



Vietnam International
WATER
Week 22-25 March, 2019
Hanoi, Vietnam

VIETNAM INTERNATIONAL WATER WEEK

VACI 2019 Water Smarter:
Leaving No One Behind
22-25 March 2019, Hanoi, Vietnam

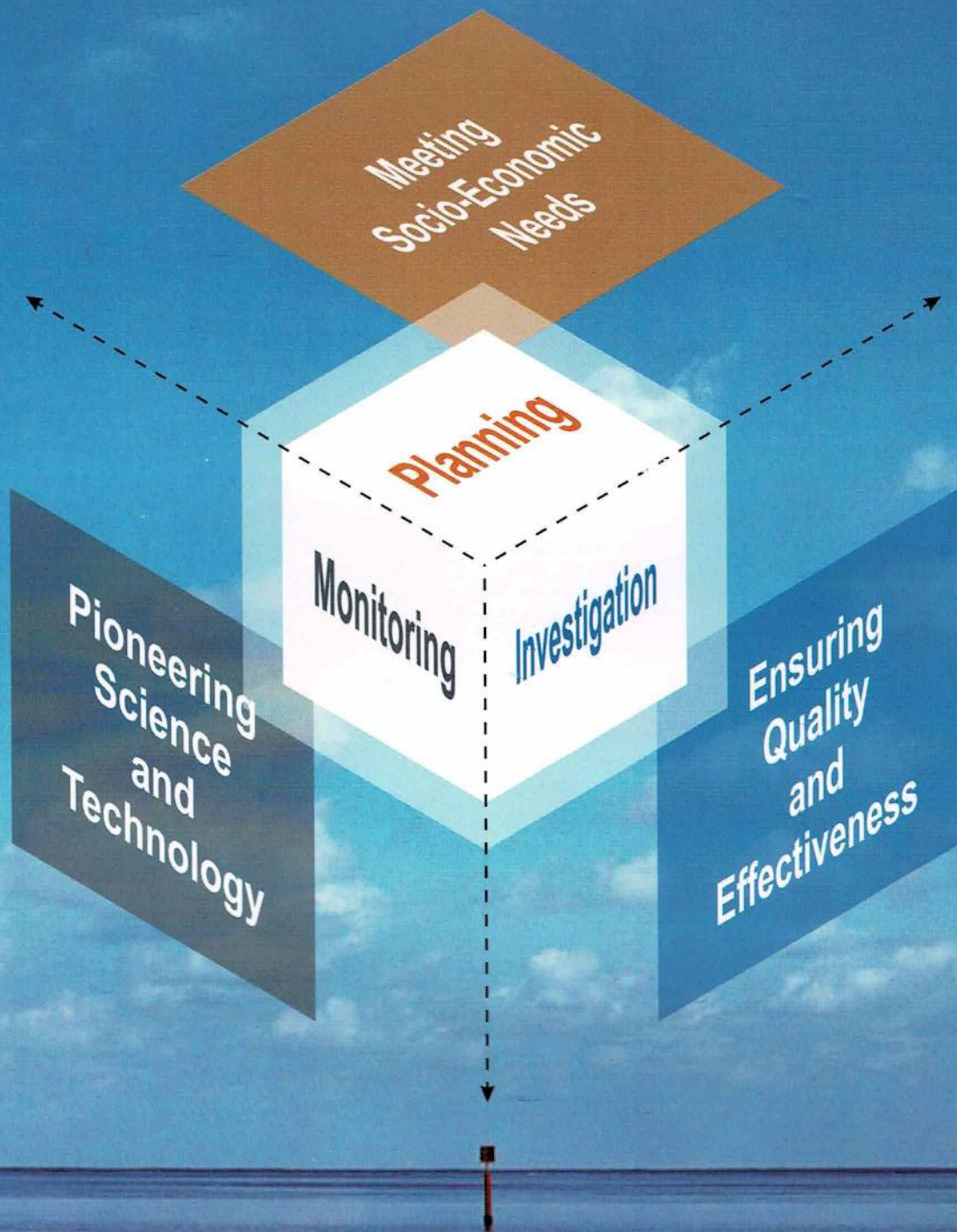
PROCEEDINGS & DIRECTORY



CONFERENCE | EXHIBITION | BUSINESS CONNECT | SOCIAL-NETWORKING
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NAWAPI

National Center for Water Resources
Planning and Investigation

CONTACT

No. 93/95 Vu Xuan Thieu Street, Hanoi Vietnam
 Web: <http://nawapi.gov.vn/>
 Phone: (+84) 024.36740498 / 024.36740668 / 024.36740499
 Fax: (+84) 024.36740491
 Email: ttqhdttnn@monre.gov.vn

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NOT FOR SALE

Order	Presentation / Discussion topic	Confirmed speakers
1	Keynote: Nexuses of Arsenic within the 2030 Sustainable Development Goals	Prosun BHATTACHARYA KTH Royal Institute of Technology, SWEDEN
3	Social Approach in Arsenic Mitigation in the Gangetic Belt of Uttar Pradesh and Bihar in India: Community empowerment through Awareness in the Arsenic Affected Villages	Saurabh SINGH Inner Voice Foundation- Community Arsenic Mitigation & Research Organization (CAMRO), INDIA
4	Embedding the Private Sector Capacity for Service delivery provisions for achieving Drinking Water Safety in Bangladesh	Dara JOHNSTON UNICEF Bangladesh, BANGLADESH
5	Removal of Low Arsenic Concentrations from Drinking Water: Why & How?	Arslan AHMAD KTH Royal Institute of Technology, SWEDEN
6	Arsenic in drinking water supplies around mining areas of Tanzania- A risk scenario in Africa	Felix MTALO University of Dar es Salaam, TANZANIA
7	Groundwater Arsenic Contamination in Bangladesh: Challenges and Way Forward to Ensure Sustainable Safe Water Coverage	Md. JAKARIYA North South University (NSU), BANGLADESH
8	Arsenic solute transport from Holocene to Pleistocene aquifer in Dan Phuong - Thach That, Hanoi	Tran Vu Long HUMG, VIETNAM
9	Discussion	Local works members

Meeting plan in detail

ARSENIC SOLUTE TRANSPORT FROM HOLOCENE TO PLEISTOCENE AQUIFER IN DAN PHUONG - THACH THAT, HANOI

Tran Vu Long, Pham Quy Nhan



Tran Vu Long

Country: Vietnam

Organization: Hanoi University of Mining and Geology

Position: Lecturer

Address: No 18 Pho Vien, DucThang, North - TuLiem district, Ha Noi

Email: tranvulong@humg.edu.vn

I am presently working as a lecturer of hydrogeology at Hanoi University of Mining and Geology (HUMG), Vietnam. I hold B.Sc Geology, M.Sc Hydrogeology and Ph.D from the HUMG. I have an experience of over 10 years in my research field and worked over 12 years as a lecturer and have over 5 international publications. My fields of scientific interest are groundwater protection as well as geothermal aspects of hydrogeology.

In Quaternary delta systems, shallow Holocene aquifer contains high concentrations of arsenic (As) in both groundwater and sediments. The main mechanism of As in groundwater is the reduction of As bearing Fe-oxides in sediment by organic matter oxidization. In other hand, As concentrations in groundwater of Pleistocene aquifer is- lower than in Holocene aquifer. Therefore, this depth aquifer become a main water supply source for megacity in large Quaternary delta. While increase extraction from deeper Pleistocene aquifer, a leakage from Holocene aquifer take places and As will mobile along with water. In Thach That - Dan Phuong, groundwater regime still in natural state due to there are no large abstraction wells. There for this study area will be very important for asset mobilization of As under natural conditions. We applied a 3D groundwater flow modeling, coupled with advection, dispersion and reaction solute transport modeling, to simulate the As mobilization in this study area. The results show that sorption isotherm in represent of retardation factor is the one of most importance mechanisms controlling As mobilization from Holocene to Pleistocene aquifer in study area. The results also show that retardation factor of Pleistocene aquifer ranges very high and close to the results of laboratory sorption experiments in sediments which were taken from Red river delta. These results show that the state of sorption - desorption at the site may be reached equilibrium as in the laboratory. These results are much higher than the retardation factor from transport modeling in Nam Du abstraction wells field which varies from 2 – 20.

Keywords: Arsenic, Holocene, Pleistocene, Hanoi.