

Postdoctoral Positions in Nonlinear and Quantum Silicon Photonics and Nanoptomechanics

Postdoc positions are available on a number of exciting projects related to nanophotonics at the University of Colorado-Boulder, with immediate start date.

Opening 1: Optomechanics – We work in a new, burgeoning field of research emerging at the interface of nanophotonics and nanomechanics, and their interaction through light forces at the nanoscale. We are exploiting this novel physics for device innovation including self-adaptive nanophotonic devices, light-force based nanomotors and devices exploiting nonlinear dynamics, and novel photonic signal processing concepts. The position will include leading an effort on design and demonstration of novel chip-scale photonic circuit concepts that employ optical forces, and optical nonlinearity; and mentoring graduate students collaborating on the effort. The successful candidate will have experience in some or all of silicon and/or integrated photonics theory, design and nanofabrication; NEMS/nanomechanics; electrodynamics and quantum theory. Advanced nanofabrication skills are a plus.

Opening 2: Nonlinear and quantum integrated photonics – A candidate is sought to join an effort to engineer advanced new photonic systems employing nonlinear effects and advanced nanofabrications, and to design novel quantum photonic devices from first principles. You will join a major effort to demonstrate a new device technology for classical and quantum communication and computation, metrology, and interconnects. The successful candidate will have strong training in some or all of theoretical and experimental quantum optics, nonlinear optics, silicon photonics theory and design, and nanofabrication. Additional strengths may include familiarity with numerical simulations (FDTD, Comsol, etc.), low-temperature experiments and cryo-systems, and cold-atom physics.

University of Colorado-Boulder is host to a highly dynamic environment in the area of optics. Postdocs are considered research faculty and receive generous benefits.

For more information or to express interest in a position, please see our webpage <http://plab.colorado.edu/> and contact Prof. Milos Popovic by email: milos.popovic@colorado.edu.

Keywords: silicon nanophotonics, light forces, nano-optomechanics, microring and photonic-crystal resonators, CMOS, nonlinear and quantum photonics, quantum computing, cold atoms, optical lattices, BEC.