



## **SCHOOL OF BIO AND CHEMICAL ENGINEERING**

### **DEPARTMENT OF CHEMICAL ENGINEERING**

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#### **RECENT INNOVATIONS AND ADVANCEMENTS IN CHEMICAL AND ENVIRONMENTAL ENGINEERING**

Dr K. Sathish, Associate professor/Chemical SSN College of Engineering, Chennai delivered seminars on Recent Innovations And Advancements In Chemical And Environmental Engineering Dr. Prabhu, Associate Professor, Chemical Delivered welcome address and Dr D Joshua Amarnath has given introduction about the speaker

Vote of Thanks delivered by Dr J Aravindkumar Assistant Professor/Chemical

Sustainability of human beings in the 21st century requires development of renewable energy systems based on technology innovation. Chemical engineering plays a key role in promoting technology innovation relating to environmental and energy systems. The technological domains to which chemical engineering has contributed have shift from petrochemicals to functional materials and devices. An example of the key devices expected in the future is a combination of solar cells and Li-ion batteries, in which the indispensable materials are silicon and carbon. The shape and nanostructure of materials must be controlled to fabricate highly efficient devices at a low cost. Single-walled carbon nanotubes and spherical silicon solar cells with a semi-concentration reflector system are discussed as examples of future materials and devices. Chemical engineering is responsible for technology innovation through mass production, product quality control, materials recycling, high-quality device fabrication, and structuring knowledge

The impacts of global climate change are calling all of us to take action. By 2030, it is estimated that climate change will kill more than 250,00 people per year if we continue on the environmentally destructive path we are currently traversing.

Taking steps away from environmental destruction in a range of industries will not be done in an information silo, nor will it be done with one silver bullet. The way forward will be multidisciplinary; it will require cooperation on a global scale, and it will often require creating localized solutions that can operate independently of large-scale infrastructure.

When it comes to creating the technology we need to ensure that our planet sustains life for generations to come, the knowledge, skills, and insights of environmental engineers will be critical to the work to come.

Make potable water more accessible. Provide sanitation systems that prevent disease and promote health. Assess and reduce the negative impact of air pollution. Create solutions that simultaneously improve human health while protecting the environment

The practical applications of environmental engineering have the potential to contribute to solutions to the plastic crisis, the climate crisis, the lack of sanitation on a global scale, the environmental impact of Western hunger for meat, and the devastating impact of fossil-fuel based air travel. Many of the small solutions needed to save life on earth are already underway. Keep reading to learn about some of the planet-saving breakthroughs mediated by environmental engineering.