Postdoctoral Position in Silicon Quantum Integrated Photonics

A postdoctoral position is available in an effort to design fully integrated silicon quantum photonic circuits, including advanced coupled microcavity based entangled photon sources and single photon and photon number resolving detectors. You will contribute a leadership role in a collaboration between our group at University of Colorado Boulder, and NIST Boulder, to demonstrate advanced on-chip silicon sources, detectors, and complete quantum photonic circuits opening up doors to new and advanced quantum optics experiments. This research will have implications for classical and quantum communication and computation, quantum metrology, as well as optical interconnects. You will also gain familiarity with advanced CMOS electronics processes, in which our group has recently demonstrated the first monolithically integrated photonics in sub-100nm CMOS technology. The successful candidate will have a strong background in at least a few of: theoretical and experimental quantum optics, silicon photonics theory and design, nonlinear optics, and nanofabrication including e-beam lithography. Additional strengths include familiarity with numerical electromagnetics simulations (FDTD, Comsol, etc.), semiconductor device simulations (e.g. Sentaurus TCAD), low-temperature experiments and cryo-systems, and cold-atom physics.

University of Colorado Boulder is host to a very active research environment in optics and photonics, including over 40 research groups on campus, 4 national labs in the area that do photonics-related research, and 4 optics-related Nobel Prizes in the past decade. 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 (to have the application seen faster, please put [SIQP] at the start of the subject line).

Keywords: silicon nanophotonics, microring, photonic-crystal, resonators, CMOS, nonlinear optics, quantum photonics, quantum computing, cold atoms, optical lattices, BEC.

Colorado
University of Colorado at Boulder