BRIGHAM AND WOMEN'S HOSPITAL

HARVARD MEDICAL SCHOOL

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Department of Medicine
Channing Division of Network Medicine

Channing Network Science Seminar
July 28 (Friday), 2017, 11am @ 5th floor conference room

Mihir Pant

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Quantum Computing and Percolation Theory

Abstract: A quantum computer uses the laws of quantum mechanics and is able to efficiently solve many problems that are intractable on classical computers. In this talk, I'll discuss how ideas from percolation theory can help quantum computing. I will present two specific architectures that are currently under development in our group: linear optical quantum computing that uses light as the information carrier, and quantum computers based on nitrogen vacancy (NV) centers in diamond. I will also discuss our recent results on quantum networks, that can enable communication security based on the laws of physics.

Bio: Mihir Pant is a Ph. D. student at MIT in the quantum photonics lab headed by Professor Dirk Englund. He works on developing architectures for scalable quantum computing mediated by photons and reducing the experimental requirements of quantum information processors. He also works on applications of percolation theory to network routing.

Hosted by Yang-Yu Liu