

# The Department of Civil and Environmental Engineering at the University of Houston presents...

## CIVE 6111 Graduate Seminar

### Space Geodetic monitoring of engineered structures and the role of spaceborne synthetic aperture radar



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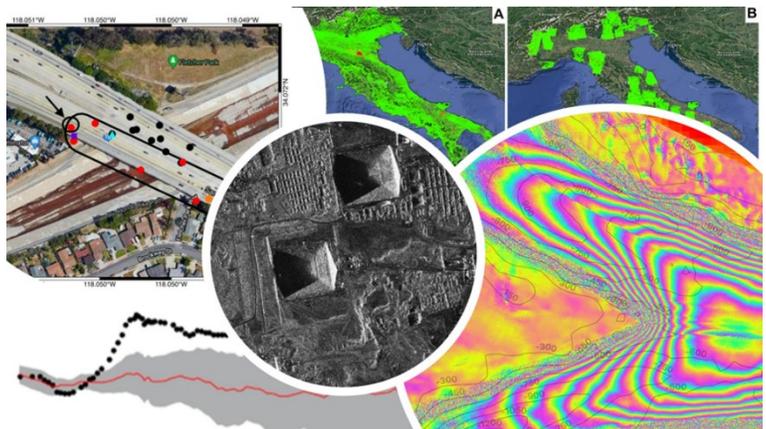
2:45pm-3:45pm

Classroom Business Building (CBB) - Room 124

Zoom Link <https://uh-edu-cougarnet.zoom.us/j/94797755629>

#### Abstract

Spaceborne multi-temporal interferometric synthetic aperture radar (MT-InSAR) is a methodology capable of measuring deformation of the earth surface and the built environment with accuracies of the order of millimeters. Most of the current SAR satellites missions (e.g., TanDEM-X (TDX)/PAZ, COSMO-SkyMed (CSK), and Sentinel-1A/B) are designed as constellations of SAR sensors. Such constellations can provide greater spatial coverage and temporal sampling enabling



a new class of applications in Earth science and environmental engineering. SAR satellites are also capable of acquiring data in remote areas affected by recent or ongoing natural disasters. In this presentation we will address these improvements and show how they lead to a more effective near real-time disaster monitoring, assessment and response, and a greater ability to constrain dynamically changing physical processes.

Keywords: synthetic aperture radar, interferometry, SAR, infrastructure monitoring

#### Bio

Dr. Pietro Milillo is Assistant Professor in Geo-sensing system engineering at the University of Houston, and a guest visiting researcher at the German Aerospace Center, Microwaves and Radar Institute in Munich. His research focuses on the synergistic use of remote sensing, ground-based data exploitation and innovative approaches for computational analyses in Earth and Cryosphere Science and natural and anthropogenic hazard Response.