Preface

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Biographical notes: Khaiwal Ravindra is currently working as 'Scientist' at University of Hertfordshire, UK and also holds a position of 'special academic personnel' at University of Antwerp, Belgium. His research interests involve method development, chemical characterisation, source apportionment, health risks and mitigation policies for persistent and emerging pollutants; including global climate change and environmental impact assessment. Currently, he is working on CAIR4HEALTH, ENVIRISK, HENVINET, MEGAPOLI, TRANSPHORM and other European Union projects. He has authored more than 50 articles having over 700 citations (H *Index*: 15) and also wrote/edited four books. He is serving various international journals and is also a member of editorial board of *International Journal of Environment and Waste Management*, *Air, Soil and Water Research*, *Forum Geographic*, *Journal of Environmental Biology*, *Environmental Monitoring and Assessment* and *Aerosol and Air Quality Research*.

Special Issue: I am pleased to introduce part three of the special issue on "Monitoring, Fate and Health Risk of Environmental Pollutants (Part 3)". In this issue, nine manuscripts were selected after a peer-review process, which assess the current status of various pollutants in different environmental matrices. Further, some remedial measures are also discussed to prevent and control the extent of toxic pollutants.

The toxicity of organotin compounds in marine environment is of great concern. Delucchi et al. studied the levels of tributyltin in the sediments of three coastal regions of Argentina and found that the levels of tributyltin are very close to sub-lethal concentration. This may cause adverse effect on marine biota such as growth inhibition, shell chambering in oysters, histological and behavioural abnormalities and imposex in prosobranch gastropods. The increased population has put a pressure on the land and water resources. Ali et al. review the impact of land-use pattern on organic pollution load in reverine system and some control measures are also suggested.

The quality of groundwater is significantly affected by domestic, agricultural and land-use activities. It is difficult to identify pollution sources in most of the real-world contaminated sites. Chadalavada et al. reviewed various optimisation algorithms like classical, non-classical and hybrid, which can be applied for optimal identification of unknown pollution sources. Kumar et al. studied the hydro-geochemistry of Ghaggar

river basin in Panjab State of India. The problem of salinisation may be of great concern in Panjab, as it is one of the major agriculture states of India.

Mercury has been identified as one of the major persistent pollutants in environment. The bioaccumulation of mercury and its toxicity put it high on health concern. Sha'Ato and Ajayi studied the interaction and dynamics of mercury on typical Nigerian soil. The study also assesses the risks of manure produced from sewage sludge, as this may lead to phytoavailabilities of mercury and leaching to groundwater or to surface water runoff from farmlands. Narang et al. studied the phytoremediation potential of water hyacinth. Its roots were found to accumulate maximum content of mercury when compared with petioles and leaf laminae.

The black liquor waste originating from paper industries contain high organic/inorganic pollution load and pose threat to entering water bodies and aquatic life. Aujla et al. studied the chemical composition of black liquor and proposed a treatment by combination of microbial and chemical treatment. It is well established that brassinosteroids are essential for plant growth and provide strength to resist various environmental stresses, e.g., droughts, extreme temperature, heavy metals, herbicidal injury and salinity. Bhardwaj et al. studied the effect of 28-homobrassinolide on protein content and enzyme activities under an induced heavy metal stress in the seedling of *Brassica juncea* L.

Landfilling is considered to be an important global source of greenhouse gas. Emissions of methane from waste landfills are ranked third among anthropogenic methane sources and range between 19 Tg yr^{-1} and 40 Tg yr^{-1}. These emissions are mainly caused by inadequate gas collection systems, from uncontrolled emissions from old dumps and from unauthorised open dumping. McBean discusses a procedure to estimate methane generation rate from a landfill containing high organic pollution load and situated in a wet climatic area. The study indicates that most of the methane is generated with in the first five years of waste dump and suggests to implement recovery projects well in advance to capture methane, before it escapes to the environment.

Most of the papers discussed earlier focus on the impact of anthropogenic activities on environment. Further, some remediation measures were also proposed. This shows the significance of monitoring and evaluation in managing environmental problems.

Finally, I like to thank all the authors for their relevant scientific contribution to this special issue and especially to all the referees for their valuable suggestion during peer-review process. The motivation for editorial work was driven by the Health and Environmental Network (HENVINET) project. The main objective of the HENVINET is to establish long-term cooperation between researchers, policy makers and other stakeholders in the area of environment and health research. HENVINET was funded by the EU Commissions through the FP6 projects and for more information please visit the website: www.henvinet.eu