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Ecological impacts of emerging pollutants in a coastal region of China**Yonglong Lu, Pei Wang, Tieyu Wang, Shuai Song, Yajuan Shi, Jingjing Yuan and Jing Meng**
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Emerging persistent organic pollutants (ePOPs) are newly released organic compounds to the environment or old organic compounds which are subject to the concern of hazards risk or those pollutants that may be candidates of POPs list of Stockholm Convention. Because of their persistence, bio-accumulation and potential for long-range transport, the ePOPs may bring great impacts to ecosystem and human health. In this presentation, the Bohai Coastal Region is taken as case study area for coastal ecosystem research. Multi-disciplinary methods, including ecological field survey, eco-toxicological analysis, spatial analysis using geographic information system, simulation and modeling, social survey and policy analysis, are applied. For a decade, my research group has made extensive investigation of perfluoroalkyl acids (PFASs) along the coast of the Bohai Sea in north China. Major efforts have been devoted to source identification of the emerging pollutants through sampling analysis and its correlation with industrial and domestic emissions. We found that industrialization and urbanization along the coast have had great impacts on the source and fate of emerging pollutants in environmental media. Compared the field data with modeling results, natural degradation and new input have been found and spatial diffusion of their environmental risks in multi-media has been simulated and validated. Strategies and management guidelines were presented for prevention and remediation of ecological and health impacts of the emerging pollutants.

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