

National Conference  
On  
Recent Trends & Challenges in  
**GREEN CHEMISTRY, POLLUTION CONTROL AND  
CLIMATE CHANGE [GPCC-2023]**

14<sup>th</sup> – 16<sup>th</sup> December 2023

Venue: CSIR – National Botanical Research Institute, Lucknow



Jointly Organized by



National Environmental  
Science Academy (NESA)  
New Delhi

CSIR  
National Botanical Research Institute  
Lucknow



## About the Conference

In recent years, there has been growing concern about the impact of human activities on the environment. This has led to increase attention towards green chemistry, pollution control, and climate change. These interconnected areas play a crucial role in promoting sustainable practices and mitigating the adverse effects of pollution and climate change. Green chemistry has gained momentum as a key approach to reduce the environmental impact of chemical processes and products. Recent trends include the development of innovative and eco-friendly technologies, such as biomaterials, renewable energy sources, and efficient waste management systems. Pollution control has witnessed advancements in monitoring and control technologies. Real-time monitoring systems, remote sensing, and data analytics are being employed to detect pollution sources and assess air, water, and soil quality. Furthermore, pollution control measures play a vital role in mitigating the adverse effects of industrial activities on air, water, and soil quality. To combat pollution effectively, it is crucial to establish stringent regulatory frameworks and adopt advanced technologies that minimize emissions and optimize waste management practices. Ongoing research and development (R&D) in this domain are of utmost importance to ensure the preservation of our ecosystems and protect human health. Pollution control faces various challenges, including quantification, mitigation and regulatory guidelines, especially for emerging pollutants, such as microplastics and personal care products and antibiotics. Climate change mitigation efforts have seen an increased focus on renewable energy sources, such as solar and wind power. The development of energy-efficient technologies, carbon capture and storage, and sustainable transportation systems are key trends in combating climate change. Moreover, international collaborations and agreements, such as the CBD-Conventions of Parties (COPs) have brought nations together to address climate change collectively. However, one of the challenges is the adoption of green technologies across industries. Encouraging companies to invest in R&D of sustainable alternatives and overcoming economic barriers remains a challenge. In the present scenario, there is a need to develop climate- smart plants and climate-resilient agricultural practices. The translation of appropriate R&D leads into large-scale industrial applications remains a formidable challenge that necessitates innovative strategies for successful implementation, cost-effectiveness, and widespread adoption. The conference aims to enhance the global awareness on environmental issues and highlights the need for widespread adoption of sustainable practices. Further, it will serve as a platform to delve into the pivotal and interconnected themes of green chemistry, pollution control, and climate change. Financial and political barriers, as well as resistance to change are the limiting factors in achieving the goal of circular economy. However, challenges persist, and concerted efforts are required to overcome them. The promotion of green technologies, continuous R&D on pollution remediation and a collective global commitment to combating climate change are vital for a sustainable future. By addressing these challenges, we can foster a cleaner, healthier, and more sustainable planet for generations to come. Esteemed delegates, participants and stakeholders will convene to explore the latest trends and challenges in the themes of the conference. The conference seeks to foster interdisciplinary collaborations and inspire transformative solutions, bridging the gap between academia, policy development, and industry implementation.

## Objectives of the Conference – GPCC-2023

This conference focuses on technological advancement to curb environmental pollution and climate change. It explores opportunities to develop green technologies for sustainable development.

## Thematic Areas of the Conference - GPCC-2023

Abstracts can be submitted under the following sub-themes

### 1. Pollution and its Mitigation

- Air Pollution and Mitigation
- Water Pollution and Mitigation
- Soil Pollution and Mitigation
- Wastewater Utilization
- Waste Management

### 2. Climate Change

- Climate Change Mitigation
- Climate Smart Agriculture
- Renewable Energy
- Application of Remote Sensing and GIS

## About the Organizers

### CSIR – NATIONAL BOTANICAL RESEARCH INSTITUTE (NBRI), LUCKNOW

The CSIR-National Botanical Research Institute (NBRI) – is amongst one of the constituent research institutes of the Council of Scientific and Industrial Research (CSIR), New Delhi. Originally set up as the National Botanic Gardens (NBG) by the State Government of Uttar Pradesh (U.P.), it was taken over by the CSIR in 1953. Though, initially engaged in research in the classical botanical disciplines, the NBG went on laying an increasing emphasis, in keeping with the national needs and priorities in the field of plant sciences, on its applied and developmental research activities. Consequently, the NBG was renamed as the NBRI. The National Botanical Research Institute in 1978 after its induction in CSIR. The vision of CSIR-NBRI is to be a world-class premier plant science research institute focusing on high quality science, and sustainable utilization of plant and microbial resources of the country for ecological, economic and societal benefits. The mission of the institute is undertaking basic and applied research on various aspects of plant sciences with a focus on sustainable utilization of under-exploited and wild plant genetic resources for environmental and socio-economic development of the country. The overall goal of the institute is providing plant science-based technological solutions to the existing and emerging problems of the nation through high-end science and technology for making India self-reliant.

### Core Strengths

- ✓ Plant Diversity, Systematics & Databases
- ✓ Bioprospection and Product Development
- ✓ Botanic Garden, Plant Conservation, and Development of New Varieties of Floricultural Plants
- ✓ Microbes For Enhanced Plant Productivity
- ✓ Pollution Remediation Through Plants and Microbes
- ✓ Climate Change Adaptation and Carbon Sequestration
- ✓ Plant Improvement Through Conventional and Molecular Breeding, and Genetic Engineering
- ✓ Agro-Technologies for Sustainable Development of Sodic and Shifting Cultivation Lands
- ✓ Societal Development Activities Through Outreach Programmes

## **National Environmental Science Academy (NESA), New Delhi**

National Environmental Science Academy (NESA) was founded by the Late Prof. TRC Sinha, the then Head of the Zoology Department, MJK PG College, Bihar University to create awareness, promote and protect the environment. Conceptualized and initiated in 1984, it was registered as a Society in 1988 under the Societies Act XXI of 1860 at Patna.

This Academy is of National level, presently having its Head Office at 206, Raj Tower-1, Alaknanda Community Centre, New Delhi. The main objective of the Academy is to bring awareness about environmental issues among the masses and strive to find sustainable solutions by arranging lectures, demonstrations, training programmes, seminars, symposiums, conferences, publishing journals and organizing any other activities supporting the cause.

### **Objectives and Functions of the Academy**

- To implement the SDDGs in India by encouraging students, scientists, researchers, academicians and members of the academy for pursuing research on sustainable development.
- To set up Regional/State Chapters for the dissemination of information on the environment.
- To motivate and prepare young minds on environmental management.
- To organize national/international level conferences, symposia, seminars, meetings and workshops on themes of environmental concerns.
- To publish policy papers, synthesis volumes, proceedings, journals, newsletters, transactions and other publications for the promotion of Environmental Sciences.
- To forward the recommendation of scientists /professors to govt. agencies.

Various eminent personalities have graced the Academy as President. The first President of the Academy was Dr. K.C. Bose, Vice-Chancellor of Ranchi University; then Dr. B.S. Attri, Advisor, Ministry of Environment and Forest. Most recently Padma Bhushan Dr. S.Z. Qasim was the President of the Academy till June 2015, who is a renowned marine scientist known for his Antarctica mission in 1981-82, he also served as the Secretary at the Dept. Of Ocean Development (now Ministry of Earth Sciences); Member, Planning Commission and Vice-Chancellor, Jamia Millia Islamia, New Delhi. Currently, Prof. Javed Ahmad, (Former Dean, Faculty of Science), Jamia Hamdard, New Delhi, is the President of the Academy.

### **NESA Annual Award 2023**

The Academy recognizes the merit and achievements of individuals who have contributed to the field of environmental science, education and societal values by conferring **(1) NESA FELLOWSHIP AWARD (2) NESA EMINENT SCIENTIST AWARD (3) NESA INDIGENOUS TECHNICAL KNOWLEDGE (ITK) AGRICULTURE AWARD (4) NESA INTERNATIONAL SCIENTIST AWARD (5) NESA SCIENTIST OF THE YEAR AWARD (6) NESA ENVIRONMENTALIST AWARD (7) NESA GREEN TECHNOLOGY INNOVATIVE AWARD (8) NESA DISTINGUISHED SCIENTIST AWARD (9) WOMEN EXCELLENCE AWARD (10) NESA YOUNG SCIENTIST AWARD (11) NESA JUNIOR SCIENTIST AWARD.**

Any life member of the Academy can apply for the awards. For more information please, log on to our **website: <http://nesa-india.org/award-form-submission/>**

### **CONFERENCE AWARD**

The Organizing Committee will confer the following awards during the conference – GPCC-2023:

1. **Best Oral Presentation Award**
2. **Best Poster Presentation Award**

## COMMITTEES – GPCC – 2023

### PATRONS

- i. Dr. Ajit Kumar Shasany, Director, CSIR-NBRI
- ii. Prof. Javed Ahmad, President, NESAs

### SCIENTIFIC ADVISORY COMMITTEE

- i. Prof. (Retd.) N.H. Ravindranath, Centre for Sustainable Technologies, Indian Institute of Science, Bangalore
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- xii. Dr. Ram Sewak Singh Tomar, Treasurer, NESAs & Asstt. Registrar, RLB-CAU, Jhansi
- xiii. Mr R K Sinha Executive Secretary NESAs New Delhi

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- x. Dr. B.N. Singh, Principal Scientist, Pharmacognosy and Pharmacology, CSIR-NBRI, Lucknow
- xi. Dr. Smriti Tripathi, IEDS, Bundelkhand University, Jhansi

### PROGRAMME FACILITATION COMMITTEE

- i. Dr. Sharad Kumar Srivastava, Chief Scientist, Pharmacognosy and Pharmacology, CSIR-NBRI, Lucknow
- ii. Dr. Puneet Singh Chauhan, Senior Principal Scientist, Plant Microbe-Interactions, CSIR-NBRI, Lucknow
- iii. Dr. Soumit K. Behera, Senior Principal Scientist, Plant Ecology, CSIR-NBRI, Lucknow
- iv. Dr. Sandeep Kumar Behera, Senior Scientist, Plant Diversity, Systematics & Herbarium, CSIR-NBRI, Lucknow
- v. Dr. Manish Bhojar, Senior Scientist, CSIR-NBRI, Lucknow
- vi. Dr. Gaurav K. Mishra, Senior Scientist, Plant Diversity, Systematics & Herbarium, CSIR-NBRI, Lucknow

### EVENT EXECUTION COMMITTEE

- i. Dr. Praveen C. Verma, Senior Principal Scientist, Plant Molecular Biology, CSIR-NBRI, Lucknow
- ii. Dr. Suchi Srivastava, Principal Scientist, Plant Microbe-Interactions, CSIR-NBRI, Lucknow
- iii. Dr. Poonam C. Singh, Principal Scientist, Plant Microbe-Interactions, CSIR-NBRI, Lucknow
- iv. Dr. Sumit Kumar Bag, Principal Scientist, Plant Molecular Biology, CSIR-NBRI, Lucknow
- v. Dr. Ajit Pratap Singh, Principal Scientist, Plant Diversity, Systematics & Herbarium, CSIR-NBRI, Lucknow
- vi. Dr. Anju Patel, Scientist, Environmental Technologies, CSIR-NBRI, Lucknow
- vii. Dr. Richa Rai, Senior Scientist, Plant Ecology and Climate Change, CSIR-NBRI, Lucknow
- viii. Dr. Aditi Gupta, Senior Scientist, Plant Molecular Biology, CSIR-NBRI, Lucknow
- ix. Dr. Sachitra Ratha, Principal Scientist, Plant Diversity, Systematics & Herbarium, CSIR-NBRI, Lucknow
- x. Dr. K.M. Prabhukumar, Senior Scientist, Plant Diversity, Systematics & Herbarium, CSIR-NBRI, Lucknow
- xi. Prof. Dinesh Rangappa, JS-NESA & Visvesvaraya Technological University, Karnataka
- xii. Dr. Syed Shabih Hassan, JS-NESA & College of Fisheries, GAD-VASU, Punjab
- xiii. Dr. Prabhakar Ranjan, JS-NESA

## CALL FOR ABSTRACTS

The participants are invited to submit their abstracts on the theme and sub-themes of the conference. A brief summary of about 150-200 words, should give the major findings of the investigation under the following five subheadings: (i) Aims; (ii) Methods; (iii) Results; (iv) Conclusions; (v) Significance and Impact of Study. 5-6 keywords should be added below the abstract. The abstracts should be in English with the font 'Times New Roman, size of '12'. The name of the Presenting Author should be underlined. Proper Affiliation and Email of the Presenting Author are mandatory. The participants should send their abstracts on or before **31<sup>st</sup> October 2023** through email [nesalucknowconference2023@gmail.com](mailto:nesalucknowconference2023@gmail.com)

The submitted abstracts will be scrutinized and acceptance will be intimated by **7<sup>th</sup> November 2023**. The participants may present their papers in the conference by oral or poster, however, the organizer has the right to change the mode of presentation. The abstracts only registered participants only will be printed. Abstracts will be released in the 'Souvenir and Abstract Book' on **14 December 2023** in the inaugural session of the conference.

## POSTER PRESENTATION

The participants opting for poster presentation should prepare aesthetically appealing, informative posters, which will be displayed and evaluated during the conference. The size of the poster should not exceed 36 inches in width and 48 inches in height.

## ACCOMMODATION AND TRANSPORT

The participants should make their own arrangements for stay and transportation. The Organizing Committee of the GPCC-2023 will arrange some accommodation in the guesthouse near the venue for a few selected delegates and paper presenters. The organizing committee will guide or facilitate the accommodation in nearby hotels if contacted in advance. Interested participants may email their requirements regarding the accommodation to [nesalucknowconference2023@gmail.com](mailto:nesalucknowconference2023@gmail.com) and [infones88@gmail.com](mailto:infones88@gmail.com)

## IMPORTANT DATES

Conference Dates	14 <sup>th</sup> to 16 <sup>th</sup> December, 2023
Registration and Abstract Submission Starts:	10.07.2023
Last Date of Registration without late payment:	31.10.2023
Abstract submission Deadline:	31.10.2023
Intimation of acceptance of abstract:	07.11.2023

## REGISTRATION

	<b>Regular Registration (Till 31.10.2023)</b>	<b>Spot Registration* (After 31.10.2023)</b>
Academicians & Scientists	INR 5000.00	INR 6000.00
Research Scholars/ Fellows	INR 2500.00	INR 3000.00
Students (PG)	INR 1500.00	INR 2000.00
Corporate Delegates	INR 10000.00	INR 12000.00

## PAYMENT

Name: National Environmental Science Academy  
Bank Name & Address: Bank of Maharashtra, Kalkaji Branch, New Delhi-110019  
Account Type: Current Account  
Bank Account Number: 60109889476  
IFSC Code: MAHB0000974

## PUBLICATIONS

The Academy is publishing the following Journals (Biannual):

- 1) INTERNATIONAL JOURNAL ON AGRICULTURAL SCIENCES
- 2) INTERNATIONAL JOURNAL ON ENVIRONMENTAL SCIENCES
- 3) INTERNATIONAL JOURNAL ON BIOLOGICAL SCIENCES
- 4) INDIAN JOURNAL OF UNANI MEDICINE  
<http://nesa-india.org/nesa-journal/>
- 5) E-NESA Newsletter (Monthly) <http://nesa-india.org/newsletter/>

## CONNECTIVITY THE VENUE OF GPCC-2023

The city is well connected to all major cities of the country by air, rail and road. There are direct trains connecting all major cities especially New Delhi, Mumbai, Kolkata, Chennai, Chandigarh, Jammu, Hyderabad, Bengaluru, Guwahati, Ahmedabad, Jaipur, Pune, Bhopal.

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**LUCKNOW CONFERENCE SECRETARIAT  
(GPCC-2023)**

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