

BACKGROUND

In recent years, water resources development and management have assumed much importance owing to increasing demand for good quality water to meet the requirement of domestic, agricultural and industrial sectors. In order to address different problems in water resources management, improved methodologies based on conventional techniques and modern tools are being used. In this context, the role of remote sensing and computational techniques in water resources management programmes is well established and appreciated by water technologists and executives at the highest level. However, isotope based nuclear techniques which can be applied to investigations and developmental programmes of water are yet to gain due importance in hydrology and water resources developmental programmes. Isotope based techniques involving both stable and radioactive isotopes play a vital role in understanding the entire hydrological and hydro-geochemical processes that will help in addressing and solving problems related to management of natural resources like land and water.

The lack of information on isotope techniques applicable to water resource programmes among academicians, engineers, scientists and hydrologists is mainly due to minimal interaction between practicing hydrologists and isotope specialists, insufficient facilities for isotope analyses, lack of sufficient training for field hydrologists in the application of isotope techniques and absence of appropriate topics on isotope hydrology in course curriculum at college level. In order to fill this gap, proper orientation and training on Isotope Hydrology is necessary. In this background, a training programme on Isotope Hydrology is organised for the members of faculty drawn from leading academic institutions and also for the field engineers/geologists of user departments.

OBJECTIVES OF THE WORKSHOP

- To create an awareness among the participants and familiarise them with the emerging field of isotope hydrology.
- To provide an insight into the basic concepts and analytical methods for the use of isotope based techniques in hydrological and hydro-geological investigations.
- Enabling the academicians, researchers, engineers and hydrologists to identify possible field and laboratory applications of isotope techniques in their respective areas of activity.
- Appraising the participants on the status of isotope hydrology in the country and their future applications.

WORKSHOP TOPICS

The training programme includes lectures on basic concepts of isotopes, problems in surface and subsurface hydrology, stable and radioactive isotopes and their application in hydrology and practicals and field demonstrations related to field sampling, instrumentation and laboratory analytical methods- Isotope Ratio Mass Spectrometer (IRMS), Gas Chromatograph-Mass Spectrometer (GC-MS) and Ion Chromatograph (IC). The sessions will be handled by the experts from CWRDM and Karunya University, besides invited guest faculty drawn from Bhabha Atomic Research Centre, Mumbai, Physical Research Laboratory, Ahmedabad and National Geophysical Research Institute, Hyderabad and National Institute of Hydrology, Roorkee who are having expertise in the field of Isotope Hydrology. Three days of the course (09.12.2013-11-12.2013) and Valedictory session (14.12.2013) will be held at Karunya University and practical and demonstration session (12.12.2013-13.12.2013) will be held at CWRDM for two days.

SHORT TERM TRAINING WORKSHOP ON ISOTOPE HYDROLOGY

Karunya University, Coimbatore
09.12.2013 - 14.12.2013

REGISTRATION FORM

Name:

Designation:

Organization:

Mailing Address:

Tel.:

FAX:

Email:

Signature

ABOUT CWRDM, KOZHIKODE, KERALA

The Centre for Water Resources Development and Management (CWRDM) is one among the R&D institutions of Kerala State Council for Science Technology and Environment (KSCSTE) established by the Government of Kerala in 1978 under its Science and Technology Policy and is located at Kottamparamba, about 13km east of Calicut City. The Centre has excellent facilities for the studies on various aspects of surface and groundwater hydrology. It has well equipped laboratories and facilities for studies on application of stable and radioactive isotopes to hydrology related research. A well established library and Water Heritage Museum are also available in this Centre. This institute is also recognised as an approved Research Centre for Ph.D programme by leading Universities and National Institutes of Technology (NITs). The Centre has organized several seminars and workshops related to nuclear techniques and application of isotope techniques in collaboration with Department of Atomic Energy, Government of India, Central Board of Irrigation and Power, Government of India, Indian Association of Nuclear Chemists and Allied Sciences (IANCAS) of Bhabha Atomic Research Centre, Mumbai and Institutional Atomic Energy Agency.

ABOUT WATER INSTITUTE OF KARUNYA UNIVERSITY

Karunya University established as an Engineering College in 1986 transformed into an Autonomous institution in 2000 and a Deemed University in 2004 (under UGC Act 1956). There are around 8000 students pursuing their B.Tech, M.Tech, MBA, MCA, MSc, MA and PhD programmes in 9 Schools and 23 Departments of the University.

The Water Institute - a Centre of Excellence of Karunya University came into existence in August 2008. The Institute offers a unique postgraduate course in Integrated Water Resources Management (IWRM) for graduates in engineering and postgraduates in physical

sciences. There are 15 scholars pursuing Ph.D. programme of the Institute in the areas of hydrology, hydrogeology, mathematical modeling, water treatment, water resources engineering, coastal dynamics, climate change, aquatic ecosystems, isotope hydrology and sustainable water resources management. The Water Institute in collaboration with the School of Civil Engineering is involved in R&D projects funded by Ministry of Environment and Forests (MoEF) and Department of Science and Technology (DST), GoI, in the areas of wetland management, application of isotopes in groundwater recharge studies, textile wastewater treatment and nanoparticle transport studies.

REGISTRATION

Scientists, faculty members from leading academic institutions, officials from Government/ public sector organizations who are directly involved in the field of water resources development and management programmes are encouraged to apply. The minimum qualification for the participants is post-graduation in science/ engineering and involvement in teaching/ research in water related programmes. Free lodging and boarding will be provided to the selected participants. Limited number of participants will be provided with III AC to and fro railway fare. The maximum number of participants is limited to 20. Last date for submission of registration is 20.11.2013.

IMPORTANT DATES

For receiving applications : 20/11/13

Intimation to Participants : 25/11/13

The Registration form may be sent to:

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SHORT TERM TRAINING WORKSHOP ON ISOTOPE HYDROLOGY

(09.12.2013 - 14.12.2013)

Organized by



**Karunya University
Coimbatore, Tamil
Nadu**



**CWRDM
Kozhikode, Kerala**

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**Department of Science and Technology
SERB, Govt. of India**