Event-2

National Workshop on

"Techniques for Smart and Resilient Infrastructure"

Date: 29th November - 2nd December 2024

Venue: Gayatri Vidya Parishad College of Engineering (Autonomous), Visakhapatnam.

Organized by: ICI Student Chapter, Gayatri Vidya Parishad College of Engineering (A). In Association with: M/s Sarvani Pvt. Ltd.

National Workshop on "Techniques for Smart and Resilient Infrastructure"

Date: 28th November – 2nd December 2024
Venue: Gayatri Vidya Parishad College of Engineering (Autonomous), Visakhapatnam
Organized by: ICI Student Chapter, Gayatri Vidya Parishad College of Engineering (A)
In Association with: M/s Sarvani Pvt. Ltd.

The Five-Day National Workshop on "Techniques for Smart and Resilient Infrastructure" hosted by the ICI Student Chapter at Gayatri Vidya Parishad College of Engineering (Autonomous), Visakhapatnam, successfully brought together industry experts, academic professionals, and students to explore the future of structural health monitoring, sustainable construction practices, and innovative concrete technologies. Held from November 28th to December 2nd, 2024, the workshop bridged the crucial gap between academia and industry while providing a platform for practical learning and insightful discussions.

Resource Persons :

- **Sri. G. Ashok Kumar** - Regional Manager-QA/QC, M/s Sarvani Pvt. Ltd.
- **Dr. Venkat Lute** - Professor, Civil Engineering, GVPCE (A)
- **Suresh C. Tripathi** - Executive Director, Arth Envirotech Pvt. Ltd., C-Probe Technologies Pvt. Ltd.
- **Sri. Dnyanesh Nikam** - Manager, C-Probe Technologies Pvt. Ltd.
- **Dr. Srinivas Voggu** - Chief Scientist, CSIR-SERC, Chennai
- **Dr. Ravi Kumar Bodasingu** - Deputy General Manager, Chettinad Cement Corporation Pvt. Ltd.

Participants:

In addition to faculty members and industry leaders, students from Gayatri Vidya Parishad College of Engineering (A) and other institutions across Visakhapatnam participated, engaging actively in hands-on sessions and expert-led discussions.

Day 1: Visit to Ready-Mix Concrete (RMC) Plant :

Date: 28th November 2024

Venue: M/s Sarvani Pvt. Ltd., Madhurwada, Visakhapatnam

The workshop kicked off with an informative visit to the Ready-Mix Concrete (RMC) Plant at M/s Sarvani Pvt. Ltd. The visit offered participants an in-depth look at the concrete production process, highlighting the importance of precise batching, quality control, and logistics in ensuring the delivery of high-quality concrete for construction projects. Emphasis was placed on sustainability practices, such as minimizing waste and optimizing raw material usage.

Key Insights:

- Hands-on understanding of RMC production processes
- Real-world application of quality assurance techniques
- Sustainable practices in concrete production.


A FIVE-DAY NATIONAL WORKSHOP
On
Technologies for Smart & Resilient City Infrastructure
28th November, 2024 - 2nd December, 2024
Organized by
DEPARTMENT OF CIVIL ENGINEERING
GAYATRI VIDYA PARISHAD COLLEGE OF ENGINEERING
(Autonomous)
Madhurawada, Visakhapatnam - 530048
GPS Map Camera
Madhurawada,Andhra Pradesh,India
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Day 2: Structural Health Monitoring and Vibration Analysis Workshop:

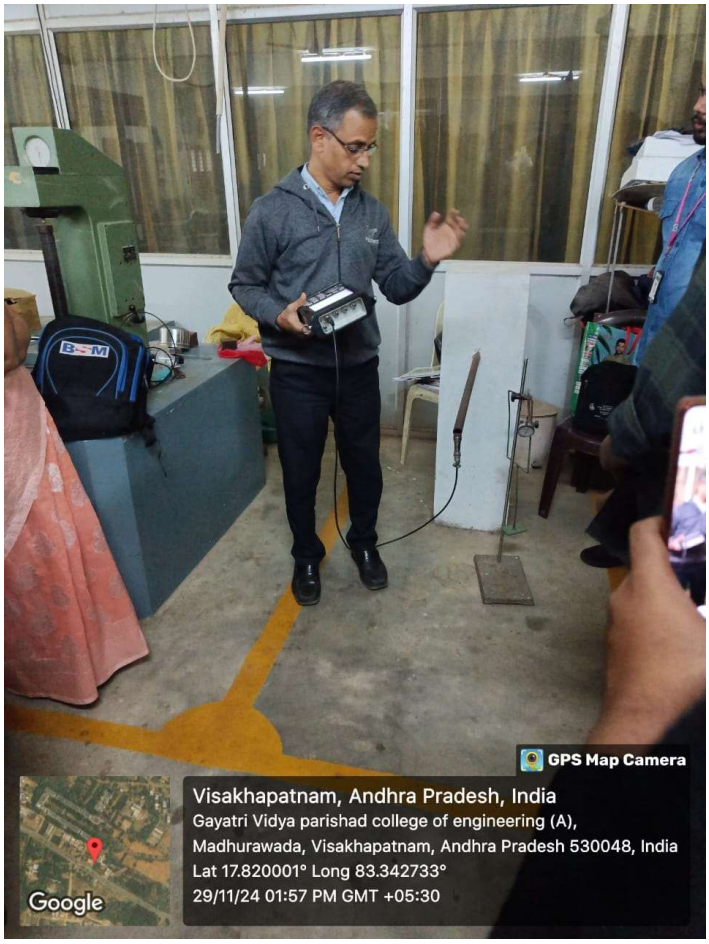
Date: 29th November 2024

Venue: Gayatri Vidya Parishad College of Engineering (A), Visakhapatnam

The second day of the workshop focused on Structural Health Monitoring (SHM), with a specific emphasis on vibration analysis. Dr. Venkat Lute led a detailed session explaining how vibrations can be used to assess the health of infrastructure, particularly in identifying potential damage to bridges and buildings. The session included practical demonstrations using COCO software, equipping participants with hands-on experience in analyzing vibration data to detect structural issues.

Key Insights:

- Understanding vibration-based SHM techniques
- Practical use of COCO software for real-time structural monitoring
- Importance of SHM in maintaining the safety and longevity of infrastructure


GPS Map Camera
Visakhapatnam, Andhra Pradesh, India
Gayatri Vidya parishad college of engineering (A),
Madhurawada, Visakhapatnam, Andhra Pradesh 530048, India
Lat 17.820001° Long 83.342733°
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Day 3: Exploring Concrete and Green Technologies:

Date: 30th November 2024

Venue: Gayatri Vidya Parishad College of Engineering (A), Visakhapatnam

The third day introduced participants to the latest advancements in green concrete technologies and sustainable construction practices. Industry experts Sri. Suresh C. Tripathi and Sri. Dnyanesh Nikam provided insights into the innovative use of self-healing concrete, fiber-reinforced concrete, and the application of C-Probe technology for non-destructive testing. A live demonstration of green concrete and a hands-on session with C-Probe allowed participants to directly engage with these transformative technologies.

Key Insights:

- Exploration of eco-friendly concrete alternatives
- Practical experience with C-Probe technology for assessing concrete strength
- In-depth knowledge of Building Information Modeling (BIM) and SHM

Live demonstration of green concrete and a hands-on session with C-Probe


CENTRE FOR VIBRATION
&
STRUCTURAL HEALTH MONITORING

Day 4: Failure Investigation of Structures Through Health Monitoring Strategies:

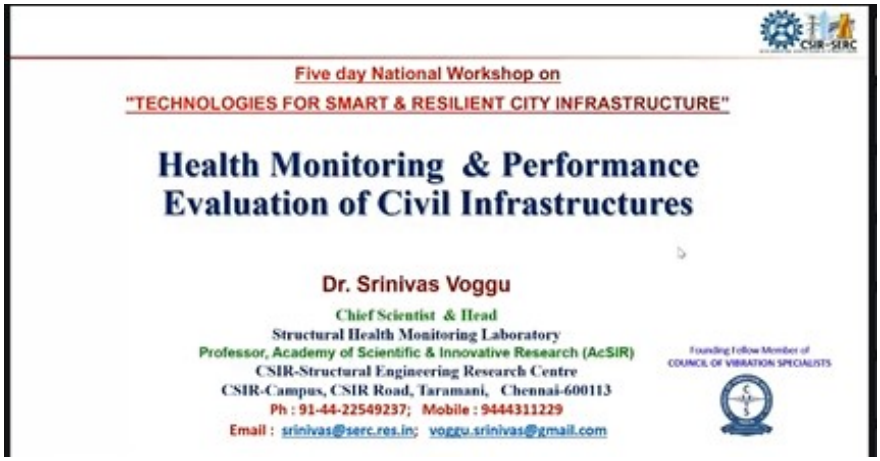
Date: 1st December 2024

Session: Online Lecture by Dr. Srinivas Voggu, Chief Scientist, CSIR-SERC, Chennai

On the fourth day, Dr. Srinivas Voggu delivered an insightful online session on the failure investigation of structures using SHM techniques. He discussed how real-time monitoring technologies, such as acoustic emission monitoring and vibration testing, help detect early signs of distress in critical infrastructure, thereby preventing catastrophic failures. Dr. Voggu emphasized the significance of proactive maintenance in ensuring the resilience and longevity of structures.

Key Insights:

- Understanding advanced SHM techniques for failure prevention
- The role of acoustic emission and vibration testing in structural health
- Proactive approaches to maintaining the integrity of critical infrastructure



Day 5: Value-Added Concrete Products:.

Date: 2nd December 2024

Venue: Gayatri Vidya Parishad College of Engineering (A), Visakhapatnam

The final day of the workshop featured a session by Dr. Ravi Kumar Bodasingu, who highlighted the growing importance of value-added concrete products in modern construction. These innovations not only improve the performance and durability of structures but also promote sustainability. Dr. Bodasingu shared real-world case studies, showcasing how these advanced materials are being used to create more efficient and resilient infrastructure.

Key Insights:

- Overview of value-added concrete innovations
- Real-world applications of advanced concrete products in civil engineering
- The future of sustainable construction through value-added materials

Acknowledgments:

The workshop concluded with a formal ceremony where mementos were presented to the esteemed resource persons as a gesture of appreciation. Certificates were awarded to all participants, acknowledging their active engagement and contributions throughout the event.

Conclusion:

The Five-Day National Workshop on "Techniques for Smart and Resilient Infrastructure" was a resounding success, providing participants with comprehensive insights into the latest innovations and practices in civil engineering. Through a mix of expert lectures, hands-on demonstrations, and site visits, the workshop emphasized the critical role of sustainability, technology, and innovation in building resilient infrastructure for the future. The event also created valuable networking opportunities, fostering connections between academia and industry professionals.

With a focus on structural health monitoring, green concrete technologies, and value-added concrete products, the workshop has undoubtedly equipped participants with the tools, knowledge, and inspiration to lead the way in shaping smarter, more resilient infrastructures in the years to come.