSO system, ROV Hyper-Dolphin and manned submersible Shinkai 6500).

Japan and the UK are two of the few countries that have working taxonomists specializing in jellyfish. The session will focus on the current state of knowledge of jellyfish, where the knowledge gaps are and what methodologies and research are needed to further our understanding of this group of organisms.

Especially we discussed the abundance of jellyfish over broad temporal and spatial scales, new sampling and survey methods and increasing scientific effort being made in the study of jellyfish ecology, jellyfish population dynamics and behavioural ecology, the importance of jellyfish as predators in the plankton and as food and competitors for/with higher trophic levels, the processes that could link changes in jellyfish abundance and climate change and the effective utilization of jellyfish.