

“Water Research”

*Call for contributions to the
Special Issue*

Groundwater Arsenic: From Genesis to Sustainable Remediation

OUR SPECIAL ISSUE: Consists of a collection of papers on the genesis of groundwater contaminated with arsenic and sustainable mitigation that reflect current thinking and awareness in that field that involves cutting edge science. The Special Issue will be focused on emerging or pressing environmental issues of scientific or public concern with global significance. The Special Issue can contain review papers (limited) or original research articles. The Special Issue must provide a reasonable assessment of what is new, what is current, what needs to be known or what should be done on the interdisciplinary topic of the occurrence of arsenic in groundwater and respective mitigation where emerging needs for population in rural areas and isolated urban areas are preferentially targeted, including also related economic, social and political aspects contributing to human and economic development.

NOTE: (a) A FULL PAPER is a contribution describing original research, including theoretical exposition, extensive data and in-depth critical evaluation. The journal does not accept case studies, unless it is a study that has a wide impact. (b) REVIEW PAPERS: Only critical review papers will be considered. The SPECIAL issues editors have planned for the inclusion of one review paper each of the below listed subtopics I-III:

SYNOPSIS: The proposed special issue “Groundwater Arsenic: From Genesis to Sustainable Remediation” links the occurrence of geogenic arsenic (As) in groundwater with providing the human society safe drinking and irrigation water. This fulfils the sharply increasing worldwide interest in the arsenic issue, which is accelerated by the lowering of limit values for arsenic in drinking water, stronger regulations of arsenic contents in food, and the fact that new regions are continually being discovered. The arsenic special issue will seek an integral approach to problem solving; starting with its occurrence in rocks and mobilisation into the ground and surface water, its distribution and transport in water resources and continuing onto arsenic removal technologies and other methodologies to mitigate the arsenic problem - especially in rural and isolated urban areas (regions that are not connected to water distribution networks) - addressed not only from the technological but also from economical and social points of view. Such an integral viewpoint is required since in the past the selection of inappropriate remediation methods for particular sites have failed, either by not considering hydrogeological or hydrochemical aquifer properties and their temporal variations or by ignoring social, cultural and economical considerations providing consumers with safe drinking and irrigation water.

The principal focus of the individual contributions to the special issue will be on processes or phenomena that have wider applications, using case studies only as illustrations or examples for potential applications. It is our ambition to make this special issue oriented to develop and apply arsenic removal technologies and other remediation methods to the direct solution of problems with considerable social impact and relevance by providing the rural and urban isolated population with arsenic safe drinking water and food.

Authors are invited to submit manuscripts for consideration to be published in the special issue covering the following topics (but the editors also welcome papers on other related topics):

I. Arsenic in rocks, ground- and surface water: occurrence, genesis, mobility

1. Sources of geogenic arsenic, occurrence in ground and surface waters in response to geochemical and hydrologic triggers.
2. Processes that control mobility and speciation of arsenic in water.

II. Arsenic remediation and mitigation: Sustainable industrial-scale and emerging small-scale options

1. Full scale technologies (both chemical and microbiological) for arsenic removal from water.
2. Small-scale emerging mitigation options, techniques and remediation methods for arsenic removal from water suitable for rural areas and isolated urban areas.
3. In-situ treatment options.
4. Waste toxicity and treatment.
5. No-treatment methods.
6. Targeting arsenic-safe aquifers as alternative remediation measure.

7. Management and disposal of arsenic rich sludges.
8. Sustainability of water supply.
9. Arsenic environmental disasters options.

III. Assessment of social, cultural, economic and political impacts for mitigating the arsenic problem

1. Regulation and legislations.
2. Social implications of arsenic poisoning through groundwater.
3. Value of arsenic-safe water to rural residents.
4. Social acceptance of remediation measures.
5. Arsenic contamination awareness among rural population.
6. Economic benefits from arsenic removal from groundwater.

Manuscripts will be reviewed with the same rigor as for all submissions to Water Research. Reviews must convey a significant synthesis of scientific and technological advances in the field. Confirmation of intention to contribute a manuscript and preliminary title, coauthors and topic/subtopic number should be sent to Jochen Bundschuh (jochenbundschuh@yahoo.com) by September 15th 2009. All manuscripts must be submitted to the Electronic Submission System (<http://ees.elsevier.com/wr/>) by **December 31st 2009**, to be considered. It is important to indicate in your cover letter that the paper is for the *Groundwater Arsenic: From Genesis to Sustainable Remediation* special issue and also to select the appropriate article type (Special Issue: Groundwater Arsenic) from the drop down list when submitting your paper to the Editorial system.

IMPORTANT DATES:

Call for contributions: end of August 2009.

Confirmation of intention to contribute a manuscript and preliminary title, coauthors and topic/subtopic number deadline 15 September 2009

Manuscript submission by authors: according to the authors instructions of Water Research deadline 31 December 2009

Jochen Bundschuh University of Applied Sciences, Karlsruhe, Germany,

jochenbundschuh@yahoo.com

Jan Hoinkis University of Applied Sciences, Karlsruhe, Germany

Nalan Kabay Ege University, Izmir, Turkey

Marta Litter CNEA and Universidad de Gral. San Martín, Buenos Aires, Argentina

Jiin-Shuh Jean National Cheng Kung University, Tainan, Taiwan

Please also find some additional information about the 3rd International Congress (As 2010) "Arsenic in the Environment" (Congress series)
Theme: "Arsenic in Geosphere and Human Diseases"

Website: <http://www.As2010tainan.com.tw>

Contact (congress Tainan) jiinshuh@mail.ncku.edu.tw
Contact (congress series): jochenbundschuh@yahoo.com,
prosun@kth.se