Symposium, Davis Auditorium — Thursday, August 10th

Opening remarks - XYZ 8:20 – 8:30 am

1. Nanocrystal I – Chair: Gordana Dukovic
   a. **Sasha Efros**
      Chemical control of photoluminescence in semiconductor nanoplatelets 8:30 – 9:00 am
   b. **Moungi Bawendi**
      Looking forward: Indistinguishable single photons from colloidal quantum dots? 9:00 – 9:30 am
   c. **Mike Steigerwald**
      Bell Labs Was a Remarkable Place 9:30 – 10:00 am
   d. **Paul Alivisatos** (via video)
      10:00 – 10:10 am

2. Coffee Break 10:10 – 10:40 am

3. Nanocrystal II - Chair: Mike Steigerwald
   a. **Christopher Murray**
      Building with Nanocrystals: Controlling Organization, Orientation, and Coupling to Design New Materials. 10:40 – 11:10 am
   b. **Dmitri Talapin**
      Can we reinvent colloidal synthesis of semiconductor quantum dots using molten inorganic salts? 11:10 – 11:40 am
   c. **Jonathan Owen** (CU)
      Mechanisms Controlling the Polydispersity and Size of Colloidal Quantum Dots 11:40 – 11:55 pm
   d. **Cherie Kagan**
      Colloidal Nanocrystals as Platforms for Quantum Information Science 11:55 – 12:25 pm

4. Lunch (750 CEPSER) 12:25 – 1:30 pm

5. Plenary Session – Chair: Xiaoyang Zhu
   **Louis Brus**: Science: then and now 1:30 – 2:00 pm

6. Nanomaterials for Energy I – Chair: Colin Nuckolls
   a. **Peidong Yang**
      Nanowire Photoelectrochemistry 2:00 – 2:30 pm
   b. **Gordana Dukovic**
      Driving multi-electron redox chemistry with semiconductor nanocrystals 2:30 – 3:00 pm
   c. **Todd Krauss**
      Semiconductor Nanocrystals for Photocatalysis 3:00 – 3:30 pm
   d. **Andrew Crowther** (Barnard)
      Vibrational Properties of Atomically Precise Semiconductor Nanostructures: A Molecular Perspective 3:30 – 3:45 pm

7. Coffee break 3:45 – 4:15 pm

8. 2D Materials I – Chair: Philip Kim
   a. **Tony Heinz**
      Probing excitons in 2D semiconductor monolayers and heterostructures 4:15 – 4:45 pm
   b. **Archana Raja**
      Painting potential landscapes on an atomically thin canvas 4:45 – 5:15 pm
   c. **Xiaodong Cui**
      Exciton-exciton interaction in monolayer TMD 5:15 – 5:45 pm

9. Toast and Roast, Banquet – Gennaro (93rd and Amsterdam) – Host: Ann McDermott 7:00 – 9:00 pm
Symposium, 209 Havemeyer – Friday, August 11th

10. 2D Materials II – Chair: Tony Heinz
   a. Philip Kim
      Inserting molecules into the van der Waals gaps
   b. Haitao Liu
      Intrinsic Surface Properties of 2D Materials
   c. David Reichman (CU)
      Wigner Crystals in Moiré Materials: Results from Correlated Electronic Structure Theory
   d. Eric Arsenault (CU)
      Correlated State Dynamics in Moiré Superlattices
   e. Christie Koay (CU)
      Flat band lattice model in air-stable monolayers of a van der Waals metal

11. Coffee Break
    10:15 – 10:45 am

12. Nanomaterials for Energy II - Chair: Matthew Sfeir
   a. Yi Cui
      Reinventing Batteries through Nanoscience
   b. Colin Nuckolls (CU)
      Molecular systems for energy conversion and storage
   c. Stephen O'Brien (CCNY)
      A short story of Barium Titanate Nanocrystals and their role in Energy Storage
   d. Jack Tulyag (CU)
      Room temperature wavelike exciton transport in a van der Waals superatomic semiconductor

13. Lunch (750 CEPSER)
    12:00 – 1:00 pm

14. Dynamics & Spectroscopy – Chair: David Reichman
   a. John Tully
      Nonadiabatic Dynamics with Quantum Nuclei
   b. Abraham Nitzan
      Molecules in optical cavities: Electron transfer and transmission, Polaritons, vibrational strong coupling and collective response
   c. Eran Rabani
      Circumventing the Phonon Bottleneck by Multiphonon-Mediated Hot Exciton Cooling

15. Coffee Break
    2:30 – 3:00 pm

16. 2D Materials III – Chair: Haitao Liu
   a. William L. Wilson
      Adventures in Polaritonic Sampling: Nanoscale Quasiparticle Mapping in 2D Materials
   b. Efrat Lifshitz
      Global and local magnetism in semiconductor nanostructures

17. Molecular and Hybrid Semiconductors - Chair: Todd Krauss
   a. Thuc-Quyen Nguyen
      Solution-Processed Organic Photovoltaics for Energy Generation
   b. Matthew Sfeir (CUNY)
      Addressing the Dark State Problem in Strongly Coupled Organic Exciton Polariton Systems
   c. Stanislaus Wong
      Charge Transfer in Multi-dimensional Composite Heterostructures
   d. Yinsheng Guo
      Visualizing atomically thin ferroelastic domain walls in halide perovskite soft semiconductors

Symposium adjoined.