GLOBAL INITIATIVE FOR ACADEMIC NETWORKS

Ministry of Human Resource Development
Government of India

सत्यमेव जयते

GLOBAL INITIATIVE FOR ACADEMIC NETWORKS

National Coordinating Institute
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

www.gian.iitkgp.ac.in

WATER IN THE LANDSCAPE

Overview

Becoming a professional in the field of water and land resources management requires understanding of the water cycle, water quality issues, interactions between land use and water, impacts of human activities on both water availability and quality and planning for sustainable water use in different landscapes. Many land and water use activities in both urban and rural landscapes in India result in hydrologic changes that have environmental, economic and social consequences. These activities require appropriate management strategies for sustainable water use in catchment. In this course, the hydrologic cycle will be explored at varying spatial scales in urban and rural contexts. Hydrologic, environmental, economic and social perspectives will be used in the examination of the demand and the sustainable use of water.

This course aims to present different land and water management concepts and theoretical underpinnings and provides opportunities to research a chosen, real-world topic that is important for water and land management and improving current situation. Upon successfully completing this summer course, the participants will be able to:

1. Synthesise and evaluate different concepts and approaches to sound water management in the context of urban and rural watersheds.
2. Analyze and evaluate the nature of demands for water in different landscapes and for different users and the difficulties in matching supply and demand.
3. Assess different sources of water and uses and analyze the issues related to rainwater harvesting, water conservation and recycling.
4. Describe how human activities affect the water quality and health of waterways; and differentiate the impacts of factors such as population pressure and climate change on the availability of water for different uses.
5. Research selected water issue through working on a mini project.
6. Use social, cultural, economic, policy and institutional perspectives to relate sustainable water supply with demand.

Modules	**A: Water Resources Status : Dec 05 – Dec 09** **B: Water Resources Sustainability : Dec 12 – Dec 16** **Number of participants for the course will be limited to fifty.**
Who Should Attend	• you are an agricultural/civil/environmental engineer or research scientist interested in water sustainability and assessment of water demand & supply at spatial and temporal scales. • you are a student or faculty from academic institution interested in learning present and future status of water in the landscape and anthropogenic impacts on water resources.

Fees

The participation fees for taking the course is as follows:

Participants from abroad :	**$ 500**
Industry/ Research Organizations:	**₹ 20000**
Academic Institutions:	**₹ 10000**
Bonafide students of Academic Institutions:	**₹ 1000 (to be refunded after completion of course)**

The above fee include all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, 24 hr free Internet facility. The participants will be provided with accommodation on payment basis.

The Faculty

Prof. Basant Maheshwari is currently Professor of Water, Environment and Sustainability Program, School of Science and Health, Western Sydney University, Australia. He has over 30 years professional experience in teaching, learning and researching related to surface and ground water management, irrigation, environmental management, regional water resources planning and sustainability. In addition to his professional experience of over 25 years in Australia, He has worked in India for several years and spent sabbatical in the USA, Japan and the Philippines. During the last ten years, his work has involved trans- disciplinary approach to water research and focussed on understanding how water, landscape and people interact and influence the environment and sustainability.

Dr. D.R. Mailapalli is an Assistant Professor of Land and Water Resources Engineering, Agricultural and Food Engineering Department, IIT Kharagpur. His research interests are in non-point source pollution, agricultural water and waste management, irrigation hydrology and hydraulics, sediment and nutrients transport, and nanomaterials in agriculture. He has worked with researchers from the U.S. universities and industries as well during his postdoctoral study. He has published more than 25 research articles and 12 conference papers, and volunteered as a reviewer for more than 20 research journals. He acquired $200,000 grant money through various research projects during his postdoctoral research at University of California- Davis and University of Wisconsin-Madison.

Dr. Ashok Mishra is an Associate Professor of Land & Water Resources Engineering at the Department of Agricultural and Food Engineering at IIT Kharagpur. His teaching and research areas comprise of hydrological modelling & watershed management, crop yield modeling, climate change analysis & its' applications in water and crop management. His research has focused mainly on water and crop resources assessment and developing climate change adaptation techniques to manage these two.

Course Co-ordinator

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http://www.gian.iitkgp.ac.in/

Registration Process

Registration for GIAN courses is not automatic because of the constraints on maximum number of participants allowed to register for a course. In order to register for one or multiple non-overlapping courses, you have to apply online using the following steps:

1. **Create login and password at www.cep.iitkgp.ac.in/gian**
2. **Login and complete the registration form.**
3. **Select courses**
4. **Confirm your application and payment information.**
5. **Pay ₹ 500 (non-refundable) through online payment gateway.**

The course coordinators of the selected courses will go through your application and confirm your selection as a participant one month before the starting date of the courses. Once you are selected you will be informed and requested to pay the full fees through online payment gateway service.