# ANNUAL PROGRESS REPORT FOR SDG 11 – 2024

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**17.3.11. University publishes progress against SDG 11**

Sustainable Development Goal 11 aims to make cities and human settlements inclusive, safe, resilient, and sustainable. It focuses on providing affordable housing, efficient public transport, and access to green spaces while reducing pollution and improving urban planning. SDG 11 encourages sustainable infrastructure, disaster resilience, and cultural heritage preservation to enhance the quality of urban life. By promoting inclusive and well-managed cities, this goal ensures that growing urban populations can thrive in healthy, safe, and environmentally friendly communities that support social and economic well-being for all.

SPIHER is dedicated to building an eco-friendly campus that promotes sustainability and environmental responsibility. The campus features energy-efficient buildings, solar power systems, and rainwater harvesting to minimize its ecological footprint. Green spaces throughout the campus enhance biodiversity, while waste management systems ensure the proper disposal and recycling of materials. Additionally, SPIHER has implemented water conservation practices and uses eco-friendly materials in construction and maintenance. These initiatives not only reduce energy consumption and environmental impact but also provide students and faculty with a healthy, sustainable learning environment that fosters environmental awareness and responsibility.

**Guest Lecture on "From Theory to Practice: Navigating the Civil Engineering Job Market with Real-World Insights"**

**Event Details:**

- **Date:** 27th September 2024
- **Time:** 11:30 AM to 1:00 PM
- **Venue:** Smart Class Room No. 354, Mechanical Block, SPIHER

The Department of Civil Engineering at St. Peter's Institute of Higher Education & Research recently organized an insightful guest lecture titled "From Theory to Practice: Navigating the Civil Engineering Job Market with Real-World Insights." This event aimed at bridging the gap between academic knowledge and industry demands, offering students a practical perspective on navigating the civil engineering job market.

This lecture was conducted to guide students in understanding the practical expectations and evolving opportunities within the civil engineering sector. Aligned with SDG 11: Sustainable Cities and Communities, the session emphasized the vital role civil engineers play in shaping resilient, safe, and sustainable urban infrastructure. The resource person provided insights into current industry demands, emerging technologies, and sustainable construction practices that contribute to eco-friendly and inclusive urban development. Students were exposed to real-

world case studies involving smart city planning, green building concepts, disaster-resilient structures, and environmentally responsible engineering solutions.

The seminar also highlighted essential professional skills such as project management, field readiness, safety compliance, and the integration of sustainability principles in engineering design. By bridging academic learning with practical industry expectations, the session empowered students to become future professionals capable of contributing to long-term urban sustainability and community well-being. Overall, the program strengthened students' understanding of how civil engineering supports SDG 11 by fostering sustainable infrastructure, improving community living standards, and promoting innovative solutions for modern cities.

**Programme Brochure**

**Chief Guest lecturing the students**

The session was conducted by **Er. Mr. C. Packiaraj** (B.E., M.B.A.), the founder of Sadhana Jennifer Constructions Pvt. Ltd. and MindsOn Global Pvt. Ltd. With his extensive experience in the industry, Mr. Packiaraj shared valuable insights into current trends, challenges, and opportunities in the field of civil engineering. His talk emphasized the skills needed to thrive in the competitive job market, alongside real-life examples from his career. The questionnaire session was conducted by Mr. R. Rajeshwaran, Asst. Professor, Dept. of Civil Engineering, SPIHER. Mr. K. Abinash, Asst. Professor, Dept. of Civil Engineering, SPIHER formally end the event with vote of thanks.

**Public Links**

https://www.instagram.com/p/DAcjEN-vS6v/?igsh=MXg5dGxxNDNwNnNuZg==

https://www.facebook.com/share/p/JYkoeKoQfvKjSgXT/?mibextid=qi2Omg

https://x.com/SpiherIndia/status/1839873258234994806?t=swk06aHDifTlbR-Dz8Nzuw&s=19

https://www.linkedin.com/posts/spiherchennai_civilengineering-jobmarket-guestlecture-activity-7245638841741549568-JQmP?utm_source=share&utm_medium=member_android

## Research Articles published under SDG 11

1. Tamilselvi M, Neelima A, Amarnath JJ, Lalitha K, Ganesh EN. Naive Bayes-based Autonomous Illumination System for Urban Green Spaces with Cloud Assistance. In2024 4th International Conference on Sustainable Expert Systems (ICSES) 2024 Oct 15 (pp. 988-993). IEEE.

Conferences > 2024 4th International Confer...

**Naive Bayes-based Autonomous Illumination System for Urban Green Spaces with Cloud Assistance**

Publisher: IEEE | Cite This | PDF

M Tamilselvi ; A. Neelima ; J. Jegan Amarnath ; K. Lalitha ; E. N. Ganesh ; Thamizharuthu R | All Authors

8 Cites in Papers | 33 Full Text Views

Abstract
Document Sections
I. Introduction
II. Related Works
III. Proposed System
IV. Results and Discussions
V. Conclusion
Authors
Figures
References
Citations
Keywords

**Abstract:**
Improving urban cities' quality of life is one of the primary functions of urban green spaces. Efficient lighting solutions in these areas enhance safety and ambiance. This research introduces a new method for autonomously controlling the lighting in urban parks with the help of a Naive Bayes classifier and cloud computing. The system uses information gathered from several sensors to adapt the brightness of the lights in response to changes in the surrounding environment and the presence or absence of people. The system can generate accurate choices in real-time using machine learning methods, including the Naive Bayes algorithm. With the help of the cloud, remote monitoring and administration are made easier, which improves efficiency and scalability. The experimental findings prove that the proposed approach is reliable and efficient in enhancing urban green areas' energy efficiency and user enjoyment. Intelligent algorithms combined with cloud computing provide a viable option for smart city lighting control, opening the door to more responsive and environmentally friendly cityscapes.

**Published in:** 2024 4th International Conference on Sustainable Expert Systems (ICSES)
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**ISBN Information:** | **Conference Location:** Kaski, Nepal

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2. Kathiresan C, Gurumoorthi E. Disaster Management in Structural Safety analysis for Post-earthquake using Deep learning Framework. In2023 International Conference on Research Methodologies in Knowledge Management, Artificial Intelligence and Telecommunication Engineering (RMKMATE) 2023 Nov 1 (pp. 1-5). IEEE.

Disaster Management in Structural Safety analysis for Post-earthquake using Deep learning Framework

Publisher: IEEE

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70 Full Text Views

Abstract

Document Sections

I. INTRODUCTION

II. EARTHQUAKE STRUCTURAL SAFETY ASSESSMENT

III. Conclusion

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Keywords

Metrics

**Abstract:**

Earthquake is one of the major cause in the disaster management based on the intensity cause by shaking the surface of the ground. Earthquake may cause several damages such as loss of lives, volcanic eruption, and structural damages and so on. Here, were are discuss about the structure safety during the earthquake. They introduce the damage pattern and responses about the concept and for any damage building robust dataset is and generating methodological system with incorporation. Moreno in the sequential ground is used for the increment of dynamic analysis which is used for the evaluation of structural damage that has been taken at the time of capacity of residual collapse. Map response has been done by deep learning algorithm and safety of the building structure is carried out by damage pattern is based on capacity of residual collapse that with acceptable threshold. Damaged building in the earthquake are kept under the state of structural safety that can be identify probabilistically under the tree regression, classification and random forest which has been included with predictive model. The frame building that we used in this proposed frame work is 5 story reinforced concrete building. In the damaged building they found damage pattern and response overlapping which has been determined as safe and unsafe. This process achieved with 95% and 90% in high accuracy prediction where they can responsible assessed safety state and responsibility of pattern damage. Rapid evaluation was used for the proposed framework based on the building damage that has been occupied the remaining safety structure after a seismic event and in the evaluation of resilience community subroutine was implemented or assessment performances of lifecycle building and optimization.

Published in: 2023 International Conference on Research Methodologies in Knowledge Management, Artificial Intelligence and Telecommunication Engineering (RMKMATE)

Date of Conference: 01-02 November 2023

DOI: 10.1109/RMKMATE59243.2023.10369620

Date Added to IEEE Xplore: 05 January 2024

Publisher: IEEE

▸ ISBN Information:

Conference Location: Chennai, India

I. INTRODUCTION

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Figures

**REPORT ON ENGINEER'S DAY - ENGINEER'S DRIVE FOR A GREENER FUTURE**

**Public Awareness on "Carbon Footprint Mitigation"**

**Date:** September 18th, 2024
**Event:** Rally for Public Awareness on "Carbon Footprint Mitigation"
**Organized by:** Department of Mechanical Engineering
**Convener:** Dr. N. Rajeswari, Professor & Head

On September 18, 2024, the Department of Mechanical Engineering organized a rally aimed at raising public awareness on "Carbon Footprint Mitigation." The event convened by Dr. N. Rajeswari, Professor & Head and organized by Ms. K. Sunitha, Asst. Professor with significant contributions from all teaching and non-teaching members of the Department of Mechanical Engineering, involved students from various engineering departments and highlighted the critical issues about carbon emissions and their impact on the environment.

The rally commenced with an inspiring speech by Dr. S. Selvan, the Engineering Dean, who emphasized the urgency of addressing climate change and the role individuals can play in mitigating its effects. Following this, students along with the faculty members marched through Tonakela Camp Road, Sankar Nagar, Avadi, engaging the public with informative posters and distributing leaflets outlining actionable steps to reduce carbon footprints.

The rally focused on educating public about the various impacts of carbon emissions, including:

- Climate Change: The connection between carbon footprints and global warming.
- Health Issues: How poor air quality resulting from emissions can lead to health problems.
- Economic Impact: The rising costs associated with food, water, and energy due to climate change.
- Extreme Weather: The increasing frequency of severe weather events and rising sea levels as a result of environmental degradation.

Public were given awareness to adopt sustainable practices, which included:

- Reducing Energy Usage: Turning off lights, using energy-efficient appliances, and minimizing reliance on cooling systems.
- Choosing Sustainable Transportation: Promoting walking, cycling, carpooling, and public transit to reduce carbon emissions associated with personal vehicle use.
- Reducing, Reusing, Recycling: Advocating for waste reduction through reusing materials and supporting products with sustainable packaging.
- Conserving Water and Natural Resources: Using water responsibly and reducing the consumption of goods that harm the environment.
- Supporting Clean Energy: Encouraging the use of renewable energy sources and advocating for sustainable practices in local communities.
- Planting Trees and Preserving Green Spaces: Engaging in reforestation efforts and protecting local green areas that serve as carbon sinks.
- Contributing to Climate Action: Promoting practices that reduce greenhouse gas emissions and advocating for a sustainable future.

The rally concluded with a call to action for all participants to commit to these sustainable practices and inspire others in their communities. Feedback from attendees indicated a heightened awareness of the importance of individual actions in combating climate change.

**Students Exhibiting the Banners for Rally**

**Dr.S. Selvan, Engg. Dean, Commencing the Rally**

**Beginning of the Rally**

**Students on March to Create Awareness on Cabon Footprint Mitigation**

**Batch of Girl Students as the part of Rally March.**

**Students as the part of Rally March.**

## Conclusion:

SPIHER highlight its strong commitment to strengthening global cooperation through active participation in international forums, collaborative learning platforms, and capacity-building engagements. By involving faculty, students, and researchers in globally aligned programmes, the institution has promoted knowledge sharing, cross-cultural understanding, and human-centered partnership development.

These collective efforts have supported meaningful interactions with international experts, enhanced global competencies, and created opportunities for mutual learning. Through continuous engagement in joint activities, global academic exchanges, and collaborative outreach programmes, the institution reinforces its dedication to advancing **SDG 17.3.11**, ensuring that international partnerships remain people-focused, inclusive, and directed toward sustainable human development.