ICCE 2019 Session
Humic Substances: environmental dynamics and impact on water quality

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Humic substances (HS) are complex heterogeneous mixtures of polydispersed materials that are involved in most biogeochemical processes in soils and natural waters. The huge number of possible HS substances makes the identification difficult and from the quantitative point of view almost impossible. Therefore, the term HS as the refractory part of natural organic matter (NOM) is often used for an integrative description. Soil weathering and provision of plant nutrition are among the most important processes HS are involved in. Moreover, HS play a key role in pH buffering, in mobility and bioavailability of trace metals, degradation and transport of hydrophobic organic chemicals, and heterotrophic production in blackwater ecosystems. In the same context, HS are determinant in photochemical and redox processes, in the formation of disinfection by-products during water treatment, as well as on the environmental behavior and impact of nanomaterials.
We would like to invite contributions on HS and NOM in the environment related to its environmental dynamics and impact on water quality:

- Physico-chemical aspects: mobility and transport and mediated transport of contaminants, as well as effects on photochemical and redox processes
- Transformation in natural and in technological processes, and the impact on water quality
- Biological, and ecological aspects and genesis
- Characterization: novel methods and approaches for molecular understanding
- Application: Agricultural practices, composting and remediation
- Environmental chemistry of nanomaterials