



सत्यमेव जयते

Ministry of New and Renewable Energy  
Government of India

**3<sup>rd</sup> INTERNATIONAL CONFERENCE  
ON  
RECENT ADVANCES IN BIO-ENERGY  
RESEARCH  
(ICRABR-2022)**



**March 9-11, 2022 (Virtual Mode)**

**Organized by**

**Sardar Swaran Singh National Institute of Bio-Energy,  
(An Autonomous Institution of Ministry of New and Renewable Energy, Govt. of  
India)**

**Jalandhar-Kapurthala Road, Wadala Kalan  
Kapurthala 144601 (Punjab)**

**Under the aegis of  
“Azadi Ka Amrit Mahotsav”**



## **About the Institute:**

Sardar Swarn Singh National Institute of Bio-Energy (SSS-NIBE) is an Autonomous Institute of the Ministry of New and Renewable Energy (MNRE), Govt. of India. The Institute is a R&D Institute with its mandate to focus on Bio-energy and develop innovative technologies in the area of renewables and biofuels. The vision of the Institute is to carry out state-of-the-art R&D covering the entire spectrum of bioenergy leading to commercialization and their integration with other renewable energy technologies. One of the important roles envisaged for the institute is human resource development at all levels in the field of Bio energy. R&D activities have already been initiated in the area of Biomass and Energy Management, Thermochemical Conversion, Biochemical Conversion, Chemical Conversion, and Electrochemical Processes etc.

## **Scope:**

Energy security and environment are the primary and important issues in front of all countries. The exhaustive use of fossil-fuel sources has raised the serious concerns worldwide not only about energy security but also for negative impact on environment. Now there is a need to shift the current energy spectrum to green energy by creating the advance technologies to utilize the renewable resources (agro-forestry biomass) appropriately for bioenergy production to keep the pace with the growing demand of energy for sustainable development. The research activities in the area of bio-energy including biodiesel, bioethanol, biomethanation, fuel cell, biomass derived electrodes for energy generation, biomass gasification, and biomass cookstove, etc. are gained unprecedented attention over a worldwide due to their potential in finding replacement of fossil fuels. Agricultural biomass is an abundant renewable resource, which can be converted not only into liquid biofuels but also attracting the R&Ds to create alternative biofuels as potential substitute to fossil fuels. This natural biomass consists of highly complex polymer called lignocelluloses. Key barriers in the production of biofuels from biomass are the processes that release valuable sugars entrapped in lignocelluloses and advanced conversion technologies that utilize all the components of lignocelluloses. Two International and three National Conferences on 'Recent Advances in Bio-energy Research' have been organized at the Institute since 2011; these covered government policies, field experiences, and R&D efforts in the development and promotion of bio-energy in India. As part of our efforts to extend the scope of these conferences to cover global scenarios, the third "International Conference on Recent Advances in Bio-energy Research-2022" (ICRABR-2022) will be virtually organized during March 09- 11, 2022.

## **Venue:**

The 3<sup>rd</sup> "International Conference on Recent Advances in Bio-energy Research-2022" (ICRABR-2022) will be virtually conducted at SSS-NIBE.

## Important Dates:

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Abstracts submission closes	December 15, 2021
Acceptance notification	January 01, 2022
Early bird registration	January 15, 2022
Closing date of registration	February 28, 2022

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## Call for papers:

Original research, review papers, case studies etc. are invited from academicians, researchers, research scholars, students and industry in the area but not limited to the following topics;

### Theme 1: Biofuels and Biogas

- Bioenergy Production, Optimization and Planning
- Biomass Combustion, Gasification and Pyrolysis
- Clean Development Mechanism (CDM)
  - ❖ Improved Biomass Cookstoves etc
- Bioethanol Production and Separation
- Biobutanol Production and Separation
- Biohydrogen Production
  - ❖ Microbial Hydrogen Production
  - ❖ Biomass Reforming
  - ❖ Photobiological Hydrogen Production etc
- Biogas
  - ❖ Production
  - ❖ Cleaning
  - ❖ Bottling etc
- Genetic Modifications for Improvement in Biofuels
- Metagenomics for Biofuels
- Integrated biorefineries
- Aviation Biofuel
- Biodiesel
  - ❖ Production
  - ❖ Purification
  - ❖ Engine Testing
  - ❖ Techno-economic Evaluation etc
- Hydrocracking for Green Diesel Production
- Catalysts for Biofuel and Bioenergy Production etc

### Theme 2: Biomass Hybrid Systems

- Solar-Biomass hybrid Energy
- Biomass hybrid technologies
  - ❖ Hybrid Thermal Energy
  - ❖ Hybrid Power Generation

### **Theme 3: Electrochemical conversion of Biofuels to renewable energy**

- Catalysis for Biofuels
  - ❖ Biomass conversion
  - ❖ Alternative fuel
  - ❖ Biofuel
  - ❖ Acid catalyst
  - ❖ Alkali catalyst
  - ❖ Enzyme self-catalyst, etc

- Fuel cells
  - ❖ Hydrogen Fuel Cells
  - ❖ Microbial Fuel Cells
  - ❖ Methanol Fuel Cells
  - ❖ Ethanol Fuel cells
  - ❖ Alkaline Fuel Cells etc
- Other electro-chemical systems

### **Theme 4: Nanotechnology for Biofuels and Bio-energy**

- Nanotechnology for Bioenergy Production
- Nanotechnology for Biofuel Production
- Nano catalyst and Bio-Energy/fuel
- Biofuels and Bioenergy: Nanotechnological recent progress and prospect

### **Theme 5: Waste management**

- Generation and characterization
- Recycling, reuse and management
- Biomass management and utilization
- Conversion Technologies for other waste such as Municipal and Industrial Wastes to value-added products
- Waste Water Treatment
- CO<sub>2</sub> capturing and unitization
- Environmental assessments and Economic analysis

### **Theme 6: Bioenergy Policy and Strategies**

- Environmental sustainability of biofuels and Bioenergy
- Economic Evaluation of Bioenergy Processes and Systems
- Bio energy: Industrial aspect
- Biomass Resource Assessment
- Bioenergy Life Cycle Assessment
- Supply Chain Management
  - ❖ Biomass Collection
  - ❖ Transportation
  - ❖ Storage
- Biomass Characterization
- Solid biomass
  - ❖ Briquetting
  - ❖ Pelleting

- Algal and Marine Biomass
  - ❖ Algal Cultivation
  - ❖ Algal Harvesting and Extraction Systems
  - ❖ Products from Algal Refining
- Biomass based value-added products
- Techno-economic Modelling of Bioenergy Systems
- Hybrid/Integrated and New Energy Systems
- Climate Change
- Merits and Demerits in Bioenergy
- Ecological and Biodiversity Issues

### Registration Fees:

Fee category* (excluding 18% GST)	Early Bird Price (by 15.01.22)		Regular Price	
	National (INR)	International (USD)	National (INR)	International (USD)
Students (UG, PG, PhD)/ JRF/ SRF	1500	100	2000	150
Academicians/ Faculty/ Scientist/ Researchers	4000	350	5000	400
Industry sponsored/ Consultants/ Corporate sector	6000	450	8000	500
Delegates	1000	100	2000	150

The 18% GST would be extra for Indian Nationals. The guidelines for extended abstract and full paper submission are available on the SSS NIBE website. The abstract, full paper and registration will be made online through the website. The registration fee must be deposited online before registration.

### Publications:

Selected and Presented Papers in ICRABR-2022 will be published in SCOPUS Indexed Proceedings and Journals after peer review. The name of journals will be notified soon. Each registered participant can submit only one paper to the selected journal.

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