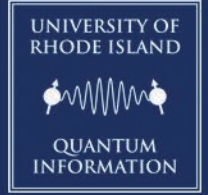
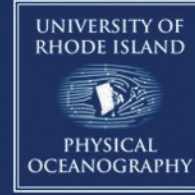
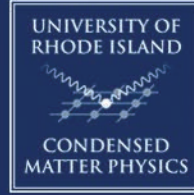
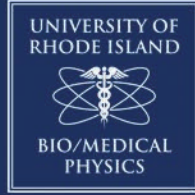
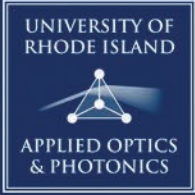


# THE UNIVERSITY OF RHODE ISLAND

## DEPARTMENT OF PHYSICS



**You are invited to join us for a talk as part of our semester colloquium series**

**Presenter:** Dr. Neal Spellmeyer (MIT Lincoln Laboratory)

**Date & Time:** Friday April 5, 2024  
4:00 - 4:50 PM

**Location:** East Hall Room 112

**Title:** Quantum Satellite Synchronization

**Abstract:**

Precision synchronization is critical for realizing long-distance quantum networking in which entanglement swapping between distantly separated sources via an optical Bell state measurement requires temporal overlap of arriving photonic qubits. This challenge is particularly distinct in satellite-based entanglement distribution in which relative motion, channel effects, and propagation delay must be addressed. This talk will discuss recent progress in achieving precision synchronization in a quantum networking testbed configured for a dual-uplink architecture in which photons from sources at two ground locations would interact at Bell-state measurement on a satellite. Results demonstrate sub-ps synchronization in cases of large Doppler arising from satellite motion.



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