Scott T. Phillips

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Researcher ID: K-6223-2014; h-index = 34; 7,853 citations

EDUCATION

1999–2004	University of California, Berkeley; Berkeley, CA Degree Awarded: Ph.D. Organic Chemistry
1995–1999	California State University, San Bernardino (CSUSB); San Bernardino, CA Degree Awarded: B.S. Chemistry: Biochemistry emphasis. GPA: 4.0

PREVIOUS EXPERIENCE

2017–present	Professor and Associate Director of Graduate Programs, Micron School of Materials Science & Engineering, Boise State University, ID
2017	Professor, Penn State University, Department of Chemistry, University Park, PA
2016–2017	Stephen and Patricia Benkovic Early Career Associate Professor of Chemistry, Penn State University, Department of Chemistry, University Park, PA
2014–2016	Martarano Associate Professor of Chemistry, Penn State University, Department of Chemistry, University Park, PA
2008–2014	Martarano Assistant Professor of Chemistry, Penn State University, Department of Chemistry, University Park, PA
2006–2008	Research Fellow with George M. Whitesides, Harvard University, Department of Chemistry & Chemical Biology, Cambridge, MA
2004–2006	Postdoctoral Fellow with Matthew D. Shair, Harvard University, Department of Chemistry & Chemical Biology, Cambridge, MA
1999–2004	Graduate Student with Paul A. Bartlett, University of California, Berkeley, Department of Chemistry, Berkeley, CA

AWARDS/HONORS

As an Associate Professor:

2016	Best presentation, ACS Industrial & Engineering Chemistry Research, 252nd ACS National Meeting
2016	MSMLG Czarnik Emerging Investigator Award
2016	Selected as the Adhesion Society's 2016 Distinguished Paper

2015	*Analytical Methods* Emerging Investigator
2015	*Polymer Chemistry* Emerging Investigator
2015	The Arthur F. Findeis Award for Achievement by a Young Analytical Scientist
2014	*Chemical Communications* Emerging Investigator

As an Assistant Professor:

2012	Eberly College of Science highly rated professor in a graduate course
2012	Eli Lilly and Company Young Investigator Award in Analytical Chemistry
2012	Alfred P. Sloan Research Fellow
2012	NSF CAREER Award
2011	Recognized by the PSU Office of Residence Life for having a positive impact on first year students
2011	Chosen as a faculty member who has been instrumental to the academic achievement of first year students (PSU Student Affairs)
2010, 2011, 2012	3M Non-Tenured Faculty Award
2010	Outstanding Professor in Chemistry, Alpha Chi Sigma
2009	Popular Mechanics Breakthrough Award
2009	Gates Foundation Grand Challenge Explorations Award
2009	DARPA Young Faculty Award
2009	Beckman Foundation Young Investigator Award
2009	Thieme Chemistry Journal Awardee
2009	Eberly College of Science Dean's Climate and Diversity Award
2008	Camille & Henry Dreyfus New Faculty Award
2008–2011	Martarano Career Development Professorship

As a postdoctoral fellow:

2007–2008	NIH Ruth L. Kirschstein National Research Service Award
2004–2007	Damon Runyon Cancer Research Foundation Postdoctoral Fellowship

As a graduate student:

2002–2004	Eli Lilly Graduate Fellowship
2001–2002	Boehringer Ingelheim Pharmaceutical Inc. Fellowship
2000	Departmental Block Grant

As an undergraduate student:

1999	Outstanding Undergraduate Student, Natural Sciences
1999	Graduated with Highest Honors and Departmental Honors, CSUSB
1999	Outstanding Achievement in Research for an Associate Member, Sigma Xi
1999	CSUSB Phi Kappa Phi Fellowship Nominee
1999	1st place CSU State Research Competition
1999, 1997	Associated Students Incorporated (ASI) Research Grant
1998	Barry M. Goldwater Scholarship
1998	ACS Division of Organic Chemistry Outstanding Undergraduate Student Travel Award
1998, 1999	1st place CSUSB Research Competition
1998	REU summer research fellowship sponsored by NSF and the University of Utah
1998	ASI Travel Grant
1998	Outstanding Undergraduate Student Research Award
1998	8th Annual New Directions Undergraduate Research Scholar
1995–1999	Alfred F. Moore Scholarship
1995–1999	Dean's List
1995–1999	National Dean's List

PUBLICATIONS

* Designates corresponding author

Boise State:

1. "Self-propagating amplification reactions for molecular detection and signal amplification: Advantages, pitfalls, and challenges", Sun, X. L.; Shabat, D.; Phillips, S. T.; Anslyn, E. V.*, *J. Phys. Org. Chem.*, **2018**, *31*, SI (article number e3827).

Penn State:

45. "Coupling Activity-Based Detection, Target Amplification, Colorimetric and Fluorometric Signal Amplification, for Quantitative Chemosensing of Fluoride Generated from Nerve Agents", Sun, X. L.; Reuther, J. F.; **Phillips, S. T.**; Anslyn, E. V.*, *Chemistry-A European Journal*, **2017**, *23*, 3903–3909.

44. "Design, Synthesis, and Characterization of Small Molecule Reagents That Cooperatively Provide Dual Readouts for Triaging and, When Necessary, Quantifying Point-of-Need Enzyme Assays", Brooks, A. D.; Mohapatra, H.; **Phillips**, **S. T.***, *J. Org. Chem.*, **2015**, *80*, 10437–10445. *Selected as a Featured Article.*

43. "Stimuli-Responsive Polymer Film that Autonomously Translates a Molecular Detection Event into a Macroscopic Change in Its Optical Properties via a Continuous, Thiol-Mediated Self-Propagating Reaction", Mohapatra, H.; Kim, H.; **Phillips, S. T.***, *J. Am. Chem. Soc.* **2015**, *137*, 12498–12501.

42. "Rapid, On-Command Debonding of Stimuli-Responsive Cross-Linked Adhesives by Continuous, Sequential Quinone Methide Elimination Reactions", Kim, H.; Mohapatra, H.; **Phillips, S. T.*** *Angew. Chem. Int. Ed.*, **2015**, *54*, 13063–13067. *Selected as a Very Important Paper; Highlighted in SynFacts 2015; 11(11): 1153.*

41. "Aromatizing Unzipping Polyester for EUV photoresist", Matsuzawa, K.; Mesch, R.; Olah, M.; Wang, W.; **Phillips, S. T.**; Willson, C. G. *Proc. SPIE—Int. Soc. Opt. Eng.* **2015**, *9425*, 1–8. *Selected for the SPIE Advanced Lithography 2015 Jeff Byers Award.*

40. "Depolymerizable poly(benzyl ether)-based materials for selective room temperature recycling", Baker, M. S.; Kim, H.; Olah, M. G.; Lewis, G. G.; **Phillips, S. T.***; *Green Chem.* **2015**, *17*, 4541–4545.

39. "Surface-Accessible Detection Units in Self-Immolative Polymers Enable Translation of Selective Molecular Detection Events Into Amplified Responses in Macroscopic, Solid-State Plastics", Yeung, K.; Kim, H.; Mohapatra, H.; **Phillips, S. T.***; *J. Am. Chem. Soc.* **2015**, *137*, 5324–5327.

38. "Polymeric materials that convert local fleeting signals into global macroscopic responses", Kim, H.; Baker, M. S.; **Phillips, S. T.***; *Chem. Sci.* **2015**, *6*, 3388–3392.

37. **"**Consider Designing the Readout First When Developing Point-of-Need Assays",

Phillips, S. T.*, *The Analytical Scientist* **2015**, article #304.

36. **"**End-capped poly(4,5-dichlorophthalaldehyde): A stable self-immolative poly(aldehyde) for translating specific inputs into amplified outputs, both in solution and the solid state", DiLauro, A. M.; **Phillips, S. T.***; *Polym. Chem.* **2015**, *6*, 3252–3258. (Invited contribution to the 2015 Emerging Investigator issue.)

35. "Self-Immolative Poly(4,5-dichlorophthalaldehyde) and its Applications in Multi-Stimuli-Responsive Macroscopic Plastics", DiLauro, A. M.; Lewis, G. G.; **Phillips, S. T.*** *Angew. Chem. Int. Ed.*, **2015**, *54*, 6200–6205.

34. "Strategy for Minimizing Background Signal in Autoinductive Signal Amplification Reactions for Point-of-Need Assays", Brooks, A. D.; Yeung, K.; Lewis, G. G.; **Phillips, S. T.*** *Analytical Methods*, **2015**, *7*, 7186–7192. (Invited contribution to the 2015 Emerging Investigator issue.)

33. "Amplified Responses in Materials Using Linear Polymers that Depolymerize from End-to-End When Exposed to Specific Stimuli", **Phillips, S. T.***; Robbins, J. S.; DiLauro, A. M.; Olah, M. G. *J. Appl. Polym. Sci.* **2014**, *131*, 40992. (Invited review.)

32. "Continuous Head-to-Tail Depolymerization: An Emerging Concept for Imparting Amplified Responses to Stimuli-Responsive Materials", **Phillips, S. T.***; DiLauro, A. M. *ACS Macro Lett.* **2014**, *3*, 298–304. (Invited review.) *A podcast describing this review is located at http://pubs.acs.org/page/mamobx/audio/index.html*

31. "The Expanding Role of Paper in Point-of-Care Diagnostics", **Phillips, S. T.***; Lewis, G. S. *Expert Rev. Mol. Diagn.* **2014**, *14*, 123–125. (Invited review.)

30. "A Prototype Point-of-Use Assay That Measures Heavy Metal Contamination in Water Using Time as a Quantitative Readout", Lewis, G. S.; Robbins, J. S.; **Phillips, S. T.*** *Chem. Commun*. **2014**, *50*, 5352–5354. (Invited contribution to the 2014 Emerging Investigator issue.)

29. "Quantitative Fluorescence Assays Using a Self-Powered Paper-Based Microfluidic Device and a Camera-Equipped Cellular Phone", Thom, N. K.; Lewis, G. S.; Yeung, K.; **Phillips, S. T.*** *RSC Adv*. **2014**, *4*, 1334–1340.

28. "A Rapid Point-of-Care Assay Platform for Measuring Femtomolar Levels of Active Enzyme Analytes Using Measurements of Time as the Readout", Lewis, G. S.; Robbins, J. S.; **Phillips, S. T.*** *Anal. Chem.* **2013**, *85*, 10432–10439. *Highlighted in: The Wall Street Journal, Science Daily, Phys.Org.com, ACS Global Challenges/Chemistry Solutions (Jan 27, 2014) (http://www.acs.org/content/acs/en/pressroom/podcasts/globalchallenges/combatingdisease/paper-based-device-could-bring-medical-testing-to-remote-locales.html), and others.*

27. "Accessibility of Responsive End-Caps in Films Composed of Stimuli-Responsive Depolymerizable Poly(phthalaldehydes)", DiLauro, A. M.; Zhang, H.; Baker, M. S.; Wong, F.; Sen, A.; **Phillips, S. T.*** *Macromolecules* **2013**, *46*, 7257–7265.

26. "A Self-Powered Polymeric Material that Responds Autonomously and Continuously to Fleeting Stimuli", Baker, M. S.; Yadav, V.; Sen, A.*; **Phillips, S. T.*** *Angew. Chem. Int. Ed.* **2013**, *52*, 10295–10299. *Highlighted in: Nat. Chem., Phys.Org.com, Chemistryviews.org, Innovationsreport.*

25. "End-Capped Poly(benzyl ethers): Acid and Base Stable Polymers That Depolymerize Rapidly from Head-to-Tail in Response to Specific Applied Signals", Olah, M. G.; Robbins, J. S.; Baker, M. S.; **Phillips, S. T.*** *Macromolecules* **2013**, *46*, 5924–5928.

24. "Advances in Materials that Enable Quantitative Point-of-Care Assays", **Phillips, S. T.***; Lewis, G. G. *MRS Bulletin* **2013**, *38*, 315–319. (Invited review.)

23. "Phase-Switching Depolymerizable Poly(carbamate) Oligomers for Signal Amplification in Quantitative Time-Based Assays", Lewis, G. G.; Robbins, J. S.; **Phillips, S. T.*** *Macromolecules* **2013**, *46*, 5177–5183.

22. "Reagents and Assay Strategies for Quantifying Active Enzyme Analytes Using a Personal Glucose Meter", Mohapatra, H.; **Phillips, S. T.*** *Chem. Commun.* **2013**, *49*, 6134–6136.

21. "Stimuli-Responsive Core-Shell Microcapsules With Tunable Rates of Release by Using a Depolymerizable Poly(phthalaldehyde) Membrane", DiLauro, A. M.; Abbaspourrad, A.; Weitz, D. A.; **Phillips, S. T.*** *Macromolecules* **2013**, *46*, 3309–3313.

20. "Effect of Aromaticity on the Rate of Azaquinone Methide-Mediated Release of Benzylic Phenols", Schmid, K. M.; **Phillips, S. T.*** *J. Phys. Org. Chem.* **2013**, *26*, 608–610.

19. "Reproducible and Scalable Synthesis of End-Cap-Functionalized Depolymerizable Poly(phthalaldehydes)", DiLauro, A. M.; Robbins, J. S.; **Phillips, S. T.*** *Macromolecules* **2013**, *46*, 2963–2968. *Highlighted in Synfacts 2013, 9, 0725.*

18. "Effects of Electronics, Aromaticity, and Solvent Polarity on the Rate of Azaquinone-Methide-Mediated Depolymerization of Aromatic Carbamate Oligomers", Robbins, J. S.; Schmid, K. M.; **Phillips, S. T.*** *J. Org. Chem.* **2013**, *78*, 3159–3169.

17. "Two General Designs for Fluidic Batteries in Paper-Based Microfluidic Devices That Provide Predictable and Tunable Sources of Power for On-Chip Assays", Thom, N. K.; Lewis, G. G.; DiTucci, M. J.; **Phillips, S. T.*** *RSC Adv.* **2013**, *3*, 6888–6895.

16. "A Thermally-Stable Enzyme Detection Assay that Amplifies Signal Autonomously in Water Without Assistance from Biological Reagents", Yeung, K.; Schmid, K. M.; **Phillips, S. T.*** *Chem. Commun.* **2013**, *49*, 394–396.

15. "Using Smell to Triage Samples in Point-of-Care Assays", Mohapatra, H.; **Phillips, S. T.*** *Angew. Chem. Int. Ed.* **2012**, *51*, 11145–11148.

14. "Phase Switching to Enable Highly Selective Activity-Based Assays", Mohapatra, H.; **Phillips, S. T.*** *Anal. Chem.* **2012**, *84*, 8927–8931. *Selected as an Editor's Highlight by Anal. Chem.*

13. "Quantifying Analytes in Paper-Based Microfluidic Devices Without Using Electronic Readers", Lewis, G. G.; DiTucci, M. J.; **Phillips, S. T.*** *Angew. Chem. Int. Ed.* **2012**, *51*, 12707–12710.

12. "High Throughput Method for Prototyping Three-Dimensional, Paper-Based Microfluidic Devices", Lewis, G. G.; DiTucci, M. J.; Baker, M. S.; **Phillips, S. T.*** *Lab Chip* **2012**, *12*, 2630–2633. *One of the top ten most accessed articles in LOC in June 2012.*

11. "A Self-Immolative Spacer that Enables Tunable Controlled Release of Phenols under Neutral Conditions", Schmid, K.; Jensen, L.; **Phillips, S. T.*** *J. Org. Chem.* **2012**, *77*, 4363–4374.

10. "A Small Molecule Sensor for Fluoride Based on an Autoinductive, Colorimetric Signal Amplification Reaction", Baker, M. S.; **Phillips, S. T.*** *Org. Biomol. Chem.* **2012**, *10*, 3595–3599.

9. "Fluidic Batteries in Paper-Based Microfluidic Devices", Thom, N. K.; Yeung, K.; Pillion, M. B.; **Phillips, S. T.*** *Lab Chip* **2012**, *12*, 1768–1770. *Selected as a "Hot Paper" by the editors of Lab on a Chip. One of the top ten most accessed articles in LOC in March 2012. Selected as one of the top 10% of all Lab on a Chip articles published this year.*

8. "Design of Small Molecule Reagents that Enable Signal Amplification via an Autocatalytic, Base-Mediated Cascade Elimination Reaction", Mohapatra, H.; Schmid, K.; **Phillips, S. T.*** *Chem. Commun.* **2012**, *48*, 3018–3020.

7. "Self-Powered Microscale Pumps Based on Analyte-Initiated Depolymerization Reactions", Zhang, H.; Yeung, K.; Robbins, J. S.; Pavlick, R. A.; Wu, M.; Liu, R.; Sen, A.*; **Phillips, S. T.*** *Angew. Chem. Int. Ed.* **2012**, *51*, 2400–2404. *Selected as a "Hot Paper" by the editors of Angewandte Chemie. Highlighted in: Chemistry World.*

6. "A Structurally Simple Self-Immolative Reagent that Provides Three Distinct, Simultaneous Responses per Specific Detection Event", Nuñez, S. A.; Yeung, K.; Fox, N. S.; **Phillips, S. T.*** *J. Org. Chem.* **2011**, *76*, 10099–10113.

5. "Use of Catalytic Fluoride under Neutral Conditions for Cleaving Silicon–Oxygen Bonds", DiLauro, A.; Seo, W.; **Phillips, S. T.*** *J. Org. Chem.* **2011**, *76*, 7352–7358. *Highlighted in: ChemInform **2012**, DOI: 10.1002/chin.201204158; GalChimia, 2011, issue 19; Organic Chemistry Portal, Organic Chemistry Highlights, May 28, 2012.*

4. "A Two-Component Small Molecule System for Activity-Based Detection and Signal Amplification: Application to the Visual Detection of Threshold Levels of Pd(II)", Baker, M. S.; **Phillips, S. T.*** *J. Am. Chem. Soc.* **2011**, *133*, 5170–5173. *Highlighted in: Chemistry & Engineering News.*

3. "Fluidic "Timers" for Paper-Based Microfluidic Devices", Noh, H.; **Phillips, S. T.*** *Anal. Chem.* **2010**, *82*, 8071–8078. *Highlighted in: Chemistry & Engineering*

News, Philadelphia Inquirer, USA Today, Gizmag Emerging Technology Magazine, Science Magazine: Science Daily News, Technology Daily: Style and Reviews Daily News Magazine, Science Daily, Oil & Gas Industry Today: Paraffin News, Medindia.net, Laboratory Equipment.com, Smart-Grid.tmcnet.com, Justmeans, Internet Chemistry.com, Fluidics: Microfluidics News, Physorg.com, Indiaofs.com, International Hospital, Latest Technology Blog, Lower my Cholesterol.net, Health.gresnews.com, Examiner.com, Health Info Here, Digg.com.

2. "Patterned Plastics that Change Physical Structure in Response to Applied Chemical Signals", Seo, W.; **Phillips, S. T**.* *J. Am. Chem. Soc.* **2010**, *132*, 9234–9235. *Highlighted in: Nature Chemistry, twice in New Scientist (June 28, 2010 and June 30, 2010), European Plastics News, SYNFACTS, JACS Select, Plastics News.com, Green Earth Africa, Platinum Today, Iran Daily, Techmonitor.net, Carbon Capture Report, Chemistry in the News: Exploring Chemistry, Renewable Energy Blog.*

1. "Metering the Capillary-Driven Flow of Fluids in Paper-Based Microfluidic Devices", Noh, H.; **Phillips, S. T.*** *Anal. Chem.* **2010**, *82*, 4181–4187.

Publications Pre-Penn State:

29. "Adaptive Use of Bubble Wrap for Storing Liquid Samples and Performing Analytical Assays", Bwambok, D. K.; Christodouleas, D. C.; Morin, S. A.; Lange, H.; **Phillips, S. T.**; Whitesides, G. M. *Anal. Chem.* **2014**, *86*, 7478–7485.

28. "Measuring Markers of Liver Function Using Micro-Patterned Paper and Blood Obtained From a Finger Prick", Vella, S.; Cademartiri, R.; Laromaine, A.; Beattie, P.; Martinez, A.; **Phillips, S. T.**; Mirica, K. A.; Whitesides, G. M., *Anal. Chem.*, **2012**, *84*, 2883–2891. Highlighted in: *Chemistry & Engineering News.*

27. "Measuring Binding of Protein to Gel-Bound Ligands with Magnetic Levitation", Shapiro, N.; Mirica, K. A.; Soh, S.; **Phillips, S. T.**; Taran, O.; Mace, C.; Shevkoplyas, S.; Whitesides, G. M.*, *J. Am. Chem. Soc.*, **2012**, *134*, 5637–5646.

26. "Millimeter-Scale Contact Printing of Aqueous Solutions using a Stamp Made out of Paper and Tape", Cheng, C.-M.; Gong, J.; Martinez, A. W.; Mazzeo, A. D.; **Phillips, S. T.**; Jain, N.; Whitesides, G. M.*, *Lab Chip*, **2010**, *10*, 3201–3205.

25. "Programmable Diagnostic Devices Made from Paper and Tape", Martinez, A. W.; **Phillips, S. T.**; Nie, Z.; Cheng, C.-M.; Carrilho, E.; Wiley, B.J.; Whitesides, G. M.*, *Lab Chip* **2010**, *10*, 2499–2504. *Highlighted in: Chemical Technology - RSC (Royal Society of Chemistry)*; *one of the top ten most accessed articles in Lab Chip for the month of August 2010.*

24. "Paper-Based ELISA", Cheng, C., Martinez, A. W., Gong, J., Mace, C. R., **Phillips, S. T.**, Carrilho, E., Mirica, K. A., Whitesides, G. M.*, *Angew. Chem. Int. Ed.* **2010**, *49*, 4771–4774.

23. "Magnetic Levitation in Analysis of Foods and Water", Mirica, K. A., **Phillips, S. T.**, Mace, C. R., Whitesides, G.M.*, *J. Agric. Food Chem.* **2010**, *58*, 6565–6569.

Highlighted in: Chemistry & Engineering News, National Public Radio (NPR), The Economist, Wissenschaft aktuell Nachrichten, SciDev.Net, ACS press release, e!Science News, Science Daily, InventorSpot, newsfood.com, medicalnewstoday.com, foodproductiondaily.com, beforeitsnews.com, Health Jockey, gizmag.com.

22. "Co-Fabrication: A Strategy for Building Multi-Component Microsystems", Siegel, A. C.; Tang, S. K. Y.; Nijhuis, C. A.; Hashimoto, M.; **Phillips, S. T.**; Dickey, M. D.; Whitesides, G. M.*, *Acc. Chem. Res.* **2010**, *43*, 518–528.

21. "Folded Printed Circuit Boards on Paper Substrates", Siegel, A. C.; **Phillips, S. T.**; Dickey, M.; Lu, N.; Suo, Z.; Whitesides, G. M.*, *Adv. Funct. Mat.*, **2010**, *20*, 28–35.

20. "Diagnostics for the Developing World: Microfluidic Paper-Based Analytical Devices", Martinez, A. W.; **Phillips, S. T.**; Carrilho, E.; Whitesides, G. M.*, *Anal. Chem.* **2010**, *82*, 3–10. *Most accessed article in Anal.Chem. during the 1st quarter of 2010. One of the Most Read Articles in Anal. Chem. in 2013 and 2014.*

19. "Quantifying Colorimetric Assays in Paper-Based Microfluidic Devices by Measuring the Transmission of Light through Paper", Ellerbee, A. K.; **Phillips, S. T.**; Siegel, A. C.; Mirica, K. A.; Martinez, A. W.; Striehl, P.; Jain, N.; Prentiss, M.; Whitesides, G. M.*, *Anal. Chem.*, **2009**, *81*, 8447–8452.

18. "Measuring Densities of Solids and Liquids Using Magnetic Levitation: Fundamentals", Mirica, K. A.; Shevkoplyas, S. S.; **Phillips, S. T.**; Gupta, M.; Whitesides, G. M.*, *J. Am. Chem. Soc.*, **2009**, *131*, 10049–10058.

17. "Paper Microzone Plates", Carrilho, E.; **Phillips, S. T.**; Vella, S. J.; Martinez, A. W.; Whitesides, G. M.*, *Anal. Chem.*, **2009**, *81*, 5990–5998. *Highlighted in: Anal. Chem.*

16. "Thin, Lightweight, Foldable Thermochromic Displays on Paper", Siegel, A. C.; **Phillips, S. T.**; Wiley, B.; Whitesides, G. M.*, *Lab Chip*, **2009**, *9*, 2775–2781. *Highlighted in: Chemistry Technology, Chemistry World, and Wired Science.*

15. "Using Magnetic Levitation to Distinguish Atomic-Level Differences in Chemical Composition of Polymers, and to Monitor Chemical Reactions on Solid Supports", Mirica, K. A.; **Phillips, S. T**.; Whitesides, G. M.*, *J. Am. Chem. Soc.*, **2008**, *103*, 17678–17680. *Highlighted in Nature Chemistry*.

14. "3D Microfluidic Devices Fabricated in Layered Paper and Tape", Martinez, A.; **Phillips, S. T.**; Whitesides, G.M.*, *Proc. Natl. Acad. Sci., U.S.A.* **2008**, *105*, 19606–19611. *Highlighted in: Technology Review; The Scientist; Wired Science; IEEE spectrum online; Nature; Science; New Scientist; Discover Magazine; Physics Today; Thaindin News; America.gov; Small Times; Science News; New York Times; Boston Globe; Chisblassternardone; International Herald Tribune; Financial Times Deutschland; The Harvard University Gazette.*

13. "FLASH: A Rapid Method for Prototyping Paper-Based Microfluidic Devices", Martinez, A.; **Phillips, S. T.**; Wiley, B.; Whitesides, G. M.*, *Lab Chip*, **2008**, *8*, 2146–2150. *Highlighted in: Chemical Technology - RSC (Royal Society of Chemistry); Nature Chemistry; New Scientist Tech; Journal of Chemical Education, published by the Division of Chemical Education of the American Chemical Society, called*

Research Advances (RA); ranked as the most accessed article in Lab on a Chip for September 2008.

12. "Simple Telemedicine for Developing Regions: Camera Phones and Paper-Based Microfluidic Devices for Real-Time, Off-Site Diagnosis" Martinez, A.; **Phillips, S. T.**; Thomas, S. W.; Sindi, H.; Whitesides, G. M.*, *Anal.Chem.* **2008**, *80*, 3699–3707.

11. "Density-Based Diamagnetic Separation: Devices for Detecting Binding Events and for Collecting Unlabeled Diamagnetic Particles in Paramagnetic Solutions", Winkleman, A.; Perez-Castillejos, R.; Gudikson, R.; **Phillips, S. T.**; Prentiss, M.; Whitesides, G. M.*, *Anal. Chem.* **2007**, *79*, 6542–6550.

10. "Syntheses of the Eastern Halves of Ritterazines B, F, G, and H, Leading to Reassignment of the Stereochemistry of Ritterazines B and F" **Phillips, S. T.**; Shair, M. D.*, *J. Am. Chem. Soc.* **2007**, *129*, 6589–6598.

9. "Patterned Paper as a Platform for Inexpensive, Low Volume, and Portable Bioassays" Martinez, A.; **Phillips, S. T.**; Butte, M.; Whitesides, G. M.*, *Angew. Chem. Int. Ed.* **2007**, *46*, 1318–1320. *Highlighted in: Nature*, *Chem. Eng. News*, *Anal. Chem.*, and other journals. ***This body of work was chosen as a 2009 Breakthrough of the Year by Popular Mechanics.***

8. "Quantifying the Interactions that Contribute to beta-Hairpin Folding" **Phillips, S. T.**; Piersanti, G.; Bartlett, P. A.*, *Proc. Natl. Acad. Sci. USA* **2005**, *102*, 13737–13742.

7. "@-Tides as Reporters for Molecular Associations" **Phillips, S. T.**; Blasdel, L. K.; Bartlett, P. A.*, *J. Am. Chem. Soc.* **2005**, *127*, 4193–4198.

6. "@-Tide-Stabilized beta-Hairpins" **Phillips, S. T.**; Blasdel, L. K.; Bartlett, P. A.*, *J. Org. Chem.* **2005**, *70*, 1865–1871.

5. "Facile Synthesis of @-Tide beta-Strand Peptidomimetics: Improved Assembly in Solution and on Solid Phase" **Phillips, S. T.**; Piersanti, G.; Rüth, M.; Gubernator, N.; van Lengerich, B.; Bartlett, P. A.*, *Org. Lett.* **2004**, *6*, 4483–4485.

4. "@-Tides: The 1,2-Dihydro-3(6H)-pyridinone Unit as a beta-Strand Mimic", **Phillips, S. T.**; Rezac, M.; Abel, U.; Kossenjans, M.; Bartlett, P. A.*, *J. Am. Chem. Soc.* **2002**, *124*, 58–66.

3. "Avocadofurans and Their Tetrahydrofuran Analogs: Double Bonds are Critical for Toxicity to Insects" Rodriguez-Saona, C. R.; **Phillips, S. T.**; Maynard, D. F.; Trumble, J. A.*, *J. Agric. Food Chem.* **2000**, *48*, 3642–3645.

2. "Effects of Alkyl Side-Chain Length on Insecticidal Activity" Rodriguez-Saona, C. R.; Maynard, D. F.; **Phillips, S.**; Trumble, J. A.*, *J. Nat. Prod.* **1999**, *62*, 191–193.

1. "Yeast Protein Farnesyltransferase. Binding of S-Alkyl Peptides and Related Analogs" Rozema, D. B.; **Phillips, S. T.**; Poulter, C. D.*, *Org. Lett.* **1999**, *1*, 815–817.

BOOK CHAPTERS

3. **Phillips, S. T.***; Lewis G. G. "Quantitative Point-of-Care (POC) Assays Using Measurements of Time as the Readout: A New Type of Readout for mHealth", in *Methods in Molecular Biology, 1256;* Springer: New York, 2015; pp 213–230. (Invited book chapter.)

2. **Phillips, S. T.***; Thom, N. K. "Three-Dimensional, Paper-Based Microfluidic Devices Containing Internal Timers for Running Time-Based Diagnostic Assays", in Microfluidic Diagnostics, Methods and Protocols; Jenkins, G.; Mansfield, C. D., Eds.; *Methods in Molecular Biology 949*; Springer: New York, 2013; pp 185–196. (Invited book chapter.)

1. Cloninger, M. J.; Bilgicer, B.; Li, L.; Mangold, S. L.; **Phillips, S. T.**; Wolfenden, M. L. "Multivalency", in Supramolecular Chemistry: From Molecules to Nanomaterials; Steed, J. W.; Gale, P. A., Eds.; Wiley, 2012.

PATENTS

Penn State Patents and Applications:

4. Portable Analytic Device and Methods of Use Thereof; Inventors: **PHILLIPS S T**, LEWIS G G, RITTER D W, BROOKS A; PCT application number 14/949,166, filed Nov. 23, 2015.

3. Qualitative and Quantitative Point-of-Care Assays; Inventors: **PHILLIPS S T**, LEWIS G G, ROBBINS J S; US patent application 2015005193.

2. Fluidic device; Inventors: **PHILLIPS S T**, THOM N K, NOH H; Patent Number(s): US2011240151-A1; WO2011123633-A2; WO2011123633-A3.

1. Signal-responsive plastics; Inventors: **PHILLIPS S T**, SEO W, ROBBINS J, OLAH M, SCHMID K, DILAURO A M; Patent Number(s): WO2012005806-A2; WO2012005806-A3; US2014242623-A1; US8871893-B2.

Patents Pre-Penn State:

6. Three-dimensional microfluidic device for e.g. running multiple assays, has fluid-impermeable layer formed between patterned porous and hydrophilic layers, and porous hydrophilic medium placed in opening unit of fluid-impermeable layer; CARRILHO E, MARTINEZ A W, MIRICA K A, **PHILLIPS S T**, SIEGEL A C, WHITESIDES G M, WILEY B, MARTINEZ A, MIRICA K, **PHILLIPS S**, SIEGEL A, WHITESIDES G, EMMANUEL K, ANDEURESEU DEOBEULYU M, KAESEORIN EI M, SEUKAT TI P, ADAMSEU SSI S, BENJAMIN W, JOJI EM H; Patent Number(s): WO2009121037-A2 ; WO2009121037-A3 ; EP2257819-A2 ; AU2009228091-A1 ; KR2010127301-A ; CA2719320-A1 ; CN102016595-A ; US2011123398-A1 ; IN201003492-P2 ; US8628729-B2 ; CN102016595-B ; AU2009228091-B2.

5. Patterning porous, hydrophilic substrate e.g. paper into hydrophobic and hydrophilic regions involves contacting substrate with hydrophobic material, covering one face of substrate, disposing preselected pattern, and curing the material; Inventors: MARTINEZ A W, **PHILLIPS S T**, WHITESIDES G M, WILEY B; Patent Number(s): WO2010022324-A2 ; WO2010022324-A3.

4. New assay device comprises a porous, hydrophilic medium, and a fluid impervious barrier comprising polymerized photoresist, useful for detecting the presence of an analyte in a liquid sample; Inventors: WHITESIDES G M, **PHILLIPS S T**, MARTINEZ A W, BUTTE M J, WONG A, THOMAS S, SINDI H, VELLA S J, CARRILHO E, MIRICA K A, LIU Y, THOMAS S W, GEORGE, SCOTT, ANDRES, MANISH, AMY W, SAMUEL T, HAYAT S, SARAH J V, EMANUEL C, KATHERINE; Patent Number(s): WO2008049083-A2 ; WO2008049083-A3 ; EP2076775-A2 ; IN200901647-P2 ; AU2007310987-A1 ; CA2667702-A1 ; CN101578520-A ; US2009298191-A1 ; ZA200903373-A ; JP2010515877-W ; JP2012230125-A ; US8377710-B2 ; US2013128036-A1 ; US8603832-B2 ; AU2007310987-B2 ; BR200718473-A2 ; US2014234881-A1 ; IL198185-A ; JP5684757-B2.

3. Microfluidic paper-based analytical device for performing enzyme-linked immunosorbent assay (ELISA) of e.g. blood, has hydrophilic region and test zone which are provided with reagent when region is in fluid communication with zone; WHITESIDES G M, MIRICA K A, MARTINEZ A W, CHENG C, **PHILLIPS S T**, MASCARENAS M, LIU X, LI X, WHITESIDES G, MIRICA K, MARTINEZ A, **PHILLIPS S**; Patent Number(s): WO2011097412-A1 ; CA2788113-A1 ; AU2011212916-A1 ; EP2531300-A1 ; US2013034869-A1 ; CN102821861-A ; IN201201876-P2 ; US8821810-B2 ; CN102821861-B ; AU2011212916-B2.

2. Detecting differences in density in insoluble particles or materials by providing solution comprising paramagnetic salt, exposing material having first density to density modifying agent and applying magnetic field to paramagnetic solution; Inventors: **PHILLIPS S T**, WHITESIDES G M, MIRICA K A, CARRILHO E, MARTINEZ A W, SHEVKOPLYAS S S, SNYDER P W, PEREZ-CASTILLEJOS R, GUPTA M, WINKLEMAN A, GUDIKSEN K L, GUDIKSEN K, MARTINEZ A, MIRICA K, **PHILLIPS S**, SHEVKOPLYAS S, SNYDER P, WHITESIDES G; Patent Number(s): WO2009006409-A2 ; WO2009006409-A3 ; EP2167216-A2 ; US2010285606-A1 ; EP2167216-B1.

1. Assay device for use in paper-based microfluidic system, has fluid-impermeable barrier permeating thickness of substrate and defining boundary of main channel and assay regions, where barrier is made of photoresist or curable polymer; Inventors: DICKEY M D, MARTINEZ A W, **PHILLIPS S T**, ROZKIEWICZ D, SIEGEL A C, WHITESIDES G M, WILEY B, ADAMSEU SSI S, SEUKAT TI P, MAIKEUL DI D, DOROTA R, BENJAMIN W, JOJI EM H, ANDEURESEU DEOBEULYU M, SIEGEL A, **PHILLIPS S**, DICKEY M, WHITESIDES G, MARTINEZ A; Patent Number(s): WO2009121041-A2 ; WO2009121041-A3 ; AU2009228012-A1 ; KR2010128340-A ; EP2265958-A2 ; CA2719800-A1 ; US2011111517-A1 ; CN102016596-A ; IN201004001-P2 ; CN102016596-B ; US8921118-B2

INVITED TALKS

94. Open Science Festival, Denmark, May 15, 2019
93. End of life, Apr. 9, 2019
92. ARO review meeting, Aug. 2, 2018
91. Micron Technologies, Feb. 16, 2018
90. Boise State University, Chemistry, Oct. 1, 2018
89. ARO review meeting, Aug. 9, 2017

88. 40th Adhesion Society Meeting, Feb. 25–28, 2017
87. Virginia Tech, Chemistry, Oct. 21, 2016
86. Duke, Chemistry, Oct. 6, 2016
85. Polymer Adhesives and Adhesion by Design—Fundamentals to Applications, 252nd ACS National Meeting, Aug. 21–25, 2016, Philadelphia, PA
84. Basic and Translational Research Towards Point-of-Care Devices, 252nd ACS National Meeting, Aug. 21–25, 2016, Philadelphia, PA
83. Advanced Functional Biopolymers and Biomaterials, 252nd ACS National Meeting, Aug. 21–25, 2016, Philadelphia, PA
82. 5th Molecular Sensors and Molecular Logic Gates, July 24–28, 2016, Bath, UK
81. ASC Convention, April 19, 2016, New Orleans
80. ETH Zurich, March 21, 2016
79. Controlled Depolymerization, 251st ACS National Meeting, March 13–17, 2016, San Diego, CA
78. St. Francis University, March 18
77. UIUC Materials Science, March 10, 11, 2016
76. 2016 Annual Meeting Adhesion Society, Feb. 21–23, 2016, San Antonio, TX (*selected as the Adhesion Society's 2016 Distinguished Paper*)
75. Virginia Tech, Polymer Science, Feb. 17, 2016
74. Pacific Polymer Conference-14, December 9–13, 2015, Hawaii
73. Navy Research Laboratory, Nov. 12, 2015
72. Bucknell Univ., Nov. 4, 2015
71. 2015 International Symposium on Stimuli-Responsive Materials, Santa Rosa, CA, Oct. 25–27, 2015
70. UIUC, Oct. 16, 2015
69. University of Pittsburgh, Oct. 8, 2015
68. Society for Analytical Chemists, Pittsburgh, Oct. 5, 2015
67. ACS National Meeting, Boston, Aug. 16–20, 2015
66. FUSION #2: Functional Polymeric Materials, UK Aug. 5–8, 2015
65. Science of Adhesion GRC, July 26–30, 2015
64. Polymers for Advanced Technologies, China, June 25–28, 2015
63. Tel Aviv University, June 21, 2015, Israel
62. Microfluidics GRC, May 31–June 4, 2015
61. European MRS, May 11–15, 2015, Nice, France
60. Tufts, Dept. of Chem., May 5, 2015
59. UCSB, Dept. of Chem. & Biochem., April 13, 2015
58. PPG, Inc., March 3, 2015
57. 2nd IBN International Symposium, Dec. 8th and 9th, 2014, Singapore
56. University of Washington, Molecular Engineering and Sciences Institute, Dec. 1, 2014
55. Ewha Womans University, Dept. of Chem. and Nano Sci., Nov. 13–14, 2014, Seoul, Korea
54. 4th International Conference on Molecular Sensors and Molecular Logic Gates, Nov. 9–12, 2014, Shanghai, China
53. CAS Key Laboratory of Soft Matter Chemistry, Nov. 7, 2014, Shanghai, China
52. Shanghai Institute of Organic Chemistry, Nov. 6, 2014, China
51. ACS Central Regional Meeting, Oct. 31, 2014
50. Millersville University, Oct. 20, 2014
49. Young Investigator Awardee Forum, 248th ACS National Meeting, Aug. 10–14, 2014
48. 248th ACS National Meeting, "Advancing Materials Synthesis and Assembly Toward Technology Challenges", Aug. 10–14, 2014
47. 2014 DTRA Basic Research Interfacial Dynamics and Reactivity, July 28, 2014
46. REU seminar, July 16, 2014
45. Bioanalytical GRC, June 22–27, 2014
44. Biointerface Science GRC, June 15–20, 2014, Italy

43. Bioorganic GRC, June 8–13, 2014
42. Indiana University/Notre Dame/Purdue web lecture on "Bench-To-Bedside/Point of Care Measurements", April 28, 2014
41. Univ. of Oregon, March 7, 2014
40. Oregon State Univ., March 6, 2014
39. FUSION: Functional Polymeric Materials, Feb. 11–13, 2014, Cancun, Mexico
38. Univ. Illinois, Urbana-Champaign, Jan. 27, 2014
37. Eli Lilly, Nov. 12, 2013
36. Georgia Institute of Technology, Sept. 3, 2013
35. Transatlantic Frontiers of Chemistry, Aug. 8–11, 2013, Germany
34. Beckman Foundation, July 25–27, 2013
33. MIT Program in Polymer Science and Technology, May 15, 2013
32. UC Irvine, May 8, 2013
31. UC Santa Barbara, May 2, 2013
30. UC Berkeley, April 30, 2013
29. 2013 ACS Susquehanna Valley Section meeting, April 17, 2013
28. Colorado State Univ., Feb. 13, 2013
27. Cornell Univ., Jan. 31, 2013
26. Univ. Rochester, Jan. 18, 2013
25. 2012 Monsanto Science Fellows Symposium, Nov. 28–29, 2012
24. UNC Chapel Hill, Nov. 16, 2012
23. SERMAC, Raleigh, NC, Nov. 15, 2012
22. Univ. Georgia, Oct. 25, 2012
21. Emory Univ., Oct. 24, 2012
20. 244th ACS Meeting, Philadelphia, Young Academic Investigators Symposium, Aug. 19–23, 2012
19. 15th European Conference on Composite Materials, June 27–28, 2012
18. Univ. of Texas, Austin, Oct. 14, 2011
17. Saint Francis Univ., Oct. 7, 2011
16. Microfluidics 2.0 workshop, Univ. Washington, Oct. 1, 2011
15. NCI Workshop on Cancer Detection and Diagnostics Technologies for Global Health, Aug. 22–23, 2011 (poster and technology demonstration)
14. 3M Tech Forum, June 8, 2011
13. UCLA, California NanoSystems Institute, May 25, 2011
12. West Virginia Univ., April 20, 2011
11. Keynote Speaker, Local ACS Chapter, PA, Nov. 17, 2010
10. Food Science Department, PSU, Nov. 11, 2010
9. Gettysburg College, PA, Nov. 4, 2010
8. Muhlenberg College, PA, Oct. 29, 2010
7. Kalamazoo College, Oct. 11, 2010
6. DARPA Young Faculty Award Kickoff meeting, Sept. 21, 2010
5. 19th Annual Beckman Young Investigators Symposium, Aug. 27, 2010
4. 3M Science and Engineering Faculty Day, June 16, 2010
3. Alpha Chi Sigma, May 7, 2010
2. DARPA Young Faculty Award Kickoff meeting, Oct. 27–28, 2009
1. DARPA Analytical MEMS Workshop, June 24, 2008

CONTRIBUTED PRESENTATIONS

15. International Symposium on Macrocyclic and Supramolecular Chemistry, July 7–11, 2013
14. Northwestern Univ., May 23, 2013 (*arranged invitation*)
13. Scripps Research Institute, April 26, 2013 (*arranged invitation*)

12. Univ. Colorado, Boulder, Feb. 12, 2013 (*arranged invitation*)
11. Univ. Maryland, Jan. 24, 2013 (*arranged invitation*)
10. 3rd Molecular Sensors & Molecular Logic Gates, July 8–11, 2012, "Reagents for Point-of-Care Diagnostics in Extremely Resource-Limited Environments". Seoul, Korea.
9. Bioanalytical Sensors Gordon Conference, June 17–21, 2012, "Re-Thinking Point-of-Care Diagnostics for Extremely Resource-Limited Environments". (Poster and invited talk based on the poster)
8. 242nd ACS Meeting, Denver, Aug. 28–Sept. 1, 2011 (3 talks), "Design of Thermally-Stable Small Molecule Reagents for Activity-Based Detection and Signal Amplification"; "Strategies for Running Multiple Quantitative Assays Simultaneously in Paper-Based Microfluidic Devices"; "Analyte-Triggered Depolymerization: Application to Signal Amplification and Responsive Materials".
7. Polymers Gordon Research Conference, June 12–16, 2011 (poster), "Design of Signal-Responsive Polymers that Provide Rapid, Amplified Responses to Specific Chemical Signals".
6. 241st ACS Meeting, Anaheim, March 29, 2011 (2 talks), "Development of Small Molecule Signal Amplification Reagents"; "Design Strategies for the Controlled Release of Alcohols".
5. Macromolecules Gordon Research Conference, Jan. 9–13, 2011 (poster), "Design of Polymers that Enable Shape-Shifting Plastics".
4. 2010 MRS Fall Meeting, Nov. 30, 2010, "Plastics that Change Physical Structure in Response to Applied Chemical Signals".
3. 240th ACS Meeting, Boston, August, 2010 (2 talks), "Signal-Responsive Plastics"; "Fluidic "Timers" for Paper-Based Microfluidic Devices".
2. Research Experience for Undergraduates, State College, July 21, 2010
1. Research Experience for Teachers, June 28, 2010

PROFESSIONAL MEMBERSHIPS

American Chemical Society
Materials Research Society
Phi Kappa Phi
Sigma Xi Scientific Research Society

STUDENTS

Current undergraduate researchers: Sydney Walker

Current undergraduate researchers: Ashlyn Masterson

Current graduate students: Rebecca Miller, Kyle Nogales, Allison Christy

Current postdoctoral fellows: Glauco Pilon dos Santos

Former undergraduate researchers: Sean Haggerty, Eugene Gutman (currently: graduate student at UC Irvine), Nicole Fox (currently: DuPont), Carlos Cotto (REU), Tashiana Verna (REU), Pranay Soni, Maureen Correlius (REU), Carline Dugue (HHMI summer student), Chris Daly (currently: graduate student at Univ. Illinois, Urbana-Champaign), Matthew DiTucci (currently: graduate student at UC Berkeley), Jaclyn Heilman, Marley Pillion (currently: Teach for America), Gabrielle Rivers (REU), Josh Cole (REU), Paula Medrado (currently: completing degree in Brazil), Grace Noel (REU), Christopher Rodriguez (REU), Brady Garringer, Dustin Green, and Tyler Poulsen.

Former graduate students: Travis Cordes (Ph.D.; currently Senior Chemist, PPG), Michael Olah (Ph.D.; currently Senior Chemist, PPG), Anthony DiLauro (Ph.D.; currently postdoc at Duke), Gregory Lewis

(Ph.D.; currently Senior Scientist at Accel Diagnostics), Hemakesh Mohapatra (Ph.D.; currently postdoc at UCI), Jessica Robbins (Ph.D.; Asst. Prof. Coker College), Kimy Yeung (Ph.D.; Senior Chemist, Dow), Matthew Baker (Ph.D.; Asst. Prof. SUNY Oswego), Kyle Schmid (Ph.D.; Educator, PSU), Sean Nuñez (M.S.), Daniel Wendekier (M.S.), Nicole Thom (M.S.), Henry Kaweesi (M.S.; Ernst & Young Global Limited), Kristin Beiswenger (M.S.; Science Coordinator, Systems Biology, Columbia Univ.), Nathan George, Kaitlyn Sanders, Wanji Seo, Delanie Losey, Ginger Ferguson, and Savannah Irving.

Former postdoctoral fellows: Hyeran Noh (Asst. Prof., Seoul National Univ. of Sci. and Tech.), Venkat Donuru, DaJiang Liu (Research Fellow, Joint BioEnergy Institute, Emeryville, CA), Lu Wang (Visiting Scholar, Ohio State Univ.), Saptarshi Chatterjee (Assoc. Res. Scientist, Solvay Research and Innovation Center, India), Kelli Ogawa (Senior Chemist, DOW), and Dustin Ritter (Senior Scientist, BioMagnetic Solutions), Hyungwoo Kim, Jihee Cho, Jiatao Yan, Jie Zong, Chris Lyon, Xin-Xing Deng, Adam Brooks, and Songyi Lee.

COLLABORATORS

Ian White (Univ. of Maryland)
Avery Dennison (pressure-sensitive adhesives company)

TEACHING EXPERIENCE

Boise State:

Spring 2019	Chem 102, Essentials of Chemistry II
Spring 2019	MSE/Chem 397, Organic Chemistry for Engineers
Fall 2018	MSE 574, Soft Materials
Fall 2018	MSE 601, Professional Development
Fall 2017	MSE 601, Graduate Student Orientation

Penn State:

Fall 2015	Chem 535, Physical Organic Chemistry
Fall 2014	Chem 535, Physical Organic Chemistry
Spring 2014	Chem 212, Organic Chemistry II
Fall 2013	Chem 535, Physical Organic Chemistry
Fall 2012	BioE 410/510, guest lecture BioE
Fall 2011	Chem 535, Physical Organic Chemistry
Spring 2011	Chem 212, section 2, Organic Chemistry II
Spring 2011	Chem 212, section 1, Organic Chemistry II
Fall 2010	Chem 535, Physical Organic Chemistry
Fall 2010	Chem 016, guest lecture and tour of research labs
Fall 2010	Chem 500, guest lecture
Spring 2010	Chem 212, Organic Chemistry II (second semester sophomore organic chem.)
Fall 2009	Chem 535, Physical Organic Chemistry
Spring 2009	Chem 112H, guest lecture
Spring 2009	Chem 537, guest lecture
Spring 2009	Chem 437, guest lecture
Fall 2008	Chem 535, Physical Organic Chemistry (graduate level)

Pre-Penn State:

2000	Instructor of Teaching Assistants, UC Berkeley

1999, 2000 Practical NMR Techniques, UC Berkeley
1999, 2001 Introductory Organic Chemistry, UC Berkeley

REFEREE WORK

Referee for various journals, including: J. Am. Chem. Soc., Proc. Natl. Acad. Sci., U.S.A., Nature Chemistry, Angew. Chem. Int. Ed., Chem. Sci., J. Org. Chem., Anal. Chem., Macromolecules, ACS Macro Letters, Chem. Commun., ACS Nano, New Journal of Chemistry, Tetrahedron Lett., ACS Applied Materials & Interfaces, Polymer Chemistry, Advanced Materials, J. Comb. Chem., Langmuir, Advanced Synth. & Cat., Applied Physics Letters, Lab on a Chip, Biomicrofluidics, Microfluidics and Nanofluidics, Biomaterials, Analyst, Analytica Chimica Acta, Bioanalysis, Expert Review of Molecular Diagnostics, Electrophoresis, Sensors and Actuators B, Cellulose, J. Chem. Ed., Trends in Biotech, Scientific Reports, Analytical Methods, Adv. Mater., Accounts of Chemical Research

Proposal Reviewer for: NIH, AARA-Challenge Grant program, NSF, ACS PRF, AAAS, Murdoch Trust, Research Corporation for Science Advancement, and others.

COMMITTEE ASSIGNMENTS

Associate Director of Graduate Programs for the Micron School of Materials Science & Engineering (2018–present)
MSE Student Awards (2017–present)
Admissions Committee (2017–present)
MSE Personnel Committee (2017–present)
Graduate Program Coordinator (2017–2018)
Undergraduate Advising Committee (2016–2017)
NMR Steering Committee (2016–2017)
Faculty Awards Committee (2016–2017)
Dept. Head Advisory Committee (2015–2016)
Graduate Student Admissions (2015–2016)
Dept. Head Search Committee (2015)
Graduate Student Admissions (2014–2015)
Faculty Search Committee (2014–2015)
Dept. Head Advisory Committee (2013–2014)
Graduate Student Admissions (2013–2014)
Faculty Search Committee (2013–2014)
NMR Director Search Committee (2012–2013)
Faculty Search Committee (2012–2013)
Graduate Student Admissions (2012–2013)
NMR Director Search Committee (2011–2012)
Organic Faculty Search Committee (2011–2012)
Graduate Admission Committee (2011–2012)
Chair Analytical Chemistry Seminar Series (2010–2011)
Analytical Faculty Search Committee (2010–2011)
Dept. Head Advisory Committee (2010–2011)
Faculty Recruiting Committee (2009–2010)
Department Head Selection Committee (2009–2010)
Priestly Prize Selection Committee (2009–2010)
Admissions Committee (2009–2010)
Established a Student-Sponsored Organic Seminar (2010)

Chair Organic Chemistry Seminar Series (2009–2010)
Chair Organic Chemistry Seminar Series (2008–2009)
Graduate Admission Committee (2008–2009)

OUTREACH ACTIVITIES

2018	Developing toys that disappear in water
2018	Hosted an international graduate student from Denmark
2016	Hosted an international graduate student from Brazil
2014/2015	Hosted international graduate students (Tanzania, Brazil, and Thailand) for periods of 6 months to 1 yr
2013	Presented on the applications of materials in diagnostics research for Materials Day at Penn State
2013	Developed research activities for the PSU MRSEC Science Leadership Camp
2012, 2013	Contributed to the development of a video for "For the Future, The Campaign for Penn State Students" (http://giveto.psu.edu/s/1218/index-nocontact.aspx?sid=1218&gid=1&pgid=620)
2012	Participated in a round-table discussion on Biomedical Materials and Devices with an industrial advisory board tasked to evaluate Penn State's strengths in materials research
2010/11/12	Developed presentation for Take Your Child to Work Day
2011, 2012	Developed activities for Exploration Day at Penn State
2011, 2012	Mentor for Research Experience for Teachers
2010/11/13/14/15	Mentor for Research Experience for Undergraduate students
2010	Research presentation to the Chemistry Staff
2010	Research presentation for the Dean's Advisory Council Meeting
2009/10/11/12/13	Summer Experience in the Eberly College of Science: research program designed for underserved, minority high school students
2009/10/11	Developed laboratory modules for Chem 431W (Penn State)