



Nonequilibrium Phenomena in Ultra-cold Atoms and Strongly Interacting Photons

11-13 June 2012

Room 407 Jadwin Hall

Recent years have witnessed an enormous experimental progress in preparing and probing strongly interacting quantum systems in different non equilibrium regimes. Developments with ultracold atomic gases have made possible to engineer almost isolated quantum systems and to probe their transport and nonequilibrium dynamics with an excellent degree of control and resolution. At the same time progress in quantum optics and quantum electronics has brought forth the possibility of studying emergent collective phenomena in hybrid light-matter systems composed of artificial atoms and photons. Such systems are by their very nature open quantum systems where nonequilibrium effects such as driving and dissipation induced by the environment play a crucial role. These experimental achievements have triggered an intense theoretical research activity on nonequilibrium phenomena in strongly interacting quantum systems and stimulated a great deal of interest around fundamental theoretical questions related to dynamics, thermalization, transport and dissipation in isolated and open quantum many body systems. The aim of this workshop is to bring together scientists working on different aspects of nonequilibrium physics in strongly interacting quantum systems and to foster cross-fertilization of ideas and concepts from different areas of physics.

**For registration and more information please visit:
PCTS.princeton.edu/pcts**

Program Organizers

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Speakers

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Jacqueline Bloch, LPN-CNRS
Hans Peter Buechler, Stuttgart
Iacopo Carusotto BEC, Trento
Eugene Demler, Harvard University
Tilman Esslinger, ETH
Michael Hartmann, Munich
Jens Koch, Northwestern University

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