

Symposium, Davis Auditorium — Thursday, August 10th

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| Opening remarks - XYZ | 8:20 – 8:30 am |
| 1. <u>Nanocrystal I – Chair: Gordana Dukovic</u> | |
| 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. <u>Coffee Break</u> | 10:10 – 10:40 am |
| 3. <u>Nanocrystal II - Chair: Mike Steigerwald</u> | |
| 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. <u>Lunch (750 CEPSE)</u> | 12:25 – 1:30 pm |
| 5. <u>Plenary Session – Chair: Xiaoyang Zhu</u> | |
| Louis Brus : Science: then and now | 1:30 – 2:00 pm |
| 6. <u>Nanomaterials for Energy I – Chair: Colin Nuckolls</u> | |
| 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 – 3:45pm |
| 7. <u>Coffee break</u> | 3:45 – 4:15 pm |
| 8. <u>2D Materials I – Chair: Philip Kim</u> | |
| 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. <u>Toast and Roast, Banquet – Gennaro (93rd and Amsterdam) – Host: Ann McDermott</u> | 7:00 – 9:00 pm |

Symposium, 209 Havemeyer – Friday, August 11th

10. 2D Materials II – Chair: Tony Heinz
- a. **Philip Kim** 8:30 – 9:00 am
Inserting molecules into the van der Waals gaps
 - b. **Haitao Liu** 9:00 – 9:30 am
Intrinsic Surface Properties of 2D Materials
 - c. **David Reichman** (CU) 9:30 – 9:45 am
Wigner Crystals in Moiré Materials: Results from Correlated Electronic Structure Theory
 - d. **Eric Arsenault** (CU) 9:45 – 10:00 am
Correlated State Dynamics in Moiré Superlattices
 - e. **Christie Koay** (CU) 10:00 – 10:15 am
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** 10:45 – 11:15 am
Reinventing Batteries through Nanoscience
 - b. **Colin Nuckolls** (CU) 11:15 – 11:30 am
Molecular systems for energy conversion and storage
 - c. **Stephen O'Brien** (CCNY) 11:30 – 11:45 am
A short story of Barium Titanate Nanocrystals and their role in Energy Storage
 - d. **Jack Tulyag** (CU) 11:45 – 12:00 pm
Room temperature wavelike exciton transport in a van der Waals superatomic semiconductor
13. Lunch (750 CEPSE) 12:00 – 1:00 pm
14. Dynamics & Spectroscopy – Chair: David Reichman
- a. **John Tully** 1:00 – 1:30 pm
Nonadiabatic Dynamics with Quantum Nuclei
 - b. **Abraham Nitzan** 1:30 – 2:00 pm
Molecules in optical cavities: Electron transfer and transmission, Polaritons, vibrational strong coupling and collective response
 - c. **Eran Rabani** 2:00 – 2:30 pm
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** 3:00 – 3:30 pm
Adventures in Polaritonic Sampling: Nanoscale Quasiparticle Mapping in 2D Materials
 - b. **Efrat Lifshitz** 3:30 – 4:00 pm
Global and local magnetism in semiconductor nanostructures
17. Molecular and Hybrid Semiconductors - Chair: Todd Krauss
- a. **Thuc-Quyen Nguyen** 4:00 – 4:30 pm
Solution-Processed Organic Photovoltaics for Energy Generation
 - b. **Matthew Sfeir** (CUNY) 4:30 – 4:45 pm
Addressing the Dark State Problem in Strongly Coupled Organic Exciton Polariton Systems
 - c. **Stanislaus Wong** 4:45 – 5:15 pm
Charge Transfer in Multi-dimensional Composite Heterostructures
 - d. **Yinsheng Guo** 5:15 – 5:45 pm
Visualizing atomically thin ferroelastic domain walls in halide perovskite soft semiconductors

Symposium adjoined.