Sanrachna Prahari Pvt Ltd (SPPL)

(An IIT Delhi Incubated Company)

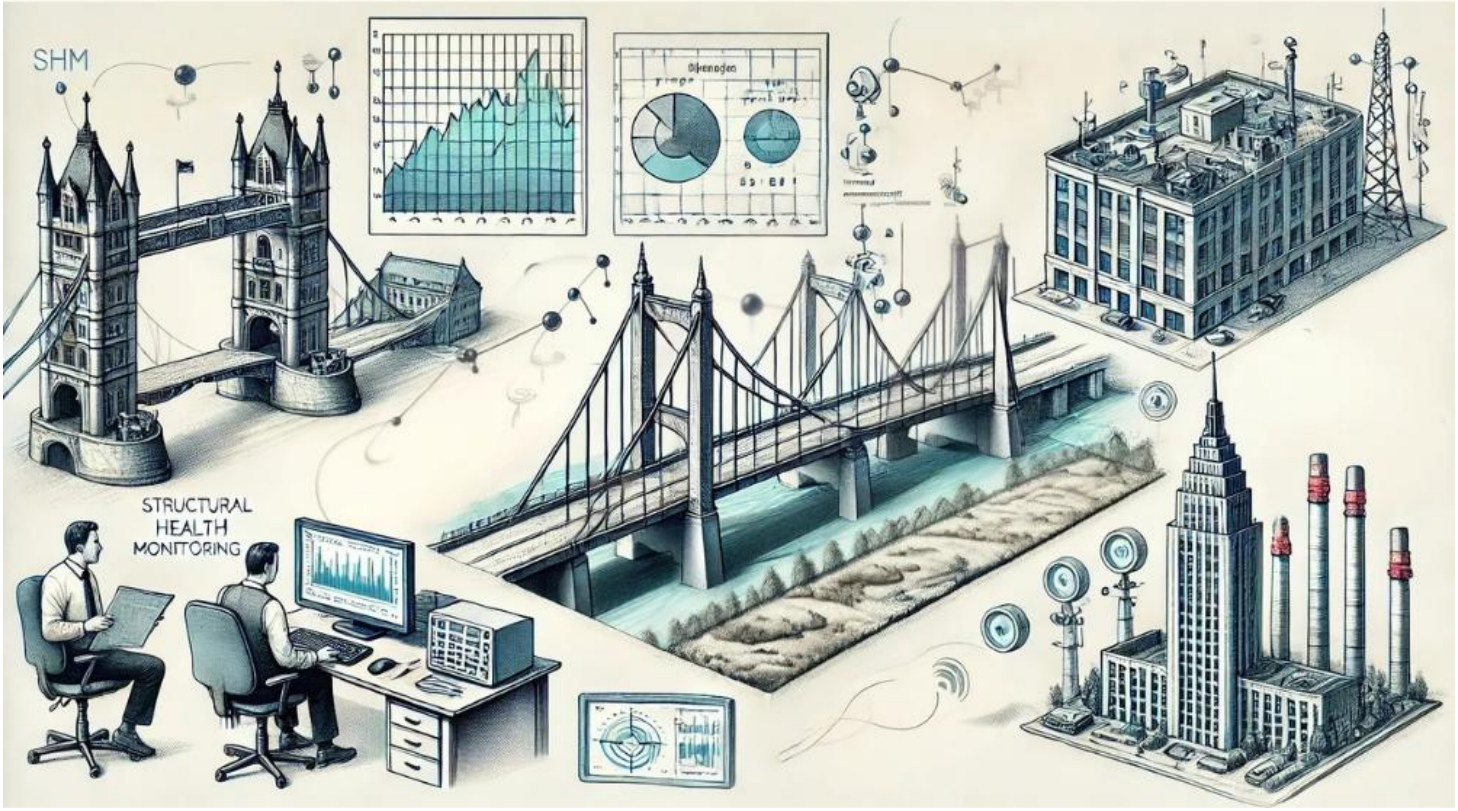
Safeguarding Structures, Securing Futures

Introduction to Structural Health Monitoring: Theory & Practice

Certificate Course by SPPL India

Structural Health Monitoring (SHM) offers disruptive technology to transform civil infrastructure into 'smart' systems. SHM enables **early detection of anomalies** such as loss of stiffness, stress accumulation, fatigue-induced cracks, corrosion propagation and performance degradation. With increasing demands for **safety, longevity** and **sustainability** in civil engineering, SHM is becoming essential in mitigating risks associated with structural integrity and engaging as key technology linked to sustainability.

Sanrachna Prahari Pvt Ltd (SPPL) India, presents a **one-day hands-on learning and training course** designed to provide a comprehensive understanding of SHM **principles**, **techniques** and **applications**. This course is crafted to equip professionals, researchers and students with the necessary knowledge and practical exposure to SHM methodologies, sensor technologies and data-driven decision-making.



WHY ATTEND THIS COURSE ?

SPPL India, an **IIT Delhi incubated** technology company, has launched this initiative to bridge the skill gap in SHM and promote the adoption of advanced monitoring systems in India's infrastructure sector. This training aligns with the **Skill India Mission**, fostering industry-ready professionals and enhancing employment opportunities in civil, aerospace, and mechanical engineering sectors. Key takeaways from this course are:

- Learn from top industry experts and academicians from **SPPL India** and **IIT Delhi**.
- Gain practical insights into **SHM methodologies**, **sensor-based monitoring** and **predictive maintenance**.
- Hands-on exposure to cutting-edge technologies, including **AI**, **IoT**, and **sensor-based monitoring**.
- Understand **real-world applications** of SHM on bridges, tunnels, dams, and other critical infrastructure.
- Enhance career prospects in the growing field of SHM.

RECOMMENDED FOR

- **Practicing engineers** from government and private sectors in civil, mechanical and aerospace engineering.
- **Faculty members**, **researchers** and **scientists** from engineering colleges and R&D organisations.
- **Government officials** involved in infrastructure, planning and safety.
- **Civil contractors**, **builders** and **test center personnel** engaged in structural assessment and monitoring.
- **Graduate** and **postgraduate students** in relevant engineering fields.

OUR SPEAKERS

Col Rohit Gogna - CEO, SPPL India (IIT Delhi Alumnus)

- Expertise: Tall structures with base-isolation and TMD, vibration impact mitigation, non-destructive evaluation and SHM.

Ms Shipra Prakash - Dir Ops, SPPL India (SRF, IIT Delhi)

- Expertise: IoT-based SHM, smart structures and self-sensing concrete technology.

Prof Suresh Bhalla - Professor (Higher Administrative Grade), Dept of Civil Engineering, IIT Delhi

- Expertise: SHM, smart materials, seismic retrofitting, novel sensors, energy harvesting and adoption of aerospace technology in civil engineering

Dr Naveet Kaur - Sr Scientist, CSIR-CRRI (IIT Delhi Alumnus)

- Expertise: SHM, smart materials, energy harvesting and integrated monitoring technologies.

COURSE ITINERARY

Session Title	Session Description	Time	Speaker
Overview of SHM	- Importance of SHM for structural safety and longevity - Damage mechanisms in structures: cracks, corrosion, vibration fatigue - Types of failures: material degradation, environmental effects, human-induced failures - Real-world SHM case studies	10:00 – 11:30 hrs	Col Rohit Gogna
Science Behind SHM & Sensors	- Evolution of SHM and smart infrastructure - Types of sensors: accelerometers, strain gauges, displacement sensors, fiber optics, piezoelectric sensors. - Energy harvesting from ambient vibrations	11:30 – 13:00 hrs	Dr Naveet Kaur
**Lunch Break (13:00 - 14:00 hrs)*			
SHM Techniques & Methodologies	- Essentials of sensor-based monitoring - Static vs dynamic sensors - Feature extraction in global and local SHM techniques - Real life applications of advanced sensing technologies	14:00 – 15:30 hrs	Prof Suresh Bhalla
Data Acquisition & Signal Processing	- Basics of data collection and acquisition systems - Time & frequency domain analysis - Practical demonstration	15:30 – 17:00 hrs	Ms Shipra Prakash
Discussion	- Open forum interaction	17:00 - 18:00 hrs	Col Rohit Gogna

*Lunch included in the program

COURSE DETAILS

- **Date:** 19 April 2025
- **Duration:** 8 hrs (including lunch break)
- **Venue:** Research and Innovation Park, IIT Delhi, Hauz Khas, New Delhi, Delhi 110016
- **Mode:** Online / Offline
- **Host Organisation:** Sanrachna Prahari Pvt Ltd (SPPL), India
- **Partner Organisation**: Indian Institute of Technology Delhi
- **Registration Close:** 18 April 2025
- **Issue of Certificates:** 19 April 2025 (after 1800 hrs)

PRICING

Mode / Registration Date	Online	Offline
Register Before **12 April 2025 (2359 h)**	₹ 3999	₹ 4999
Register After **12 April 2025 (0001 h)**	₹ 4999	₹ 5999

Note: ₹ 1000 off for registration with valid student ID (please upload in form)

HOW TO REGISTER ?

1.Scan the payment QR to make the payment

2.Fill the Google form and submit (attach the payment screenshot in the form)

3.Confirmation and updates will be shared on registered email

Scan to Pay

Google Form

CONTACT US

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Note: all times mentioned are Indian Standard Time (IST)