

**Monday
July 8**

- 9:00- 9:15 AM Antoine Georges, Andy Millis and Angel Rubio
Welcome
- 9:15- 10:00 AM (30+15) Peter Littlewood (University of Chicago)
An exceptional point as a dynamic critical point between driven polariton condensates
- 10:00-10:15 AM (15) *Break*
- 10:15- 11:00 AM (30+15) Jonathan Keeling (University of St. Andrews)
Organic polariton condensates: Modeling complex open quantum systems and structured environments
- 11:00-11:15 AM (15) *Break*
- 11:15- 12:00 PM (30+15) Jun Kono (Rice University)
Ultrastrong Light-Matter Coupling in High-Q THz Cavities
- 12:00- 6:00 PM Lunch, Discussion and Research

**Tuesday
July 9**

- 9:00- 9:45 AM (30+15) Vinod Menon (City College of NY)
Recent work on strong coupling in 2D materials in cavities
- 9:45- 10:30 AM (30+15) Jennifer Fowlie (University of Geneva)
An approach to phonon-engineering motivated by transition metal oxides
- 10:30-10:45 AM (15) *Break*
- 10:45- 11:30 AM (30+15) Victor Galitski (University of Maryland)
Cavity Quantum Enhancement of Superconductivity and Superconducting Polaritons
- 11:30- 12:15 PM (30+15) Dieter Jaksch (Oxford University)
Cavity-mediated electron-photon superconductivity
- 12:15- 6:00 PM Lunch, Discussion and Research

**Wednesday
July 10**

- 9:00- 9:45 AM (30+15) Jérôme Faist (ETH Zürich)
Probing the ground state of Landau polaritons with transport and ultrafast field measurements
- 9:45- 10:30 AM (30+15) Hui Deng (University of Michigan)
Controlling Coherent Light-Matter Interactions in Semiconductors
- 10:30-10:45 AM (15) *Break*
- 10:45- 11:30 AM (30+15) Atac Imamoglu (ETH Zürich)
Dipolar excitons in van der Waals heterostructures
- 11:30- 12:15 PM (30+15) Ben Lev (Stanford University)
Quantum simulation using multimode cavity QED.
- 12:15- 6:00 PM Lunch, Discussion and Research
- 6:30 PM Conference Reception and Dinner
Flatiron Institute Rooftop and Dining Room

Thursday,
July 11

- 9:00- 9:45 AM (30+15) Thomas Ebbesen (University of Strasbourg)
New Properties of Matter in the Strong Coupling Regime
- 9:45- 10:30 AM (30+15) Andrea Cavalleri (MPSD)
Coherent Josephson Supercurrents in and outside Optical Cavities
- 10:30-10:45 AM (15) *Break*
- 10:45- 11:30 AM (30+15) Johannes Flick (Harvard)
TBA
- 11:30- 12:15 PM (30+15) Giacomo Mazza (College de France)
Coherent states of light and polarised phases of matter in cavity QED quantum materials.
- 12:15- 6:00 PM Lunch, Discussion and Research

Friday
July 12

- Excitonic Insulators***
- 9:00- 9:30 AM (20+10) Edoardo Baldini (MIT)
Light-induced Quench of Phase Coherence in an Excitonic Insulator
- 9:30- 10:00 AM (20+10) Stefan Kaiser (MPI Hamburg)
Dynamical Order Parameter in the Excitonic Insulator Ta₂NiSe₅
- 10:00- 10:15 AM (15) *Break*
- 10:15- 10:45 AM (20+10) Tatsuya Kaneko (Columbia University)
Excitonic orders in d⁰ electron systems: TiSe₂ and Ta₂NiSe₅
- 10:45- 11:15 AM (20+10) Changjong Kang (Rutgers University)
Strong interband interaction in the excitonic insulator phase of Ta₂NiSe₅ or Material design on correlated electronic systems
- 11:15- 11:45 AM (20+10) Selene Mor (Fritz Haber Inst. Max Planck Society)
Ultrafast electronic band gap control and structural dynamics in TNS
- 11:45- 2:15 PM Lunch
- 2:15- 2:45 PM (20+10) Hiroshi Sawa (Nagoya University)
Study of the structural and electronic property of excitonic insulators Ta₂NiSe₅
- 2:45- 3:15 PM (20+10) Yukinori Ohta (Chiba University)
Theoretical perspectives on an excitonic insulator Ta₂NiSe₅
- 3:15- 3:30 PM (15) *Break*
- 3:30- 4:00 PM (20+10) Malte Roesner (Radboud University)
Material-realistic modeling of Ta₂NiSe₅
- 4:00- 4:30 PM (20+10) Alexander Boris (MPI Stuttgart)
Giant exciton Fano resonances in Ta₂NiSe₅
- Closing Remarks**