

Name of Special Session

Microplastic as environmental vectors for POPs and additives

Chairs and/or Organizers

Dr. Dorte Herzke, Vladimir Nikiforov and PLASTPOLL project

Prof. Hideshige Takada, Tokyo University of Agriculture and Technology

Objective

The Plastic pollution is rapidly gaining more and more public and scientific attention. For example, the latest international Conference on Marine Microplastic, MICRO-2018, attracted more than 500 participants – ecologists, analytical chemists, toxicologists - from all over the world. Plastic pollution and related chemicals is clearly within the scope of DIOXIN symposia – with for example the primary use of PBDEs and other flame retardants were happening in plastic material. Plastic is a unique environmental pollutant, being both a physical and chemical agent. One of the most heavily used plastics, PVC is a halogenated polymer, perhaps the first case of halogenated persistent organic pollutant. Similarly, rubber particles from car tire abrasion contain a magnitude of organic chemicals, known for their toxicity to the environment and humans (f.ex. PAHs, bisphenols, chlorinated paraffin's) We also know that marine plastic litter can be a sorbent and a carrier for POPs. But what about additives, which are used in plastic polymers in much higher concentrations (up to 50% weight basis). And how do these plastic particles act in the different environmental compartments? Are airborne plastic microparticles and tire rubber a compartment for POPs and additives in the air? How to assess combined effect/risk of plastic pollution and chemical pollution? The objective of the here proposed session will be to focus the expertise and attention of the DIOXIN symposia community to Plastic/Microplastic, so largely neglected contaminant in itself and in its capability to act as a vector for other contaminants.