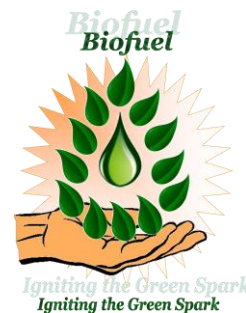


# *Extremophilic and Microbial Processes for Biofuels*



**August 1-5, 2016**



**Hands on Analytical and Molecular Techniques:  
One Week National Training Program**



**Expert:**

Prof. Rajesh K. Sani,  
South Dakota School of  
Mines & Technology,  
USA

**Sardar Swaran Singh National Institute of Bio-Energy**

(An Autonomous Institution of Ministry of New and Renewable Energy, Govt. of India)

**Kapurthala, Punjab**

**About the Institute**

Sardar Swaran Singh National Institute of Bio-Energy is an autonomous Institution of the Ministry of New and Renewable Energy, Govt. of India. The vision of the Institute is to carry out **state-of-the-art** research and developmental activities in the area of bio-energy, including human resource development at all levels, post-doctoral research and research leading to commercialization of renewable energy technologies. SSS-NIBE is located in the state of Punjab on Jalandhar-Kapurthala Road, 18 km away from Jalandhar city towards Kapurthala. The Institute is located in between Punjab Technical University and Pushpa Gujral Science City. Jalandhar is well connected both by railways and roadways with the nearest airports at Amritsar, Chandigarh and New Delhi.

**Goal**

The the main goal of the course is to introduce graduate and undergraduate students, faculty, young scientists and entrepreneurs to current topics in anaerobic microbial processes, emphasizing critical evaluation of published peer-reviewed scientific literature as well as hands-on experiences on the anaerobic processes. Today most of the sustainable and environmentally friendly processes (including conversion of lignocellulosic biomass or solid wastes to liquid and gaseous biofuels) rely on anaerobic microbiological systems. For example, consolidated bioprocessing (CBP) in which enzyme production, hydrolysis, and fermentation of lignocellulosic biomass are carried out in a single reactor at the same temperature.

**Objective**

Extremophilic and anaerobic microbes can play important roles in transformation of environmental hazardous wastes including solid wastes. Therefore our objective is to train the graduate and undergraduate students, faculty, young scientists and entrepreneurs with hands-on experiences in extremophilic microbial anaerobic processes (e.g., biocatalysis, consolidated bioprocessing, thermophilic anaerobic digestion) and their applications in various fields. Since 2013 we are organizing the training program on Biochemical Conversion Technologies for Advanced Biofuels. After the successful organization of first four training programs in series and overwhelming interests of researchers, we are going to organize the fifth one week training program on '**Extremophilic and Microbial Processes for Biofuels**'.

**Organizing Committee**

Chairman: Prof. Y.K. Yadav, Director General, SSS-NIBE  
Coordinator: Dr. Sachin Kumar, Deputy Director, SSS-NIBE  
Expert: Dr. Rajesh K. Sani, Associate Professor, South Dakota School of Mines & Technology, USA

**Key note lectures**

- Introduction to anaerobic microbial processes extremophilic bioprocessing
- Microbial modelling and biochemical reactions for biofuel production
- Biocatalysis (Enzymes for biofuel industries)

**Topics**

- Isolation and screening of extremophiles (thermophiles, alkaliphiles, acidophiles)
- Production and characterization of lignocellulolytic enzymes
- Process for bioethanol, biogas and biohydrogen production
- Bioreactor handling
- Equipments to be demonstrated
  - ✓ HPLC, GC, UV-Vis Spectrophotometer, SDS-PAGE, Agarose gel electrophoresis, 2-D Gel electrophoresis, Geldoc, Gradient PCR, Real Time-PCR

**Participants**

Postgraduates, Research Scholars, Faculty members and Scientists are welcome to participate in the said training program. 30 seats are available, which will be filled on first come first serve basis. The interested candidates may send their willingness through e-mail. After confirmation, one need to send duly filled and signed registration form along with prescribed registration fee.

**Fee**

Masters students / Research scholars	Rs 3,000.00
Faculty members / Scientists	Rs 5,000.00
Industry Sponsored/Entrepreneurs	Rs 10,000.00

The registration fee should be submitted along with registration form by demand draft in favour of the Sardar Swaran Singh National Institute of Renewable Energy, payable at Jalandhar, so as to reach the office by 28.07.2016.

**Important dates**

Submission of application:	July 20, 2016
Confirmation of participation:	July 22, 2016
Registration:	July 28, 2016
Date of Training:	August 1-5, 2016

**Contact details**

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