



## NCIT Webinar Series

# InSAR and Photomonitoring: New Frontiers for Transportation Asset Monitoring

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**Wednesday, May 20 | 11:30 A.M.-12:30 P.M. (CDT)**

To register, scan the QR code or visit: <https://ncit.pvamu.edu/events/may-20-2026-webinar/>

## **ABSTRACT**

The transportation sector is increasingly exposed to geohazards, aging-related deterioration, and climate-driven stressors that can compromise the safety and reliability of critical assets such as railways, highways, bridges, embankments, and cut slopes. Meanwhile, the growing availability of high-resolution, multi-frequency imagery from satellite, aerial, and ground-based platforms is transforming how these assets can be observed—continuously, at scale, and without physical contact. The webinar explores how advanced remote sensing and image-based monitoring—particularly Synthetic Aperture Radar Interferometry (InSAR) and photomonitoring—enable systematic assessment of transportation infrastructure. We will show how InSAR time-series analysis, Digital Image Correlation (DIC), Change Detection (CD), and Structure-from-Motion (SfM) photogrammetry can quantify ground deformation and detect structural changes with high spatial coverage, precision, and revisit frequency. The talk will also address integration into operational workflows, from network-level screening and hotspot identification to targeted inspections and risk-informed maintenance planning, supporting more resilient, data-driven decisions across natural and built environments.

