

Environmental chemistry and sustainable chemistry

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Environmental Chemistry investigates into the introduction, presence, and fate of chemicals in the environment. It is also interested in the outcome of remediation and treatment options in order to reduce the environmental contamination by chemicals (and sometimes materials such as nanoparticles or micro plastics). The contaminants are often the products of chemical industries but also unwanted environmental contamination by waste and emissions related to synthesis and other product related processes.

Within the last two decades green chemistry has gained momentum. Among others it aims to reduce emissions due to the synthesis of chemicals and other processes, the usage of resources or mineralization of chemicals after their introduction into the environment. It deals with molecules, materials and complex products. As such it is an important building block of an even broader approach – sustainable chemistry, which addresses emission reduction along the whole life cycle of products including improved resource usage, synthesis, manufacturing but also alternative business models and social aspects.

One of the pillars of sustainable chemistry is the knowledge delivered by environmental chemistry. Green and sustainable chemistry, for example, can contribute to environmental chemistry e.g. by greening analytical methods and presenting solutions for input prevention of chemicals by focusing at the beginning of the pipe and also related substance and material flows. In fact, both environmental and sustainable chemistry have to work extensively together to support the United Nations Development goals (SDGs).

Contributions addressing such interlinked issues or from the contact are of both are highly welcome for this session.

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