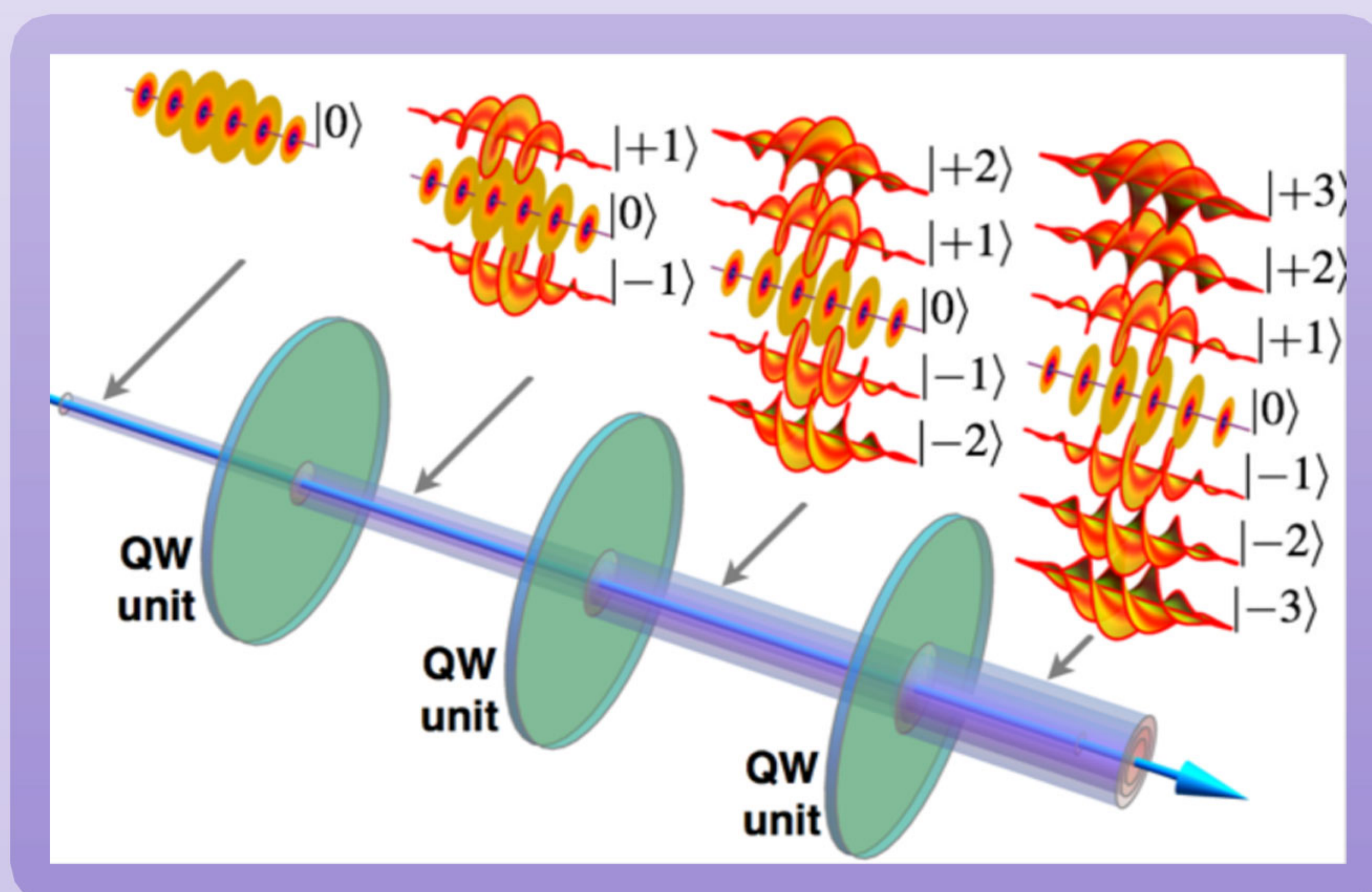


Implementing quantum computations with structured photons

Prof. Ebrahim Karimi
University of Ottawa

Structured light, possessing a complex amplitude, phase and polarisation distribution, invokes interesting fundamental properties that enable novel applications in classical and quantum optical experiments. They are highly advantageous to encode more information per single carrier as physical realizations of high-dimensional states. In the quantum regime, structured photons are robust against imperfections during generation, detection and transmission. Therefore, they may provide the technical infrastructure for the generation of ultrasecure and super-dense quantum communications. In my speech, I will present the recent progress, challenges and development in performing high-dimensional quantum key distribution as well as our recent achievements in simulating quantum computations with structured photons.



Date & Time: Monday, September 26, at 4:30 pm

Address: Room C, Institute for Research in Fundamental Sciences (IPM), next to Kouhe Nour Building, Farmanieh Ave.

More info.: <http://physics.ipm.ac.ir/seminars.jsp>