

## Dmitri V. Talapin

**Current Affiliation** The University of Chicago  
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### **Education and Training**

- **IBM Thomas J. Watson Research Center**, Yorktown Heights, NY  
Postdoctoral fellow with Dr. Christopher B. Murray, 2003- 2005
- **University of Hamburg**, Germany  
Physical Chemistry, Ph.D, 2002 *summa cum laude*  
Adviser: Prof. Horst Weller.
- **Belarussian State University**, Minsk, Belarus, Chemistry, B.S. 1996 *summa cum laude*

### **Research and Professional Experience**

**The University of Chicago**, Chicago, IL

- Associate Professor (2011-).
- Assistant Professor, 2007-2011

**Lawrence Berkeley National Laboratory**, Berkeley, CA

- Staff Scientist and Acting Lead Scientist, The Molecular Foundry, 2005-2007

### **Representative Publications** (>7700 total citations; h-index: 43)

1. J.-S. Lee, M. V. Kovalenko, J. Huang, D.-S. Chung, **D. V. Talapin**. Band-like Transport, High Electron Mobility and High Photoconductivity in All-inorganic Nanocrystal Arrays. *Nature Nanotech.* **6**, 348 (2011).
2. M. V. Kovalenko, M. Scheele, **D. V. Talapin**. Colloidal Nanocrystals with Molecular Metal Chalcogenide Surface Ligands. *Science* **324**, 1417 (2009).
3. **D. V. Talapin**, E. V. Shevchenko, M. I. Bodnarchuk, X. Ye, J. Chen, C. B. Murray. Quasicrystalline order in self-assembled binary nanoparticle superlattices. *Nature* **461**, 964 (2009).
4. M. I. Bodnarchuk, M. V. Kovalenko, W. Heiss, **D. V. Talapin**. Energetic and Entropic Contributions to Self-assembly of Binary Nanocrystal Superlattices: Temperature as the Structure-directing Factor. *J. Am. Chem. Soc.*, **132**, 11967 (2010).
5. M. V. Kovalenko, M. I. Bodnarchuk, **D. V. Talapin**. Nanocrystal superlattices with thermally degradable hybrid inorganic-organic capping ligands. *J. Am. Chem. Soc.*, **132**, 15124 (2010).
6. M. V. Kovalenko, M. I. Bodnarchuk, J. Zaumseil, J.- S. Lee, **D. V. Talapin**. Expanding the chemical versatility of colloidal nanocrystals capped with molecular metal chalcogenide ligands. *J. Am. Chem. Soc.*, **132**, 10085 (2010).
7. J.-S. Lee, M. I. Bodnarchuk, E. V. Shevchenko, **D. V. Talapin**. Magnet-in-the-Semiconductor FePt-PbS and FePt-PbSe Nanostructures: magnetic properties, charge transport and magnetoresistance. *J. Am. Chem. Soc.* **132**, 6382 (2010).

8. **D. V. Talapin**, J. H. Nelson, E. V. Shevchenko, S. Aloni, B. Sadtler, A. P. Alivisatos. Seeded growth of highly luminescent CdSe/CdS nanoheterostructures with rod and tetrapod morphologies. *Nano Lett.* **7**, 2951 (2007).
9. E.V. Shevchenko, **D.V. Talapin**, N.A. Kotov, S. O'Brien, C.B. Murray\*, Structural Diversity in Binary Nanoparticle Superlattices. *Nature*, **439**, 55, (2006).
10. **D.V. Talapin**, C.B. Murray. PbSe Nanocrystal Solids for n- and p-Channel Thin Film Field-Effect Transistors *Science*, **310**, 86, (2005).

### **Honors and Awards**

Materials Research Society Outstanding Young Investigator Award (2011), Top 100 chemists (#21) of the past decade published by Thompson Reuters (2011), Camille Dreyfus Teacher-Scholar Award (2010), The David and Lucile Packard Fellowship (2009), Sloan Fellowship (2009), NSF CAREER Award (2008), LMUexcellent Fellowship, Germany (2007), IBM Invention Achievement Award (2004, 2006), Belarus National Academy of Sciences Award (1995); International Soros Foundation Fellowship (1994); 1<sup>st</sup> Prize of the USSR Chemistry Olympiad (1991)

### **Synergistic Activities:**

**Organizing Research Symposia:** "Nanophotonic Materials", SPIE Optics+Photonics (San Diego, 2008); "Low-Cost Solution-Based Deposition of Inorganic Materials for Electronic/Photonic Devices" 2008 Fall MRS (Boston); "New developments in energy conversion and light-harvesting" 2009 Spring ACS (Salt Lake City); "Nanocrystals as Precursors for Complex Structures through Self-Assembly and Chemical Transformations" 2009 Spring MRS (San Francisco); "Transport in Nanoengineered Materials" 2010 (Chicago).

**Editorial Board:** Member of the Editorial Board of Journal *Nanoscale* published by the Royal Society of Chemistry

**Guest editor** for special issues of the Journal of Materials Chemistry „Chemical Transformations in Nanoparticles“ and Chemical Society Reviews “Chemistry of Functional Nanomaterials”

**Graduate Advisor:** Horst Weller (University of Hamburg, Germany)

**Postdoctoral Advisor:** Christopher B. Murray (UPenn)

### **Advisees:**

Graduate students: J. Huang, S. M. Rupich, W. Liu, C. Jiang, D. Baranov, M. Boles, D. Dolzhenkov, H. Zhang, M. Kurley

Postdoctoral associates: M. V. Kovalenko (ETH Zurich), J.-S. Lee, M. I. Bodnarchuk (ETH Zurich), A. Nag, D.-S. Chung, S. Ithurria.