Brett A. Helms
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Materials Science Division
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Professional Experience

Career Staff Scientist, Lawrence Berkeley National Lab, The Molecular Foundry	2012–Present
Staff Scientist, Lawrence Berkeley National Lab, The Molecular Foundry	2007–2012
CPIMA Researcher, IBM Almaden with Craig J. Hawker	1998

Education

Postdoctoral Fellow with Prof. E.W. Meijer	Technische Universiteit, Eindhoven, The Netherlands	2006–2007
Ph.D. in Chemistry with Prof. Jean M. J. Fréchet	UC Berkeley	2000–2006
B.S. in Chemistry with Prof. Shenda M. Baker	Harvey Mudd College	1996–2000

Research Interests

My research program is devoted to understanding adaptive transport phenomena in dynamic mesoscale systems assembled from organic, organometallic, polymeric and nanocrystalline components. Enhanced capabilities relevant to energy, health, water, and food quality are enabled by my unique approaches to the modular design of their architectures and interfaces.

Publications (h-index = 24; i10-index = 33)

1. Gerber, L. C. H. Frischmann, P. D.; Fan, F. Y.; Doris, S. E.; Qu, X.; Scheuermann, A. M.; Persson, K.; Chiang, Y.-M.; **Helms, B. A.** "3-Dimensional Growth of Li_2S in Lithium-Sulfur Batteries Promoted by a Redox Mediator" *Nano Lett.* **2015**, **DOI:** 10.1021/acs.nanolett.5b04189.
2. Ong, G. K.; Williams, T. E.; Singh, A.; Schaible, E.; **Helms, B. A.**; Milliron, D. J. "Ordering in polymer micelle-directed assemblies of colloidal nanocrystals" *Nano Lett.* **2015**, *15*, 8240–8244.
3. Meckler, S. M.; Li, C.; Queen, W. L.; Williams, T. E.; Long, J. R.; Buonsanti, R.; Milliron, D. J.; **Helms, B. A.** "Sub-Micron Polymer-Zeolitic Imidazolate Framework Layered Hybrids via Controlled Chemical Transformation of Naked ZnO Nanocrystal Films" *Chem. Mater.* **2015**, *27*, 7673–7679.
4. Frischmann, P. D.; Gerber, L. C. H.; Doris, S. E.; Tsai, E. Y.; Fan, F. Y.; Qu, X.; Jain, A.; Persson, K. A.; Chiang, Y.-M.; **Helms, B. A.** "Flowable Perylene Bisimide-Polysulfide Gel Networks as Reconfigurable Nanostructured Redox Mediators in Lithium-Sulfur Batteries" *Chem. Mater.* **2015**, *27*, 6765–6770.
5. Li, C.; Ward, A. L.; Doris, S. E.; Pascal, T. A.; Prendergast, D.; **Helms, B. A.** "A Polysulfide-Blocking Microporous Polymer Membrane Tailored for Hybrid Li-Sulfur Flow Batteries" *Nano Lett.* **2015**, *15*, 5724–5729.
6. Rosen, E. L.; Gilmore, K.; Sawvel, A. M.; Hammack, A. T.; Doris, S. E.; Aloni, S.; Altoe, V.; Nordlund, D.; Weng, T.-C.; Sokaras, D.; Cohen, B. E.; Urban, J. J.; Ogletree, D. F.; Milliron, D. J.; Prendergast, D.;

Helms, B. A. "Chemically Directing *d*-Block Heterometallics to Nanocrystal Surfaces as Molecular Beacons of Surface Structure" *Chem. Sci*. **2015**, *6*, 6295–6304.

7. Kim, J.; Ong, G. K.; Wang, Y.; LeBlanc, G.; Williams, T. E.; Mattox, T. M.; **Helms, B. A.**; Milliron, D. J. "Nanocomposite Architecture for Rapid, Spectrally-Selective Electrochromic Modulation of Solar Transmittance" *Nano Lett.* **2015**, *15*, 5574–5579.
8. Gerber, L. C. H.; Frischmann, P. D.; Williams, T. E.; Tichelaar, M.; Tsai, E. Y.; Liu, Y.-S.; Guo, J.; Pemmaraju, C. D.; Prendergast, D.; **Helms, B. A.** "Chemical Doping Enhances Electronic Transport in Networks of Hexabenzocoronenes Assembled in Non-Aqueous Electrolyte" *Polym. Chem.* **2015**, *6*, 5560–5564. (Invited)
9. Wills, A. W.; Michalak, D. J.; Ercius, P.; Rosenberg, E. R.; Perciano, T.; Ushizima, D.; Runser, R.; **Helms, B. A.** "Block Copolymer Packing Limits and Interfacial Reconfigurability in the Assembly of Periodic Mesoporous Organosilicas" *Adv. Funct. Mater.* **2015**, *25*, 4120–4128.
10. Mendelsberg, R. J.; McBride, P. M.; Duong, J. T.; Bailey, M. J.; Llordes, A.; Milliron, D. J.; **Helms, B. A.** "Dispersible Plasmonic Doped Metal Oxide Nanocrystal Sensors that Optically Track Redox Reactions in Aqueous Media with Single-Electron Sensitivity" *Adv. Optical Mater.* **2015**, *3*, 1293–1300.
11. **Helms, B. A.**; Williams, T. E.; Buonsanti, R.; Milliron, D. J. "Colloidal Nanocrystal Frameworks" *Adv. Mater.* **2015**, *27*, 5820–5829.
12. Deng, Y.; **Helms, B. A.**; Rolandi, M. "Synthesis of pyridine chitosan and its protonic conductivity" *J. Polym. Sci. A Polym. Chem.* **2015,** *53*, 211–214. (Invited)
13. Chahal, H. S.; Chahal, D. S.; McBride, P. M.; **Helms, B. A.** "Synthetic Control Over the Dynamics of Mesoscaled Cargo Release from Colloidal Polymer Vectors Inside Live Cells" *J. Polym. Sci. A Polym. Chem.* **2015,** *53*, 256–264**.** (Invited)
14. Doris, S. E.; Lynch, J. J.; Li, C.; Wills, A. W.; Urban, J. J.; **Helms, B. A.** "Mechanistic Insight into the Formation of Cationic Naked Nanocrystals Generated under Equilibrium Control" *J. Am. Chem. Soc.* **2014**, *136*, 15702–15710.
15. Rosen, E. L.; Sawvel, A. M.; Milliron, D. J.; **Helms, B. A.** "Influence of Surface Composition on Electronic Transport Through Naked Nanocrystal Networks" *Chem. Mater.* **2014**, *26*, 2214–2217.
16. Williams, T. E.; Chang, C. M.; Rosen, E. L.; Garcia, G.; Runnerstrom, E.; Williams, B. L.; Koo, B.; Buonsanti, R.; Milliron, D. J.; **Helms, B. A.** "NIR-Electrochromic Heteromaterial Frameworks: a Platform to Understand Mesoscale Transport Phenomena in Solid-State Electrochemical Devices" *J. Mater. Chem. C* **2014**, *2*, 3328–3335. (Invited)
17. Kaur, S.; Raravikar, N.; **Helms, B. A.**; Prasher, R.; Ogletree, D. F. "Enhanced Thermal Transport at Covalently Functionalized Carbon Nanotube Array Interfaces" *Nature Commun.* **2014**, *5*, 4082/1–4082/8.
18. Milliron, D. J.; Buonsanti, R.; Llordes, A.; **Helms, B. A.** "Constructing Functional Mesostructured Materials from Colloidal Nanocrystal Building Blocks" *Acc. Chem. Res.* **2014**, *47*, 236–246.
19. Deng, Y. X.; Josberger, E.; Jin, J. H.; **Helms, B. A.**; Zhong, C.; Anantram, M.P.; Rolandi, M. "H^+-type and OH^--type biological protonic semiconductors and complementary devices" *Scientific Reports* **2013**, *3*, 2481.
20. Shehabi, A.; DeForest, N.; McNeil, A.; Masanet, E.; Greenblatt, J.; Lee, E. S.; Masson, G.; **Helms, B. A.**; Milliron, D. J. "U.S. Energy Savings Potential from Dynamic Daylighting Control Glazings" *Energy and Buildings* **2013**, *66*, 415–423.
21. Rivest, J. B.; Buonsanti, R.; Pick, T. E.; Zhu, L.; Lim, E.; Clavero, C.; Schaible, E.; **Helms, B. A.**; Milliron, D. J. "Evolution of Ordered Metal Chalcogenide Architectures through Chemical Transformations" *J. Am. Chem. Soc.* **2013**, *135*, 7446–7449.
22. Rauda, I. E.; Saldarriaga-Lopez, L. C.; **Helms, B. A.**; Schelhas, L. T.; Membreno, D.; Milliron, D. J.; Tolbert, S. H. "Nanoporous Semiconductors Synthesized Through Polymer Templating of Ligand-Stripped CdSe Nanocrystals" *Adv. Mater.* **2013**, *25*, 1315–1322.

23. Gerver, R. E.; Gómez-Sjöberg, R.; Baxter, B. C.; Thorn, K. S.; Fordyce, P. M.; Diaz-Botia, C. A.; **Helms, B. A.**; DeRisi, J. L; "Programmable Microfluidic Synthesis of Spectrally Encoded Microspheres" *Lab Chip* **2012**, 12, 4716–4723.
24. Bailey, M. J.; Duong, J. T.; **Helms, B. A.** "Delivery of custom-purposed colloidal nanocrystals to cancer cells" *Therapeutic Delivery* **2012**, 3, 1041–1045.
25. Duong, J. T.; Bailey, M. J.; Pick, T. E.; McBride, P. M.; Rosen, E. L.; Buonsanti, R.; Milliron, D. J.; **Helms, B. A.** "Efficient Polymer Passivation of Ligand-Stripped Nanocrystal Surfaces" *J. Polym. Sci. A Polym. Chem.* **2012**, 50, 3719–3727.
26. Buonsanti, R.; Pick, T.; Krins, N.; Richardson, T. J.; **Helms, B. A.**; Milliron, D. J. "Assembly of ligand-stripped nanocrystals into precisely controlled mesoporous architectures" *Nano Lett.* **2012**, *12*, 3872–3877.
27. Bailey, M. J.; van der Weegen, R.; Klemm, P. J.; Baker, S. L.; **Helms, B. A.** "Stealth Rare Earth Oxide Nanodiscs for Magnetic Resonance Imaging" *Adv. Healthcare Mater.* **2012**, 1, 437–442.
28. Chahal, D. S.; Chahal, H. S.; Bayles, A. R.; Rudié, E. N.; **Helms, B. A.** "Synthetic Development of Cell-Permeable Polymer Colloids Decorated with Nanocrystal Imaging Probes Optimized for Cell Tracking" *Chem. Sci.* **2012**, *3*, 2246–2251.
29. Albers, A. E.; Chan, E. M.; McBride, P. M.; Ajo-Franklin, C. M.; Cohen, B. E.; **Helms, B. A.** "Dual-Emitting Quantum Dot/Quantum Rod-Based Nanothermometers with Enhanced Response and Sensitivity in Live Cells" *J. Am. Chem. Soc.* **2012**, *134*, 9565–9568.
30. Rosen, E. L.; Buonsanti, R.; Llordes, A.; Sawvel, A. M.; Milliron, D. J.; **Helms, B. A.** "Exceptionally Mild Reactive Stripping of Native Ligands from Nanocrystal Surfaces by Using Meerwein's Salt" *Angew. Chem. Int. Ed.* ***2012***, *51*, 684–689.
31. Zhang, J.; Pick, T. E.; Gargas, D.; Dhuey, S.; Chan, E. M.; Wu, Y.; Liang, X.; Schuck, P. J.; Olynick, D. L.; **Helms, B. A.**; Cabrini, S. "Probe field enhancement in photonic crystals by upconversion nanoparticles" *J. Vac. Sci. Technol. B* **2011**, *29*, 06F403.
32. Park, S.-M.; Liang, X.; Harteneck, B. D.; Pick, T. E.; Hiroshiba, N.; Wu, Y.; **Helms, B. A.**; Olynick, D. L. "Sub-10 nm Nanofabrication via Nanoimprint Directed Self-Assembly of Block Copolymers" *ACS Nano* **2011**, *5*, 8523–8531.
33. Buonsanti, R.; Llordes, A.; Aloni, S.; **Helms, B. A.**; Milliron, D. J. "Tunable Infrared Absorption and Visible Transparency of Colloidal Aluminum-Doped Zinc Oxide Nanocrystals" *Nano Lett.* **2011**, *11*, 4706–4710.
34. Hourani, R.; Zhang, C.; van der Weegen, R.; Ruiz, L.; Li, C.-Y.; Keten, S.; **Helms, B. A.**; Xu, T. "Processable Cyclic Peptide Nanotubes with Tunable Interiors" *J. Am. Chem. Soc.* **2011**, *133*, 15296–15299.
35. Llordes, A.; Hammack, A. T.; Buonsanti, R.; Tangirala, R.; Aloni, S.; **Helms, B. A.**; Milliron, D. J. "Polyoxometalates and Colloidal Nanocrystals as Building Blocks for Metal Oxide Nanocomposite Films" *J. Mater. Chem.* **2011**, *21*, 11631–11638. (Invited)
36. Bastings, M. M. C.; **Helms, B. A.**; van Baal, I.; Hackeng, T. M.; Merkx, M.; Meijer, E. W. "From Phage Display to Dendrimer Display: Insights into Multivalent Binding" *J. Am. Chem. Soc.* **2011**, *133*, 6636–6641.
37. Voet, V. S. D.; Pick, T. E.; Park, S.-M.; Moritz, M.; Hammack, A. T.; Urban, J. J.; Ogletree, D. F.; Olynick, D. L.; **Helms, B. A.** "Interface Segregating Fluoralkyl-Modified Polymers for High-Fidelity Block Copolymer Nanoimprint Lithography" *J. Am. Chem. Soc.* **2011**, *133*, 2812–2815.
38. Breurken, M.; Lempens, E. H. M.; Temming, R. P.; **Helms, B. A.**; Meijer, E. W.; Merkx, M. "Collagen Targeting Using Multivalent Protein-Functionalized Dendrimers" *Bioorg. Med. Chem.* **2011**, *19*, 1062–1071.

39. Xu, T.; Zhao, N.; Ren, F.; Hourani, R.; Lee, M. T.; Shu, J. Y.; Mao, S.; **Helms, B. A.** "Co-assembly of Nanotube Subunits and Block Copolymers Toward Sub-Nanometer Porous Membranes" *ACS Nano* **2011**, *5*, 1376–1384.
40. Caldwell, M. A.; Albers, A. E.; Levy, S. C.; Pick, T. E.; Cohen, B. E.; **Helms, B. A.**; Milliron, D. J. "Driving Oxygen Coordinated Ligand Exchange at Nanocrystal Surfaces Using Trimethylsilylated Chalcogenides" *Chem. Commun.* **2011,** *47,* 556–558. (Invited)
41. Jensen, H. M.; Albers, A. E.; Malley, K. R.; Londer, Y. Y.; Cohen, B. E.; **Helms, B. A.**; Weigele, P.; Groves, J. T.; Ajo-Franklin, C. M. "Engineering of a Synthetic Electron Conduit in Living Cells" *Proc. Nat. Acad. Sci.* **2010,** *107,* 19213–19218.
42. Bayles, A. R.; Chahal, H. S.; Chahal, D. S.; Goldbeck, C. P.; Cohen, B. E.; **Helms, B. A.** "Rapid Cytosolic Delivery of Luminescent Nanocrystals to Live Cells with Endosome-Disrupting Polymer Colloids" *Nano Lett.* **2010**, *10*, 4086–4092.
43. Lempens, E. H. M.; **Helms, B. A.**; Bayles, A. R.; Merkx, Maarten; Meijer, E. W. "A Versatile, Modular Platform for Multivalent Peptide Ligands Based on a Dendritic Wedge" *Eur. J. Org. Chem.* **2010**, *1*, 111–119.
44. **Helms, B. A.**; Reulen, S. W. A.; Nijhuis, S.; de Graaf-Heuvenmans, P. T. M. H.; Merkx, M.; Meijer, E. W. "High-Affinity Peptide-Based Collagen Targeting Using Synthetic Phage Mimics: From Phage Display to Dendrimer Display" *J. Am. Chem. Soc.* **2009**, *131*, 11683–11685.
45. Lempens, E. H. M.; **Helms, B. A.**; Merkx, M.; Meijer, E. W. "Efficient and Chemoselective Surface Immobilization of Proteins by Using Aniline-Catalyzed Oxime Chemistry" *ChemBioChem* **2009,** *10,* 658–662.
46. Zhao, M.; **Helms, B.**; Slonkina, E.; Friedle, S.; Lee, D.; DuBois, J.; Hedman, B.; Hodgson, K. O.; Fréchet, J. M. J.; Lippard, S. J. "Iron Complexes of Dendrimer-Appended Carboxylates for Activating Dioxygen and Oxidizing Hydrocarbons" *J. Am. Chem. Soc.* **2008,** *130,* 4352–4363.
47. **Helms, B.**; van Baal, I.; Merkx, M. Meijer, E. W. "Site-Specific Protein and Peptide Immobilization on a Biosensor Surface by Pulsed Native Chemical Ligation" *ChemBioChem* **2007,** *8,* 1790–1794.
48. **Helms, B.**; Meijer, E. W. **"**Dendrimers at Work" *Science* **2006,** *313,* 929–930.
49. **Helms, B.**; Fréchet, J. M. J. "The Dendrimer Effect in Homogeneous Catalysis" *Adv. Syn. Catal.* **2006,** *348,* 1125–1148.
50. Thibault, R. J.; Takizawa, K.; Lowenheilm, P.; **Helms, B.**; Mynar, J. L.; Fréchet, J. M. J.; Hawker, C. J. "A Versatile New Monomer Family: Functionalized Vinyltriazoles via Click Chemistry" *J. Am. Chem. Soc.* **2006,** *128,* 12084–12085.
51. **Helms, B.**; Guillaudeu, S. J; Xie, Y.; McMurdo, M.; Hawker, C. J. Fréchet, J. M. J. "One-Pot Reaction Cascades Using Star Polymers with Core-Confined Catalysts" *Angew. Chem. Int. Ed.* **2005,** *44,* 6384–6387.
52. **Helms, B.**; Mynar, J. L.; Hawker, C. J.; Fréchet, J. M. J. "Dendronized Linear Polymers via "Click Chemistry"" *J. Am. Chem. Soc.* **2004,** *126,* 15020–15021.
53. Harth, E. M.; Hecht, S.; **Helms, B.**; Malmström, E. E.; Fréchet, J. M. J.; Hawker, C. J. "The Effect of Macromolecular Architecture in Nanomaterials: A Comparison of Site Isolation in Porphyrin Core Dendrimers and Their Isomeric Linear Analogues" *J. Am. Chem. Soc.* **2002,** *124,* 3926–3938.

Patents and Book Chapters

1. **Helms, B. A.**; Li, C.; Ward, A. L.; Doris, S. E.; Li, C. "Ion- and Size-Selective Membranes for Electrochemical Energy Storage Devices Based on Polymers with High Intrinsic Microporosity" Patent Application ###.
2. Garcia, G.; Holt, J.; Rosen, E.; **Helms, B.** "Methods of Charging Solid State Plasmonic Electrochromic Smart Window Device" Patent Application 62/118,167.

3. **Helms, B. A.**; Frischmann, P. D.; Chiang, Y.-M.; Fan, F. Y. "Electronically Percolating Networks for Redox Flow Batteries" Patent Application 62/036,056.
2. **Helms, B. A.**; Doris, S. E.; Li, C. "Ionic Nanocrystalline Materials with High Surface Charge Density and Composites of the Same" Patent Application 61/981,668.
3. Milliron, D. J.; **Helms, B. A.**; Llordes, A.; Buonsanti, R.; Garcia, G.; Runnerstrom, E. L. "Nanocrystal-Polymer Nanocomposite Electrochromic Device" PCT/US2013/032495.
4. DeRisi, J. L.; Fordyce, P. M.; Thorn, K.; Baxter, B. C.; Gerver, R. E.; Gómez-Sjöberg, R.; Zuckermann, R.; **Helms, B. A.** "Method for Production of Spectrally Encoded Microbeads" PCT/WO2014/031902.
5. **Helms, B. A.**; Rosen, E. L.; Buonsanti, R.; Llordes, A.; Milliron, D. J. "Surface Chemical Modification of Nanocrystals" IB-3124 patent filed.
6. **Helms, B. A.**; Bayles, A. R. "Cytosolic Delivery of Nanoparticles to Cells Using Polymer Colloids" US 20120058505 (2012).
7. Lempens, E. H. M.; **Helms, B. A.**; Merkx, M. "Chemoselective protein and peptide immobilization on biosensor surfaces" *Methods in Molecular Biology* **2011,** *751*, 401-20*.* (Invited).
8. Benoit, D.; Harth, E.; **Helms, B.**; Rees, I.; Vestberg, R.; Rodlert, M.; Hawker, C. J. "Progress Toward a Universal Initiator for Nitroxide Mediated "Living" Free Radical Procedures." *ACS Symposium Series* **2000,** *768,* 123-137.

Synergistic Activities:

Honors and Awards

July 2012 – DOE Outstanding Mentor Award
August 2015 – NSF Bay Area Regional I-Corps People's Choice Award

Invited Lectures (past 48 Months):

October 2015 – Electrochemical Society, Phoenix, AZ (two talks)
May 2015 – University of Chicago, Institute for Molecular Engineering
April 2015 – Materials Research Society, San Francisco
March 2015 – American Chemical Society, Denver (two talks)
February 2015 – Portland State University, Department of Chemistry
February 2015 – PepsiCo, Plano, TX
February 2015 – Contra Costa Community College (STEM Outreach)
January 2015 – Technische Universiteit, Eindhoven, NL, Institute for Complex Molecular Systems
January 2015 – Utrecht University, NL, Debye Institute for Nanomaterials Science
August 2014 – ISACS15 Challenges in Nanoscience, UC San Diego
August 2014 – ACS National Meeting, San Francisco
May 2014 – Kenote Speaker, Grand Challenges in Soft Matter Workshop, Organized by DOE/ORNL, University of California, Santa Barbara
May 2014 – University of Illinois, Urbana-Champaign, Department of Chemistry
April 2014 – MRS National Meeting, San Francisco
March 2014 – Technische Universiteit, Eindhoven, NL, Dept. of Chemistry and Chemical Eng.
March 2014 – ACS National Meeting, Dallas (two talks)
February 2014 – University of Texas at Austin, McKetta Department of Chemical Engineering
January 2014 – University of Washington, Department of Chemistry
January 2014 – Joint Center for Energy Storage Research All-Hands, Bolingbrook, IL
December 2013 – Joint Center for Energy Storage Research Science Day, SLAC, Menlo Park, CA
October 2013 – TE Connectivity, Menlo Park, CA
September 2013 – Lectures in Controlled Radical Polymerization – UC Berkeley

June 2013 – Cambridge University, United Kingdom, Department of Chemistry
April 2013 – Harvard University, Wyss Institute for Bio-Inspired Engineering
April 2013 – ACS National Meeting (two talks)
April 2013 – MRS National Meeting (two talks)
March 2013 – Multifunctional and Hybrid Nanomaterials, Sorrento, Italy
March 2013 – University of California, Berkeley, Nanosciences & Nanoengineering Institute
December 2012 – Tulane University
November 2012 – Zing Polymer Conference, Xcaret, Mexico
November 2012 – University of Washington, Materials Sciences and Engineering
September 2012 – Cornell University, Department of Chemistry
September 2012 – University of California, Irvine, Department of Chemistry
August 2012 – ACS National Meeting, Emerging Young Investigators Symposium
July 2012 – University of Warwick, UK
June 2012 – University of Fribourg, Adolph Merkle Institute, Switzerland
June 2012 – Italian Institute of Technology, Genova, Italy
June 2012 – CIMTEC, Montecatini Terme, Italy
May 2012 – University of California, Berkeley
April 2012 – Berkeley Nanotechnology Forum
April 2012 – MRS National Meeting (two talks)
March 2012 – ACS National Meeting (two talks)
February 2012 – University of Washington (declined until Fall)
January 2011 – TU/e, Eindhoven, The Netherlands (declined until Fall)
December 2011 – Cornell (declined until Fall)
November 2011 – Intel (Hillsborough, Oregon)
October 2011 – LLNL
August 2011 – Lectures in Controlled Radical Polymerization – UC Berkeley
June 2011 – Canadian Society of Chemistry National Meeting
June 2011 – Electron, Ion, Photon Beam Technology and Fabrication
May 2011 – European Materials Research Society
April 2011 – MRS National Meeting
April 2011 – Western Washington University 'Materials After-Dark' Lecture
February 2011 – Lectures in Controlled Radical Polymerization – UC Berkeley
September 2010 – Lectures in Controlled Radical Polymerization – UC Berkeley
July 2010 – 5th International Workshop on Emerging Functional Materials and Polymers, Paris
March 2010 – ACS National Meeting
March 2010 – Functional Soft Nanomaterials – Speaker and Conference Organizer, LBNL
February 2010 – Lectures in Controlled Radical Polymerization – UC Berkeley
January 2010 - Advanced Imaging Workshop, UC Berkeley
June 2009 University Pierre et Marie Curie (UPMC) – Paris
June 2009 – International Dendrimer Symposium 6 – KTH Stockholm
April 2009 – Lectures in Controlled Radical Polymerization – Materials Science and Engineering
February 2009 – UC Santa Barbara - Materials Research Outreach Program Symposium (MROP)
December 2008 – Japan-USA Workshop on Polymer Synthesis

Professional Society Memberships: American Chemical Society, Materials Research Society, Electrochemical Society

Reviewing Activities: Science, Nano Letters, Journal of the American Chemical Society, Angewandte Chemie, Chemical Science, ACS Nano, Advanced Materials, Advanced Functional Materials, Scientific

Reports, Langmuir, Chemistry of Materials, ACS Macro Letters, Macromolecules, Polymer Chemistry, Chemical Communications, Journal of Polymer Science A: Polymer Chemistry, Journal of the Vacuum Society and Technology B, ACS Applied Materials and Interfaces, Chemistry – A European Journal, Small.

Recent Collaborators (past 48 months):

Non-LBNL or UCB: Delia Milliron (UT Austin), Yet-Ming Chiang (MIT), Joe DeRisi (UCSF), Sinan Keten (Northwestern), Sarah Tolbert (UCLA), Bert Meijer (TU/e), James Blackwell (Intel), David Michalak (Intel), Marco Rolandi (U Washington), Dennis Nordlund (SLAC), Tsu-Chien Weng (SLAC)

LBNL and UCB: Ting Xu, Raffaella Buonsanti, Kristin Persson, Stephen Selkowitz, Andre Anders, Eleanor Lee, Peter Ercius, Tom Richardson, Rafael Gómez-Sjöberg

Molecular Foundry: David Prendergast, Jeffrey Urban, Emory Chan, Deirdre Olynick, Bruce Cohen, Caroline Ajo-Franklin, Shaul Aloni, Virginia Altoe, D. Frank Ogletree, Ron Zuckermann, Stefano Cabrini

Graduate and Postdoctoral Advisors and Advisees:

Graduate Advisor: Prof. Jean M. J. Fréchet (UC Berkeley & King Abdullah University and Science and Technology)

Principal Postdoctoral Sponsor: Prof. E. (Bert) W. Meijer (Technische Universiteit, Eindhoven, The Netherlands)

PIs Graduate Students and Postdoctoral Associates (past 48 months):

Dr. Longjun Li – Postdoctoral Associate (current)
Dr. Lorenzo Maserati – Postdoctoral Associate (current)
Dr. Peter Frischmann – Postdoctoral Associate (current)
Dr. Ashleigh Ward – Postdoctoral Associate (current)
Teresa E. Williams (formerly Pick) – UC Berkeley, Applied Science and Technology Graduate Program (current)
Changyi Li – UC Berkeley, Chemical Engineering Graduate Program (current)
Sean E. Doris – UC Berkeley, Chemistry Graduate Program (current, NDSEG Fellow)
Stephen Meckler – UC Berkeley, Chemistry Graduate Program (current)
Dr. Laura Gerber – Postdoctoral Associate – Currently at Sila Nanotechnologies
Dr. Feng Liu – Postdoctoral Associate – Currently at LBNL (co-advised with Thomas Russell)
Dr. Andrew Wills – Postdoctoral Associate – Currently at SBA Materials
Dr. April M. Sawvel – Postdoctoral Associate – Currently at LLNL (co-Advised with Delia Milliron)
Dr. Evelyn L. Rosen – Postdoctoral Associate – Currently at Heliotrope Tech
Dr. Georgeta Masson – Postdoctoral Associate – Currently at Chevron Oronite
Dr. Aaron E. Albers – Postdoctoral Associate – Currently at Redwood Bioscience
Dr. Rami Hourani – Postdoctoral Associate – Currently at Intel (co-Advised with Prof. Ting Xu)
Dr. Sang-Min Park– Postdoctoral Associate – Currently at Seagate (co-Advised with Deirdre Olynick)
Andrea R. Bayles – Master's Student – Currently at Lux Research
Rob van der Weegen – Master's Student – Currently at Technische Universiteit, Eindhoven, The Netherlands
Vincent S. D. Voet – Master's Student – Currently at Rijksuniversiteit Groningen, The Netherlands
Martijn Tichelaar – Master's Student – Currently at Rijksuniversiteit Groningen, The Netherlands
Neils Meereboer – Master's Student – Currently at Rijksuniversiteit Groningen, The Netherlands
Caili Huang – Master's Student – Currently at Oakridge National Laboratory

PIs Undergraduate Students (past 48 months):

Dev S. Chahal – UCLA Medical School
Harvind S. Chahal – Stanford Medical School
Patrick M. McBride – UC Santa Barbara, Materials Science Graduate Program
Jeffrey M. Ting – University of Michigan, NSF Chemistry Graduate Fellow
Emma N. Rudié – Yale, Biostatistics Graduate Program
Lina Zhu – Massachusetts Institute of Technology, Chemical Engineering Graduate Fellow
Mark J. Bailey – Mount Sinai School of Medicine, MD-PhD Program
Jennifer M. Duong – Northwestern Feinberg School of Medicine
Michael Kaiser – UC Berkeley
Christina Chang – Harvard University, Chemistry Graduate Program
James Patrick Lawrence – Stanford University, Materials Science and Engineering
Ethan Rosenberg – University of California, Los Angeles
James Burstein – UC Berkeley, Mechanical Engineering
Erica Tsai – Princeton University, Chemistry
Leanne Friedrich – Northwestern University, Materials Science and Engineering
Peter J. Santos – Northwestern University, Chemistry
Rory Runser – UC Berkeley, Chemical Engineering
Elise Goldfine – Cornell University
Muna Saber – Northwestern University
Don Huynh – Folsom Lake Community College
Mark A. Hughes Jr. – UC Berkeley, Chemical Engineering (current)
Angelique M. Scheuermann – UC Berkeley, Chemistry (current)
Ziyi Zhang – UC Berkeley, Chemistry (current)
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