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## **Preface**

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### **Adam K. Wanekaya\***

Chemistry Department,  
Missouri State University,  
463 Temple Hall,  
901 South National Ave,  
Springfield, MO 65897, USA  
Email: Wanekaya@missouristate.edu  
\*Corresponding author

### **Charles C. Chusuei**

Chemistry Department,  
Middle Tennessee State University,  
Box 390, 1301 East Main Street,  
Murfreesboro, TN 37132, USA  
Email: Charles.Chusuei@mtsu.edu

### **Yu Lei**

Chemical, Materials and Biomolecular Engineering,  
University of Connecticut,  
191 Auditorium Road, Unit 3222,  
Storrs, CT 06269-3222, USA  
Email: ylei@enr.uconn.edu

### **Yung-Tse Hung**

Department of Civil and Environmental Engineering,  
Cleveland State University,  
2121 Euclid Avenue,  
Cleveland, OH 44115, USA  
Email: yungtsehung@yahoo.com

**Biographical notes:** Adam K. Wanekaya received his PhD in Chemistry from the State University of New York in Binghamton. He is an Associate Professor of Chemistry at Missouri State University. His research focuses on the fabrication, modification, characterisation and application of nanoscale materials (specifically conducting polymers, carbon nanotubes and metal oxide nanowires) into functional devices.

Charles C. Chusuei received his MS and PhD degrees in Chemistry from George Mason University in Fairfax, Virginia. He is an Associate Professor of Chemistry at Middle Tennessee State University. His research focuses on interfacial characterisation of nanomaterials (carbon nanotubes, metal oxide particulates) to delineate structure-property relationships.

Yu Lei received his PhD degree in Chemical and Environmental Engineering from the University of California at Riverside. He is an Associate Professor of Chemical, Material and Biomolecular Engineering at the University of Connecticut. His research interests focus on nanoengineering functional materials for applications for sensors and biosensors.

Yung-Tse Hung received his PhD degree in Environmental Engineering from University of Texas at Austin. His BSCE and MSCE degrees are from National Cheng Kung University, Taiwan. He has been a Professor of Civil and Environmental Engineering at Cleveland State University since 1981. He has taught at 16 universities in 8 countries. His research interests are biological waste treatment, industrial waste and hazardous waste treatment. He is Editor of *International Journal of Environment and Waste Management*.

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With the rise in global population and increasing pressure on the Earth's limited resources, the world is facing formidable challenges in environmental health and protection. Sensing, detection and remediation of environmental pollutants are therefore urgent challenges that need to be addressed with existing and emerging technologies. Rapid progress in nanotechnology and nanoscale materials offers significant opportunities for a wide range of applications for detection and remediation of a broad range of environmental contaminants. Furthermore, the convergence and intersection of analytical techniques and nanotechnology provide opportunities for development of advanced nanomaterials and miniaturised, rapid, ultrasensitive and affordable field-deployable devices. The purpose of this special issue is to invite contributions that showcase recent research that address these very important challenges.