

## Emerging Evidence on Early Life Arsenic Exposure, Biomarkers and Clinical Response

### Co-Chairs:

Yu Chen, New York University School of Medicine, USA

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**Aim and short description:** The symposium is related to the conference theme “Early exposure - later life: *in utero* and early life exposures and effects in later life” and consists of six presentations that focus on early- and later-life health effects of arsenic exposure. Arsenic is a group 1 carcinogen. Recent epidemiologic studies have revealed the potential for arsenic to cause effects *in utero* and for early life exposures to influence child development and child health. In addition, studies have suggested that the health effects of arsenic exposure in adulthood are modifiable by host factors including lifestyles and genetic polymorphisms. Epidemiologic studies of biomarkers for the responses to arsenic exposure may provide knowledge on the underlying mechanisms. Arsenic (As) is a natural element of the Earth’s crust, and it can enter drinking water supplies from natural deposits. Elevated concentrations of As in groundwater pose a public health threat to millions of people worldwide. In this symposium, we will present several epidemiologic studies that assessed effects of *in utero* and early life exposures to arsenic on child development, child health. In addition, we will present studies that have investigated susceptibility and biomarkers for health effects of arsenic exposure in adulthood. These findings provide knowledge and insights on potential underlying mechanisms and inter-individual variability of the effects of arsenic.

### Presentations:

1. Effects of arsenic exposure on child immune response and cognitive development  
**Speaker:** Marie Vahter
2. Epigenetic effects of in-utero arsenic exposure  
**Speaker:** Carmen Marsit
3. Urinary arsenic as a biomarker of in utero exposure to via maternal drinking water and diet: results from a US pregnancy cohort  
**Speaker:** Margaret Karagas
4. Arsenic exposure and blood inflammatory markers of cardiovascular disease  
**Speaker:** Yu Chen
5. Adverse effects of arsenic exposure on motor function among children in Bangladesh  
**Speaker:** Faruque Parvez
6. Genetic susceptibility to arsenic exposure and prevalent skin lesions in Bangladesh  
**Speaker:** Habib Ahsan
7. Discussion  
**Discussion Leader:** Margaret Karagas