

## Editors' foreword



Occurrence of elevated arsenic concentrations in ground water used for drinking purpose, and associated health risks, were reported at first international conference on environmental arsenic, which was held in Fort Lauderdale, USA, almost exactly 40 year ago; October, 1976. Over the past 2 to 3 decades arsenic in drinking water, and more recently, in plant based foods, especially rice, has been recognized as a major public health concern in many parts of the world. Latest surveys estimated that currently more than 200 million people around the world are exposed to unacceptably high arsenic levels. The geological, geomorphological and geochemical reasons for high arsenic concentrations in groundwater vary from place to place and require different mitigation policies and practices. Although, the high income countries may invest in research and development of suitable remediation techniques, arsenic in private water sources is not always tested. On the other hand, low to lower-middle income countries, such as many areas in South-East Asia, Africa and South America, where millions of people still use arsenic-contaminated drinking water, are still coping with stagnated mitigation efforts and slow progress towards safe drinking water. It is disturbing to enter almost any village of the Bengal basin today and find that groundwater drawn from untested shallow wells continues to be used routinely for drinking and cooking, given that the arsenic problem was already recognized in the mid-1980s in West Bengal and the mid-1990s in Bangladesh. Equally problematic is the fact that hundreds of millions of wells world-wide are not yet tested for arsenic. Moreover, many low and lower-middle income countries have yet not been able to revise their standards for arsenic in drinking water to 10  $\mu\text{g/L}$ , the guideline value of the World Health Organization. We sincerely believe that sharing knowledge and experience on arsenic related science and practices on a world-wide scale and across varied disciplines can serve as an effective strategy to support global arsenic management and mitigation efforts.

The biannual International Congress Series on Arsenic in the Environment aims at providing a common platform for sharing knowledge and experience on multidisciplinary issues on arsenic occurrences in groundwater and other environmental compartments on a worldwide scale for identifying and promoting optimal approaches for the assessment and management of arsenic in the environment. The International Congress on Arsenic in the Environment has previously been held six times; Mexico 2006, Spain 2008, R. O. China 2010, Australia, 2012, Argentina 2014 and Sweden 2016. The seventh International Congress on Arsenic in the Environment (As2018) is being organized in Beijing, the Capital of the Peoples Republic of China, between 1 and 6 July, 2018 and with a theme “Environmental Arsenic in a Changing World”. The UN Agenda 2030 for Sustainable Development adopted in September 2015, list 17 Sustainable Development Goals (SDGs) of raise the global profile of arsenic in order to achieve universal and equitable access to safe and affordable drinking water for all. This emphasizes holistic management of drinking water services and monitoring of drinking water quality and deployment of clean water technology in the across the world for protecting human health. We envision As2018 as a global interdisciplinary platform to exchange and disseminate research results to improve our understanding of the occurrence, mobility, bioavailability, toxicity and dose-response relationship with various health effects of environmental arsenic in the current epoch of a changing world.

We have received a large number of (over 250) extended abstracts which were submitted mainly from researchers, but also health workers, technologists, students, legislators, government officials. The topics to be covered during the Congress As 2018 have been grouped under the five general thematic areas:

Theme 1: Arsenic Behaviour in Changing Environmental Media

Theme 2: Arsenic in a Changing Agricultural Ecosystem

Theme 3: Health Impacts of Environmental Arsenic

Theme 4: Technologies for Arsenic Immobilization and Clean Water Blueprints

Theme 5: Sustainable Mitigation and Management.

We thank the international scientific committee members, for their efforts on reviewing the extended abstracts. Further, we thank the sponsors of the Congress from around the world: KTH Royal Institute of Technology (Sweden), University of Southern Queensland (Australia), KWR Watercycle Research Institute (The Netherlands), The University of Newcastle (Australia) and the CRC-CARE, at the University of South Australia and OPCW for their generous support – Thank you all sponsors for your support that contributed to the success of the congress As2018.

The International Organizers would like thank Institute of Urban Environment, Chinese Academy of Sciences and the China University of Geosciences, Beijing, China Centre for International Science and Technology Exchange (CISTE), KWR Watercycle Research Institute, The Netherlands, the Global Centre for Environmental Remediation, The University of Newcastle and CRC CARE, University of Newcastle, NSW, Australia and the University of Southern Queensland, Australia for their support to organize the 7th International Congress and Exhibition on Arsenic in the Environment (As2018). We thank the KTH Royal Institute of Technology, especially the KTH School of Architecture and Built Environment for supporting the KTH-International Groundwater Arsenic Research Group at the Department of Sustainable Development, Environmental Sciences and Engineering, Stockholm as an International Organizer of this Congress. We would like to thank Dr. M. Mahmudur Rahman, Professor M. Alauddin, P. Kumarathilaka, Dr. G. Sun, Dr. J. Ye and M. Tahmidul Islam for their help with the preparation and formatting of the content of this volume. Lastly, the editors thank Janjaap Blom and Lukas Goosen of the CRC Press/Taylor and Francis (A.A. Balkema) Publishers, The Netherlands for their patience and skill for the final production of this volume.

Yong-Guan Zhu  
Huaming Guo  
Prosun Bhattacharya  
Jochen Bundschuh  
Arslan Ahmad  
Ravi Naidu  
*(Editors)*