PROF. JONATHAN S. OWEN
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3000 Broadway
New York, NY 10027

Columbia University – Department of Chemistry
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PROFESSIONAL APPOINTMENTS

Columbia University, Associate Professor	2014 - present
Columbia University, Assistant Professor	2009 - 2014
University of California, Berkeley, Postdoctoral	2005 - 2009
Dow Chemical Company, Research Intern	1998, 1999

EDUCATION

California Institute of Technology, Ph.D.	2000 - 2005
University of Wisconsin, Madison, B.S.	1996 - 2000

AWARDS AND HONORS

2016 Closs Lecturer, University of Chicago
2016 Joliot Chair, École Supérieure de Physique et de Chimie Industrielles
2016 American Chemical Society Award in Pure Chemistry
2012 National Science Foundation, CAREER Award
2011 DuPont Young Faculty Award
2011 Department of Energy, Early Career Research Award
2010 3M Nontenured Faculty Award
2005 American Chemical Society, Alternative Energy Postdoctoral Fellow
2003 Dow Chemical Travel Fellowship
2000 Hilldale Undergraduate Research Fellow

PUBLICATIONS

1) "Tight Binding of Carboxylate, Phosphonate, and Carbamate Anions to Stoichiometric CdSe Nanocrystals" Chen, P.E.; Norman, Z.M.; Anderson, N.C.; Owen, J.S.; *Submitted*.

2) "Unbalanced Hole and Electron Diffusion in Lead Halide Perovskites" Elbaz, G.A.; Straus, D.B.; Semonin, O.E.; Hull, T. D.; Paley, D.W.; Kim, P.; Owen, J.S.; Kagan, C.R.; Roy, X. *Submitted.*

3) "A Tunable Library of Selenourea Precursors to PbSe Nanocrystals with Size Distributions Near that Homogeneous Limit" Campos, M.; Hendricks, M.P.; Beecher, A.N.; Walravens, W.; Swain, R.A.; Cleveland, G. T.; Hens, Z.; Sfeir, M.Y.; Owen, J.S.; *ASAP*.

4) "On the Origins of Surface Traps in Colloidal II-VI Semiconductor Nanocrystals" Houtepen, A.J.; Hens, Z.; Owen, J.S.; Infante, I.; *Chem. Mater. ASAP***.**

5) "Targeted Intracellular Voltage Recordings From Dendritic Spines Using Quantum-Dot Coated Nanopipettes" Jayant, K.;Hirtz, J.J.; Jen-La Plante, I.; Tsai, D.M.; De Boer, W.D.A.M.; Semonche, A.; Peterka, D.S.; Owen, J.S.; Sahin, O.; Shepard, K.L.; Yuste, R.; *Nat. Nano, In Press*.

PUBLICATIONS (CONTINUED)

6) "The Transition from Molecular Vibrations to Phonons in Atomically Precise Cadmium Selenide Quantum Dots." Beecher, A.N.; Dziatko, R.A.; Steigerwald, M.L.; Owen,: J.S. Crowther, A.C.; *J. Am. Chem. Soc.* **2016**, *138*(51), 16754-16763.
7) "Direct Observation of Dynamic Symmetry Breaking above Room Temperature in Methylammonium Lead Iodide Perovskite" Beecher, A.N.; Semonin, O.E.; Skelton, J.M.; Frost, J.M.; Terban, M.W.; Zhai, H.; Alatas, A.; Owen, J. S.; Walsh, A.; Billinge, S.J.; *ACS Energy Lett.* **2016**, *1*(4), 880-887.

8) "Limits of Carrier Diffusion in *n*-Type and *p*-Type $CH_3NH_3PbI_3$ Perovskite Single Crystals" Semonin, O.E.; Elbaz, G.A.; Straus, D.B. Hull, T.B.; Paley, D.; Van der Zande, A. M.; Hone, J.; Kymissis, I.; Kagan, C.R.; Roy, X., Owen, J.S.; *J. Phys. Chem. Lett.* **2016**, *7*(17), 3510-3518.

9) "Modulation of Nitrogen Vacancy Charge State and Fluorescence in Nanodiamonds Using Electrochemical Potential" Karaveli, S,; Gaathon, O.; Wolcott, A.; Sakakibara, R.; Shemesh, O.A.; Peterka, D.S.; Boyden, E.S.; Owen, J.S.; Yuste, R.; Englund, D.; *PNAS*, **2016**, 113 (15), 3938-3943.

10) "Synthesis Structure and Reactivity of [TM-*t*Bu]ZnH, a Monomeric Terminal Zinc Hydride Compound in a Sulfur-Rich Coordination Environment: Access To a Heterobimetallic Compound" Krieder-Mueller, A.; Quinlavin, P.J.; Rauch, M.; Owen, J.S.; Parkin, G.; *Chem. Comm.*, **2016**, *52*, 2358-2361.

11) "Synthesis and Surface Chemistry of Cadmium Carboxylate Passivated CdTe Nanocrystals from Cadmium *bis*(phenyltellurolate)" Campos, M.P.; Owen, J.S.; *Chem. Mater.* **2016**, *28(1)*, 227-233.

12) "The Effect of Surface Stoichiometry on Blinking and Hole Trapping Dynamics in CdSe Nanocrystals" Anderson, Busby, E.; N.C.; Owen, J.S.; Sfeir, M.E *J. Phys. Chem. C* **2015**, *119*(49), 27797-27803.

13) "Infrared Spectroscopic Study of Vibrational Modes in Methylammonium Lead Halide Perovskites" Galser, T.; Müller, C.; Sender, M.; Kerkler, C.; Semonin, O.E.; Hull, T.D.; Yaffe. O.; Owen, J.S.; Kowalsky, W.; Pucci, A.; Lovrinčić, R. *J. Phys. Chem. Lett.*, **2015**, *6*(15), 2913-2918.

14) "Exchange of Alkyl and Tris(2-mercapto-1-*t*-butylimidazolyl)hydroborato Ligands Between Zinc, Cadmium and Mercury" Kreider-Mueller, A.; Quinlivan, P.J.; Rong, Y.; Owen, J.S.; Parkin, G.; *J. Organomet. Chem.* **2015**, *792*, 177-183.

15) "Excitons in Ultrathin Organic-Inorganic Perovskite Crystals" Yaffe, O.; Chernikov, A.; Norman, Z.M.; Velaunthapillai, A.; van der Zander, A.; Owen, J.S.; Heinz, T.F. *Phys. Rev. B,* **2015**, *92*, 045414.

PUBLICATIONS (CONTINUED)

16) "A Tunable Library of Precursors to Metal Sulfide Nanocrystals", Hendricks, M.P.; Campos, M.P.; Cleveland, G.T.; Jen-La Plante, I.; Owen, J.S.; *Science* **2015**, *348*(6240), 1226-1230.

17) "Synthesis and Structures of Cadmium Carboxylate and Thiocarboxylate Compounds with a Sulfur-Rich Coordination Environment: Carboxylate Exchange Kinetics Involving Tris(2-mercapto-1-t-butylimidazolyl)hydroborato Cadmium Complexes, $[Tm^R]Cd(O_2CR)$" Krieder-Mueller, A.; Quinlivan, P.; Rong, Y.; Owen, J.S.; Parkin, G.; *Inorg. Chem.,* **2015,** *54*(8), 3835-3850.

18) "The Coordination Chemistry of Nanocrystal Surfaces" Owen, J.S.: *Science,* **2015**, *347*(6222), 615-616**.** (*Invited Perspective Article*)

19) "Trap States in Lead Iodide Perovskites" Wu, X.; Trinh, M. T.; Niesner, D.; Zhu, H.; Noman, Z.; Owen, J.S.; Yaffe, O.; Kudisch, B. J.; Zhu, X.-Y.; *J. Am. Chem. Soc.*, **2015**, *137* 2089-2096.

20) "Surface Structure of Aerobically Oxidized Diamond Nanocrystals" Wolcott, A.; Schiros, T.; Trusheim, M.E.; Chen, E.H.; Nordlund, D; Diaz, R.E.; Gaathon, O.; Englund, D.; Owen, J.S.; *J. Phys. Chem. C,* **2014**, *118*(46), 26695-26702.

21) "Atomic Structure and Gram Scale Synthesis of Three Tetrahedral Quantum Dots" Beecher, A.N.; Yang, X.; Palmer, J.; Lagrassa, A.; Juhas, P.; Billinge, S.J.; Owen, J.S.; *J. Am. Chem. Soc.,* **2014**, *136*(30), 10645-10653.

22) "Electrical Transport and Grain Growth in Chloride-Terminated Cadmium Selenide Nanocrystal Thin Films" Norman, Z.M.; Anderson, N.C.; Owen J.S. *ACS Nano.* **2014***, 8*(7), 7513-7521.

23) "Molecular Structures of Tris(2-mercapto-1-tert-butylimidazolyl)hydroborato and Tris(2-mercapto-1-adamantylimidazolyl)hydroborato Sodium Complexes: Analysis of $[Tm^R]$ Ligand Coordination Modes and Conformations" Krieder-Mueller, A.; Rong, Y.; Owen, J.S.; Parkin, G.; *Dalton Trans.* **2014,** *43*, 10852-10865.

24) "Time Resolved Energy Transfer From Single Chloride Terminated Nanocrystals to Graphene" Ajayi, O.A.; Anderson, N.C.; Cotlet, M.; Petrone, N.C.; Gu, T.; Wolcott, A.; Gesuele, F.; Hone, J. Owen J.S. Wong, C. W.; *App. Phs. Lett.* **2014**, *104*(17), 17101.

25) "Structure of Methylammonium Lead Iodide Within Mesoporous Titanium Dioxide: Active Material in High Performance Perovskite Solar Cells"Choi, J.J.; Yang, X.; Norman, Z.; Billinge, S.J.; Owen, J.S.; *Nano Lett.* **2014**, *14*, 127-133.

26) "A Hot Electron-Hole Pair Breaks the Symmetry of a Semiconductor Quantum Dot" Trinh, M.; Sfeir, M.; Choi. J.J.; Owen, J.S.; Zhu, X.Y.; *Nano Lett.* **2013**, *13*, 6091-6097.

PUBLICATIONS (CONTINUED)

27) "Ligand Exchange and the Stoichiometry of Metal-Chalcogenide Nanocrystals: Spectroscopic Observation of Facile Metal-Carboxylate Binding and Displacement" Anderson, N.C.; Hendricks, M.P.; Choi. J.J.; Owen, J.S.; *J. Am. Chem. Soc.*, **2013**, *135*, 18536-18548.

28) "Conversion Reactions of Metal Chalcogenide Nanocrystal Precursors" García-Rodríguez, R.; Hendricks, M.P.; Cossairt, B.M.; Liu, H.; Owen, J.S.; *(invited review) Chem. Mater.*, **2013**, *25*, 1233-1249.

29) "Soluble Chloride-Terminated Cadmium Selenide Nanocrystals: Ligand Exchange Monitored by ^{1}H and ^{31}P NMR Spectroscopy" Anderson, N.C.; Owen, J.S.; *Chem. Mater.,* **2013**, *25*, 69-76.

30) "The Importance of Nanocrystal Precursor Conversion Kinetics: Mechanism of the Reaction Between Cadmium Carboxylate and Cadmium-*bis*-dithiophosphinate" Hendricks, M.A.; Cossairt, B.C.; Owen, J.S.; *ACS Nano,* **2012**, *6*(11), 10054-10062.

31) "Tuning the Surface Structure and Optical Properties of CdSe Clusters Using Coordination Chemistry" Cossairt, B.M.; Juhas, P.; Billinge, S.J.; Owen, J.S.; *J. Phys. Chem. Lett.* **2011**, *2*, 3075-3080.

32) "CdSe Clusters: At the Interface of Small Molecules and Quantum Dots" Cossairt, B.M.; Owen, J.S.; *Chem. Mater.* **2011**, *23*(12), 3114-3119.

33) "Focusing Nanocrystal Size Distributions via Production Control" Clark, M.D.; Kumar, S.K.; Owen, J.S.; Chan, E.M.; *Nano Lett*. **2011**, *11*, 1976-1980.

34) "Precursor Conversion Kinetics and the Nucleation of Cadmium Selenide Nanocrystals" Owen, J.S.; Chan, E.M.; Liu, H.T.; Alivisatos, A.P.; *J. Am. Chem. Soc.* **2010**, *132*(51), 18206-18213.

35) "Reproducible, High-Throughput Synthesis of Colloidal Nanocrystals for Optimization in Multidimensional Parameter Space" Chan, E.M.; Xu, C.; Mao, A.W.; Han, G.; Owen, J.S.; Cohen, B.E.; Milliron, D.J.; *Nano Lett.*, **2010**, *10,* 1874-1885.

36) "Reaction Chemistry and Ligand Exchange at Cadmium Selenide Nanocrystal Surfaces" Owen, J.S.; Park, J.; Trudeau, P.-E.; Alivisatos, A.P.; *J. Am. Chem. Soc.* **2008**, *130*, 12279-12281.

37) "Mechanistic Study of Precursor Evolution in Colloidal Group II-VI Semiconductor Nanocrystal Synthesis" Liu, H.T.; Owen, J.S.; Alivisatos, A.P.; *J. Am. Chem. Soc.* **2007**, *129*, 305-312.

38) "Kinetics and Mechanism of Methane, Methanol and Dimethyl Ether C–H Activation" Owen, J.S.; Labinger, J.A.; Bercaw, J.E.; *J. Am. Chem. Soc.* **2006**, *128*, 2005-2016.

PUBLICATIONS (CONTINUED)

39) "N-(2-pyridyl)pyridin-2'-ylidene Complexes of Nickel, Palladium and Platinum" Piro, N.A.; Owen, J.S.; Bercaw, J.E.; *Polyhedron*, **2004**, *126*, 8247-8255.

40) "Pyridinium-Derived N-Heterocyclic Carbene Complexes of Platinum: Synthesis, Structure and Ligand Substitution Kinetics" Owen, J.S.; Labinger, J.A.; Bercaw J.E.; *J. Am. Chem. Soc.* **2004**, *126*, 8247-8255.

41) "Rapid Access to Diverse Arrays of Chiral 2,4-Diazaphospholanes" Landis, C.R.; Jin, W.C.; Owen, J.S.; *Angew. Chem. Int. Ed.* **2001**, *40*, 3432-3434.

PATENTS

1) "Methods of producing metal sulfides, metal selenides, and metal sulfides/selenides having controlled architectures using kinetic control", Hendricks, M.P.; Campos, M.P.; Cleveland, G.; Jen-LaPlante, I.; Hamachi, L. Owen, J.S. **2016**, PCT/US2016/013518.

2) "Use of Substituted Thioureas as Sulfur Precursors for Nanostructured Materials", Hendricks, M.P.; Campos, M.C.; Owen, J.S. **2014**, PCT/US2014/057740, US 15/024,550, EP 20140847668, S. Korea 10-2016-7010622, China 201480058564.9.

3) "Ligand Exchange at II-VI Nanocrystal Surfaces", Owen, J.S.; Alivisatos, A.P., **2009**, US Patent 8,435,635 B2.

4) "Preparation of Diazaphosphacycles and Their Corresponding Transition Metal Complexes as Allylic Alkylation Catalysts and Hydrogenation Catalysts", Landis, C.R.; Jin W.; Owen, J.S.; Clark, T.P. **2003**, WO Patent 03/010174 A1.

5) "Diazaphosphocycles", Landis, C.R.; Jin, W.; Owen, J.S.; Clark, T.P. **2003**, US Patent 20030055254 A1.

INVITED LECTURES

-2017-
FQDots, Barcelona, Spain (09/08)
CECAM Workshop, Laussane, Switzerland (07/13)
Department of Energy, Solid State Lighting R&D Workshop (02/01)
American Chemical Society National Meeting, San Francisco, CA –
Nanoscale Materials: Structure and Function in 0, 1, and 2 Dimensions (04/4)

-2016-
Kloss Lecture, University of Chicago, Department of Chemistry (11/18)
Brown University, Department of Chemistry (10/13)
University of California – Berkeley, Department of Chemistry (10/04)
Department of Energy BES/EERE Roundtable on Solid State Lighting (09/14)
Quantum Materials Corporation (08/01)
Gordon Research Conference, Organometallic Chemistry (07/13)

INVITED LECTURES (CONTINUED)

-2016-

École Supérieure de Physique et de Chimie Industrielles de la Ville de Paris, Physics and Materials Science Laboratory (06/13, 06/20, 06/27)
Nanosys Incorporated (05/19)
Carnegie Mellon University, Department of Chemistry (05/05)
University of California - Los Angeles, Department of Chemistry (4/27)
American Chemical Society National Meeting, Award Symposium, San Diego, CA – (03/14)
2016 Department of Energy Solid State Lighting R&D Workshop (02/03)

-2015-

ETH Zurich, Phonsi International Training Network (09/30)
Molecular Foundry User Meeting (08/21)
American Chemical Society National Meeting, Boston, MA – High Energy Organometallics (08/16-20)
20th American Conference on Crystal Growth and Epitaxy, Big Sky, MT – Nanocrystals, Quantum Dots, and Nanowires (08/2-7)
Institut des Sciences Appliquées, Laboratoire de Physique et Chimie des Nano-Objets Toulouse, France (07/09)
École Supérieure de Physique et de Chimie Industrielles de la Ville de Paris, Physics and Materials Science Laboratory (07/06)
Université Paris Sud, Laboratoire de Physique des Solides, Paris, France (07/03)
University of Iowa, Department of Chemistry, (04/17)
Materials Research Society Spring Meeting, San Francisco, CA - From Molecules to Colloidal Compound Semiconductor Nanocrystals - Advances in Mechanism Enabled Design and Synthesis (04/6-10)
American Chemical Society National Meeting, Denver, CO - Soluble Inorganic Semiconductors, Synthesis, Properties, and Applications (03/22-26)
Cornell, Department of Chemistry (02/12)
MIT, Department of Chemistry (02/11)
Michigan State University, Department of Chemistry (02/05)
Yale University, Department of Chemistry (01/12)

-2014-

Columbia University, Department of Chemistry (11/13)
Pacific Light Technologies, Portland, Oregon (11/3)
University of California, Berkeley, Department of Chemistry (10/31)
Kinestral Technologies, South San Francisco, CA (10/30)
International Conference on Fundamental Processes in Semiconductor Nanocrystals, Oxford, United Kingdom (09/09)
American Chemical Society National Meeting, San Francisco, CA
Control, Characterization, and Impact of Nanocrystal Surface Chemistry (08/13)
American Chemical Society National Meeting, San Francisco, CA
Organometallic Chemistry, The New Frontiers (08/11)
Gordon Research Conference, Colloidal Semiconductor Nanocrystals (07/20)
Department of Energy, Materials Chemistry Principle Investigator Meeting (07/15)

INVITED LECTURES (CONTINUED)

-2014-

Ghent University, Belgium - workshop on the fundamental chemistry and physics of semiconductor nanocrystals:
Fundamentals of Colloidal Synthesis (06/02)
Fundamentals of Nanocrystal Coordination Chemistry (06/03)
University of Southern California - Department of Chemistry (04/29)
California Institute of Technology - Department of Chemistry (04/28)
Northwestern University - Energy Frontier Research Center (04/03)
University of Wisconsin, Madison - Department of Chemistry (04/02)
Quantum Dot Tutorial, Phosphor Global Summit, San Diego, CA (03/26)
American Chemical Society National Meeting, Dallas, TX – Undergraduate Research Symposium, Division of Chemical Education (03/16)
American Chemical Society National Meeting, Dallas, TX - Nanomaterials for Energy Capture, Conversion, and Storage (03/16)
Indiana University - Department of Chemistry (02/25)
University of Washington, Seattle - Department of Chemistry (02/11)
University of Washington, Seattle - Department of Materials Science (02/10)
Kinestral Technologies - Consulting Visit (02/04)
University of Illinois, Urbana-Champagne - Department of Chemistry (01/21)
Washington University, St. Louis - Department of Chemistry (01/21)

-2013-

University of Toronto - Department of Chemistry (12/05)
University of Pittsburgh - Department of Chemistry (11/14)
University of Colorado, Boulder - Department of Chemistry (11/04)
Pennsylvania State University, State College - Department of Chemistry (09/26)
University of Connecticut, Department of Chemistry (09/12)
Pacific Light Technologies, Portland, OR (08/29)
Nanosys, Milpitas, CA (08/28)
3rd International Conference on Semiconductor Sensitized and Quantum Dot Solar Cells, Granada, Spain (06/10)
ETH Zurich - Department of Chemistry (06/04)
Italian Institute of Technology, Genoa, Italy (06/06)
European Materials Research Society, Strasbourg, France (05/29)
University of Rochester - Department of Chemistry, (04/18)
National Renewable Energy Lab, Golden, CO (04/19)
Colorado School of Mines, Golden, CO - Department of Chemistry (11/01)
American Chemical Society National Meeting, New Orleans, LA - Award Symposium for Theodore Agapie (04/08)
Phosphor Global Summit, New Orleans, LA (03/19)
Georgia Tech - Department of Chemistry (02/21)
University of Pennsylvania - Department of Chemistry (02/04)
DuPont Corporation (02/01)

-2012-

Janelia Farm, Voltage Imaging Workshop, Ashburn, VA (11/07)

INVITED LECTURES (CONTINUED)

-2012-
American Chemical Society, Regional Meeting, New York, NY (09/14)
American Chemical Society, National Meeting, Philadelphia, PA - Young Investigator Symposium (08/20)
Harlem Children Society, Harlem, NY (08/13)
Naval Research Lab (07/19)
Gordon Research Conference, Inorganic Chemistry (06/21)

-2011-
QD Vision Incorporated (11/02)
The University of Texas, Austin - Energy Frontier Research Center (11/16)

-2010-
The University of Chicago - Department of Chemistry (11/15)

-2010-
The University of Minnesota - Minnesota Nanotechnology Conference (10/07)

-2009-
Barnard College - Department of Chemistry (11/20)
Symyx Symposium on High Throughput Technology (05/12)

LECTURE COURSES TAUGHT AT COLUMBIA UNIVERSITY

Spring 2016	G8130: "The Chemistry of Nanocrystals"	Enrollment: 6
	Instructor quality rating: 4.50/5	
	Overall course rating: 4.83/5	
Fall 2015	C1403: "General Chemistry"	Enrollment: 189
	Instructor quality rating: 3.90/5	
	Overall course rating: 3.48/5	
Fall 2014	G4071: "Inorganic Chemistry"	Enrollment: 29
	Instructor quality rating: 4.59/5	
	Overall course rating: 4.68/5	
Fall 2013	G4071: "Inorganic Chemistry"	Enrollment: 29
	Instructor quality rating: 1.36/5	
	Overall course rating: 1.64/5	
	(In Fall 2013 the rating scale was: 1 = excellent, 5 = poor)	
Spring 2013	G8130: "The Chemistry of Nanocrystals"	Enrollment: 8
	Instructor quality rating: 4.74/5	
	Overall course rating: 4.60/5	
Fall 2012	G4103: "Adv. Inorganic Chemistry"	Enrollment: 13
	Instructor quality rating: 4.93/5	
	Overall course rating: 4.82/5	
Spring 2012	G3071: "Intro. to Inorganic Chemistry"	Enrollment: 30
	Instructor quality rating: 4.88/5	
	Overall course rating: 4.44/5	
Fall 2011	G4103: "Adv. Inorganic Chemistry"	Enrollment: 18
	Instructor quality rating: 4.13/5	
	Overall course rating: 3.96/5	
Spring 2011	G8130: "The Chemistry of Nanocrystals"	Enrollment: 12
	Instructor quality rating: 3.76/5	
	Overall course rating: 3.73/5	
Fall 2010	G4103: "Adv. Inorganic Chemistry"	Enrollment: 30
	Instructor quality rating: 4.20/5	
	Overall course rating: 4.11/5	
Spring 2010	G3071: "Intro. to Inorganic Chemistry"	Enrollment: 17
	Instructor quality rating: 4.44/5	
	Overall course rating: 4.24/5	
Fall 2009	G8130: "The Chemistry of Nanocrystals"	Enrollment: 9
	Instructor quality rating: 3.92/5	
	Overall course rating: 4.03/5	

STUDENTS MENTORED

Graduate Students

Brandon McMurtry		2016 - present
Matthew Greenberg		2015 - present
Trevor Hull		2014 - present
Iva Rreza		2014 - present
Leslie Hamachi		2013 - present
Michael Campos		2012 - present
Peter Chen, NSF Graduate Research Fellow		2012 - present
Alexander Beecher, NSF GRF Honorable Mention		2011 - 2016
Mark Hendricks	Northwestern U., Postdoc (Stupp)	2010 - 2015
Zachariah Norman	Lockheed Martin, Boston	2010 - 2015
Suk ho Hong	Korean Military Service	2013 - 2015
Nicholas C. Anderson	National Renewable Energy Lab, Postdoc (Neale)	2009 - 2014
Dr. Ava Krieder-Mueller	Clemson University, Lecturer	2009 - 2014
Prof. Michael Clark	Lafayette College, Visiting Professor	2009 - 2012
Colin Cunningham	Business School, Portland State Univ.	2010 - 2012

Postdoctoral Researchers

Dr. Jonathan De Roo	PhD: Z. Hens, Univ. Ghent, Belgium, 2016	2016 - present
Dr. Wieteke de Boer	PhD: L. Siebbeles, TU, Delft, 2014	2014 - present
Dr. Ilan Jen-LaPlante	Currently: Nanosys, Milpitas, CA	2014 - 2016
Dr. Octavi Semonin	Currently: Alta Devices, Sunneyvale, CA	2012 - 2016
Dr. Evelyn Auyeung	Currently: Dow Chemical, Midland, MI	2014 - 2015
Prof. Joshua J. Choi	Currently: Dept. Chemical Eng., U. Virginia	2012 - 2014
Prof. Abraham Wolcott	Currently: Dept. Chemistry, San Jose State Univ.	2011 - 2013
Prof. Brandi Cossairt	Currently: Dept. Chemistry, U. Washington	2010 - 2012

Undergraduate Students

Christian Joseph (SEAS ‘20)		2016 - present
Eric Riesel (CC’19)		2016 - present
Victor Gordillo (CC’19)		2015 - present
Aidan Graham (CC ’16)	Currently: Pacific Light Technologies	2014 - 2016
Michele Myong (CC ‘16)	Currently: Northwestern Univ., Chemistry	2014 - 2016
Greg Cleveland (CC ’16),	Currently: NSF GRF, MIT, Chemistry	2013 - 2016
Helen Yang (CC ‘16),		2013 - 2015
Rajat Chandra (SEAS ’18)		2015
Ian Covert (CC ’17)		2014 - 2015
Robert Swain (CC ’16)		2013 - 2015
Bert Vancura	Currently: Columbia Univ., Medical School	2012 - 2015
Rebecca Siegelman	Currently: UC Berkeley, Chemistry	2011 - 2014
Rena Chen	Currently: Rice University, Chemistry	2012 - 2013
Long Tran		2012 - 2013
Aya Buckley	Currently: UC Berkeley, Chemistry	2010 - 2013
Zach Brille	Currently: UC Berkeley, Chemistry	Spring 2011
Jason Pfluegger	Currently: UC Berkeley, Chemistry	Spring 2010
Louise Stewart		2009 - 2010
Ivy Fortmeyer	Currently: Princeton, Chemistry	2009 - 2010

PROFESSIONAL SERVICE

Columbia University Service

University Committee on Scientific Instruction (08/2015 - 07/2016)
Columbia Nanoinitiative, Shared Facilities Committee, Electron Microscopy Subcomittee (03/2015 - present)
Graduate Committee, Department of Chemistry (09/2013 - 07/2016)
Sponsor, Chemical Synthesis Symposium, Department of Chemistry (09/2010 - present)
Undergraduate Committee, Department of Chemistry (07/2011 - 05/2013)
Rabi Scholars Selection Committee, Columbia University (01/2012)
Graduate Admissions Committee, Department of Chemistry (07/2009 - 05/2013)
Safety Committee, Department of Chemistry (07/2009 - 07/2011)

Conference Organization and Editorial Service

Associate Editor, Inorganic Synthesis, Volume on Nanomaterials (2015 - present)
Guest Editor, Chemical Communications, Special Issue (2011 - 2012)
Guest Editor, Chemistry of Materials, Special Issue (2011 - 2012)
Book Proposal Reviewer, Elsevier (2014, 2015)
Symposium Organizer, Division of Inorganic Chemistry, American Chemical Society National Meeting, San Francisco, CA - "The Chemistry of Inorganic Nanocrystals and Clusters: Structural Characterization and Mechanisms of Growth" (08/2014)

Grant Reviewer

National Science Foundation: DMR-EPM and MSN Panel Reviewer
Onsite Reviewer, University of Chicago MRSEC, mid-term review (06/07 - 06/08/2012)
American Chemical Society, Petroleum Research Fund
Department of Energy
Stanford Synchrotron Radiation Laboratory, User Proposals
Molecular Foundry, Lawrence Berkeley National Laboratory, User Proposals
Instituut voor de Aanmoediging van Innovatie door Wetenschap en Technologie in Vlaanderen, Brussels, Belgium

CURRENT GRANT SUPPORT

Department of Energy $583,704

Energy Efficiency and Renewable Energy, Solid State Lighting Program
"Compositionally Graded Alloy Quantum Dot Phosphors for Energy Efficient Solid State Lighting"
Principle Investigator: Jonathan Owen
Coauthored with Dr. Emory Chan, Lawrence Berkeley National Laboratory, and Dr. Juanita Kurtin, Pacific Light Technologies.
Total Award: $1,279,332

Department of Defense $250,000

Defense University Research Instrumentation Program
"Imaging Neural Networks with Time-Resolved Fluorescence Microscopy"
Principle Investigator: Jonathan Owen
Coauthored with Prof. Wei Min and Prof. Rafael Yuste

American Chemical Society, Petroleum Research Fund $110,000

New Directions Proposal (09/01/2015 - 08/31/2017)
"Homogeneous Nanoparticle Catalysis: Synthesis, Structural Characterization, and Catalysis Applications of Molecular Transition Metal Clusters"
Principle Investigator: Jonathan Owen

National Science Foundation $222,696

Materials Research Science and Engineering Center (01/01/15 - 6/30/16)
"Supermolecular Orbitals from Covalent Transition Metal Supermolecules and Supersolids"
Total Award: $14,000,000

Department of Defense $427,688

Multidisciplinary University Research Initiative (07/01/12 - 06/30/17)
"MURI: Imaging How a Neuron Computes"
Coauthored with PI: Rafael Yuste (Neuroscience) and 10 others
Total Award: $7,500,000

National Science Foundation $585,205

Faculty Early Career Development Program, (04/01/12 – 03/31/17)
"CAREER: Chemistry at the Interface of Small Molecules and Quantum Dots"

PROPOSALS PENDING

Department of Defense $7,500,000

Multidisciplinary University Research Initiative
"MURI: The Autonomous Quantum Dot Growbot"
Principle Investigator: Simon Billinge

National Science Foundation $496,220

Macromolecular Supermolecular and Nanochemistry Program
"SusChEM: Unjamming the Growth of Metal Pnictide Nanocrystals"

National Science Foundation $8,897,532

Neural Systems Cluster Program, (04/01/12 – 03/31/17)
"Collaborative Research: New York NeuroNex (NYNN)"
PI: Prof. Rafael Yuste (Columbia University)

National Science Foundation $91,749

Macromolecular Supermolecular and Nanochemistry Program
"RUI: The Vibrational Structure of Atomically-Precise Nanostructures: From Molecular Clusters to Quantum Dots"
PI: Prof. Andrew Crowther (Barnard University)

COMPLETED GRANT SUPPORT

Department of Energy $750,000

Early Career Research Program, (07/01/11 - 06/30/16)
"Measuring the Importance of Valence to the Chemistry of Nanocrystal Surfaces"

W. M. Keck Foundation $1,000,000

Medical Research Program (01/02/12 - 01/01/16)
"Watching the Brain Work: High Resolution Voltage Imaging with Diamond Nanoprobes"
Coauthored with Dirk Englund (Applied Physics) and Rafael Yuste (Neuroscience)
Owen Share: $357,000

3M Corporation $45,000

Nontenured Faculty Award (07/01/09 - 06/30/12)
"White-Light Emitting Nanocrystal Films for Solid-State Lighting"

DuPont $75,000

Young Faculty Award, (07/01/11 - 06/30/14)
"Semiconductor Nanocrystal Optoelectronics"

Department of Energy $298,159

Energy Frontier Research Center, (07/01/09 - 06/30/14)
"EFRC: Re-Defining Photovoltaic Efficiency Through Molecule Scale Control"
Member of Executive Committee and Thrust Leader
Total Award $25,000,000

COMPLETED GRANT SUPPORT (CONTINUED)

Columbia University $40,000

Research Initiatives in Science and Engineering, (02/01/11 - 01/31/12)
"Development of a Multifunctional Biochemical Sensor"
Coauthored with Prof. Dirk Englund