



UNIVERSITY OF MIAMI – DEPARTMENT OF PHYSICS

PHYSICS SEMINAR

SEPTEMBER 8, 2026

DATE

Tuesday, September 8, 2026

TIME

4:00 PM

LOCATION

Department of Physics Library
James L. Knight Physics Building, Room 335

SITUATIONAL AWARENESS FOR THE ENVIRONMENT

See the unseen ... beyond perception

Some things become visible only when new senses and new ways of thinking start looking together.

ABSTRACT

Environmental challenges such as coastal change, extreme weather, pollution, ecological disruption, earthquakes, floods, and wildfires rarely present themselves as simple problems. They behave as complex systems, where decisions require more than isolated data: they call for situational awareness, the ability to read the whole as it unfolds.

SAFE Tour is an international, multi-year scientific initiative that brings together environmental engineering, forensic science, aerospace technology, organic chemistry, computer science, civil protection, and other disciplines. Through real cases, live demonstrations, and open discussion, this University of Miami stop explores how heterogeneous observations and perspectives can reveal what individual methods may miss, supporting deeper understanding and better-informed decisions.

Live demonstrations • Interdisciplinary perspectives • Open discussion

PRESENTERS



Prof. Massimiliano Lega, Ph.D.

University of Naples Parthenope • Department of Engineering

Professor of Environmental Engineering and founder and scientific director of SAFE Tour. His interdisciplinary research integrates environmental monitoring and forensics, remote and proximal sensing, UAVs, bioindicators, and situational awareness. His methods have been validated by Italian government agencies and used in official investigations of pollution and environmental crimes. He is also a Fulbright Ambassador with extensive U.S.-European collaborations.



Prof. Roberta Teta, Ph.D.

University of Naples Federico II • Department of Pharmacy

Professor whose research spans marine natural products, organic chemistry, marine biology, molecular biology, bioinformatics, and advanced analytical methods. She develops multidisciplinary approaches to discover and characterize bioactive compounds from marine organisms and microorganisms, including genome mining and molecular networking. A permanent SAFE Tour speaker, she connects molecular and microbiological evidence with environmental situational awareness.