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Position Title: R&D Staff
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Education:

Oberlin College, B.A., B. Mus 1991 Chemistry
University of California-Berkeley, Ph.D. 1998 Physical Chemistry

Professional Experience:

2008–present Research Staff, Center for Nanophase Materials Sciences, ORNL
2001–2008 Assistant Professor, California Institute of Technology
1999–2001 Joint Hewlett-Packard – UCLA Postdoctoral Researcher
1998–1999 Postdoctoral Researcher, Dept. of Chem. and Biochemistry, UCLA
1991–1998 Graduate Research Associate, Dept. Chem., UC Berkeley
1990–1991 Undergrad. Research Assoc., Dept. Chem., Oberlin College
1990 NSF Undergrad. Research Fellow, Dept. Chem. Univ. of Utah
1989 NSF Undergrad. Research Fellow, Dept. Chem. Washington Univ

Professional Activities, Honors and Awards:

Co-chair for CNMS Nano-Bio Conference, ORNL, 2013
Co-chair for “Micro and Nanotechnology; Nanopores” platform, Biophysical Society Meeting, 2011
Co-chair for “Molecular Electronic Circuit Assembly” track, Conference on Foundations of Nanoscience (DARPA), 2005-2007
Discussion leader for “Biomolecular and Supramolecular Electronics,” Gordon Research Conference on the Chemistry of Electronic Materials, 2005
Young Faculty Research Initiation Award, Center for Science and Engineering of Materials (NSF MRSEC) 2004
Research Innovation Award, Research Corp., 2002
Caltech President’s Fund Award, 2002
UCLA Chancellor’s Award for Excellence in Postdoctoral Research, 2001

Professional Memberships:

American Chemical Society, American Physical Society, Biophysical Society

Selected Peer-Reviewed Publications (Total >70):

1. J.B. Boreyko, R.R. Hansen, K.R. Murphy, S. Nath, S.T. Retterer, C.P. Collier, “Controlling Condensation and Frost Growth with Chemical Micropatterns”, *Sci. Rep.* **6**, 19131 (2016).
2. G. A. Venkatesan, J. Lee, A.B. Farimani, M. Heiranian, C.P. Collier, N.R. Aluru, S.A. Sarles, “Adsorption Kinetics Dictate Monolayer Self-Assembly for both Lipid-In and Lipid-Out Approaches to Droplet Interface Bilayer Formation”, *Langmuir* **37**, 12883-12893 (2015).
3. G.J. Taylor, G.A. Venkatesan, C.P. Collier, S.A. Sarles, “Direct In Situ Measurement of Specific Capacitance, Monolayer Tension, and Bilayer Tension in a Droplet Interface Bilayer”, *Soft Matter* **11**, 7592-7605 (2015).
4. C.P. Collier, “Bilayer Membrane Interactions with Nanofabricated Scaffolds”, *Chem. Phys. Lipids* **192**, 75-86 (2015).
5. X. Qu, J.B. Boreyko, F. Liu, R. Agapov, N.V. Lavrik, S.T. Retterer, J.J. Feng, C.P. Collier, C.-H. Chen, “Self-Propelled Sweeping Removal of Dropwise Condensate”, *Appl. Phys. Lett.* **106**, 221601 (2015).
6. P. Mruetusatorn, G. Polizos, P.G. Datskos, G.J. Taylor, S.A. Sarles, J.B. Boreyko, D.G. Hayes, C.P. Collier, “Control of Membrane Permeability in Air-Stable Droplet Interface Bilayers”, *Langmuir*, **31**, 4224-4231 (2015).

7. S.E. Norred, P.M. Caveney, S.T. Retterer, J.B. Boreyko, J.D. Fowlkes, C.P. Collier, M.L. Simpson, “Sealable Femtoliter Chamber Arrays for Cell-Free Biology”, *J. Vis. Exp.* **97**, 52616 (2015).
8. R.L. Agapov, J. B. Boreyko, D.P. Briggs, B.R. Srijanto, S.T. Retterer, C.P. Collier, N.V. Lavrik, “Length Scale Selects Directionality of Droplets on Vibrating Pillar Ratchet”, *Adv. Mater. Interfaces* **1**, 1400337 (2014).
9. J. B. Boreyko, G. Polizos, P. G. Datskos, S.A. Sarles, C.P. Collier, “Air-Stable Droplet Interface Bilayers on Oil-Infused Surfaces”, *Proc. Natl. Acad. Sci. USA* **111**, 7588-7593 (2014).
10. P. Mruetusatorn, J.B. Boreyko, G. Venkatesan, S.A. Sarles, D. Hayes, C.P. Collier, “Dynamic Morphologies of Microscale Droplet Interface Bilayers”, *Soft Matter* **10**, 2530-2538 (2014).

Collaborators:

Chuan-Hua Chen, Duke University

Konstantinos Giapis, California Institute of Technology

Chris Richards, University of Kentucky

Anup Singh, Sandia Livermore National Laboratory

Yuegang Zhang, Intel

Jonathan Boreyko, Virginia Tech

Seung-Wuk Lee, University of California, Berkeley

Ed Chaum, University of Tennessee Health Science Center, Memphis

Graduate and Postdoc Advisors:

Graduate Advisor: Richard Saykally (UC-Berkeley)

Postdoctoral Advisor: James Heath (UCLA)

Thesis Advisor and Postgraduate-Scholars Sponsor:

Total Graduate Students Advised: 12

Yoshie Narui (Emory University), Ian Shapiro, Yu Liu, Jason Gamba, Garrett Bittner, Andrea Martin, Raj Kulkarni, Paul Mruetusatorn (Univ. Tennessee-Knoxville), *Liz Norred (Univ. Tennessee-Knoxville), *Patrick Caveney (Univ. Tennessee-Knoxville), *Charles Chin (Univ. Tennessee-Knoxville), *William McClintic (Univ. Tennessee-Knoxville)

Total Postdoctoral Scholars Advised: 7

Seung-Yong Jung (Gladstone Institute, San Francisco University), Hyungil Jung (Yonsei University, South Korea), Maria Esplandiú (Universitat Autònoma de Barcelona, Spain), Donato Ceres, Jinyu Chen, Elizabeth Vargis (Utah State University), Jonathan Boreyko (Virginia Tech), *Fangjie Liu

*denotes current