



JIS GROUP

PRESENTS



A SEMINAR ON

BIO-CHEMICAL EFFECTS OF ARSENIC IN ENVIRONMENT

Under TEQIP 1.1 Phase-II

ON

22ND JANUARY 2013



Organised by

Department of Civil Engineering

Narula Institute of Technology

81, Nilgunj Road, Kolkata-700109

ABOUT THE INSTITUTE

Narula Institute of Technology was established in 2001 as a unit of JIS Group Educational Initiative, managed by the Narula Educational Trust, a charitable trust formed under Indian Trust Act 1860.

The institute aims at providing high quality technical and professional education to the budding engineers and professionals by exposing them to the expanding horizon of techno-economic knowledge, giving the ambience needed for developing requisite technical and managerial skills for making a mark of excellence in the academic, research and industrial arenas.

The institute is affiliated to the West Bengal University of Technology, approved by All India Council for Technical Education, recognized under section 2 (f) and 12 (b) of UGC act 1956 and awarded with a grant of World Bank under TEQIP phase II, subcomponent 1.1

Institute is presently excelling in the courses like B.Tech, M.Tech, MBA, MCA etc. with student strength of 2700 and has applied for autonomous status to UGC through the affiliating university after all necessary preparations in the last year. The academic and administrative bodies of the institute are regularly involved in the preparatory works, hitherto performed by the affiliating university, for adaptation of the practices which will be invoked after the achievement of autonomy.

We extend our cordial invitation to all for active participation in this event to interact and exchange views with experts and to deliberate on the future issues in this thrust area towards academic excellence of the engineering institutions.

Report of Seminar on
“Bio-Chemical Effects of Arsenic in Environment”
under TEQIP 1.1—Phase-II
held on 22nd January, 2013 at N.I.T.

INTRODUCTION:

A full day seminar on “**Bio-Chemical Effects of Arsenic in Environment**” was organized by Department of Civil Engineering of Narula Institute of Technology, under the patronage of JIS group on 22nd January, 2013.

This seminar on **Bio-Chemical Effects of Arsenic in Environment** was addressed by Prof. (Dr.) Subhas Chandra Santra & Prof. (Dr.) Debashis Chatterjee who primarily discussed exposure to Type – II Arsenic pollution which is highly toxic to human cells, resulting misregulation of critical genes associated with human development. Presence of heavy metals into the environment by both natural & anthropogenic sources, especially mining, industrial activities and automotive exhaust has bio importance about trace elements. But the biotic effects of many of them in human bio-chemistry are of great concern. They leach into underground water moving along water pathway & eventually depositing in the aquifer or are washed away by runoff into surface water resulting in soil & water pollution.

The toxicology of Arsenic is a complex one. This mainly depends on arsenic species & chemical form. The clinical manifestation of chronic arsenicosis in human includes the no-cancerous skin disorders, respiratory effects & diabetes mellitus as well as various types of cancers including skin, lung, bladder & kidney.

SPEAKER PROFILE:



Prof. (Dr.) Subhas Chandra Santra

Speaker I :

Prof. Dr. Subhas Chandra Santra is an eminent Professor & Senior Faculty member in the Department of Environmental Science at the University of Kalyani. He is also a Coordinator in the ENVIS Centre on Environmental Biotechnology. He did his M.Sc. & Ph.D. in Botany from Calcutta University.

Area of specialization: Limnology, Phycology, Ecology, Bioremediation and Toxicology.

Research Details:

1972–1978: Worked on various aspects of fresh water phycology, Limnology in Sub-Himalayan region (including Taxonomy of Blue Greens).

1978–1985: Worked on river phycology and marine algae (Taxonomical accounts)

1985–1992: Worked on Aerophycology, BGA in rice field system and ecotoxicological assessment using BGA.

1992–1997: Investigation on various aspects of Bio-monitoring of Environmental Quality Environmental Impact Assessment.

1997-Till date: Arsenic problems in West Bengal, Bioremediation, Toxicological aspects, Algal biotechnology and Mangrove ecology, Bioremediation, Bioprospecting.

Specialised studies on Arsenic problems in West Bengal

Biological aspects of arsenic removal from contaminated water; Arsenic flow in Ecosystem, Dietary Influence of arsenicosis, greenhouse gas emission mitigation from rice ecosystem.

Awards, Honours & Nominations

Premchand Roychand Fellowship (University of Calcutta), 1982; Austrian Govt. Fellowship, 1985; DAD Fellowship, 1990; IVP Fellowship, USA, 1993; DST visiting Fellowship, 1996; UGC visiting guest faculty, 2005; Vice president and Fellow, West Bengal Academy of Science and Technology; Coordinator, ENVIS Centre on Environmental Biotechnology, supported by MoEF, Govt. of India Since 2002, throughout his carrier.

Life Member:

Indian Science Congress Association; Indian Biological Association; National Botanical society, Indian Aerobiological Society; Scavenger & Phykos.

Expert member:

W.B. State Pollution Control Board., State Biodiversity Board, Central Pollution Control Board, Member of the State Environment Appraisal Committee (nominated by MoEF, Govt. of India).

Speaker II:



Prof. (Dr.) Debashis Chatterjee

Prof. Dr. Debashis Chatterjee is the Head & Professor in the Chemistry Department (Analytical) at the University of Kalyani. He did his M.Sc (Analytical Chemistry), Ph.D (Environ. Science).

Area of specialisation: Limnology, Phycology, Ecology, Bioremediation and Toxicology.

Resource Person :

- ❖ International - UNICEF, WHO, Regional co-coordinator of EURINDIA (Erasmus Mundus) Consortium , Visiting Professor / Scientists - KTH , Stockholm, KIT ,Germany, University of Girona , Spain ,University of Manchester ,UK , Geological Society Of America ,American society of Civil Engineers.
- ❖ National – Central Scientific and Industrial Research Institute (CSIR, RAB), Department of science and technology (DST), Rajib Gandhi Drinking Water Mission (Ministry of Water Resource, New Delhi).
- ❖ Regional- - Arsenic Task Force (Govt of west Bengal), State Technical Committee on water issues (Govt. of West Bengal), West Bengal Pollution Control Board (WBPCP steering committee).

Research Partners :

- Prof. Dr. Gunnar Jacks and Prof. Prasun Bhattacharya, Division of Land & Resources, Royal Institute of Technology, KTH, Stockholm, Sweden.
- Prof. Martin Strauss, Swiss Federal Institute for Environmental Science and Technology, SANDEC. Denbendruf, Switzerland.
- Prof. Laurent Charlet, LGIT, Grenoble University, France.
- Prof. William Burgess, Dept. Geological Sciences, University College of London, U.K.
- Dr. Dave Polya, Dept. of Earth Sciences, University of Manchester, U.K.
- Prof. Doris Stueben, Institute fur Mineralogie and Geochemistry, Karlsruhe University, Germany
- Prof. John Hoinkis, Institute fur Technology and Science, Karlsruhe University, Germany.
- Prof. Ming-kuo Lee and Dr. James Saunders, Department of geology and geography, Auburn university, USA

He has supervised a lot of PhD thesis and many PhD thesis under his supervision are running at present.

SEMINAR COMMITTEE AND PROGRAMME DETAILS:

ABOUT THE SEMINAR

Narula Institute of Technology, a premiere educational initiative of JIS Group, Kolkata, is going to organize a one day seminar on “BIO-CHEMICAL EFFECTS OF ARSENIC IN ENVIRONMENT” on 22nd January, 2013 at Seminar Hall of the institute. The seminar will be arranged by Civil Engineering Department to enhance the consciousness regarding arsenic poisoning in environment, which is the cause of concern for all of us. The main objective of the seminar is to discuss & deliberate various issues related to arsenic poisoning and evolve satisfactory as well as cost effective methodologies to combat the menace. Presence of distinguished & eminent personalities in this field will not only upgrade knowledge of faculties, but also in turn will help the students and society as whole.

Time (p.m)	Programme	Participants	Committee
1:00 - 1:15	Inauguration & Introduction	Rajkumar Banerjee	<ul style="list-style-type: none"> • Advisory Committee: Prof.(Dr.) J.K. Das - Principal ,NIT Prof.(Dr.) J.K. Roy - Dean (Academic) Prof. Jagadis Chandra Guha Prof. Chandra Sekhar Senmajumder Prof. Gautam Chaudhuri Prof. Supriya Guha Prof. Priyabrata Guha • Convener: Prof. Rajkumar Banerjee - Department of Civil Engg. Prof. Subhram Das – Coordinator, TEQIP project. • Other Committee members: Mr. Arindam Chatterjee – Registrar (Acting) Mrs. Nidhi Singh – Administrative officer Mr. Kallol Paul – Accounts Officer Mr. Ratan Das – Site Supervisor Prof. Sujoy Sarkar - Department of Civil Engg. Prof. Abhipriya Halder - Department of Civil Engg. Prof. Samaresh Pan - Department of Civil Engg. Prof. Rudraprasad Bhattacharyya - Department of Civil Engg.
1:15 - 1:30	Welcome & Presentation of Bouquet	Priyanka Chakraborty & Moumita Pal	
1:30 - 1:40	Welcome Address	Prof. J. C. Guha (H.O.D. - Civil)	
1:40 - 1:50	Address by principal	Prof.(Dr.)J.K.Das	
1:50 - 2:40	Bio-chemical effects of arsenic in environment	Guest Speaker-I Prof. Dr. Debasis Chatterjee	
2:40 - 3:00	Tea Break		
3:00 - 3:50	Bio-chemical effects of arsenic in environment	Guest Speaker-II Prof. Dr. Subhas Chandra Santra	
3:50 - 4:20	Question & Answer Session	Participation by all	
4:20 - 4:30	Vote of Thanks	Prof. Dr. J. K. Roy	

Liaison Officer: Prof. Priyabrata Guha

PARTICIPATION:

The Seminar was attended by 125 participants comprising of students from B.Tech and M.Tech levels, staff and faculties of Civil Engg. & other departments. Refreshments were served to all.

INAUGURAL SESSION:

Presence of Prof. (Dr.) J.K.Das (Principal,N.I.T.) & Prof. (Dr.) Amitava Das (Dean Research, N.I.T.) added flavor & attraction to the seminar. In opening session Prof. J.C.Guha welcome the invitees & participants with a small, crisp & inspiring speech which was enjoyed by all concerned.

Prof. (Dr.) J.K.Das was concerned about rapid aggression of arsenic poisoning & urged the budding engineer to take up the issue seriously. Prof. (Dr.) Amitava Das emphasized importance of such initiatives in an educational institution which will ultimately benefit all students as well as faculty members.

Prof. Rajkumar Banerjee compared the programme with professional skill & wit. Saraswati Vandana & slokas rendered by him kept the audience spell bound & completely changed the atmosphere.



Lighting of the Lamp by Prof. (Dr.) J K Das, Principal, NIT



Welcome address by Prof. J C Guha



Dignitaries on Dias

TECHNICAL SESSION:

SESSION I

Session I was chaired by Prof. (Dr.) Debashis Chatterjee. He delivered outstanding speech on Type – II Arsenic poisoning on human cells and presence of heavy metals into the environment by both natural & anthropogenic sources.

Technical Session I



Biochemical effects of Arsenic An Overview by Prof. D Chatterjee

SESSION II

Session II was chaired by Prof. (Dr.) Shbhas Chandra Santra. His highly informative lecture on biotic effects in human bio-chemistry was appreciated by all. He also discussed how Arsenic in underground water moves along water pathway & eventually deposit in the aquifer or are washed away by runoff into surface water resulting in soil & water pollution.

Technical Session II



Studies on Arsenic problems in West Bengal by Prof. S C Santra

INTERACTIVE SESSION:

A good number of queries were raised by the students and faculties to eminent speakers. Many students showed their interest regarding project works on Arsenic.



Interactive Session

VALEDICTORY SESSION:

The valedictory speech was given by Dean (Research) Prof. Dr. A.K.Das.



Vote of Thanks by Prof. (Dr.) Amitava Das, Dean Research

OUTCOME OF THE SEMINAR :

The seminar has enhanced consciousness regarding arsenic poisoning which is the cause of concern for all of us. Satisfactory methodologies to combat its menace, as suggested by the eminent speakers will upgrade the knowledge of students and faculties which in turn will help the society as a whole.