

# SCIENCE AND TECHNOLOGY WITH NO BOUNDARIES

## **Informal Interdisciplinary Seminars “Science and Technology With No Boundaries”**

Faculty and Undergraduate and Graduate Students are Invited to Participate!

FREE FOOD AND DRINKS PROVIDED

### **Meeting Overview and Presentation Guidelines**

The purpose of these seminar series is to help students and faculty from diverse backgrounds work together on solving “big” problems. Launched in Spring 2023, these seminars have become popular among both students and faculty and resulted in a number of successful partnerships and initiatives withing the U and beyond.

The topic for each meeting is selected by the moderators—currently Manohar Murthi and Sakhrat Khizroev—based on your recommendations. We encourage you to propose subjects that extend beyond your current research. Ideal topics might include recent breakthroughs published in reputable journals in the field, or visionary concepts that, while seemingly unattainable today, could shape the future.

Presentations should be accessible to a broad academic audience, including students and faculty from diverse departments and schools. Each presenter is expected to:

- Provide a concise overview of key open questions in the chosen topic area
- Highlight the current state of the art
- Share a forward-looking perspective on potential collaborations and long-term impact

The formal presentation should be limited to 15 minutes, allowing the remainder of the one-hour session for informal, interactive discussion. This dialogue is intended to be exploratory and inclusive, even if the topic is unfamiliar to the presenter. Our goal is to foster a collegial and intellectually stimulating environment where transformative ideas in science and technology can emerge. There is no pressure—just an open invitation to engage. Both students and faculty are warmly encouraged to attend. Complimentary food and beverages will be provided.

### **PAST SEMINARS**

#### **Friday, September 22, 2023:**

Presenter: Sakhrat Khizroev

Title: Quantum Computing

Time: 2:30-3:30PM; Venue: ECE Conference Room: MEB 409

#### **Friday, October 20, 2023:**

Presenter: Kamal Premaratne, University of Miami

Title: Leveraging Quantum Perturbation Theory for Uncertainty Quantification

Time: 2:30-3:30PM; Venue: ECE Conference Room: MEB 409

#### **Friday, November 3, 2023:**

Presenter: Michael Wang, University of Miami

Title: Micro and Nano Scale Topographic and Tomographic Sensing of Surfaces and Particles

Time: 2:30-3:30PM; Venue: ECE Conference Room: MEB 409

**Contact:** please send your inquiries to [skhizroev@miami.edu](mailto:skhizroev@miami.edu)

# SCIENCE AND TECHNOLOGY WITH NO BOUNDARIES

**Friday, December 1, 2023:**

Presenter: Eli Yablonovitch, UC-Berkeley

Title: Carbon Dioxide Removal to Solve the Climate Crisis

Time: 11:00AM-12:00PM; Venue: Frost Institute Conference Room

**Friday, January 26, 2024:**

Presenter: Peggy Wang, University of Miami

Title: Broadening Carbon Ring

Time: 2:30-3:30PM; Venue: ECE Conference Room: MEB 409

**Friday, February 9, 2024:**

Presenter: Mingzhe Chen

Title: Semantic Communications: Fundamentals and Challenges

Time: 2:30-3:30PM; Venue: ECE Conference Room: MEB 409

**Friday, February 16, 2024:**

Presenter: Robert Usselman, Florida Institute of Technology

Title: Quantum Biology Clock

Time: 2:30-3:30PM; Venue: ECE Conference Room: MEB 409

**Friday, February 23, 2024:**

Presenter: Giacomo Po

Title: Micromechanics of refractory materials

Time: 2:30-3:30PM; Venue: TBA

**Friday, March 8, 2024:**

Presenter: Ali Ghahremaninezhad

Title: Emerging bio-inspired materials for sustainable and resilient infrastructure

Time: 2:30-3:30PM; Venue: TBA

**Friday, March 22, 2024:**

Presenter: Luis Ruiz Pestana

Title: Computer-aided materials discovery and optimization

Time: 2:30-3:30PM; Venue: TBA

**Friday, April 5, 2024:**

Presenter: Miltiadis "Miltos" Alamaniotis, UT San Antonio

Time: 2:30-3:30PM; Venue: Frost Institute Conference Room

**Friday, April 19, 2024**

Presenter: Tianhong Cui, University of Minnesota

Title: Shrink polymer sensors: Manufacturing from Micro to Nano

Time: 12:00-1:00PM; Venue: ECE Conference Room

**Friday, December 6, 2024**

Presenter: John Volakis, Florida International University

Title: Fabrication Challenges and Digital Twin-Models for High Density Heterogeneous Packaging of RF/mm-Wave Transceivers

**Friday, April 25, 2025:**

**Contact:** please send your inquiries to [skhizroev@miami.edu](mailto:skhizroev@miami.edu)

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Presenter: Theodore Lampidis, Sylvester Comprehensive Cancer Center, University of Miami

Title: 2-Deoxyglucose exploits increased glucose metabolism a common trait of most cancer types

## **Friday, May 9, 2025**

Presenter: Nezih Pala, Florida International University

Title: Carbon-Based THz Plasmonic Devices for Next-Generation Communications, Sensing, and Imaging

## **Friday, March 7, 2025:**

Presenter: He Wang, Department Physics, University of Miami

Title: Structure-Photophysics-Function Relationship of Perovskite Solar Cells

Time: 2:00-3:00PM; Venue: MEB 409

## **Friday, October 17, 2025:**

Presenter: Hebin Li, Department of Physics, University of Miami

Title: Exploring Many-Body Physics with Single Quantum Entities for Quantum Information Science

## **Friday, November 7, 2025:**

Presenter: Clint Powell, Chair of IEEE 802.15 Work Group on Wireless Specialty Networks (WSN)

Title: 802 Standards for Wireless Communications Systems- an IEEE 802.15 Overview

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