



*Indo-UK Scoping Workshop
On
Development of Rural Biorefineries
in India: From Waste to Wealth*

Organized by

**Green Chemistry Centre of Excellence,
University of York**

**Green Chemistry Network Centre,
University of Delhi**

The Energy and Resources Institute

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Venue:

*Guest House,
University of Delhi
20th February 2017*



Introduction

In December 2015, Delhi was named as the ‘most polluted city in world’ surpassing Beijing. Of the many causes of its pollution: 8 million cars; small-scale diesel electricity generators and; surrounding coal plants, the uncontrolled burning of agricultural residues post-harvest in the Punjab (North India) is often cited as a significant factor as the particulate matter (smog) is transported south due to prevailing winds. Pollution in Delhi is so extreme that it may have damaged the lung function of half the city’s 4.4 million children so severely that they will never fully recover.

Green Chemistry is the design of (bio)chemical processes and products in a way that minimizes hazard to both humans and the environment. In a world of rapidly depleting resources, the challenge to work with renewable, sustainable material and energy sources is increasingly global. While the UK has strong research drives towards safe sustainable resource use, these efforts will have little global impact if these aspirations are not shared by DAC-listed countries such as India.

Biomass, being abundant and economic, is considered as a greener, sustainable and potential alternative source of energy which can be directly converted to liquid & gaseous fuels. Agricultural and forest residues, which are among the major bio-resources, have tremendous potential for biofuel production. This offers a solution to waste management by converting waste into usable form of energy.

Waste from rural areas can prove to be a great resource if treated and managed well. In order to contribute to emerging need for novel and effective biomass conversion technologies and also to make students aware of the most recent trends and future prospects, we cordially invites you to participate in International workshop on “**Development of Rural Biorefineries in India: From Waste to Wealth**” to be held on **20th February 2017**.

Chairman

Dr. Avtar Matharu
Acting Director,
Green Chemistry Centre of
Excellence,
University of York,
Heslington, York, UK

Conveners

Prof. R. K. Sharma
Honorary Secretary,
Royal Society of Chemistry London
North India Section
Co-ordinator,
Green Chemistry Network Centre,
Department of Chemistry,
University of Delhi
Email: rksharmagreenchem@hotmail.com

Dr. Sanjukta Subudhi
Fellow
&
Area Convener,
The Energy and Resources
Institute

About the Chairman

Dr. Avtar Singh Matharu is Acting Director of the Green Chemistry Centre of Excellence (GCCE) at University of York, UK. The GCCE is an internationally-leading academic facility for the provision of excellence in green and sustainable chemical technologies, processes and products. He is External Examiner at Keele University for Environmental Science & Green Technologies and Editor for Current Opinion in Green and Sustainable Chemistry (Elsevier). Dr. Matharu specialises in gaining high additional chemical value from otherwise low-value resources or waste such as unavoidable food supply chain wastes, developing sustainable supply chains and circular economy within the context of biorefineries. He is technology platform leader for Renewable Materials working on range of biomass related materials and applications.

About GCNC

Green Chemistry Network Centre (GCNC) was established in the Department of Chemistry, University of Delhi under the recommendation of World Leaders in Green Chemistry headed by Professor Paul Anastas (known as the father of Green Chemistry) with the following aims and objectives:

- Build a Network for exchange of expertise, discussion and knowledge between industrialists and academics and between chemists and engineers with interests and expertise relevant to Green Chemistry.
- Prepare and disseminate the teaching materials on Green Chemistry for school, college and university levels, with the simultaneous design of laboratory experiments for these levels as well.
- Design trainings not just to expose the chemists to the concepts, principles and methodologies of Green Chemistry but also to empower them to bring this new knowledge back to their institution or industries.
- Promoting research by taking up Green Chemistry Research Projects from Industry and Government agencies.

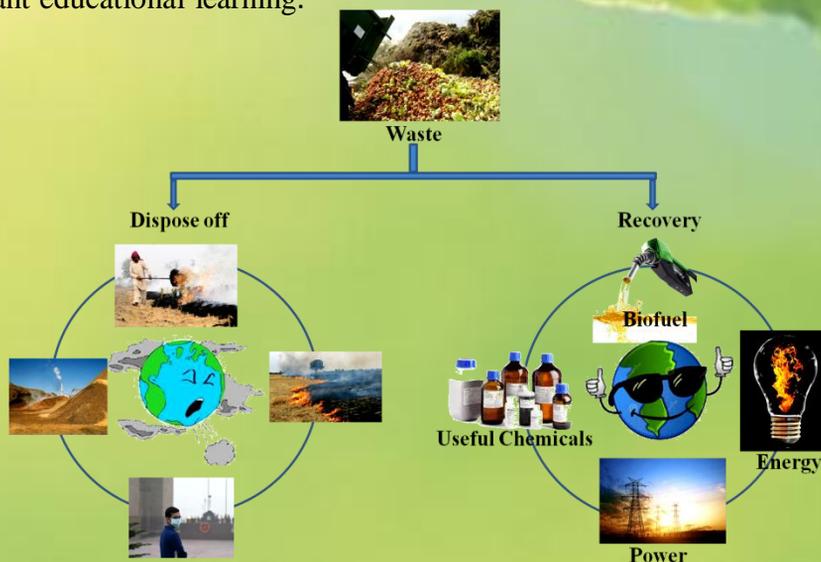
About the Event

Biorefineries can help in utilizing the optimum energy potential of organic wastes and may also resolve the problems of waste management and green house gas emissions. Wastes can be converted, through appropriate enzymatic/chemical treatment, into either gaseous or liquid fuels. But, the concept of biorefinery is still in early stages at most places in the world. Therefore, there is an urgent need to find out the solutions of complexities faced during the conversion.

Aims and Objectives:

This workshop aims to connect biotechnological and green chemical approaches in Delhi that utilize agricultural and industrial wastes generated in North India to deliver high value chemicals, materials and bioenergy with the following outcomes:

- Create new economic wealth for poorly utilized resources;
- Create new jobs and supply chains;
- Promote better environment and health for local and surrounding populations through reduced burning of agricultural wastes, and;
- Deliver important educational learning.



Green Chemistry in Action

Chemistry has consistently improved our quality of life. But unfortunately, this achievement has come at a price of our global environment and collective human health. Today, the researchers and industries have become aware of the damaging effects of some past practices and the need to protect the environment. Thus, the focus is on finding an approach to synthesize chemical products via less harmful methodologies in order to reduce or eliminate chemical hazards. One of the alternative means could be “Green Chemistry”.

In this regard, we have also included a session ‘**Green Chemistry in Action**’ in this workshop. The motive of this session will be to introduce a platform for discussing environmental issues and teaching modern and green reaction practices. On the above mentioned grounds, even the University of Delhi has introduced a skill enhancement course entitled “Green Methods in Chemistry” to educate the future scientists about how to design for sustainability through green experiments. This implementation and practice of green chemistry principles in laboratory will not only strengthen the concern of students in chemistry, but also persuade them to take an active part in shaping the future of chemistry.

Oral presentation

This one day workshop will be accompanied by oral presentations. The time limit for oral presentation will be **10 minutes**. The best presentation will be selected by a three-member panel of judges, and the selected presenters will be awarded. Interested candidates may submit their abstracts through email to gcnc.chem.du@gmail.com.

Poster presentation

This one day workshop will also have poster presentation session. The standard poster dimensions are **48X36**. The best posters will be selected by a three-member panel of judges, and the selected presenters will be awarded. Interested candidates may submit their abstracts through email to gcnc.chem.du@gmail.com.

Deadlines

Submission of abstract (oral and poster) may be made from **1st February 2017** onwards till **15th February 2017**.

Registration

Participation by Invitation only.

Registration form and Abstract submission form will be available on workshop official website (<http://greenchem.du.ac.in>) for download.

For further assistance please contact Prof. R. K. Sharma at rksharmagreenchem@hotmail.com.

We look forward to your participation in Indo-UK Scoping Workshop on Development of Rural Biorefineries in India: From Waste to Wealth, which will be an exciting and informative event.