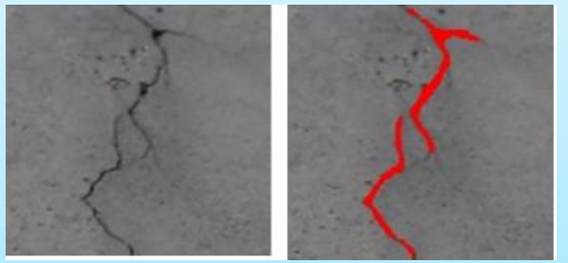
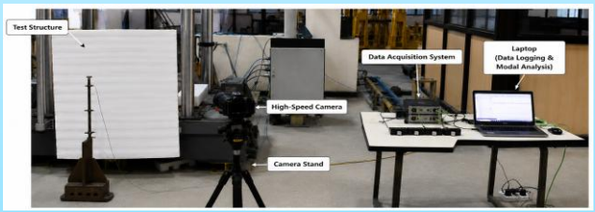
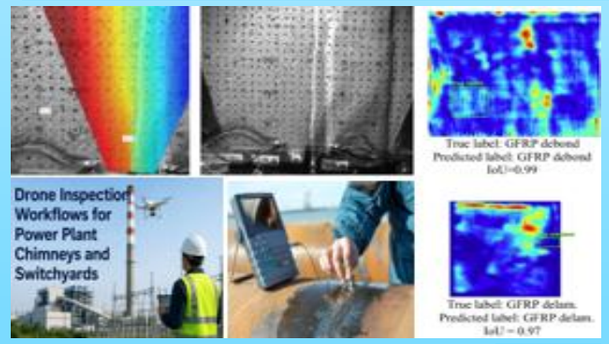
## Advanced Course on

# Vision – Based and Imaging Approaches for STructural DiAgnostics: From Surface to Subsurface (VISTA-2026)

**Duration: 7- 9, October 2026**






**Organized by**
**CSIR-Structural Engineering Research Centre**
**(An ISO 9001:2015 Certified Organization)**
**CSIR Campus, Taramani**
**Chennai-600113, India**

## Overview:

CSIR-Structural Engineering Research Centre (CSIR-SERC), Chennai, is one of the national laboratories under the Council of Scientific & Industrial Research (CSIR), India. CSIR-SERC has developed excellent facilities and expertise in the analysis, design, and testing of structures and structural components. The services of CSIR-SERC are being extensively used by the central and state governments and by public and private sector undertakings. Scientists at CSIR-SERC serve on many national and international committees, and the Centre is recognized nationally and internationally as a leading research institution in structural engineering.

## Background:

Recent developments in vision-based sensing, imaging technologies, and artificial intelligence (AI) are significantly transforming structural health monitoring (SHM) and non-destructive testing and evaluation (NDT&E). These technologies enable automated, accurate, and non-contact inspection of civil infrastructure, reducing manual intervention and improving reliability. Techniques such as digital image correlation, photogrammetry, computer vision and deep learning-based surface damage mapping, vision-based vibration tracking, infrared thermography, ultrasonic imaging, and terahertz imaging are widely used for structural diagnostics. Integration of UAVs, 3D reconstruction, and digital twin technologies further enhances infrastructure inspection, condition assessment, and asset management, supporting data-driven decision-making for sustainable infrastructure systems. The course provides a comprehensive overview of these emerging technologies, covering the fundamentals, state-of-the-art advances, and their practical applications in structural health monitoring and non-destructive testing and evaluation.

## Course contents:

- Vision- based and Imaging Approaches for Structural Diagnostics.
- Vision-based Sensing and Digital Image Correlation (DIC) Techniques.
- Vision-based Surface Defect Mapping and Vibration Measurement.
- Integration with UAV Technologies for Structural Inspection & Monitoring.
- Photogrammetry and 3D Reconstruction.
- Overview of NDT Imaging Techniques.
- Ultrasonic and Terahertz Imaging for Damage Detection.
- Infrared Thermography for Subsurface Defect Detection.

## Faculty:

- Faculty for the course would comprise mainly scientists from CSIR-SERC and expert(s) from reputed research/academic institutions/industry.

## Prerequisites:

The course registrants can ensure adequate knowledge on the background to course contents through academic qualifications/working experience to fully exploit the benefits of attending advanced course.

## Venue and Duration:

Training and Development Complex (TDC), CSIR-SERC, Chennai.

Timings: 09:00 Am to 05:30 Pm

## Registration and Fee:

Registration fee is Rs. 3,000/- per participant, inclusive of GST, for working professionals; Rs. 1,500/- per participant, inclusive of GST, for student participants (with proper authentication); and US$450/- for foreign delegates. Course material (PDF format) and a participation certificate shall be provided to all the registered participants.

The above registration fee includes a kit, lunch and refreshments for three days. Participants can register online for this course by using the provided weblink:

https://serc.res.in/course.

Please select the intended course, fill in all the particulars and Pay the registration fee using the SBI Collect link in the form

## Travel, Boarding and Lodging Arrangement

The participants or their sponsoring organizations must bear travel, boarding and lodging expenses. Limited accommodation in the Guest House/Trainee's Hostel at CSIR-SERC Campus may be arranged on a first-come-first-served basis at extra cost. Participants wishing to avail of this facility are advised to write to the course coordinator well in advance, and in any case, not later than Oct 01, 2026.

## *For further details, please contact*

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