

REPORT OF ALL INDIA SEMINAR/WORKSHOP ORGANISED BY CENTRES / OVERSEAS CHAPTERS

Name of Centre / Overseas Chapter:		Delhi State Centre	
Title of Activity:		34th National Convention of Environmental Engineers & National Seminar on “Environmental Pollution and Climate Change” during August 10-11, 2018 at New Delhi	
Activity under Divisional Board		Environmental Engineering Division Board-IEI	
Date:	August 10-11, 2018	Venue:	Engineers Bhawan, 2, BSZ Marg, New Delhi - 110002



Photo of Inaugural Session with banner of IEI



Photo of Technical Session

Report of All India Seminar/Workshop

Brief Details about the Programme:

Delhi State Centre of The Institution of Engineers (India) under the aegis of Environmental Engineering Division-IE(I) in association with Environmental Engineering Department, Delhi Technological University has successfully organized the 34th National Convention of Environmental Engineers and National Seminar on “Environmental Pollution and Climate Change” during August 9-10, 2018 at New Delhi.

The Convention as well as the Seminar has been attended by our Guest of Honour Mr. Sisir Kumar Banerjee and Mr. U P Singh. Apart from this many eminent personalities, Professors, Scientists, Delegates, Research scholars from different Institutes, Universities, Organizations and Companies have attended the same.

Mr. U P Singh has given a brief and excellent talk addressing on the issues like decrease in rainfall events, increase in total rainfall leading to drought and flood, climate change, water harvesting, water supply, dams etc.

The N V Modak Memorial Lecture & State-Of-The-Art Lectures by eminent speakers has elaborated on low carbon energy growth increase in India, climate change and transitions to a more livable future by Dr. Ajay Mathur; conversion of waste into wealth, climate change issues and its impact, managing plastic pollution, sustainable industrialization, environmental sustainability, human rights, equality by Mr. Pradeep Chaturvedi; and water problem, public health and engineering by Mr. P C Tyagi. He pointed climate change as a threat and recommended nanotechnology as an opportunity.

The Seminar has been successfully covered by four Technical sessions on topics like Climate change; best practices; Environmental pollution and control; land, waste & emergency management innovations respectively. The four technical sessions has been chaired and co-chaired by eminent personalities. All the keynote speakers gave a valuable talk addressing different issues related to environmental pollution and climate change. Apart from this speakers from different

Institutes, Universities and Organizations have delivered their topic and recommended various solutions to combat environmental related issues.

In Technical Session –I (Climate change) our keynote speaker Dr. S D Attri delivered a lecture on “Perspectives of Climate Change”. He briefly addressed various environmental issues like climate change, radiative forcing, global warming, GHGs, global air quality, long-range transport, boundary-layer ventilation, cross-tropopause exchanges. He recommended some measures to lower air pollution like increasing investment in renewable energy, expanding urban public transport, improving waste and water management and better planning for disaster management. The speakers delivered their topic related to climate change impact on biodiversity; particulate matter in underground parking zone; domestic solid fuel combustion, outdoor/indoor air pollution, and climate change.

In Technical Session –II (Best Practices) our keynote speaker Prof. A L Aggrawal delivered a lecture on “QA/QC Requirements in Urban Environmental Management in India: Delhi Air Pollution- Transportation Emissions Management”. He briefly addressed on sources and mitigation of air pollution; Indian population contribution to air pollution. He recommended some sustainable management for transport emissions, and air quality management strategies. The speakers delivered their topic related to effective production of construction materials; use of grapheme in electronics; GHG mitigation; environmental pollution control in thermal power plant; food waste composting; and quadcopter for control of suspended sand and dust.

In Technical Session –III (Environmental pollution and control) Prof. C P Kaushik as a keynote speaker delivered a lecture. The speakers delivered their topic related to climate change impact on biodiversity; particulate matter in underground parking zone; domestic solid fuel combustion, outdoor/indoor air pollution, and climate change.

In Technical Session –IV (Land, waste and emergency management innovations) our keynote speaker Prof. Suresh Jain delivered a lecture on “Environmental Sustainability: Getting started with application of life cycle assessment”. He briefly addressed various popular ideas like sustainable consumption and production, circular economy, inclusive green economy, life cycle of products and policies; life cycle assessment in environmental management systems; life cycle thinking for decision making processes. The speakers delivered their topic related to plastic pollution, challenges and control measures; wastewater treatment; enhanced biological nutrient removal from wastewater; constructed wetlands as a sustainable technology for wastewater treatment.

I congratulate IEI and DTU for taking up the cause and that the seminar has made a meaningful contribution in better understanding the issues addressing the realities of climate change challenges and recommendations for its mitigation and management. Strong commitment would be required voluntarily for reduction in our carbon intensity. Individuals, organizations, and governments need to come together and join hands to protect our planet earth.

On this occasion the Eminent Environmental Engineers were conferred with **Eminent Engineer Award**.

- **Dr. Ajay Mathur**, Director General, The Energy and Resources Institute (TERI)
- **Prof. S K Singh**, Prof & Head, Deptt. of Env. Engg., Delhi Tech. University
- **Prof. Jagjit Singh Ghuman**, Former Chief Town Planner, Govt. of Punjab; Former Housing Commissioner, Govt of Punjab & Former Professor of Physical Planning, Guru Nanak Dev University, Amritsar
- **Dr. G Rameshwar Rao**, Former Director (Operations), Hyderabad Metropolitan Water Supply and Sewerage Board & Honorary Secretary, Telangana State Centre-The Institution of Engineers (India)

The session ended with a vote of thanks presented by Shri Praveen Kr. Singh, Honorary Secretary, The Institution of Engineers (India)-Delhi State Centre.

DETAILS OF THE SESSIONS

Day – 1 (August 10, 2018)

N V MODAK MEMORIAL LECTURE

Memorial Lecture by: Dr. Ajay Mathur, Director General, The Energy and Resources Institute (TERI)

STATE-OF-THE ART LECTURE & AFFAIR IN PUBLIC HEALTH & ENVIRONMENT ENGINEERING

State-of-the-Art Lecture by: Mr. P C Tyagi, Former Chairman, Central Pollution Control Board

Special address by: Prof. S K Singh, Prof & Head, Deptt. of Env. Engg. Delhi Tech. Univ. & Convener, National Convention

Special address by: Mr Pradeep Chaturvedi, Council Member & Chairman, Strategic Plan Committee, IEI

TECHNICAL SESSION –I: THEME” CLIMATE CHANGE”

KEY-NOTE SPEAKER:

Dr. S.D. Attri, Deputy Director General (Meteorology), IMD, Delhi

SESSION SPEAKERS

Ms. Arpita Roy, Research Scholar, Delhi Technological University

Topic: Impact of Climate Change on Biodiversity

Mr. Amrit Kumar, Delhi Technological University

Topic: Investigation of Particulate Matter (PM 2.5) in Underground Parking Zone

Prof A.L. Aggarwal, Amity Institute of Environmental Sciences

Topic: Annexes Between Domestic Solid Fuel Combustion – Outdoor/Indoor Air Pollution & Climate Change in Urban India

Dr Subinoy Mondal, Sr. Manager, Greencindia Consulting Private Limited

Topic: Assessment of air pollution around a coastal based thermal power plant of Gujarat, India: Emphasizing on spatial distributions, annual variations and trend analysis using regression and principal component analysis

TECHNICAL SESSION –II: THEME “BEST PRACTICES”

KEY-NOTE SPEAKER:

Prof. A.L. Aggrawal, Amity Institute of Environmental Sciences

SESSION SPEAKERS :

Kanishk Bakshi, Delhi Technological University

Topic: Artificial Rainfall & Sedimentation by water using Quadcopter for control of Suspended Sand and Dust

Dr. P. Velumani, Professor (Civil), Sona College of Technology

Topic: Effective Production of Construction Materials through Solidification Process-A Cleaner Sustainable Production

Mr. K.G. Kapoor, Scientist-'F', Directorate of Quality, Reliability & Safety, DRDO

Topic: Graphene in the Horizon of Green Electronics

Dr. Hemant Sood, Prof. & Head, National Institute of Technical Teachers Training & Research

Topic: Greenhouse Gas Mitigation By Brick Kiln Dust For Asphalt Pavements In India

Mr. Mukesh Kumar Singh, Sr. Engineer, BHEL & Honorary Secretary, Anpara Local Centre – IEI

Topic: Environmental Pollution Control In Thermal Power Plant After Emission Control of SPM And FGD Operation

Ms. Tandra Mohanta, Research Scholar, IIT Kharagpur

Topic: Effects of microbial inoculums on food waste composting

Day 2: August 11, 2018

TECHNICAL SESSION –III: THEME: “ENVIRONMENTAL POLLUTION AND CONTROL”

KEY-NOTE SPEAKER

Prof. C.P. Kaushik, Dean, Amity University, Gurgaon, Delhi

SESSION SPEAKERS

Mr. P.S. Rao, Dy General Manager, Hindustan Petroleum Corporation Limited

Topic: Sludge Processing Avoiding Soil Contamination

Dr. Shivraj Sahai, Associate Professor, Adigrat University

Topic: Significance of atmospheric submicron particulate matter

Dr. Anamika Singh, Assistant Professor, KIET Group of Institutions

Topic: Analysis of water quality parameters of Ganga during Maha Kumbha, Allahabad

Mr. Vinay Prabhakar, DTU

Topic: Simulation of Dispersion of pollutant in NCT of Delhi

Mr H R P Yadav, Director, HQ –Cell, Delhi, The Institution of Engineers (India)

Topic: Implementation of Bharat Stage VI Emission Standards in Delhi-A Case Study

TECHNICAL SESSION –IV: THEME “LAND, WASTE AND EMERGENCY MANAGEMENT INNOVATIONS”

KEY-NOTE SPEAKER

Prof. Suresh Jain, Dean, TERI, Delhi

SESSION SPEAKERS

Ms. Shahwaz Mustafa Khan, Environmental Engineer

Topic: Plastic Pollution: Current Scenario, Challenges And Control Measures

Dr. Gaurav Saini, Associate Professor & HoD, Sharda University

Topic: Waste filled plastic bottles as a replacement of conventional bricks

Mr. Lakhan Kumar, Delhi Technological University

Topic: Microalgae-bacterial aggregates (MABAs) for cost-effective treatment of wastewater

Ms. S Thanushree, Research Scholar, SJCE

Topic: Modified DEWATS for Enhanced Biological Nutrient Removal from Wastewater

Mr. Siddharth Jain, Associate Professor, KIET

Topic: Saving Of Water Used In Curing Through Its Replacement With Self Curing Compounds And Study The Strength Characteristics Of Concrete

Ms. Deblina Dutta, Research Scholar, IIT Kharagpur

Topic: Selective Extraction of Cobalt using D2EHPA from Lithium-ion batteries

Ms. Priyanka Singh, DTU

Topic: Constructed Wetland As A Green Technology For Waste Water Treatment

Dr. Sanak Ray, National Post Doctoral Fellow, DTU

Topic: Constructed Wetland: A Sustainable System For Domestic Wastewater Treatment

Mr Udhayakumar Thiyagarajan, Research Scholar, SRMIST

Topic: Plastic Waste Management disposal challenges and Impact to Environmental

VALEDICTORY SESSION

Shri Pradeep Chaturvedi, Council Member, Delhi IEI delivered welcome address. He welcomed the participant and young professionals for their active participation in the convention. **Shri Pradeep Chaturvedi** apprised about the list of recommendations identified during the two days event. **Shri Sanjay Sen**, Chairman, ENDB-IEI in his address commended effort of Delhi State Centre in making event successful. To conclude the Convention a Vote of Thanks was proposed by **Shri Praveen Kr. Singh**, Honorary Secretary, IEI-DSC. He also thanked the sponsors and supporters for their support to the Convention as well as authors who have contributed their papers for the publication and speakers in various sessions.

RECOMMENDATIONS

1. The Institution of Engineers played a pro-active role in organizing country wide discussion on World Environment Day as a partner to the Government of India. This has shown considerable and effective impact. In keeping with the same strategy the Institution of Engineers should also partner with the government for celebrating the World Water Day through its centres thereby focusing on engineering aspects of clean water and sanitation.
2. Clean water is the next crucial resource and has larger implications for health and sanitation. Judicious use of clean water for drinking purposes has to be ensured so that this scarce resources is not misused for other purposes where second grade quality water can be used for irrigation, and flushing etc.+
3. Environmental technology identification must be carried out and prioritised so that precious financial resources of the government and the industry are also prioritised for allocation thereby giving maximum returns for their investment.
4. Sustainable development patterns need to be adopted by studying the development patterns in other countries, mainly the developed countries.
5. Investment in climate resilient infrastructure, higher education institutions on it professional engineering and technological associations must be ensured.
6. Micro, small and medium size enterprises which are based on development of local operational repair and maintenance must be promoted to easily adapt to changing environment and climate change conditions. Engineering inputs should be clearly identified and simpler solutions must be developed and made available to such enterprises.

7. Engineering sector policy makers, academicians and professionals need to be innovative to identify the dysfunctional models and suggest pathways for moving towards cost-effective models of development which will include product development, process development, financing mechanism and marketing abilities.
8. Climate resilient development needs to be promoted which means increasing the capacity of a socio-ecological system to absorb stresses and maintain function in the face of external stresses imposed on it by climate change.
9. Engineering developments must adapt, reorganize and evolve into more desirable configuration that improve the sustainability of the system and leave it better prepared for future climate change in practice.
10. The government should intensively support reduction of GHG emissions from transportation sector by focusing on electric mobility and mass rapid transport; promote energy efficiency in the economy; reduce emissions from wastes and efficient waste management mainly through conversion into useful practices and develop sustainable smart cities.
11. The private sector should be motivated to play a important role in the spirit of Sustainable Development Goals of the United Nations by practicing environment protecting measures and ensuring sustainability.
12. Economy and ecology should have converge for the required eco-innovations which are needed on urgent basis for making global sustainability a reality. Eco-innovation should focus on applications requiring materials management, energy efficiency and recycling.
13. A balance should be maintained between business profitability and sustainability. The concerns for sustainability should be integrated in basic designs of products and processes and businesses should strictly comply with the environmental laws.
14. Recent natural disasters like floods, in the Himalayan eco-system as well as on the plains, highlight the need of disaster risk reduction measures to be promoted at all levels of the government and public and private sector companies; Public private partnerships should be promoted conforming to the National Action Plan for Disaster Risk Reduction and the emerging threats.
15. Plastic is a necessary evil. You can hardly do away with it. The amount of plastic that is disposed off every year can circle the earth four times. Every day we come across plastic in various forms such as garbage and grocery bags, bottles, food containers, computer keyboards, plastic mouse, coffee cup lids and other such products. Though plastic products are very convenient to use, they play a harmful role in polluting the environment. Pollution caused by plastic is not only harmful for marine life but is also affecting health of humans. The harmful chemicals like PCBs, DDT and PAH, which get absorbed in the plastic debris that floats in the sea water, have a varied and harmful range of chronic effects like endocrine disorders. The toxins are transferred in the food chain as they get absorbed in the animals'. Plastic pollution is affecting the global economy. It is destroying the fishing and aquaculture industries. Apart from this, the tourism industry is also adversely affected as the beaches and oceans have been transformed into landfills.

It is time to the government takes stringent steps to overcome the problems before it spirals out of control.