

<p>Monday, May 1, 2017 Room 750 CEPSR (Schapiro) Costa Engineering</p>	<p>Workshop on Mathematical & Physical Aspects of Topologically Protected States</p> <p>Columbia University — May 1 - May 3, 2017</p>
<p>750 CEPSR, Schapiro Building, Columbia Morningside Campus Map: http://www.columbia.edu/files/columbia/content/morningsidemap_2015aug.pdf Directions: http://apam.columbia.edu/directions-davis-auditorium-cepsr</p>	
<p>8:00 - 8:55 a.m.</p>	<p>REGISTRATION & BREAKFAST (<i>bagels, muffins, pastries & coffee</i>)</p>
<p>MORNING SESSION</p>	
<p>8:55 - 9:00 a.m.</p>	<p><i>Welcome</i></p>
<p>9:00 - 10:00 a.m.</p>	<p>Jürg Fröhlich (ETH Zürich) Chiral anomaly, topological field theory and topological states of matter</p>
<p>10:00 - 11:00 a.m.</p>	<p>Boris Altshuler (Columbia University) Localization at the Edge of 2D Topological Insulator by Kondo Impurities</p>
<p>11:00 - 11:30 a.m.</p>	<p>COFFEE BREAK</p>
<p>11:30 a.m. - 12:30 p.m.</p>	<p>David Vanderbilt (Rutgers University) Adiabatic cycles, topological transitions, and the Chern-Simons axion coupling</p>
<p>12:30 - 2:30 p.m.</p>	<p>LUNCH</p>
<p>AFTERNOON SESSION</p>	
<p>2:30 - 3:30 p.m.</p>	<p>Shi Jin (University of Wisconsin - Madison) Semiclassical computational methods for quantum dynamics with band-crossing</p>
<p>3:30 - 4:00 p.m.</p>	<p>COFFEE BREAK</p>
<p>4:00 - 5:00 p.m.</p>	<p>Michal Lipson (Columbia University) Novel Materials for Next Generation Photonic Devices</p>

Tuesday, May 2, 2017 Room 750 CEPSR (Schapiro) Costa Engineering	Workshop on Mathematical & Physical Aspects of Topologically Protected States
8:00 - 9:00 a.m.	REGISTRATION & BREAKFAST (<i>bagels, muffins, pastries & coffee</i>)
MORNING SESSION	
9:00 - 10:00 a.m.	Charles Fefferman (Princeton University) The one-electron model of graphene-like materials
10:00 - 11:00 a.m.	Gian Michele Graf (ETH Zurich) Bulk-edge correspondence in the presence of a mobility gap
11:00 - 11:30 a.m.	COFFEE BREAK
11:30 a.m. - 12:30 p.m.	Terry Loring (University of New Mexico) K -theory via the emergent topology of insulators
12:30 - 2:00 p.m.	LUNCH
AFTERNOON SESSION	
2:00 - 3:00 p.m.	Emil Prodan (Yeshiva University) On the Bulk-Boundary Correspondence Principle for Aperiodic Systems: A K-Theoretic Formulation
3:00 - 3:15 p.m.	COFFEE BREAK
3:15 - 4:15 p.m.	Marin Soljačić (MIT) Novel topological phenomena in photonics
4:15 - 4:30 p.m.	COFFEE BREAK
4:30 - 5:30 p.m.	Alexander Khanikaev (City University of New York) Robust guiding and control of light and sound in photonic and acoustic metamaterials
6:00 - 8:30 p.m.	Workshop Dinner at Columbia Faculty House, Garden Room #2, which is a short walk from the Shapiro / CEPSR building
Directions/Maps: CEPSR, Schapiro Building to Faculty House http://apam.columbia.edu/directions-cepsr-faculty-house	

Wednesday, May 3, 2017 Room 750 CEPSR (Schapiro) Costa Engineering	Workshop on Mathematical & Physical Aspects of Topologically Protected States
8:30 - 9:00 a.m.	BREAKFAST (<i>bagels, muffins, pastries & coffee</i>)
MORNING SESSION	
9:00 - 10:00 a.m.	Mitchell Luskin (University of Minnesota) Mathematical Modeling and Numerical Analysis for Incommensurate 2D Materials
10:00 - 11:00 a.m.	Mikael Rechtsman (Penn State University) Aspects of topological photonics in two and three dimensions
11:00 - 11:30 a.m.	COFFEE BREAK
11:30 - 12:30 p.m.	Andrea Alu (University of Texas) Topological photonics and phononics based on momentum bias and nonlinearities
1:00 p.m.	CONFERENCE ENDS
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