



INTERNATIONAL WORKSHOP

'INNOVATIONS IN SUSTAINABLE WATER RESOURCE MANAGEMENT'

CT University, Ferozepur Road, Ludhiana – 142 024, India

Sponsored by:

India-Canada Centre for Innovative Multidisciplinary Partnerships to Accelerate Community Transformation and Sustainability (IC-IMPACTS)

Department of Bioresource Engineering, Macdonald Campus of McGill University, Montreal, Canada

Rationale and Background of the Workshop

Freshwater is a valuable resource that constitutes only a small fraction (less than 1%) of the total water present on earth, if we neglect the ice caps, glaciers and permanent snow. Availability of freshwater resources plays a pivotal role in development of human civilization and would also continue to do so in the future. According to United Nations, the current world human population is 7.3 billion and it is estimated to rise to 9.7 billion by the year 2050. This increase in population would cause increase in global food demand leading to increased use of agricultural resources for food production. Agriculture is the largest consumer of freshwater as about 70% of the total available freshwater is withdrawn for agricultural purposes. It is estimated that by the year 2025, two-thirds of the world's population may face water stress and more than a billion people would face absolute water scarcity. Even today, about 80 countries in the world are experiencing water shortages and about 2 billion people do not have access to clean water.

Since agriculture is the largest freshwater consumer, we need to look into alternate sources and technologies for maximizing our water use efficiency (WUE), especially when the underground water table is depleting fast. In addition, scarcity of water also necessitates the use of urban water, following appropriate treatments.

For example, using untreated wastewater for irrigation would help us conserve water resources in a cost-effective way. However, wastewater may contain contaminants such as steroidal sex hormones and heavy metals which could be detrimental to plant, human and environmental health. Similarly, use of water management technologies such as drip irrigation, soil-less farming, hydroponic systems, hydrogel incorporation, etc. could also help us use our water resources efficiently. However, there will be challenges along the way which needs to be addressed.

Broader Objectives

The aim of this workshop is to bring together people from the scientific community (research and academia) along with IC-IMPACTS HQPs to discuss recent developments in technologies leading to efficient use of water resources as well as ideas for sustainable water utilization. Distinguished speakers and experts from Indian, Canadian and American research institutes will also speak on innovations in water resource management and associated challenges. Participating students and engineers/scientists will also benefit from interaction with water resource experts. This event would also present networking, research as well as entrepreneurial opportunities to the participants.

IC-IMPACTS and HQP-Network

The theme of the conference is “**Innovations in Sustainable Water Management**”, which is in line with one of the three pillars of IC-IMPACTS – ‘water’. Researchers, engineers, scientists and water management experts would come together and discuss the water challenges/issues being faced and how we can come together to tackle these issues in a sustainable fashion.

One of the traditional ways by which researchers try to communicate their findings is scientific print media. However, journal papers, technical reports and other scientific articles are often of interest to fellow researchers working on similar areas and may not reach or attract people from other relevant areas. One of the ways researchers can better interact among themselves as well as people from other disciplines and from industry is through conferences and workshops such as this one. Talking about problems being faced and possible sustainable solutions, face-to-face with a diverse audience can have a great and everlasting impact on people. Meeting diverse group of people with similar goals in mind can also lead to worthwhile collaborations, which may further lead to more research opportunities. This workshop may also lead to new international collaborations between Canada and India which is also one of the agenda of IC-IMPACTS.

Developing HQP Network

The Workshop will be an occasion to collect data provided by the participants such as CV, research area, research interests, etc. via the registration forms. It would enable us to identify potential HQPs which could be enrolled with IC-IMPACTS. Growing our HQP network would enable us to identify and work upon new research collaboration opportunities as well as generate innovative ideas to work on water challenges directly affecting societies and come up with sustainable solutions.

The workshop would prove to be a successful platform, enabling researchers to interact and develop network on an international level.

Participants

The Workshop is open to all those interested in water conservation, enhancing water use efficiency, for example researchers, engineers, scientists, water management experts, development workers, and students from agricultural institutes/universities, state departments concerned with water management, farmers associations, , NGOs, etc.

Registration of participants:

- Registration is free for selected participants upto June 25, 2018 for those who register via Google forms (<https://goo.gl/forms/9wXk1bpDxhShphyB2>)
- Others can register on the Registration Counter at the Venue of the Workshop by paying the Registration Fee of INR 500/- per participant

Deliberations and Presentation: July 2, 2018

Date of submission of full paper: August 31, 2018

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About Ludhiana

Ludhiana is located at 30.9° N latitude and 75.85°E longitude, with an elevation of 244 meters. The city is located on the National Highway No.1 (Sher Shah Suri Marg) from Delhi to Amritsar. It is spread over about 310 km². Ludhiana is well connected by rail to the major cities Delhi, Mumbai and Kolkata. Ludhiana is connected by air with Delhi. The city stands on the Sutlej's old bank. Its population (2001 Census) is 30.3 Lakh including migrant population of about 10 lacs. The City is referred to as the 'Manchester of India' and the industries manufacturing cycles and its parts, woollens, machine tools, sewing-machines, generators, diesel-engines, tyres-and-tubes and a range of other utility and consumer goods dot the city map. The industrial products and hosiery items manufactured in Ludhiana are not only consumed within India but are also exported. In the field of education, Ludhiana holds a creditable place. Punjab Agricultural University (PAU), Guru Angad Dev Veterinary and Animal Science University (GADVASU), Guru Nanak Dev Engineering College (GNDEC), CT University (CTU), University Institute of Law. Panjab University Extension Library are some of the premier educational & research institutes situated here, in addition to a number of Arts Colleges for men and women and primary and secondary schools imparting quality education. The city has some of the region's best medical institutions like the Christian Medical College (CMC&H), Dayanand Medical College & Hospital (DMC&H), Mohan Dei Oswal Cancer Hospital. Hero Heart Centre and Apollo Hospital. Ludhiana has two Homeopathic Medical Colleges, Lord Mahavira Homeopathic Medical College & Hospital (HMC &H) and Sri Guru Nanak Dev Homeopathic Medical College & Hospital (HMC & H). Ludhiana is home to the Punjabi Sahitya Academy and Guru Nanak Dev Bhawan. Many cultural Societies and organizations are active in the promotion of Punjabi language, culture and heritage.



IC-IMPACTS HQP NETWORK