Institution's Innovation Council

Saurashtra University Rajkot

THE POWERING TOMORROW NEXT GENERATION OF ENERGY

27TH DECEMBER 2024

Seminar Hall, Department OF Physics, Saurashtra University

Contents

Saurashtra University – IIC

The university is dedicated to instruction, research, and extending knowledge to the public (public service). Ministry of Education (MoE), Govt. of India has established 'MoE's Innovation Cell (MIC)' to systematically foster the culture of Innovation among all Higher Education Institutions (HEIs). The primary mandate of MIC is to encourage, inspire and nurture young students by supporting them to work with new ideas and transform them into prototypes while they are informative years. Saurashtra University is one the Organization that have constituted the IIC to foster the vision of MoE and be a part for the promotion and development of innovation ecosystem.

Event Schedule

3:00	**Registration Time**
3:15	Welcome
3:20	Awareness Session on" by Dr. Alpesh S. Adeshara
04:30	Awareness Session on by Prof. Amit Rajendrabhai Pathak
04:45	Programme Feedback - Conclusion
05:00	Closing Ceremony

Event Registration Link

bit.ly/SUSEC-PCVS

Brief about Event

Department of Physics, Department of Chemistry & Vigyan Gurjari in collaboration with IIC - Saurashtra University organize A seminar on The Powering Tomorrow: Next Generation of Energy on December 2024, 3:00pm to 5:00pm

Explain that "The Powering Tomorrow: Next Generation of Energy" is a forward-looking concept that focuses on the future of energy production, distribution, and consumption. It explores the transformative technologies and innovations that will shape the global energy landscape in the coming decades.

Dr. Alpesh s. Adeshara sir session on Renewable Energy Advancements in solar, wind, geothermal, and hydroelectric power that are becoming more efficient, affordable, and widely adopted to reduce reliance on fossil fuels. Energy Storage Development of next-generation energy storage technologies (such as advanced batteries and hydrogen storage) to address the intermittency of renewable energy and ensure reliable power supply. Smart

Grids and Digitalization Integration of digital technologies like AI and IoT to optimize energy distribution, manage demand, and enable smarter, more resilient grids. Decarbonization Efforts to reduce carbon emissions, including the promotion of clean technologies, energy efficiency, and carbon capture solutions to mitigate climate change. Electric Transportation The growth of electric vehicles and other alternative transport solutions that reduce greenhouse gas emissions and support sustainable mobility. Policy and Global Cooperation Government policies and international agreements (such as the Paris Agreement) aimed at accelerating the transition to clean, renewable energy sources.

"The Powering Tomorrow Next Generation of Energy" emphasizes innovation, sustainability, and global collaboration to address energy challenges and ensure a cleaner, more sustainable future for all. The concept is central to discussions on how to meet rising energy demands while mitigating the impacts of climate change.

Prof. Amit Rajendrabhai Pathak sir explain that Solar Energy: Advancements in photovoltaic technology, such as perovskite solar cells and organic photovoltaics, promise higher efficiency and lower production costs. Concentrated solar power (CSP) systems are also being developed for large-scale energy generation.

The integration of intermittent renewable energy sources (like solar and wind) requires efficient storage systems. Battery technologies such as solid-state batteries, flow batteries, and lithium-sulfur batteries are on the horizon, offering higher energy density, longer lifespans, and improved safety.

The next generation of energy will be shaped by innovation across multiple fronts, including renewable energy, energy storage, digital transformation, and new materials and technologies. The key to achieving a sustainable and resilient global energy system will lie in collaboration, technological advancement, and strong policy frameworks that address both environmental and social equity challenges.

Key Points

During the session, below mentioned points were discussed:

- Emerging Energy Sources
- Energy Storage and Grid Modernization
- Sustainability and Carbon Neutrality
- Advanced Energy Technologies
- Electric Vehicles (EVs) and Clean Transportation
- Global Energy Transition
- Challenges and Barriers
- The Future of Energy

Outcome

The student outcomes for a program or course titled "Powering Tomorrow: Next Generation of Energy" would focus on equipping students with the knowledge, skills, and mindset required to understand and contribute to the future of energy.

Students will understand the socio-economic impacts of energy access, energy poverty, and the transition to renewable energy sources. Students will develop teamwork and leadership skills while working on group projects related to energy innovation. Students will be able to critically evaluate the trade-offs involved in energy decisions, considering factors like environmental impact, cost, scalability, and social acceptance.

These outcomes aim to prepare students not just with technical knowledge, but also with the ability to engage with complex energy challenges from various perspectives, ensuring they are ready to contribute to the next generation of energy solutions.

About the Speaker / Chief Guest

Dr. Alpesh S. Adeshara

Professor & Head,
Electrical Engineering Department
VVP ENGINEERING COLLEGE RAJKOT

Prof. Amit Rajendrabhai Pathak

Assistant Professor
Electrical Engineering Department
VVP ENGINEERING COLLEGE RAJKOT


The Powering Tomorrow Next Generation of Energy
(कल की शक्ति: ऊर्जा की नई पीढ़ी)
Department of Physics, Department of Chemistry & Vigyan Gurajari
in collaboration with IIC - Saurashtra University organize A seminar on
The Powering Tomorrow: Next Generation of Energy
PATRON
Reimagining Energy Conservation: Unconventional and Creative Ways
Conserve Today, Thrive Tomorrow: The Importance of Energy Efficiency
Prof. (Dr.) Kamalsinh Dodiya
Hon'ble Vice Chancellor,
Saurashtra University, Rajkot
Dr. Alpesh S. Adeshara
Professor & Head,
Electrical Engineering Department
VVP ENGINEERING COLLEGE RAJKOT
Prof. Amit Rajendrabhai Pathak
Assistant Professor
Electrical Engineering Department
VVP ENGINEERING COLLEGE RAJKOT
27TH DECEMBER, 2024 FRIDAY
START AT 03:00PM - 05:00PM
SEMINAR HALL, DEPARTMENT OF PHYSICS
SAURASHTRA UNIVERSITY
Event Coordinators:
Dr. Piyush Solanki
Dr. Davit Dhruv
Dr. Ranjan C. Khunt
Prof. Yogesh T. Naliapara
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