Canadian Association of Physicists

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Contribution ID: **579** Type: **Invited Speaker / Conférencier(ère) invité(e)**

(I) Nanophotonic platforms for quantum optics with atomic ensembles

Wednesday 9 June 2021 11:50 (5 minutes)

I will present my group's recent efforts to combine atomic ensembles with nanophotonic structures. I will describe our experiment in which photons emitted by a quantum dot embedded in a semiconductor nanowire are sent into an ensemble of laser-cooled caesium atoms confined inside a hollow-core photonic-crystal fibre to realize photon storage and single-photon wavelength conversion. Additionally, I will report on our progress in developing new types of mesoscopic optical cavities based on dichroic mirrors realized with chiral photonic crystal slabs and metasurfaces. This research was undertaken in part due to funding from the Canada First Research Excellence Fund."

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