

**Jun Ye**

JILA, National Institute of Standards and Technology  
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***Coherence, entanglement, and clock: from emergent  
phenomena to fundamental physics***

Friday, March 31, 2023  
9:00am – 10:30am, EEB 132  
Refreshments will be served

**Abstract:** Precise quantum state engineering, many-body physics, and innovative laser technology are revolutionizing the performance of atomic clocks and metrology, providing opportunities to explore emerging phenomena and probe fundamental physics. Recent advances include measurement of gravitation time dilation across a few hundred micrometers, and employment of quantum entanglement for clock comparison.



**Bio:** Jun Ye is a Fellow of JILA, a Fellow of NIST, and a member of the National Academy of Sciences. His research focuses on the development of new tools for light-matter interactions and their applications in precision measurement, quantum science, and frequency metrology. He has co-authored over 400 scientific papers and delivered 600 invited talks. Among his many awards and honors are N.F. Ramsey Prize (APS), I.I. Rabi Award (IEEE), I.I. Rabi Prize (APS), and W.F. Meggers Award (OSA). His recent 2022 honors include Breakthrough Prize in Fundamental Physics, Niels Bohr Institute Medal of Honour, Herbert Walther Award, and Vannevar Bush Fellowship.