

ABIGAIL S. KNIGHT, Ph.D.

Assistant Professor of Chemistry
University of North Carolina, Chapel Hill
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PROFESSIONAL EXPERIENCE

Assistant Professor of Chemistry University of North Carolina, Chapel Hill	2018-present
Arnold O. Beckman Postdoctoral Fellow with Prof. Craig J. Hawker University of California, Santa Barbara	2015-2018

EDUCATION

University of California, Berkeley, CA Ph.D. Chemistry Thesis: A Combinatorial Peptoid-Based Platform for the Development of Selective Metal Binding Materials	2010-2015
University of North Carolina, Chapel Hill, NC Bachelor of Science, Chemistry, Honors with Distinction Minors: Mathematics and Biology	2006-2010

ACADEMIC AND PROFESSIONAL HONORS

Dan Su Travel Award (<i>Postdoc to Faculty Workshop, ACS</i>)	2017
Chemical Sciences Seminar Series Award (<i>UC Santa Barbara</i>)	2017
Arnold O. Beckman Postdoctoral Fellow	2016-2018
Plenary speaker at the Molecular Foundry and NCEM User Meeting	2014
Philomathia Graduate Student Fellowship (<i>UC Berkeley</i>)	2013-2014
Beckman Scholars Award (<i>UNC Chapel Hill</i>)	2009

PUBLICATIONS

12. Ren, J. M.*; **Knight, A. S.**; van Ravensteijn, B.; Kohl, P. Bou Zerdan, R.; Li, Y.; Lunn, D. J.; Abidilla, A.; Qiao, G. G*.; Hawker, C. J. * Polymer switches: DNA-inspired strand-exchange to direct polymer self-assembly. *Available upon request.*
 11. Watanabe, A.; Niu, J.; Lunn, D. J.; Lawrence, J.; **Knight, A. S.**; Zhang, M.; Hawker, C. J. * PET-RAFT as a Facile Strategy for Preparing Functional Lipid-Polymer Conjugates. *J. Polym. Sci. A* 2018. DOI:10.1002/pola.29007.
 10. Ren, J. M.; Lawrence, J.; **Knight, A. S.**; Abdilla, A.; Bou Zerdan, R.; Levi, A. E.; Oschmann, B.; Gutekunst, W.; Lee, S. H.-; McGrath, A.; Bates, C. M.; Qiao, G. G*.; Hawker, C. J. * Controlled Formation and Binding Selectivity of Discrete Oligo(Methyl Methacrylate) Stereocomplexes. *J. Am. Chem. Soc.* 2018. 140. 1945-51. DOI: 10.1021/jacs.7b13095.
 9. **Knight, A. S.***; Larsson, J.; Ren, J. M.; Bou Zerdan, R.; Seguin, S.; Vrahas, R.; Liu, J.; Ren, G.; Hawker, C. J.* Control of Amphiphile Self-Assembly via Bioinspired Metal Ion Coordination. *J. Am. Chem. Soc.* 2018. 140. 1409-14. DOI: 10.1021/jacs.7b11005.
 8. **Knight, A. S.**†; Kulkarni, R. U.†; Zhou, E. Y.; Franke, J. M.; Miller, E. W. *; Francis, M. B. * A modular platform to develop peptoid-based selective fluorescent metal sensors. *Chem. Commun.* 2017. 53. 3477-80. DOI: 10.1039/C7CC00931C.
 7. Diaz, Y. J.; Page, Z. A.; **Knight, A. S.**; Treat, N. J.; Hemmer, J. R.; Hawker, C. J. *; Read de Alaniz, J. A versatile and highly selective colorimetric sensor for detection of amines. *Chem. - A Eur. J.* 2017. 3562-66. DOI: 10.1002/chem.201700368.
- U.S. Provisional Patent Application No. 62/410,650 filed October 20, 2016.

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6. Poelma, S. O.; Oh, S. S.; Helmy, S.; **Knight, A. S.**; Burnett, G. L.; Soh, H. T.; Hawker, C. J. *; Read de Alaniz, J. * Controlled drug release to cancer cells from modular one-photon visible light-responsive micellar system. *Chem. Commun.* 2016. 52. 10525–28. DOI: [10.1039/C6CC04127B](https://doi.org/10.1039/C6CC04127B).
5. Lawrence, J.; Lee, S.-H.; Abdilla, A.; Nothling, M. D.; Ren, J. M.; **Knight, A. S.**; Fleischmann, C.; Li, Y.; Abrams, A. S.; Schmidt, B. V. K. J.; Hawker, M. C.; Connal, L. A.; McGrath, A. J.; Clark, P. G.; Gutekunst, W. R.; Hawker, C. J.* A Versatile and Scalable Strategy to Discrete Oligomers. *J. Am. Chem. Soc.* 2016. 138. 6306–10. DOI: [10.1021/jacs.6b03127](https://doi.org/10.1021/jacs.6b03127).
4. Parker, B. F.; **Knight, A. S.**; Vukovic, S.; Arnold, J. *; Francis, M. B. * A Peptoid-Based Combinatorial and Computational Approach to Developing Ligands for Uranyl Sequestration from Seawater. *Ind. Eng. Chem. Res.* 2016. 55. 4187–94. DOI: [10.1021/acs.iecr.5b03500](https://doi.org/10.1021/acs.iecr.5b03500).
3. **Knight, A. S.**; Zhou, E. Y.; Francis, M. B. * Peptoid-Based Ligands for the Selective Chelation of Cadmium in Biological Media. *Chem. Sci.* 2015. 6. 4042–8. DOI: [10.1039/C5SC00676G](https://doi.org/10.1039/C5SC00676G).
2. **Knight, A. S.**; Zhou, E. Y.; Francis, M. B. *; Zuckermann, R. N. * Sequence Programmable Peptoid Polymers for Diverse Materials Applications. *Adv. Mater.* 2015. 27. 5665–91. DOI: [10.1002/adma.201500275](https://doi.org/10.1002/adma.201500275).
 - Highlighted in a [frontispiece](#)
1. **Knight, A. S.**; Zhou, E. Y.; Pelton, J. G.; Francis, M. B. * Selective Chromium(VI) Ligands Identified Using Combinatorial Peptoid Libraries. *J. Am. Chem. Soc.* 2013. 135. 17488–93. DOI: [10.1021/ja408788t](https://doi.org/10.1021/ja408788t).
 - Highlighted in [WIRED magazine \(September, 2015\)](#)
 - Provisional patent application submitted

* corresponding authors

† contributed equally

PRESENTATIONS

ACS National Meeting. March 19, 2018. *New Orleans, LA*.
ACS National Meeting. August 20, 2017. *Washington, DC*.
Polymers Gordon Research Seminar. June 11, 2017. *South Hadley, MA*.
Chemical Sciences Student Seminar, November 9, 2016. *Santa Barbara, CA*.
ACS National Meeting. April 5, 2017. *San Francisco, CA*.
Molecular Foundry and NCEM User Meeting. August 25, 2014. *Berkeley, CA*.
ACS National Meeting. August 11, 2014. *San Francisco, CA*.
Chemical Biology in the Bay Area. May 31, 2014. *Berkeley, CA*.
Milliken Graduate Research Symposium. March 7–9, 2013. *Spartanburg, SC*.

TEACHING EXPERIENCE

Instructor, <i>UNC Chapel-Hill, Chem 791: Bioorganic Chemistry</i>	2018
Instructor, <i>JHU Center for Talented Youth, The Edible World (3rd and 4th grade students)</i>	2015
Guest Lecturer, <i>UC Berkeley, Chemistry 96: Introduction to Research and Study in the College of Chemistry</i>	2014
Graduate Student Instructor, <i>UC Berkeley, Chemistry 135: Chemical Biology</i>	2012
Graduate Student Instructor, <i>UC Berkeley, Chemistry 4B: General Chemistry and Quantitative Analysis</i>	2012
Tutor, <i>UC Berkeley, Chemistry 3B: Chemical Structure and Reactivity</i>	2012
Graduate Student Instructor, <i>UC Berkeley, Chemistry 3B: Chemical Structure and Reactivity</i>	2010

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MENTORING EXPERIENCE

Delaney Davis, Jackie Warren, Caleb Cox, Undergraduates at UNC Chapel Hill	Fall 2018-present
Effie Zhou, Undergraduate at UC Berkeley.	Summer 2012-Spring 2015
<ul style="list-style-type: none">Current NSF Graduate Research Fellow (UI Urbana Champaign)	
Jason Alvarez-Cohen. High School Student.	Summer 2012
<ul style="list-style-type: none">Current undergraduate (UC Los Angeles)	
Josefin Larsson. Masters Student from the KTH Royal Institute of Technology (Stockholm, Sweden).	Spring 2016
Shay Seguin, Undergraduate at UC Santa Barbara	Fall 2016-Spring 2018
Remy Vrahas, Undergraduate at UC Santa Barbara	Fall 2016-Spring 2018

SERVICE TO THE FIELD

Early Career Board Member, <i>ACS Biomaterials Science & Engineering</i>	2018-present
Invited Speaker, <i>Exploratorium "Everything Matters"</i> (San Francisco science museum)	2017
Volunteer, <i>UC Santa Barbara Materials Research Laboratory educational outreach programs</i>	2017
Reviewer, <i>Journal of Polymer Science A</i> , <i>ACS Nano</i> , <i>New Journal of Chemistry</i>	2016-present
Organizing Team Member, <i>UC Santa Barbara Art and Energy Outreach Program</i>	2016
Gordon Research Seminar Chair, <i>Gordon Research Seminar, Bioinspired Materials (2016)</i>	2014-2016
Seminar Series Committee Chair, <i>Science Leadership and Management (SLAM)</i> (UC Berkeley)	2014-2015
Colloquium Committee Co-Chair, <i>UC Berkeley Student Hosted Colloquium</i>	2014-2015