

Marine and coastal ecotoxicology and risk assessment

CHAIRS: Ketil Hylland, Joachim Sturve, Bethanie Carney Almroth



Monday 12th May 2014, 08:10 – 16:00, room: Sydney

Coastal areas are very important for food production, recreation and transport but also function as recipients of industrial and public waste. However there is still surprisingly limited knowledge about how toxic substances affect marine organisms and processes. Our understanding of possible impacts is limited to a few model species and a small number of endpoints, nearly always studied in isolation from possibly modulating factors. The session wishes to contribute to increasing the knowledge base of how toxic substances affect marine organisms and to improve on the risk assessment of such substances in marine ecosystems. Organism groups for which there is a need for more studies include echinoderms, polychaetes, other vermiform taxa, sponges, cnidarians and the wide range of crustacean taxonomic groups present in benthic marine ecosystems. Similarly, the session will welcome studies on responses to toxic substances in e.g. larvaceans and invertebrate larvae in pelagic realms of the oceans. In addition to the selection of species, there is a need to cast a wider net than at present in terms of endpoints investigated: effects on the immune system and developmental toxicity in marine organisms are particularly lacking, but also neurotoxicity, genotoxicity and reproductive toxicity clearly merit more research than at present. While a larger number of studies have been conducted on fish species, there are still large knowledge gaps concerning comparative aspects and responses to complex mixtures of toxins. Toxic substances are never present in isolation and the session will address how other environmental factors such as temperature, salinity and organic matter content modulate responses to toxic substances. This session aims to address the above issues with platform and poster contributions from academia, industry and institutions that manage the marine environment. Presentations on the following topics will be particularly welcome: - Comparative studies of effects of toxic substances in different marine organisms - Studies of immunotoxicity, neurotoxicity, genotoxicity, reproductive toxicity and developmental toxicity of marine organisms - Studies on how environmental factors may modulate effects of toxic substances - Risk assessment of emerging contaminants in marine ecosystems - Effects of chemicals in polar and tropical marine ecosystems - Interactions between contaminants and other environmental pressures in marine ecosystems, including plastics and nanoparticles - Comparison of responses to contaminants in freshwater, estuarine and marine organisms.

SESSION TYPE: Platform, Poster Spotlight and Poster