

## About CSIR

The Council of Scientific & Industrial Research (CSIR), known for its cutting edge R&D knowledgebase in diverse S&T areas, is a contemporary R&D organization. Having pan-India presence, CSIR has a dynamic network of 38 national laboratories, 39 outreach centres, 3 Innovation Complexes and 5 units. CSIR's R&D expertise and experience is embodied in about 4600 active scientists supported by about 8000 scientific and technical personnel.

## About CSIR – IIP Dehradun

CSIR-Indian Institute of Petroleum (CSIR-IIP) is one of the leading constituent laboratories of the Council of Scientific & Industrial Research (CSIR). Established in 1960, the Institute is devoted to multidisciplinary areas of research and development in the downstream sector of hydrocarbon and related industry.

The Institute undertakes R&D work in areas of petroleum refining, natural gas, renewable and alternative fuels, biomass conversion, petrochemicals utilization of petroleum products in IC engines and in industrial and domestic combustion. Institute also provides technical and analytical services to petroleum refining and related industry including technology transfer for developing novel, state-of-art technologies and products.

The institute maintains its leading position in conducting training programme for technical personnel from refining industry, petrochemical plants, automotive sector, power plants and other related user industries. CSIR-IIP is committed to provide globally competitive technologies and services for hydrocarbon and related industries. This is achieved through total quality management and by anticipating and exceeding the expectations of customers through innovation, team work and commitment.

For more details about CSIR – IIP, Please visit [www.iip.res.in](http://www.iip.res.in)



## About CSIR - CBRI Roorkee

The Central Building Research Institute, Roorkee, India, has been vested with the responsibility of generating, cultivating and promoting building science and technology in the service of the country.

Since its inception in 1947, the Institute has been assisting the building construction and building material industries in finding timely, appropriate and economical solutions to the problems of building materials, health monitoring and rehabilitation of structures, disaster mitigation, fire safety, Energy efficient rural and urban housing. The Institute is committed to serve the people through R&D in the development process and maintains linkages at international and national level.

## Dates to Remember

- ◆ Abstracts Submission : **August 15, 2016 – November 15, 2016**
- ◆ Intimation of Acceptance of Abstracts : **November 30, 2016**
- ◆ Deadline for Early Bird Registration : **December 30, 2016**
- ◆ Conference Begins: **March 8, 2017**

**Registration & Abstract Submission  
through online Portal  
[www.3rincsiindia.org](http://www.3rincsiindia.org)**

## Venue Details

India Habitat Center is located in New Delhi, is smartest conference and banquet venue with an unmatched inventory of over 20 venues for 10 to 1500 people.

The largest & most comprehensive convention centre in the country it offers several halls with varied capacities and state-of-the-art multimedia and audio-visual equipment, Over 20 concurrent sessions possible, well-equipped secretariat and documentation centre, cultural and entertainment events daily.

For more details about Symposium Venue,  
Please visit [www.indiahabitat.org](http://www.indiahabitat.org)

## For further details contact

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**Patron - 4th 3RINCS**  
**Dr. Y B Ramakrishna**  
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Ministry of Petroleum & Natural Gas, New Delhi,

### Co-Chairmen

- Prof. A. K. Agarwal
- Dr. Alok Dhawan
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- Prof. S. K. Ghosh
- Prof. S. N. Naik
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**3RINCS International Secretariat**  
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August 1, 2016



**4th 3R International Scientific Conference  
on Material Cycles and Waste Management**

**8 - 10<sup>th</sup> March, 2017**  
**[www.3rincsiindia.org](http://www.3rincsiindia.org)**

**Venue: India Habitat Center  
New Delhi, India**

## Organised by:



Council of Scientific and Industrial Research (CSIR), New Delhi, India



CSIR-Indian Institute of Petroleum, Dehradun, India



Central Building Research Institute, Roorkee, India



International Society of Waste Management, Air and Water



Japan Society of Material Cycles and Waste Management



Korea Society of Waste Management



## 4<sup>th</sup> 3RINCs

4th 3R International Scientific Conference on Material Cycles and Waste Management (4th 3RINCs) is an annual International conference to promote the scientific waste management and spread the concept of 3R (Reduce, Reuse and Recycle) principles in our societies. It aims at bringing together academicians, scientists, engineers, entrepreneurs, govt. organizations, municipalities and other industrial organizations from all over the world to brainstorm on the recent developments in the fields of waste management and valorization of waste streams in an environment friendly manner.

The earlier 3RINCs events were organized in Japan (1st 3RINCs in 2014), Korea (2nd 3RINCs in 2015), and recently in Vietnam (3rd 3RINCs in 2016).

India, a developing nation, faces an ever increasing demand for scientific and technological solutions for the waste generated and to establish a sound material cycle society. It also aims to preserve resources and control the hazardous substances into the environment. With this background, the 4th 3R International Scientific Conference on Material Cycles and Waste Management (4th 3RINCs) will be held at India Habitat Centre, New Delhi, India from March 8–10, 2017.

The international event has been conceptualized with the objective of providing common platform for sharing the latest developments and exchange of ideas from both scientific and technological points of view. While increasing attention is being given to climate change mitigation measures to arrest global warming, the combined effects of industrialization, urbanization, and mass consumption have also led to an increase in the amount of waste generated, which thus create local issues such as insufficient or incomplete collection of waste, dumping of waste into rivers and water bodies, illegal burning of waste, insufficient recovery and reuse of waste, and emergence of the informal recycling sector. Due to lack of sound 3R policies, programs, and infrastructure at the local and national levels is jeopardizing the Millennium Development Goals (MDGs). The current scenario of the different processes for the valorisation of waste streams by their transformation into energy, electricity, raw materials, fuels (solid, liquid and gaseous), using thermal, thermo-catalytic, chemical and biochemical etc methods will be discussed. At the same time, operational method, education, economic system, cooperative behavior is important research target for new topics including resource efficiency, food loss etc. The methods are expected to be highly energy efficient and eco-friendly while providing an attractive profit ability that may allow the modern societies to successfully manage the huge and increasing amounts of waste mainly solid waste that is generated.

## History and Footprints of 3RINCs

**1<sup>st</sup> 3RINCs 2014, Japan**  
Kyoto University (Clock Tower Centennial Hall), Kyoto, Japan, 10th–12th March 2014.

**2<sup>nd</sup> 3RINCs 2015, Republic of Korea**  
Daejeon Convention Center, Republic of Korea, 21st to 23rd May, 2015.

**3<sup>rd</sup> 3RINCs 2016, Hanoi, Vietnam**  
Melia Hotel, Hanoi, Vietnam, 9th–11th March 2016.

## Invitation

On behalf of the Director, CSIR–Indian Institute of Petroleum & Chairman of the 4th 3R International Scientific Conference on Material Cycle and waste Management, we take pleasure in inviting you to the 4th 3RINCs to be held at India Habitat Centre, New Delhi, India during March 8–10, 2017

The conference aims to cater the needs of various categories of people working in the area of scientific and technology developers in Reduce, Reuse and Recycle concept (3R) for sustainable solid waste management. The various obstacles being faced by the researchers from laboratory to pilot scale studies, and the hindrances in the commercial level technologies would be discussed under the same roof in the presence of both the players.

We once again extend a warm welcome and invite you to participate in the 4th 3RINCs. We hope you would benefit in all possible ways by attending this event in a country with a rich cultural-heritage.

## Scope of the Symposium

The 4th 3R International scientific conference on material cycles and waste management encompasses all topics related to sustainable solid waste management and valorization of various streams.

The scientific program will consist of plenary, invited lectures, oral/poster presentations.

- 3R (Reduce, Reuse, and Recycling) challenges
- Waste and recycling resource statistics and data collection and processing
- Initiatives towards minimization of hazardous waste generation
- Steps towards mitigation of hazardous waste
- Eco friendly processes and products
- Municipal solid waste characterization and management
- Waste Biomass utilization
- E-waste recycling and management
- Hazardous waste treatment and management
- E LV (end-of-life vehicle) recycling and management
- Construction and demolition waste
- Valorization of waste for various applications including energy production
- Energy efficiency and management related to waste management
- Thermo-chemical, biochemical and mechanical treatment of waste streams
- Novel catalysts/materials for value addition of waste streams
- Industrial waste characterization and management
- Disaster waste and marine debris management
- Hazardous and asbestos waste management
- Radioactively contaminated waste and low-level radioactive waste
- Waste landfill and disposal
- Greenhouse gas control related to waste management
- Novel analytical methods developments of waste streams
- Policy, institutions, and financial measures focusing on waste management and 3R
- Sustainability – LCA studies, system analysis, substance flow analysis and others
- Going global- challenges and opportunities for waste management and 3R

## Symposium Agenda

Symposium will have plenary and invited talks from eminent experts on theme subjects of 4<sup>th</sup> 3RINCs 2017. Contributory papers would be reviewed by the committee and selected papers will be presented in oral/poster sessions. Official language of the symposium will be English.

## About Delhi

New Delhi, the capital of India is famous for its culture, tradition and effervescent history. The city's importance lies not just in its past glory as the seat of empires and magnificent monuments, but also in the rich and diverse cultures.

Delhi, located on the banks of river Yamuna, which bridges twodiferent worlds. Old Delhi is a labyrinth of narrow lanes lined with crumbling havelis and formidable mosques. In contrast, the imperial city of the New Delhi is composed of spacious, tree-lined avenues and imposing government buildings. A blend of historicpast and vibrant present, typifies the soul of the country. Legend has its, Indraprastha as was known earlier founded by the Pandavas around 1200 BC. Mighty empires arose and fell here several times. Today, the city is a curious blend of modern and traditional sky scrappers, beautiful gardens, mughal passion of landscaping and architectural excellence. There are open air cafes, yoga ashrams & sophisticated hotels. A walled city built by the Mughals, glittering shops, roadside wanderers and a world of culture and tradition to be explored.

There are several tourist attractions in the city without which Delhi is not complete. From Red fort, Lotus Temple, Akshardham Temple, India Gate, Qutub Minar, and many more, Delhi boasts of an infinite range of tourist places.

Weather of Delhi during the symposium (March) will be pleasant. The Temperature will be in range of 25 °C to 35 °C.

