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**Special Issue**

**Sensors for Environmental Monitoring**

**Guest Editor:**

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## Editor-in-Chief Introduction:

Dear readers, it is a pleasure for me, to introduce Clifford K. Ho as the guest editor for this special issue. Clifford K. Ho finished his PhD at the University of California at Berkeley in 1993. His research topics cover:

- Development of microchemical sensor systems and novel characterization methods for real-time, continuous, in-situ sensing of volatile organic compounds.
- Performance of numerical simulations and analytical analyses of problems related to environmental restoration and nuclear waste management.
- Predicting of flow and transport of groundwater and contaminants in heterogeneous and fractured porous media in thermally perturbed systems.
- Validating mathematical models of heat and mass transfer processes in porous media through combined experimental and numerical studies.

At the moment, he is working at Sandia National Laboratories in Albuquerque, New Mexico, where he is a distinguished member of the technical staff. He also serves as an adjunct professor at the University of New Mexico in Albuquerque.

I am very pleased to win Clifford K. Ho over as an expert and guest editor for this special issue. Furthermore, I would like to thank him for his work and his contribution to *Sensors*.



Michael J. Schöning, Editor-in-Chief  
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## Preface

Monitoring air, soil, and water for hazardous contaminants has traditionally been motivated by the need to protect our environment from industrial pollutants such as volatile organic compounds, pesticides, heavy metals, and radionuclides. Typical environmental sampling methods for these contaminants employ manual grab samples that are collected on site and then transported to a laboratory for analysis. These sampling methods can be very costly and time consuming, and ongoing research has focused on the development of sensors that can replace traditional sampling methods to monitor contaminants in the environment. More recently, the threat of chemical, biological, and radiological agents introduced into our air or water supplies has also stimulated the demand for continuous, real-time, in-situ sensors.

The scope of this special issue focuses on sensors that are designed to detect hazardous substances that could potentially pollute the air, water, or subsurface. Laboratory and field investigations of new and emerging sensors are presented, and data analysis methods are also described. Eight papers from five different countries are included in this special issue that represent global research in the area of sensing for the environment. My hope is that this special issue will provide the reader with a broad overview and sampling of the innovative research that is occurring to improve our capabilities for real-time, continuous sensors for the environment.



Clifford K. Ho, Guest Editor

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