

**Session A: Light-Matter Interaction and Imaging**

- 7:45 p.m. **Milan Delor**, Columbia University  
*Tracking ultrafast energy flow in materials with nanometer resolution*
- 8:00 p.m. **Jeremy Boger-Lombard**, The Hebrew University  
*Passive optical time-of-flight for non line-of-sight localization*
- 8:15 p.m. **Vijay Jain**, Yale Quantum Institute  
*Listening to Bulk Crystalline Vibrations with Superconducting Qubits*
- 8:30 p.m. **Zoé-Lise Deck-Léger**, Polytechnique Montréal  
*Scattering at Interluminal Interface*
- 8:45 p.m. **Mariano Pascale**, Photonics initiative, CUNY ASRC  
*Full-Wave Mode Hybridization in Nanoparticle Dimers*

**Session B: 2D materials**

- 7:45 p.m. **Dorri Halbertal**, Columbia University  
*Nano-optical studies of Moiré super-lattice domains in twisted graphene heterostructures*
- 8:00 p.m. **Itai Epstein**, ICFO  
*Extremely Efficient Light-Exciton Interaction in a Monolayer WS<sub>2</sub> Van der Waals Heterostructure Cavity*
- 8:15 p.m. **Mandeep Khatoniar**, CUNY Graduate Center  
*Room Temperature Control of Spin Coherence in Bilayer WS<sub>2</sub> Microcavity Exciton Polaritons*
- 8:30 p.m. **Alexander S. McLeod**, Columbia University  
*Fundamental limits to graphene plasmonics in hBN heterostructures*
- 8:45 p.m. **Biswanath Chakraborty**, CUNY City College  
*Polariton devices in van der Waals materials*

**Session C: Topological Photonics and Exceptional Points**

- 7:45 p.m. **Alexander Cerjan**, The Pennsylvania State University  
*Experimental Realization of a Weyl Exceptional Ring*
- 8:00 p.m. **Lucas Fernandez-Alcazar**, Wesleyan University  
*Chiral control of the scattering field by quasi-static encircling of an exceptional point*
- 8:15 p.m. **Jiho Noh**, The Pennsylvania State University  
*Realization of Photonic Higher-Order Topological Insulator*
- 8:30pm **Jonathan Guglielmon**, The Pennsylvania State University  
*Wideband slow light in a photonic topological insulator*
- 8:45 p.m. **Seunghwi Kim**, Photonics Initiative, CUNY ASRC  
*Suppression of Rayleigh scattering in WGM resonators after an exceptional point*

**Session D: Metasurfaces and arrays**

- 7:45 p.m. **Yu Gong**, College of Charleston  
*Launching and guiding surface plasmon non-symmetrically with symmetric structures*
- 8:00 p.m. **Midya Parto**, UCF CREOL  
*Realizing spin-Hamiltonians in nanolaser lattices*
- 8:15 p.m. **Momchil Minkov**, Stanford University  
*Applications of optical bound states in the continuum*
- 8:30 p.m. **Mohammad Parvinnezhad Hokmabadi**, UCF CREOL  
*Supersymmetric laser arrays*
- 8:45 p.m. **Yarden Mazor**, UT Austin  
*Surface waves on complex metasurfaces – spin, helicity and circular dichroism*

**CONNECTING TO WI-FI**

- Select "CUNYGUEST" wireless network
- Browser window will open to prompt login
- Select "Don't have an account?"
- Create an account by entering your name and email
- Enter [asrc.event@gc.cuny.edu](mailto:asrc.event@gc.cuny.edu) as "email of person visiting"
- Login using the credentials provided



All talks are held in the ASRC Auditorium, 85 St Nicholas Terrace  
Poster sessions and breaks are in the Café (adjacent to the auditorium)

Panel discussion and Early-Career Symposium will take place at the  
CUNY Graduate Center, 365 Fifth Avenue, Dining Commons (8th Floor)



Additional support provided by the [Ph.D. program in Physics](#) at The Graduate Center, CUNY.

## MONDAY NOVEMBER 4, 2019

### Session Chair: Andrea Alù

- 9:00 a.m. Welcome  
9:15 a.m. **Federico Capasso**, Harvard University  
*Multifunctional Metasurface Flat Optics*  
9:40 a.m. **Nader Engheta**, University of Pennsylvania  
*Photonic Mathematics*  
10:05 a.m. **Dmitry Basov**, Columbia University  
*Programmable Quantum Materials*  
10:30 a.m. Coffee Break  
11:00 a.m. **Demetrios Christodoulides**, University of Central Florida (CREOL)  
*Optical Thermodynamics of highly-multimoded nonlinear photonic systems*  
11:25 a.m. **Igal Brener**, Sandia National Laboratory  
*Nonlinear Optics with Metasurfaces and Epsilon Near Zero Materials*  
11:50 a.m. Lunch and APS Poster Session

### Session Chair: Michael Shlesinger

- 1:00 p.m. **Mercedeh Khajavikhan**, University of Central Florida (CREOL)  
*Enhanced Sagnac Sensitivity at Exceptional Points*  
1:25 p.m. **Mikael Rechtsman**, Penn State University, State College  
*Nonlinear topological photonics*  
1:50 p.m. **Francisco J. Garcia-Vidal**, Universidad Autónoma de Madrid  
*Manipulating matter in dressed vacuum*  
2:15 p.m. **E. Ercan Alp**, Argonne National Laboratory, SESAME  
*Modern Applications of X-Ray Spectroscopy at Synchrotron Sources*  
2:40 p.m. **Owen D. Miller**, Yale University  
*Maximal Free-Space Concentration of Light*  
3:05 p.m. Break

### Session Chair: Manolis Antonoyiannakis

- 3:30 p.m. **Tsampikos Kottos**, Wesleyan University,  
*Light Propagation in Disordered Multimode Fibers*  
3:55 p.m. **Andrea Frattalocchi**, King Abdullah University of Science and Technology (KAUST)  
*Ultra-flat meta-optics with experimental efficiency exceeding 98% in the visible for vectorial light control designed via artificial intelligence*  
4:20 p.m. **Hakan Türeci**, Princeton University  
*Quantum Electrodynamics with non-Hermitian modes*

### **The following activities will be held at the CUNY Graduate Center, Dining Commons (8th Floor)**

- 6:00 p.m. Reception (registered attendees only)  
6:30 p.m. Panel: *Photonics 3.0: A Worldwide Quest for the Next Technology Revolution*  
7:30-8:00 p.m. Public reception  
7:45 p.m. Early-Career Scientist Symposium (see details on last page of program)

## TUESDAY, NOVEMBER 5, 2019

### Session Chair: Tsampikos Kottos

- 9:00 a.m. **Mordechai Segev**, Technion, Israel Institute of Technology  
*Topological Photonics*  
9:25 a.m. **Vladimir Shalaev**, Purdue University  
*Plasmonic Metamaterials Meet Quantum*  
9:50 a.m. **Ewold Verhagen**, FOM Institute for Atomic and Molecular Physics (AMOLF)  
*Photons and phonons move like electrons: Unidirectional and topological states of light and sound at the nanoscale*  
10:15 a.m. **Sahin Özdemir**, Penn State University  
*Optomechanics and Optics at non-Hermitian Degeneracies*  
10:40 a.m. Coffee Break  
11:05 a.m. **Alexandra Boltasseva**, Purdue University  
*Artificial Intelligence Assisted Photonic Design and Measurements*  
11:30 a.m. **Giuseppe Strangi**, Case Western Reserve University  
*Crossroads Between Photonics and Biology: The Next Big Thing will be at the Nanoscale*

11:55 a.m. Lunch and APS Poster Session

### Session Chair: Mikael Rechtsman

- 1:00 p.m. **A. Douglas Stone**, Yale University  
*Theory of Reflectionless Scattering Modes*  
1:25 p.m. **Carl Bender**, Washington University, St. Louis  
*PT symmetry*  
1:50 p.m. **Jacob Khurgin**, Johns Hopkins University  
*Miniature Lasers: what does and what does not matter?*  
2:15 p.m. **Ori Katz**, Hebrew University  
*Imaging with Scattered Light*  
2:40 p.m. **Patrick Sebbah**, Bar-Ilan, CNRS  
*From Opaque to Transparent: Control of Light Scattering by Gain and Loss*  
3:05 p.m. Break

### Session Chair: Vinod Menon

- 3:30 p.m. **Simon Gröblacher**, Technische Universiteit Delft  
*Quantum optomechanics at room temperature*  
3:55 p.m. **Ben Steinberg**, Tel Aviv University  
*Metamaterials on a carousel: a journey in a non-inertial landscape*  
4:20 p.m. **Michael Weinstein**, Columbia University  
*Edge States and the Valley Hall Effect*  
4:45 p.m. **Evgenii Narimanov**, Purdue University  
*Ballistic Metamaterials*

## WEDNESDAY, NOVEMBER 6, 2019

### Session Chair: Matthew Sfeir

- 9:00 a.m. **Amnon Yariv**, California Institute of Technology  
*The Semiconductor for Laser: The Next Phase*  
9:25 a.m. **Alireza Marandi**, California Institute of Technology  
*Half-Harmonic Generation: Enabling Photonic Solutions for Molecular Sensing and Non-Classical Computing*  
9:50 a.m. **Alexander Gaeta**, Columbia University  
*Synchronization of Microresonator Frequency Comb*  
10:15 a.m. **Ertugrul Cubukcu**, University of California, San Diego  
*Ultimate Thickness Limit of Optical Waveguiding and Resonators for Visible Photons*  
10:40 a.m. **F. Ömer Ilday**, Bilkent University  
*Ultra-efficient laser-material processing in the ablation-cooled regime*  
11:05 a.m. Lunch and APS Poster Session

### Session Chair: Azriel Genack

- 1:25 p.m. **Yaron Bromberg**, Hebrew University  
*Shaping the Wavefront of Entangled Photons*  
1:50 p.m. **Ziad Musslimani**, Florida State University  
*Solitons in complex integrable media*  
2:15 p.m. **Hasan Yilmaz**, Yale University  
*Controlling coherent light propagation through opaque media*  
2:40 p.m. **Stephen Arnold**, NYU Polytechnic School of Engineering  
*From the death of an icon to the birth of the world's most sensitive photonic biosensor*  
3:05 p.m. Break

### Session Chair: Andrea Alù

- 3:30 p.m. **Andrea Bianco-Redondo**, NOKIA Bell Labs  
*Topological quantum photonics*  
3:55 p.m. **Yakir Hadad**, Tel Aviv University  
*Wave engineering in active and dynamic media*  
4:20 p.m. **Ying Wu**, King Abdullah University of Science and Technology (KAUST)  
*Zero-index material*  
4:45 p.m. Award Ceremony and Closing Remarks