



UNIVERSITY of
DENVER

PHYSICS AND ASTRONOMY

Presents:

Hybrid trapped ion and neutral-atom based quantum networking

Wednesday, April 7, 4:00 pm

Via Zoom (Meeting ID 833 1526 9899)



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Army Research Lab and Prof. Adjunct,
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Connecting disparate quantum systems will enable practical implementation of quantum networking. Trapped ions are strong candidates for both communication nodes and quantum memories, possessing ion-photon entanglement, high-fidelity quantum gates and long coherence times. Neutral-atom based quantum nodes also have a wide range of applications including in quantum simulation, metrology and quantum storage. A photonic link between these remotely situated systems provides a hybrid platform for leveraging individual strengths. Yet, trapped ions and neutral atoms operate at fixed and incompatible optical wavelengths. This talk will present our approach for connecting these systems together and cover the challenges ahead.

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