

## Jennifer Schwartz Poehlmann, Ph.D.

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### EDUCATION

- 2009      **Ph.D., Inorganic Chemistry, Stanford University, Stanford, CA**      GPA: 3.83  
Thesis: "Spectroscopic and Theoretical Definition and Comparison of Binuclear Non-Heme Iron Substrate Versus Cofactor Active Sites: Structural Contributions to reactivity" Advisor: Professor Edward Solomon
- Significant contributor to NSF grant proposal and research: Spectroscopic Definition of Electronic Structure and Contributions to Reactivity of Binuclear Non-Heme Iron Enzymes, \$999,000 Awarded 2003
- 2002      **Bachelor of Arts with Honors, Chemistry, Washington University in St. Louis**
- Honors: Phi Beta Kappa, Arts and Sciences Scholar; Golden Key National Honor Society; Shocklee Interfaith Social Justice Award; Dean's List (all semesters), GPA 3.86

### ACADEMIC AND TEACHING HONORS

- 2014      Professor of the Year, awarded by Society of Latino Engineers (SOLE)  
2012      Humanities and Sciences Dean's Award for Achievements in Teaching  
2011      Dr. St. Clair Drake Teaching Award  
2010      Honored as one of the "Heroes Among Us" at the Blue Oak Elementary School 'Go Girl Gallery –A celebration of Women through Art'  
**2008      Walter J. Gores Award for Excellence in Teaching**  
2007      Linus Pauling Teaching Award, Department of Chemistry  
2004      Centennial Teaching Award for Excellence in Teaching  
2002      Phi Beta Kappa

### GRANTS AND AWARDS

- 2011-2013      Hoagland Award Fund for Innovations in Undergraduate Teaching: \$17,500  
2011-2014      VPUE Curriculum Grant for TA and development support; \$10,000  
2010      San Mateo Education Grant to sponsor 2 IISME (Industrial Initiatives for Science and Math Education) Teacher Internships (\$14400), in collaboration with Prof. Chris Chidsey and Stanford Office of Science Outreach  
2009      Baskin Family Foundation Seed Grant for Inspiring Future Scientists (IFS) Chemistry Outreach Program, \$10,000; matched by Department of Chemistry  
2008-2011      Vice Provost for Graduate Education Grant to support start-up of Mentors in Teaching Program: (\$57,000)

### TEACHING EXPERIENCE

- 2012-present      Instructor of the Leland Scholars Program for at risk incoming Frosh, Stanford University**  
**2011-present      Senior Lecturer & Introductory Course Coordinator, Department of Chemistry, Stanford University**

2009-2011	Director of Chemistry TA Training Program
2009-2011	Lecturer & Introductory Course Coordinator, Department of Chemistry, Stanford University
<b>2008-present</b>	<b>Director of <i>MinT</i> (Mentors in Teaching) Program, Vice Provost for Teaching and Learning (VPTL), Stanford University</b>
2008-2009	Teaching Fellow, VPTL, Stanford University
2005-2008	Consultant, Center for Teaching and Learning, Stanford University
2004-2008	Senior Development and Documentation TA, Stanford University
2003-2004	Outreach TA for Chem31A/B, Stanford University

### **REVIEWING AND ADVISORY WORK**

<b>2015</b>	<b>Reviewer, Swiss National Science Foundation (SNSF)</b>
<b>2015-present</b>	<b>Member, Curriculum and Undergraduate Affairs Committee, Chemist</b>
<b>2013-present</b>	<b>Member, Operations Committee for The Science Teaching and Learning Center in Old Chem</b>
<b>2012-present</b>	<b>Member, Old Chemistry Design Team</b>
<b>2012-present</b>	<b>Member, Leland Scholars Program Advisory Board</b>
2012-2015	Member, Chemistry Department Curriculum Committee
2010-2012	Member, Chemistry Department Undergraduate Studies Committee

### **AUTHORED WEB RESOURCES**

- *Grad Teaching @Stanford* – features teaching opportunities, articles, and videos for graduate students and postdocs, organized into a 3-stage developmental framework: Foundation, Skills, and Mastery, to help students navigate their teaching career:  
<https://teachingcommons.stanford.edu/ta-support/grad-teaching-stanford>
- “*Setting the Stage for the Class*” Schwartz Poehlmann, J.; Stanford University Field Guide of Reflective Practices published for CPREE: Consortium To Promote Reflection in Engineering Education, January 2016:  
<http://cpree.uw.edu/stanford10-setting-the-stage-for-the-class/>
- *Dissemination of Chemistry Guided Inquiry Lab Materials*: Department of Chemistry ‘Inspiring Future Scientists’ outreach program webpage, providing a portal for K-12 teachers to find professional development resources and lab materials, as well as request visits and additional support from our program; Application portal for our summer shadow program (IFSS) for high school students interested in research:  
<http://chemoutreach.stanford.edu/>

### **BOOK CHAPTERS**

- Developing Graduate Student Teaching Consultants and Mentors at Stanford: The TA Consultant (TAC) and Mentors in Teaching (MinT) Programs. Dunbar, R.W; Schwartz, J.K.; Marinovich, M. *Practically speaking: A sourcebook for instructional consultants in higher education*. Stillwater, OK: New Forums Press. 2012.

## CONFERENCE PRESENTATIONS

### Invited Talks

- *“Inspiring future scientists in chemistry: Leveraging resources that bring together high school and graduate students as well as teachers”* Schwartz Poehlmann, J., ACS 248th National Meeting, San Francisco, CA; August 10-14<sup>th</sup>, 2014.
- *Why failure is so important to learning and science - and how to succeed because of it!* First annual Stanford Pre-Collegiate Science Conference, Saturday, March 15<sup>th</sup>, 2014.
- *“Introducing Stanford Freshman to Science Writing through Calibrated Peer Review”* **Schwartz, J.K.**, Cox, C., Ortega, C., Barfield, D., Biennial Conference on Chemical Education, State College, PA; July 29<sup>th</sup>-August 2<sup>nd</sup>, 2012.
- *“Becoming a Scientist”* **Keynote Speaker** for the Stanford Society of Women Engineers (SWE) annual Exploring New Worlds Conference; May 5<sup>th</sup>, 2012.

### Invited Panelist

- *Aligning University expectations with High School Instruction.* American Chemical Society, Western Regional Meeting, Santa Clara, CA; Oct. 3<sup>rd</sup>-6<sup>th</sup>, 2013.

### Poster and Oral Presentations

- *“Leveling the Playing Field in Large Lecture Courses”* (Poster) Schwartz Poehlmann, J., Stanford Gallery Walk, Kick-Off to Year of Learning; Stanford University; October 2<sup>nd</sup>, 2015.
- *“Writing and Knowledge Retention in General Chemistry: Does a Correlation Exist?”* (Talk) Cox, C., Schwartz, J.K., Ortega, C., Lopez, J., Nath, A.; ACS 246th National Meeting, Indianapolis, IN; September 8-12<sup>th</sup>, 2013.
- *“Evolving Roles for Teaching Assistants in Introductory Courses”* (Talk) Dunbar, R., Egger, A., Schwartz, J., “American Geophysical Union Fall Meeting, San Francisco, CA; Dec. 15-19<sup>th</sup>, 2008.
- *“Strategies for Teaching Assistant training and support during implementation of Process-Oriented Guided Inquiry Learning (POGIL) in recitation sections for a large general chemistry lecture course.”* (Talk) 231st ACS National Meeting & Exposition, Atlanta, GA; March 26-30<sup>th</sup>, 2006.
- *“Spectroscopic and Computational insights into the biferrous active sites of m-Ferritin and Monooxygenases”* (Poster) 13<sup>th</sup> International Conference on Biological Inorganic Chemistry, Vienna, Austria; July 15-20<sup>th</sup>, 2007.
- *“Biferrous methodology and its applications to the ferroxidase sites in Bacterioferritin, m-Ferritin, and related systems”* (Poster) 233<sup>rd</sup> ACS National Meeting, Chicago, IL; March 25-29<sup>th</sup>, 2007.

- “Geometric and Electronic Studies of Toluene-4-monooxygenase and Component D effector Protein” (Poster) 233<sup>rd</sup> ACS National Meeting, Chicago, IL; March 25-29<sup>th</sup>, 2007.
- “Structure/function correlations in binuclear non-heme ferrous sites: Specific characterization of the active sites in m-Ferritin and Nitric Oxide Reductases” (Poster) 231<sup>st</sup> ACS National Meeting, Atlanta, GA; March 26-30<sup>th</sup>, 2006.
- “Spectroscopic Characterization and Comparison of the Binuclear Non-Heme Iron Active Sites in m-Ferritin and S-Nitric Oxide Reductase” (Poster) 12<sup>th</sup> International Conference on Biological Inorganic Chemistry, Ann Arbor, MI; July 31<sup>st</sup>-August 5<sup>th</sup>, 2005.

## **PEER REVIEWED PUBLICATIONS**

- “Do Calibrated Peer Review Activities Promote Knowledge Retention in General Chemistry?” Cox, C., Schwartz Poehlmann, J., Ortega, C., Barfield, D., *Manuscript in Preparation*, 2016.
- CD/MCD/VTVH-MCD Studies of Escherichia Coli Bacterioferritin Support a Binuclear Iron Cofactor Site. Kwak, Y., Schwartz, J.K., Huang, V.W., Boice, E., Kurtz Jr., D.M., Solomon, E.I. *Biochemistry*; (Article); 2015; 54 (47); pp7010-7018. DOI: [10.1021/acs.biochem.5b01033](https://doi.org/10.1021/acs.biochem.5b01033)
- Spectroscopic Studies of Single and Double Variants of M ferritin: Conversion of a Biferrous Substrate Site into a Cofactor Site. Kwak, Y.; Schwartz, J.K.; Haldar, S.; Behera, R.K.; Tosha, T.; Theil, E.C.; Solomon, E.I.; *Biochemistry*; (Article); 2014; 53(3); 473-482. DOI: [10.1021/bi4013726](https://doi.org/10.1021/bi4013726)
- Structural and Spectroscopic Properties of the Peroxodiferric Intermediate of *Ricinus communis* Soluble  $\Delta^9$  Desaturase. Srncic, M.; Rokob, T.A.; Schwartz, J.K.; Kwak, Y.; Rulíšek, L.; Solomon, E.I.; *Inorganic Chemistry (Article)* 2012, 51 (5), pp 2806–2820. DOI: [10.1021/ic2018067](https://doi.org/10.1021/ic2018067)
- Hybrid Genetic Algorithm with an Adaptive Penalty Function for Fitting Multi-Modal Experimental Data: Application to Exchange-Coupled non-Kramers Binuclear Iron Active Sites. Beaser, E.; Schwartz, J.K.; Bell, C.; Solomon, E.I. *Journal of Chemical Information and Modeling*. (Article); 2011; 51 (9); pp 2164–2173. DOI: [10.1021/ci2001296](https://doi.org/10.1021/ci2001296)
- CD and MCD Spectroscopic Studies of the two DPS Mini-ferritin Proteins from B. Anthracis: Role of O<sub>2</sub> and H<sub>2</sub>O<sub>2</sub> substrates in formation of the Di-iron catalytic centers. Schwartz, J. K.; Liu, X. S.; Tosha, T.; Diebold, A.; Theil, E. C.; Solomon, E. I. *Biochemistry*; (Article); 2010; 49(49); 10516–10525. DOI: [10.1021/bi101346c](https://doi.org/10.1021/bi101346c)
- CD and MCD Studies of the Effects of Component B Variant Binding on the Biferrous Active Site of Methane Monooxygenase. Mitić, N.; Schwartz, J. K.; Brazeau, B. J.; Lipscomb, J. D.; Solomon, E. I. *Biochemistry*; (Article); 2008; 47(32); 8386-8397. DOI: [10.1021/bi800818w](https://doi.org/10.1021/bi800818w)

- Spectroscopic Definition of the Ferroxidase Site in M Ferritin: Comparison of Binuclear Substrate vs Cofactor Active Sites. Schwartz, J. K.; Liu, X. S.; Tosha, T.; Theil, E. C.; Solomon, E. I. *J. Am. Chem. Soc.*; (Article); 2008; 130(29); 9441-9450. DOI: [10.1021/ja801251q](https://doi.org/10.1021/ja801251q)
- Geometric and Electronic Structure Studies of the Binuclear Non-heme Ferrous Active Site of Toluene-4-monooxygenase: Parallels with Methane Monooxygenase and Insight into the Role of the Effector Proteins in O<sub>2</sub> Activation. Schwartz, J. K.; Wei, P.-p.; Mitchell, K. H.; Fox, B. G.; Solomon, E. I. *J. Am. Chem. Soc.*; (Article); 2008; 130(22); 7098-7109. DOI: [10.1021/ja800654d](https://doi.org/10.1021/ja800654d)
- Effects of Multiple Pathways on Excited-State Energy Flow in Self-Assembled Wheel-and-Spoke Light-Harvesting Architectures. Song, H.; Kirmaier, C.; Schwartz, J. K.; Hindin, E.; Yu, L.; Bocian, D. F.; Lindsey, J. S.; Holten, D. *J. Phys. Chem. B.*; (Article); 2006; 110(39); 19131-19139. DOI: [10.1021/jp064001a](https://doi.org/10.1021/jp064001a)
- Mechanisms, Pathways, and Dynamics of Excited-State Energy Flow in Self-Assembled Wheel-and-Spoke Light-Harvesting Architectures Song, H.; Kirmaier, C.; Schwartz, J. K.; Hindin, E.; Yu, L.; Bocian, D. F.; Lindsey, J. S.; Holten, D.; *J. Phys. Chem. B.*; (Article); 2006; 110(39); 19121-19130. DOI: [10.1021/jp064000i](https://doi.org/10.1021/jp064000i)
- Comparison of Excited-State Energy Transfer in Arrays of Hydroporphyrins (Chlorins, Oxochlorins) versus Porphyrins: Rates, Mechanisms, and Design Criteria Taniguchi, M.; Ra, D.; Kirmaier, C.; Hindin, E.; Schwartz, J. K.; Diers, J. R.; Knox, R. S.; Bocian, D. F.; Lindsey, J. S.; Holten, D. *J. Am. Chem. Soc.*; (Article); 2003; 125(44); 13461-13470. DOI: [10.1021/ja035987u](https://doi.org/10.1021/ja035987u)
- Synthesis and Excited-State Photodynamics of Perylene-Bis(Imide)-Oxochlorin Dyads. A Charge-Separation Motif. Kirmaier, C.; Hindin, E.; Schwartz, J. K.; Sazanovich, I. V.; Diers, J. R.; Muthukumar, K.; Taniguchi, M.; Bocian, D. F.; Lindsey, J. S.; Holten, D. *J. Phys. Chem. B.*; (Article); 2003; 107(15); 3443-3454. DOI: [10.1021/jp0269423](https://doi.org/10.1021/jp0269423)
- Synthesis and Excited-State Photodynamics of A Perylene-Monoimide-Oxochlorin Dyad. A Light-Harvesting Array. Muthukumar, K.; Loewe, R. S.; Kirmaier, C.; Hindin, E.; Schwartz, J. K.; Sazanovich, I. V.; Diers, J. R.; Bocian, D. F.; Holten, D.; Lindsey, J. S. *J. Phys. Chem. B.*; (Article); 2003; 107(15); 3431-3442. DOI: [10.1021/jp026941a](https://doi.org/10.1021/jp026941a)
- Synthesis and Photophysical Properties of Light-Harvesting Arrays Comprised of a Porphyrin Bearing Multiple Perylene-Monoimide Accessory Pigments. Tomizaki, K.-y.; Loewe, R. S.; Kirmaier, C.; Schwartz, J. K.; Retsek, J. L.; Bocian, D. F.; Holten, D.; Lindsey, J. S. *J. Org. Chem.*; (Article); 2002; 67(18); 6519-6534. DOI: [10.1021/jo0258002](https://doi.org/10.1021/jo0258002)
- Synthesis and Electronic Properties of Regioisomerically Pure Oxochlorins. Taniguchi, M.; Kim, H.-J.; Ra, D.; Schwartz, J. K.; Kirmaier, C.; Hindin, E.; Diers, J. R.; Prathapan, S.; Bocian, D. F.; Holten, D.; Lindsey, J. S. *J. Org. Chem.*; (Article); 2002; 67(21); 7329-7342. DOI: [10.1021/jo025843i](https://doi.org/10.1021/jo025843i)

## CAMPUS PRESENTATIONS AND PANELS

- 2016 VPTL Preparing for Faculty Careers, Panelist on Teaching Careers, April 26<sup>th</sup>  
2015 Stanford's Society of Asian Scientists and Engineers, Guest Speaker Oct. 24<sup>th</sup>  
2015 VPTL "Navigating Your Teaching Development Pathway", September 18<sup>th</sup>  
2015 Stanford's Women's Community Center 'She Does STEM: Engaging Faculty' held during New Student Orientation, Panelist, September 17<sup>th</sup>  
2015 VPTL Preparing for Faculty Careers, Panelist on Teaching Careers, April 27<sup>th</sup>  
2014 Mentor for 9th annual Stanford Women's Leadership Conference, April 6<sup>th</sup>  
2014 VPTL "Navigating Your Teaching Career", September 19<sup>th</sup>  
2014 "She Does Stem: Women Faculty in Science, Technology, Engineering and Math" an NSO Engaging with Faculty Panel; September 16<sup>th</sup>  
2014 Stanford Pre-Education Society (SPREES), Faculty Panel to Inspire Future Teachers, Panelist, November 19<sup>th</sup>  
2014 Alpha Chi Sigma, Guest Faculty Speaker, Oct. 21<sup>st</sup>  
2013-2015 NSO: Choosing Courses in the Natural Sciences – (September 2013, 2014, & 2015)  
2013-2015 A3C Speaker Series, "A Guide to Stanford Success: Faculty and Professional Staff Panel" Panelist, Oct. 3<sup>rd</sup>, 2013, Oct. 2<sup>nd</sup>, 2014, & Oct. 1<sup>st</sup>, 2015  
2010-2011 SPLASH Teacher Training, April 2010 & November 2011  
2005-2008 "Effective Teaching Strategies" talk at Stanford University Fall TA Orientation

## OTHER LEADERSHIP AND SERVICE EXPERIENCE

- 2009-present** Pre-Major and Majors Advisor to 20+ students each year  
**2009-present** Director of IFS: Inspiring Future Scientists in Chemistry  
2006-2007 Alumni & Parents Admission Program for Washington University in St. Louis  
2003-2008 Lab Safety Officer, Solomon Group, Stanford University  
1999-2002 Washington University Chamber and Symphony Orchestra (*Violist*)  
1998-1999 Education for Employment Council Board Member, Elmbrook District, WI

## PROFESSIONAL AFFILIATIONS

American Chemical Society  
Alpha Chi Sigma (*Professional Chemistry Fraternity*)  
Alpha Phi Omega (*National Co-ed Service Fraternity*)  
National Forensics League  
Phi Beta Kappa