



THE UNIVERSITY OF CHICAGO

COMPUTATIONAL AND APPLIED MATHEMATICS COLLOQUIUM

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Quantum Optics in Random Media

THURSDAY, November 7, 2019, at 4:00 PM
Jones 226, 5747 South Ellis Avenue

ABSTRACT

The quantum theory of light-matter interactions is primarily concerned with systems consisting of a small number of atoms. We will begin with a gentle introduction to quantum optics. We will then review recent work on quantum optics in random media and show that in this setting, there is a close relation between the theory of spontaneous emission and kinetic equations for PDEs with random coefficients. Applications to propagation of entangled pairs of photons will also be described.

John Schotland received the MD and PhD degrees from the University of Pennsylvania. He has held faculty positions at University of Pennsylvania and University of Michigan, where he is currently professor of mathematics and physics, and founding director of the Michigan Center for Applied and Interdisciplinary Mathematics. His research interests are in optical physics and related areas of applied mathematics.

Organizers:

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CAM Colloquium URL: <https://cam.uchicago.edu/events/cam-colloquium/>.

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