

**Category**

EN Environment

**Session Number**

EN-2

**Session Title**

Contamination in Polar and High Altitude Environments

**Session Description**

Polar and high altitude ecosystems are exposed to contaminants from local sources (i.e. fishing, tourism, sewage, research activities), as well as from distant sources through long range transport (by air mass, marine currents, rivers, and organisms as biovectors).

Contaminants can affect the entire ecosystem across different trophic levels but are also transferred to and along food webs (i.e. bioaccumulation and biomagnification). It is therefore important to understand sources and levels of contaminants in all matrices, and processes occurring at interfaces. Climatic factors may also influence the characteristics and distribution of contaminants in the abiotic environment as well as their movement between different ecosystem compartments.

This session welcomes a broad range of contributions featuring research focused on the study of inorganic and organic contaminants at the Polar and high altitude environment that aim to:

- Identify main drivers regulating the distribution, magnitude, transport, transformation, bioaccumulation of contaminants, including, but not limited to: legacy and emerging persistent organic pollutants (POPs), plastic debris, mercury and other trace metals
- Estimate the impact of the contaminants across the ecosystem (Atmosphere, Oceans, Cryosphere and Terrestrial Ecosystems as well as human exposure)
- Evaluate the effects of climate change on contaminant transport and fate
- Discuss remediation, policy change and mitigation options and solutions

**Keywords:** : Arctic; Antarctic; High altitudes ecosystems; Human impact; exposure; bioaccumulation; toxicity; Inorganic contaminants; Persistent organic pollutants (POPs); legacy and emerging contaminants; plastic contaminants; Global Change; Long range transport; Ecotoxicology; cross-disciplinary

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