International Conference
on
Strategies for Environmental Protection and Management (ICSEPM-2016)

Organized by

School of Environmental Sciences, Jawaharlal Nehru University (JNU), New Delhi, India

&

NATIONAL ENVIRONMENTAL SCIENCE ACADEMY
New Delhi-110 019

Venue

JNU Convention Centre
New Delhi, India
11th to 13th December 2016

HOME

1. Welcome to ICSEPM-2016

We have the pleasure and honour to invite you to participate in the International Conference and 29th Annual meeting of National Environmental Science Academy (www.nesa-india.org) on "Strategies for Environmental Protection and Management" to be organized jointly by the School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, India, and National Environmental Science Academy. The conference will be held in the Convention Centre, JNU, New Delhi during 11th to 13th December 2016.

2. About the Conference

The conference, ICSEPM-2016, will be organized to consolidate underpinning environmental sciences teaching, research and outreach programme in India and abroad through scientific deliberations like keynote addresses, oral and poster presentations. The ICSEPM will bring together engineers, scientists, researchers, students, managers and other professionals in order to address and discuss emerging environmental issues. It will provide platforms for physicist, mathematicians, earth scientist, oceanographers, chemists, engineers and biologist for critical discussion in key areas of environmental sciences. Environmental sciences research should contribute to understand the major problems in recent days arising due to extensive agriculture, industrial, municipal, transportation, urbanization activities together with climate change in developing countries. It is realized since last one decade that proper utilization of environmental waste is important for the analysis and product formation to provide food, feed, fuel, commercial items and health to increasing human population without impairment of biodiversity and sustainable growth will be discussed.

3. About the Organisers

Jawaharlal Nehru University (JNU), New Delhi, India. (Hyperlink to http://www.jnu.ac.in/)

JNU was established in 1966 by an act of Indian parliament with the "Nehruvian" ideology. The University spreads over an area of 1000 acres on the Aravali ranges embraced by the beauty lush green forest sustaining a birdwatcher's paradise and some forms of wild life. The University primarily has Post-graduate and Doctoral degree programmes imparting knowledge, education, high level of training with values and social commitment. The living ambience and social milieu of the campus is also reflected in an integrated, interdisciplinary approach in teaching and research.

School of Environmental Sciences (SES) (Hyperlink to http://www.jnu.ac.in/SES/)

The School of Environmental Sciences (SES) was established in the lush green premises of JNU in 1974. SES has Postgraduate and Doctoral degree programmes. The School has diversified yet integrated interests in various research areas of physical, atmospheric, earth, chemical and biological aspects of the environment.

National Environmental Science Academy (NESA) (Hyperlink tohttp://www. nesa-india.org**/)**

This ACADEMY is of National level, registered by the provisions of Societies Act XXI of 1860 having its Head Quarters at 206, Raj Tower-1, Alaknanda Community Centre, New Delhi. The main objective of the Academy is to bring awareness about the environment among the masses by arranging lectures, demonstrations, training programmes, seminars, symposia, conferences, annual awards and publishing journals, etc. Important personalities those visited the Academy are Shri Jairam Ramesh, Hon'ble Former Environment Minister, Dr. K. Kasturirangan, Former ISRO Chief and Dr. Jitender Sharma, Joint Secretary, Ministry of Ayush and many more.

4. Links

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Chairman

Prof. Indu Shekhar Thakur, SES, JNU, New Delhi

Treasurer	**Will be updated**
Registration Committee	**Will be updated**
Venue Management Committee	**Will be updated**
Accommodation Committee	**Will be updated**
Publication Committee	**Will be updated**
Travel Committee	**Will be updated**

INVITED SPEAKERS

Prof. Duu-Jong Lee Ph.D, National Taiwan University of Technology and Science, Taiwan
Prof. Jo-Shu Chang, National Cheng Kung University, Taiwan
Prof. Jega Jegatheesan, RMIT University, Australia
Dr Li Shu, Deakin University, Australia
Dr. Samir Kumar Khanal, University of Hawai'i at Māna(UHM), Honolulu, USA
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Prof Suren Singh, Durban University of Technology, South Africa
Prof You Kwan Oh, Korea Institute of Energy Research, Seoul, South Korea
Prof. Sunil KAUL, AIST, Japan
Dr Renu Wadhwa, AIST, Japan
Prof. Patrick C. Hallenbeck, University of Montreal, Canada
Prof. Guillermo Raul Castro, National University of La Plata, Argentina

Dr Munish Puri, Deakin University, Australia
Prof Wan Azlina Ahmad, Universiti Teknologi Malaysia
Dr. Zainul Akmar Zakaria, Universiti Teknologi Malaysia
Prof Roger Ruan, University of Minnesota, USA
Prof Ulrika Rova, Lulea University of Technology, Sweden
Prof A. A. Koutina, University of Patras, Greece
Prof Maria Kanellaki, University of Patras, Greece
Dr Loulouda Bosnea, University of Patras, Greece
Prof. Apostolis Koutinas, Agric Univ Athens, Greece
Dr. Bezirtzoglou Evgenia, Democritus University of Thrace, Greece
Prof EM Papamichael, University of Ioannina, Greece
Dr. Aikaterini Alexiou Chatzaki, Democritus University of Thrace, Greece
Prof Ram Chandra, ITRC, Lucknow
Prof D Chattopadhyay, Jadavpur University, Kolkata
Dr Subrata K Das, Institute of Life Science, Bhubaneswar
Dr Kashyap K Dubey, MD University, Rohtak
Prof Sanjay P Govindwar, Shivaji University, Kolhapur
Prof Balasaheb Kapadnis, University of Pune, Pune,
Dr Rupam Kataki, Tezpur University, Tezpur,
Prof Sunil K Khare, Indian Institute of Technology, New Delhi
Dr N Manickam, Indian Institute of Toxicology Research, Lucknow
Dr S Venkata Mohan, Indian Institute of Chemical Technology, Hyderabad
Dr Sangeeta Negi, Motilal Nehru National Institute of Technology, Allahabad
Dr RBN Prasad, Indian Institute of Chemical Technology, Hyderabad
Dr Papita Das Saha, Jadavpur University, Kolkata
Prof Krishnan Sankaran, Anna University, Chennai
Dr Rakesh Sharma, Institute of Genomics and Integrative Biology, New Delhi
Prof Tulsi Satyanarayana, University of Delhi, New Delhi
Dr Durg V Singh, Institute of Life Sciences, Bhubaneswar
Prof Ram Sarup Singh, Punjabi University, Patiala

SCIENTIFIC PROGRAMME

Scientific programme will include the following.

Oral presentation- Plenary lectures, invited and general talks

Poster session-It will be arranged to encourage young researchers.

Mini symposia-

(i) **Environmental Biotechnology, biorefinery processes and solid waste management**

(ii) **Climate Change, adaptive and mitigation strategies to combat climate change,**

Brain storming Session-

"Challenges in Environmental Science Education and Research"

REGISTRATION

Registration for participation in the conference opens on **15th September**, 2016.
Registration Fees for participation in the conference are

		Before September 15, 2016	***After September 15, 2016***
Academicians/Researchers			
Indian Foreign	NESA Member	Rs 4000 $ 200	Rs 4500 $ 250
Indian Foreign	Non-NESA member	Rs 4500 $ 200	Rs 5000 $ 250
Students and Retired researchers			
Indian Foreign	NESA Member	Rs 3000 $ 150	Rs 3500 $ 200
Indian Foreign	Non-NESA member	Rs 3500 $ 150	Rs 4000 $ 200
Accompanying persons			
Indian Foreign		Rs 2000 $ 100	Rs 2500 $ 150
Others-Industries			
Indian Foreign		Rs 6000 $ 300	Rs 7,000 $ 350

Rs= Indian Rupees and $=US Dollars

The conference registration fee includes:

- **W**elcome reception
- **A**ttendance to the conference
- **C**onference materials
- **C**offee breaks
- Lunch and dinner during meeting days.

Student Fee: Students have to produce proper proof of their studentship at the time of final registration at the conference.

ABSTRACTS

Participants are invited to submit their abstracts for oral/poster presentation in not more than 500 words and send to icsepm2016jnu@gmail.com. Submission of abstracts opens on **15th June, 2016** and closes on **31st July, 2014**. Authors will be notified regarding acceptance of abstract on or before **15th August 2014**.
The posters presented during the conference will be evaluated by the juries and the best posters in each theme/area will be awarded during the valedictory function of the conference.

Theme areas for the abstract

a. Environment, Problems and Monitoring

1.Concept of physics and mathematics in environmental sciences
2.Earth and ocean
3. Hydrology and water resources management
4. Marine environment and costal management
5. Remote Monitoring System and GIS,
6. Emergence of pollutants in air, water, soil and food
7. Transformation of pollutants
8. Monitoring, fate and effects.
9. Data analysis and modelling
9. Life cycle assessment
10. Other tools and techniques uses in environmental sciences management.

b. Environmental Toxicology and Occupational Health

1. Natural and xenobiotic organic compounds origin in the environment
2. Emerging pollutants, persistent organic pollutants occurrence
3. Exposure, fate, effect and risk assessment of pollutants
4. Ecoestrogens
5. Infectious and Non-infectious diseases
6. Diagnostic platform
7. Proteomics, genomics and bioinformatic tools for biomarkers
8. Immunity and immunology,
9. Occupational health
10. Nanomaterials and drug delivery.

c Environmental Biotechnology and Biorefinery Processes

1. Chemical and biological treatment methods for pollutants in air, water, soil
2. Biodegradation, Bioremediation and phytoremediation
3. Microbial diversity for waste management
4. Role of microorganisms and metagenomics in environmental application
5. Proteomics, genomics and bioinformatic tools for environmental management
6. Biofuel and biorefinery processes for value added products
7. Environmental Genomics
8. Environmental Indicators.

d. **Climate Change**

1. Exploring scientific, policy and strategic perspectives on the impacts and responses to climate change
2.Both adaptive and mitigation strategies to reduce Green House gases (GHGS)
3. Biotechnological methods for sequestration of Green House gases (GHGS)

e. Socio-biological Perspectives of Environment

1. Biodiversity and Conservation
2. Ecotourism,
3. Bioethics
4. Environment and Society
5. Law and legislations related to environment.

POSTERS AND PRESENTATIONS

Poster Instructions

The poster should include title, authors, affiliation, abstract, introduction, materials and methods, results and discussion, conclusion and literature cited. The title, authors and affiliations of the poster should be exactly the same as the abstract in the programme for the easy identification of your paper. Title letters should be large enough to be read from the distance. Most data are best represented with figures rather than tables. Text should be easily readable from a distance of one meter away. The following minimum font sizes are recommended:

- Title 75 pt
- Authors/Addresses 40 pt
- Section Headings 28 pt
- Text 22 pt

Each author will have a useable area (portrait orientation) measuring 90 cm (wide) x 125 cm (high). The maximum recommend size for the poster is 80 cm x 120 cm. Please check the poster size before printing your poster.

The authors are responsible for:

- Printing of poster
- Mounting in the reserved area according to the rules that will be indicated at the registration desk
- Removing the poster

Fixing materials will be provided. Please do not affix posters to any place other than the board to which it has been allocated, and use only the fixing material supplied.

Best Poster Presentation Awards will be given to Young researchers

PUBLICATIONS

Full length paper Instructions will be updated soon.

ACCOMODATION

We will arrange different category of hotels, guest houses and hostels to suit the budget of participants. Details of the accommodation arrangements will be updated soon.

TRAVELLER'S INFORMATION

Time

Indian Standard time is 5 hours and 30 minutes ahead of Greenwich Mean Time. (+5:30 GMT)

Airport Information

Delhi has two airports, which are usually identified as Terminal 1, meant for the domestic travel only by Indigo Airlines and Go Air, and Terminal 3, known as Indira Gandhi InternationalAirport (IGI Terminal T3), which is approximately 10 kms from JNU, New Delhi. All the international flights and domestic flights by Air India and Jet airways operate from T3.

Railway information

There are several railway stations in Delhi (New Delhi, Old Delhi, Hazarat Nizammudin, Anand Vihar, etc). These are approximately 16-20 kms from the JNU.

Banking & Exchange

Bank cash or Automated Teller Machines (ATMs) are located throughout the city at banks as well as in many other locations, including inside many stores, restaurants, clubs and others.

Most local banks are open Monday to Friday between 10:00 AM to 4:00 PM and Saturday between 10.00 AM to 1.00 PM.

A passport is required for money exchange.

Electricity

Electrical current is 240/250V, AC 50Hz. The Indian three-pin power outlet is different from that in many countries, so you will need an adaptor. If your appliances are 110V, please check if there is a 110/240V switch. If not, you will need a voltage converter.

About Delhi's weather during November

The weather in New Delhi is usually pleasant during November.

Average temperatures vary between 18°C to 26°C.

Clothing

No formal dress code for any occasion. Light jacket or sweater is recommended for the evenings.

General Tourist Information on Delhi

Delhi abounds in relics and remains as a glorious reminder of its past. Major tourist attractions of Delhi are Red Fort, India Gate, Rashtrapati Bhawan, Parliament House, Jantar Mantar, Jama Masjid, Raj Ghat, Humayun's Tomb, Lotus Temple, Qutub Minar, Akshardham temple and many more.For more information please visit http://www.delhitourism.gov.in/delhitourism/index.jsp

DOWNLOADS

PDF Brochure	
Abstract Template	
Full Length Paper Template	Will be updated
Detailed Scientific Programme	Will be updated

Invited Speakers Information Form Will be updated

CONTACT US

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ABSTRACT TEMPLATE

Title : Times roman, font size 14, bold, centre text

Name and address with e.mail : Times roman, font size 12, Align text left, please mark or bold presenting author name

Abstract : Not more than five hundred words, single space, Times roman, font size 12, Align text left and justified it.

Sequestration of carbon dioxide by chemolithotrophic bacteria for production of biofuel and biomaterials

Indu Shekhar Thakur* and Manish Kumar

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Carbon dioxide is one of the Global Warming Gases concentrated by bacteria, cyanobacteria algae and plants. Bacterial community of palaeoproterozoic metasediments was enriched in the chemostat in the presence of different concentrations of $NaHCO_3$. Among the six isolates, one of the bacterium showed better potency to fix radiolabeled $NaH^{14}CO_3$ was identified as *Serratia* sp. IST04 by 16S rRNA sequence analysis. Carbon dioxide sequestering capacity of bacterium detected by whole genome sequencing and whole cell soluble proteins of *Serratia* sp. grew under autotrophic and heterotrophic conditions were resolved by two-dimensional gel electrophoresis and MALDI-TOF/MS for differential expression of proteins, and nanodrop LC-MS. In proteomic analysis of 63 protein spots, 48 spots were significantly up-regulated in the bacterial cells grew autotrophically; seven enzymes showed its utilization in autotrophic carbon fixation pathways and other metabolic activities of bacterium including lipid metabolisms indicated sequestration potency of carbon dioxide and production of biomaterials. The whole genome sequences of bacterium contain numerous genes encoding homologous of enzymes related to fixation of carbon dioxide and production of biofuels and bioplastics. The bacterium tested for product formation by Scanning Electron Microscopy (SEM) revealed presence of rhombohedral structure which resembled to calcite and vaterite which was used for bio-composite material production with SiO_2 in presence of increasing temperature from 60-1000^{0}C. Formation of calcium carbonate and biomaterial was further confirmed by Fourier Transform Infrared (FTIR) spectroscopy, X-ray diffraction (XRD) analysis and energy-dispersive X-ray (EDX) analysis. The bacterium produced hydrocarbons and lipids respectively after 18h culture which was converted to hydroxyvalerate, a possible source of bioplastic, after 72h. The hydrocarbons were within the range of C_{13}–C_{24} making it equivalent to light oil. GC–MS analysis of lipids produced by the bacterium indicated presence of C_{15}–C_{20} organic compounds that made it potential source of biodiesel after transesterification. GC–MS, FTIR and NMR spectroscopic characterization of the fatty acid

methyl esters revealed the presence of 55% and 45% of unsaturated and saturated organic compounds respectively, thus making it a balanced biodiesel composition and biomaterials.