



# 6<sup>th</sup> International Congress Arsenic in the Environment (As2016)



## Arsenic Research and Global Sustainability

KTH Royal Institute of Technology  
Stockholm, Sweden

June 19-23, 2016

*Second Circular*



## Welcome to As2016

Long-term exposure to low-to-medium levels of arsenic via contaminated food and drinking water can have a serious impact on human health. Globally, more than 100 million people are at risk. Initiated to address this major health issue, the International Congress on Arsenic in the Environment has been held five times: Mexico 2006, Spain 2008, Taiwan 2010 Australia, 2012 and Argentina 2014.

Since the end of the 20th century, arsenic in drinking water (mainly groundwater) has emerged as a global health concern. In the past decade, the presence of arsenic in plant foods – especially rice – has gained increasing attention. Furthermore, in the Nordic countries in particular, the use of water-soluble inorganic arsenic chemicals (e.g. chromated copper arsenate, CCA) as wood preservatives, in glass manufacturing and the mining of sulfidic ores have been flagged as health concerns. The issue has been accentuated by discoveries of naturally occurring arsenic in groundwater, primarily private wells, in parts of the Fennoscandian Shield and in sedimentary formations, with potentially detrimental effects on public health. Sweden has been at the forefront of research on the health effects of arsenic, technologies for arsenic removal, and sustainable mitigation measures for developing countries.

With a global perspective, the 6th International Congress on Arsenic in the Environment will take place in the city of Stockholm, Sweden, from 19 to 23 June 2016. Known as As2016, the conference will be themed Arsenic Research and Global Sustainability, and is endorsed by the Executive Board of the International Society of Groundwater for Sustainable Development (ISGSD).

**Jochen Bundschuh and Prosun Bhattacharya**

*International Organizers*

*Congress Series: Arsenic in the Environment*



## Conference venue: Aula Magna

Aula Magna, the venue chosen for As2016, is located at the center of Stockholm University's campus at Frescati adjacent to the KTH Royal Institute of Technology's Vallhallavägen Campus. Fringed by the Lill-Jansskogen forest, Aula Magna was designed by architect Ralph Erskine and inaugurated in 1997. This spectacular hall lets

the special Scandinavian light reflect off its light wooden surfaces, creating a bright and spacious atmosphere. With a complete seating capacity of 1100, Aula Magna is the venue for As2016's opening, closing, and plenary sessions. In addition, there are rooms for two parallel sessions (more than 250 persons each), two rooms for other side events including the ISGSD Business Meeting, and an open lobby for registration, poster sessions and coffee breaks. The rooms for the presentations will be equipped with audio-visual facilities, including free Wi-Fi connection. The campus is surrounded by a number of hotels and hostels, mostly within the downtown Stockholm area.



*The Auditorium, Aula Magna, Stockholm University*

<http://www.su.se/om-oss/universitetsomr%C3%A5de/konferenslokaler/aula-magna/lokalerna/aula-magnas-h%C3%B6rsal-1.8266>

## Organizing Committee

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### **Yong-Guan Zhu**

*Chinese Academy of Sciences, Beijing, P.R. China*

## **Technical Programme**

The Technical Programme runs from Monday 20<sup>th</sup> June to Thursday 23<sup>rd</sup> June, with an excursion day on Wednesday 22 June. Each morning and afternoon, a 30-minute plenary session is planned. The regular Technical Programme will take place in parallel sessions. Other activities, such as round tables, workshops, a student programme, short courses and special sessions will also be scheduled. Should you wish to propose such an activity, please refer to the Congress Website, where a full list of topics and guidelines, the submission process and other relevant information will be available from April 2015. The call for abstracts will open on 1 October 2015.

## **Congress Topics**

The Congress will address the broader context of arsenic research along the following themes (but not only be restricted) to the following themes:

### **Theme 1: Arsenic in environmental matrices and interactions (Air, water, soil and biological matrices)**

- Origin, distribution of arsenic in groundwater, transport and fate in aquifers
- Biogeochemical processes and speciation
- Arsenic speciation and mobility from mine waste and tailings
- Arsenic in contaminated soils and sediments
- Climate change impacts and coupling with mobility of arsenic in water and soil environments
- Arsenic and other trace elements in Swedish /Fennoscandinavian groundwaters
- Arsenic in airborne particulates from natural and anthropogenic sources
- Analytical advancements and challenges in measuring and monitoring of arsenic in solid and aqueous media
- Synchrotron applications and innovative research on arsenic in natural systems
- Bio-sensors in monitoring applications

### **Theme 2: Arsenic in food chain**

- Transfer from environmental matrices (water, air, soil)
- Bioavailability
- Arsenic in Rice
- Marine species
- Speciation and toxicity of arsenic in food chain
- Arsenic in processed food and beverages
- Analytical challenges

### **Theme 3: Arsenic and health**

- Epidemiology
- Indicators of exposure – Biomarkers
- Arsenic and genomic studies
- Risk assessment of chronic ingestion
- Multi metal synergies in chronic exposure cases

### **Theme 4: Clean Water Technology for Control of Arsenic**

- Technologies based on adsorption and co-precipitation
- Ion exchange and membrane technologies
- Nanotechnology applications in arsenic treatment
- Innovative technologies and advancements.

### **Theme 5: Societal issues, Policy Studies, Mitigation and Management**

- Societal implications of long term exposure
- Policy implication
- Risk assessment and remediation of contaminated land and water environment – Case studies
- Mitigation and Management
- Drinking water compliance with Water Safety Plan
- Arsenic in drinking water and the post 2015 Sustainable Development Goals

## **Invitation for Abstract Submission**

You are invited to submit extended abstracts on our online abstract submission system through our homepage [www.as2016.se](http://www.as2016.se). All presentations to be made during the As2016, including the plenary talks, keynote and other presentations, as well as posters will be included in the Proceedings Volume “Arsenic Research and Global Sustainability” published by the CRC Press. The templates for

abstracts (both extended and the short abstracts) are provided in the links on our homepages. Please note that the length of the extended abstracts must be of two pages including the acknowledgements and the references. The abstract box of the template should form the text of the Short Abstract.

Only one abstract will be accepted per registered participant as first author. However, we encourage multi-author submissions and at least one person must be registered per submission to the Congress prior to the deadline for Regular Registration. All abstracts will be peer-reviewed by the International Scientific Committee.

## About Stockholm

Stockholm is the capital city of Sweden and also the largest city in the country. It is home to the national Swedish government and the parliament. Stockholm is also the official residence of the Swedish monarch.

The city of Stockholm has a long, rich history. It has been an economic and political centre of Sweden since the 13th century. The city, with a population of almost 2 million, is located on several islands on the east coast of the country at the mouth of Lake Mälaren.

If you want to know more about this ancient European city, you will find a wealth of museums and other institutions that will explain anything you'd like to know about Stockholm's and Sweden's history. You can also explore the city's great architecture and other historic buildings just by taking a walk. And don't forget current events—you can take a peek at the Royal Palace and wander past the current residence of the royal family.

There are also a number of beautiful parks in Stockholm where you can spend a lazy afternoon with a picnic lunch. If you are not in a hurry, this is the best way to experience the true essence of this old city.



The Stockholm City Hall (<http://www.travelguide.tv/stockholm>)

If you want a good meal for a great price, hundreds of cafes all over the city will let you enjoy a slow meal with friendly staff in a great atmosphere. And if you want to spend a bit more money, there are numerous fine-dining options to choose from.

Accommodation in Stockholm is second to none for travellers. There are four- and five-star hotels right in the heart of the city, putting all the of the shopping and tourist

attractions right at your door. Alternatively, you can easily find a great little inn where you can soak up Stockholm's unique culture and friendly character.

## Tentative Program

### Sunday, 19 June 2016

16:00-19:00 Registration and Welcome

18:00-21:00 Cocktail and mingling

### Monday, 20 June 2016

08:00-9:30 Registration

09:30-10:00 Opening Session

10:00-10:30 **First Plenary Session (D. Postma)**

10:30-11:00 Coffee break

11:00-12:30 Parallel Technical Sessions (invited and oral presentations in Rooms A and B) (90 min)

12:30-13:30 Lunch

13.30-14:00 **Second Plenary Session (Y.G. Zhu)**

14:00-15:00 Parallel Technical Sessions (invited and oral presentations in Rooms A and B) (60 min)

15:00-15:30 Coffee break

15:30-17:00 Parallel Technical Sessions (invited and oral presentations in Rooms A and B) (90 min)

17:30-18:30 Poster Session (Lobby) (60 min)

### Tuesday, 21 June 2016

08:00-10:00 Parallel Technical Sessions (invited and oral presentations at Rooms A and B) (120 min)

10:00-10:30 **Third Plenary Session (A. Meharg)**

10:30-11:00 Coffee break

10:30-12:30 Parallel Technical Sessions (invited and oral presentations in Rooms A and B) (120 min)

12:30-13:30 Lunch

13.30-14:00 **Fourth Plenary Session (K. Broberg)**

14:00-15:00 Parallel Technical Sessions (invited and oral presentations in Rooms A and B) (60 min)

15:00-15:30 Coffee break

15:30-17:00 Parallel Technical Sessions (invited and oral presentations in Rooms A and B) (90 min)

17:00-18:00 Poster Session (Lobby)

18:30 onwards Conference Dinner (Mingling and Drinks followed by Dinner)

### Wednesday, 22 June 2016

**Excursion day (To be announced)**

### Thursday, 23 June 2016

08:00-10:00 Parallel Technical Sessions (invited and oral presentations in Rooms A and B) (120 min)

10:00-10:30 **Fifth Plenary Session (R.P. Johnston)**

10:30-11:00 Coffee break

10:30-12:30 Parallel Technical Sessions (invited and oral presentations in Rooms A and B) (120 min)

12:30-13:30 Lunch

13:30-14:00	<b>Sixth Plenary Session (Ana Navas-Acien)</b>
14:00-15:00	Parallel Technical Sessions (invited and oral presentations in Rooms A and B) (60 min)
15:00-15:30	Coffee break
15:30-16:30	Parallel Technical Sessions (invited and oral presentations in Rooms A and B)
16:30-17:00	Closing Session

### Other Activities (Round Tables, Workshops or Special Sessions)

The tentative Round Tables, Workshops, or Special Sessions will run parallel to the ordinary technical sessions:

- Arsenic and associated trace-elements in relation with Tertiary and Quaternary volcanism in the European Union
- Arsenic, mining and rehabilitation
- Sustainable Arsenic Mitigation: Concept and policies for implementation in South and South east Asia
- Innovative technologies for drinking water treatment –Swedish and European Water Industries
- Socio-economic impact of As (interface of scientific and technological knowledge with society)
- ISGSD Business Meeting (it must be agreed between the Organizing Committee)
- IMGA workshops

### Preliminary Course(s)

This option may take place on Saturday and Sunday, 18-19 June, 2016 pending participant interest and will be selected from special topics related to As2016 themes.

### Congress Website

For more information about the event, regular updates and new information on As2016, please visit our website: [www.as2016.se](http://www.as2016.se).

### Important Timelines: As2016

Abstract Submission deadline	<b>30 October 2015</b>
Applications for travel support*	<b>15 November 2015</b>
Notification of Abstract reviews	<b>15 December 2015</b>
Submission of Revised Abstracts	<b>15 January 2016</b>
Early-bird Registration	<b>31 January 2016</b>
Regular Registration ( <b>Please observe:</b> Registration to the Congress is mandatory for the publication of the Abstract in As2016 Proceedings Volume)	<b>1 February 2016</b>
Booking Accommodation ( <b>Please observe:</b> Stockholm is a very attractive venue of many concurrent conferences, and a good time planning is encouraged)	<b>15 March, 2015</b>
Letter of Invitation for Visa and External Support for Attending the Congress	<b>1 March 2016</b>
Online Registration Start (Payment by credit Cards only)	<b>15 October 2015</b>

\***Please note:** Application for travel support can only be made after the submission of the abstracts.

### Registration

Online Registration starts	<b>15 October 2015</b>
Early-bird Registration *	<b>Until 31 January 2016</b>
Early-bird (ISGSD Members)	<b>5750 SEK</b>
Early-bird (Non-ISGSD members)	<b>6000 SEK</b>
Members /non-Members(DAC)	<b>4500 SEK</b>
Student	<b>3300 SEK</b>
Regular Registration*	<b>From 1 February 2016</b>
Regular (ISGSD Members)	<b>6000 SEK</b>
Regular (Non ISGSD members)	<b>6250 SEK</b>
Members /non-Members(DAC)	<b>4750 SEK</b>
Student	<b>3500 SEK</b>
Conference Dinner at the Stockholm City Hall	<b>850 SEK</b>
Field Excursion	<b>500 SEK</b>
On-site Registration **	<b>19-23 June 2016</b>

\***Please note** that 15% of the Congress Registration is debited to ISGSD account as your membership dues for the years 2016-2018.

\*\* The onsite Registration will include additional administration charges of 500 SEK on regular registration in all categories. We strongly encourage our delegates to register online before the conference.

For more information about the event, regular updates and new information on As2016, please visit our website: [www.as2016.se](http://www.as2016.se).

### Contacts

For suggestions and questions about As2016 in general, the Technical Programme or proposal for workshops, please do not hesitate to contact us.

#### Prof. Prosun Bhattacharya

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For information about registration, accommodation, payments etc. please contact the Congress Bureau.



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