

# OSA Incubator Meeting Topological Order with Photons

2-4 April 2014

OSA Headquarters • 2010 Massachusetts Ave. NW • Washington, DC, USA

HOSTED BY:

**Steven Girvin**, *Yale University, United States*

**Mohammad Hafezi**, *Joint Quantum Institute, United States*

**Karyn Le Hur**, *Ecole Polytechnique, France*

**Jacob Taylor**, *National Institute of Standards & Technology, United States*

## DRAFT AGENDA

### Wednesday, 2 April 2014

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18:00 Welcome Dinner  
Ezme, 2016 P Street, NW

### Thursday, 3 April 2014

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8:00 Breakfast  
OSA Headquarters, 2010 Massachusetts, Ave., NW

8:40 Welcome  
Elizabeth Rogan, Chief Executive Officer, The Optical Society, United States  
Overview remarks by hosts

9:05 Effective Gauge Potential and Magnetic Field for Photons Emerging from  
Dynamic Modulations  
Shanhui Fan, Stanford University, United States

9:35 Photonic Transitions for Enabling Non Reciprocity in Silicon  
Michal Lipson, Cornell University, United States

10:05 Imaging Topological Edge State of Photons in Silicon Photonics  
Alan Migdall, National Institute of Standards & Technology, United States

10:25 Group Discussion

10:45 Coffee Break

11:00 TALK TBD  
Eugene Demler, Harvard University, United States

## Thursday, 3 April 2014 continued

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- 11:40 Dirac Cones, Line Nodes and Weyl Points in Photonic Crystals  
Ling Lu, Massachusetts Institute of Technology, United States
- 12:05 Network Models of Photonic Floquet Topological Insulators  
Yidong Chong, Nanyang Technological University, Singapore
- 12:30 Lunch at OSA
- 14:30 Observation of Topological Structures in Photonic Quantum Walks  
Graciana Puentes, Universität Stuttgart, Stuttgart, Germany
- 14:55 Topological States and Adiabatic Pumping in Quasi-periodic Photonics Lattices  
Yaov Lahini, Massachusetts Institute of Technology, United States
- 15:20 Seeing Bulk Topological Properties of Band Insulators in Small Photonic Lattices  
Oded Zilberberg, Theoretische Physik, ETH Zurich, Switzerland
- 15:45 Coffee Break
- 16:05 Photonic Floquet Topological Insulators  
Mikael Rechtsman, Technion Israel Institute of Technology, Israel
- 16:30 Group Discussion
- 16:55 Poster Session
- 18:00 Dinner  
Sette Osteria, 1666 Connecticut Ave, NW

## Friday, 4 April 2014

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- 8:30 Breakfast  
OSA Headquarters, 2010 Massachusetts, Ave., NW
- 9:00 How to Guide Light Around Sharp Corners: Topologically Protected Surface Waves without Magnetic Field  
Gennady Shvets, University of Texas, Austin, United States
- 9:30 Topologically Protected Edge States in Bianisotropic Metacrystals with and without Time Reversal Symmetry  
Alex Khanikaev, Queens College, United States

## Friday, 4 April 2014 continued

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- 10:00 Topological Majorana Edge states in Chains of Nanoparticles  
Andrey Miroshnichenko, Australian National University, Australia
- 10:30 Coffee Break
- 10:50 Beauty and Wonder in an Exciton-Polariton-Lattice System  
Na Young Kim, Stanford University, United States
- 11:20 Blackbody Radiation from a Thermalized Array of Coupled Cavity QED Systems  
Hakan Tureci, Princeton University, United States
- 11:50 Engineering Lattices and Spin Orbit Coupling for Photons  
Alberto Amo, Laboratory for Photonics and Nanostructures, France
- 12:20 Group Discussion
- 12:40 Lunch at OSA
- 13:40 Many-body Quantum Optics in Coupled Cavity QED Arrays  
Andrew Houck, Princeton University, United States
- 14:10 Time Reversal Invariant Topologically Insulating Circuits  
Jon Simon, University of Chicago, United States
- 14:40 Coffee Break
- 15:00 Induced Self-Stabilization in Fractional Quantum Hall States of Light  
Eliot Kapit, Oxford University, United Kingdom
- 15:30 Superconducting Circuits for Quantum Simulation of Dynamical Gauge Fields  
David Marcos, Innsbruck, Austria
- 16:00 Panel Discussion & Wrap-up  
Mohammad Hafezi, Joint Quantum Institute, United States
- 16:30 Adjourn