UCLA Department of Physics & Astronomy

COLLOQUIUM

Thursday, May 9th, 2024 at 4 p.m.
PAB 1-434

Quantum Science with Tweezer Arrays

Manuel Endres
California Institute of Technology

Optical tweezer arrays have had a transformative impact on atomic and molecular physics over the past years, and they now form the backbone for a wide range of leading experiments in quantum computing, simulation, and metrology. Underlying this development is the simplicity of single particle control and detection inherent to the technique. I will introduce the key concepts associated with this approach and then give an overview of experimental results from our group, including quantum simulation challenging state-of-the-art classical algorithms, novel schemes for quantum computing and metrology, and an outlook towards scalability with our most recent results on trapping over 6,000 atoms.

Refreshments at 3:30 p.m. PAB Patio. **Undergraduates Welcome!**