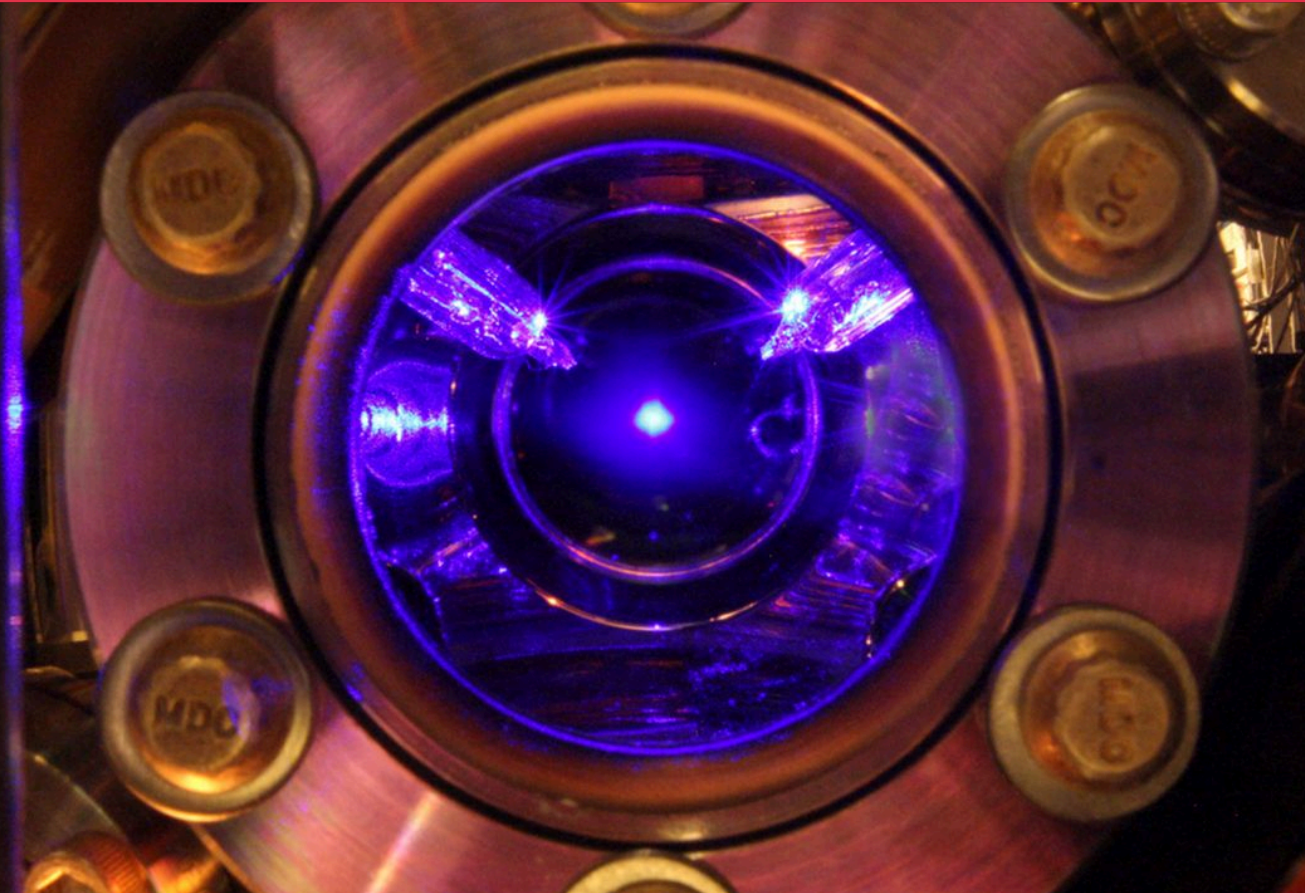


PHAS Colloquium:

Manipulating atoms with light: laser cooling to Bose-Einstein condensation and 51 atomic qubits



ABSTRACT

Since the first demonstration of laser cooling and trapping three decades ago, our abilities to manipulate atomic ensembles and individual atoms with light have been substantially extended. Among those novel capabilities, I will discuss a new method how to directly optically cool an atomic gas to form a Bose-Einstein condensate, without any evaporative cooling. I will also discuss the deterministic preparation of a large array of individual atoms with controlled optically induced long-range Ising type interactions for quantum simulation, and potentially, quantum computing.

Image Description: trapped cloud of strontium-87 atoms (blue dot in center).
Image Credit: Ye Lab group, JILA
Poster Designed By: Neil McCall
(neiltmcl@my.yorku.ca)

DATE: January 15th, 2019

TIME: 2:30 PM

LOCATION: PSE 317

SPEAKER

Vladan Vuletic

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**THERE WILL
BE SNACKS**

ALL ARE WELCOME