

Samantha J. Connelly Robinson

ACADEMIC APPOINTMENT

Seattle Pacific University
Assistant Professor of Chemistry
September 2015 - Present

CONTACT INFORMATION

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EDUCATION

Ph.D., Inorganic Chemistry	University of Washington	2009 - 2014
B.S., Chemistry, Honors	University of Iowa	2005 - 2009

RESEARCH EXPERIENCE

Principal Investigator	Dept. of Chemistry & Biochemistry Seattle Pacific University	2015 - Present
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Project goals for the developing research program include:

- (1) Exploring O_2 reactivity of metal complexes with redox-active ligands
- (2) Elucidating the mechanism of hydrogenation catalysis with first-row metals

Undergraduate student researchers have presented results at a summer research symposium.

Post-doctoral Research Associate	Institute for Integrated Catalysis Pacific Northwest National Lab	2014 - 2015
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With application in sustainable energy storage, research explored:

- (1) Hydride transfer reactions for the reduction of CO_2 in water
- (2) Kinetics of electro- and thermos-chemical catalytic cycles

To date, results have been reported in 2 first author peer-reviewed publications

Graduate Student Researcher	Heinekey Research Group University of Washington	2010 - 2014
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Studies were focused on the synthesis & spectroscopic investigation of:

- (1) Molecular dihydrogen and silane complexes of various transition metals
- (2) Electrophilic silylium $\{R_3Si\}^+$ and stannylum $[R_3Sn]^+$ coordination chemistry

Work generated 3 peer-reviewed, first author publications and Ph.D. dissertation

Undergraduate Student Researcher	Messerle Research Group University of Iowa	2008 - 2009
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Directed toward biomedical imaging applications, specific aims included:

- (1) Aqueous preparation of crystalline lanthanide cluster compounds
- (2) Solid-state characterization of discrete luminescent nano-materials

Synthesis contributed to 2 posters for ACS meetings and culminated in an Honors thesis

TEACHING EXPERIENCE

Professor

SPU CHM 1211: General Chemistry I (Lecture & Lab)

Focused on atomic and molecular structure, reaction stoichiometry, and solution and gas phase chemistry

Winter 2017
Autumn 2016

Winter 2016
Autumn 2015

SPU CHM 1213: General Chemistry III (Lecture) & CHM 2213: Inorganic Qualitative Analysis (Lab)

Topics include electrochemistry, nuclear chemistry, and an introduction to coordination chemistry

Spring 2017

Spring 2016

SPU CHM 4542: Transition Metals (Upper Division Lecture Course)

Inorganic coordination chemistry with emphasis on the kinetics and thermodynamics of catalytic cycles

Spring 2016

SPU CHM 3540: Inorganic Chemistry (Upper Division Lecture & Lab)

Winter 2017

Teaching Assistant

UW CHEM 142: General Chemistry I (Lecture & Lab)

1 Quarter (Lead TA)

UW CHEM 152: General Chemistry II (Lecture & Lab)

3 Quarters (1 Quarter as Lead TA)

UW CHEM 162: General Chemistry III (Lecture & Lab)

5 Quarters (4 Quarters as Lead TA)

UW CHEM 312: Inorganic Chemistry (Lecture)

2 Quarters

UIOWA CHEM 4.012: Principles of Chemistry II (Lab)

1 Semester

Volunteer Instructor

University of Washington Center for Teaching & Learning

- Facilitator for "microteaching" workshops
- *Being an Research Assistant in the Physical Sciences*
- *Lab TA – The first day and beyond*

AWARDS

- UW Department of Chemistry Graduate Student Merit Fellowship 2013 - 2014
- UW Department of Chemistry Travel Award 2012 - 2013
Awarded to present graduate research at undergraduate institution
- UW Department of Chemistry Outstanding Teaching Assistant Award 2012 - 2013
- University of Iowa Donald J. & Margaret A. Burton Scholarship Spring 2008
Annual award to a chemistry major with outstanding academic achievement
- University of Iowa Dean's Scholarship 2005 - 2009
- University of Iowa Provost's Award 2005 - 2009
- University of Iowa William & Effa McMeans Scholar 2005 - 2009
- University of Iowa National Merit Scholarship Award 2005 - 2009

POSTERS & PRESENTATIONS

- Natural Sciences Capstone Lecture – Seattle Pacific University October 2016
Hydrogen: Can it really power the planet?
- Seattle Pacific University Summer Research Symposium August 2016
O₂ reactivity of first-row transition metal complexes with synthesized iminopyridine ligands
Undergraduate Students Symone Tran & Jonathan Corcoran
- Natural Sciences Capstone Lecture – Seattle Pacific University May 2015
Small Molecules & Transition Metals: Studying Catalytic Systems with Energy Applications
- Gordon Research Seminar & Conference: Inorganic Chemistry June 2014
Chairperson, Gordon Research Seminar on Inorganic Chemistry
Poster: *Studies of the Reactivity between Small Molecules & Transition Metals*
- Puget Sound Women Chemists Retreat: Pack Forest, WA May 2013
Poster: *Complexation of H₂*
- University of Iowa Inorganic Seminar March 2013
Complexation and Activation of Dihydrogen
- Gordon Research Seminar & Conference: Inorganic Chemistry – Biddeford ME June 2012
Poster: *Generation of a Ni^{II} Dihydrogen Complex (^tBuPCP)Ni(H₂)⁺ using (Et₃Si)₂H⁺*
- British Columbia Inorganic Discussion Weekend (IDW) – Quest University BC May 2012
Poster Award: *Generation of a Ni^{II} Dihydrogen Complex using (Et₃Si)₂H⁺*
- American Chemical Society (ACS) Regional Meeting – Iowa City IA October 2009
Poster: *Ligand or Halide Template-Controlled Formation of Polynuclear Lanthanide(III) Clusters*
David A. Rotsch, Samantha J. Connelly, Jessica Clark, Todd Domeyer, Dale Swenson, Louis Messerle
- American Chemical Society (ACS) National Meeting – Washington DC August 2009
Poster: *Halide-templated and halide-free polylanthanide(III) α -amino acid complexes*
David A. Rotsch, Samantha J. Connelly, Michael Moriarty, Jessica Clark, Dale Swenson, Louis Messerle

PEER-REVIEWED PUBLICATIONS

- (6) *Hydride and dihydrogen complexes of earth abundant metals: structure, reactivity, and applications to catalysis*
Samantha J. Connelly Robinson, D. Michael Heinekey
Chemical Communications, DOI: 10.1039/C6CC07529K
- (5) *Solvent influence on the thermodynamics for hydride transfer from bis(diphosphine) complexes of nickel*
Samantha J. Connelly Robinson, Christopher M. Zall, Deanna L. Miller, John C. Linehan, Aaron M. Appel
Dalton Transactions, 2016, 45, 10017-10023. DOI: 10.1039/C6DT00309E
- (4) *Characterization of a palladium dihydrogen complex*
Samantha J. Connelly, Andrew G. Chanez, Werner Kaminsky, D. Michael Heinekey
Angewandte Chemie, Int. Ed., 2015, 54, 5915-5918. DOI: 10.1002/anie.201412076
- (3) *Predicting the reactivity of hydride donors in water: thermodynamic constants for hydrogen*
Samantha J. Connelly, Eric S. Wiedner, Aaron M. Appel
Dalton Transactions, 2015, 44, 5933-5938. DOI: 10.1039/C4DT03841J
- (2) *Structure and solution reactivity of (triethylsilylium)triethylsilane cations*
Samantha J. Connelly, Werner Kaminsky, D. Michael Heinekey
Organometallics, 2013, 32, 7478-7481. DOI: 10.1021/om400970j
- (1) *Synthesis, structure, and reactivity of a nickel dihydrogen complex*
Samantha J. Connelly, Amanda C. Zimmerman, Werner Kaminsky, D. Michael Heinekey
Chemistry - A European Journal, 2012, 18, 15932-15934. DOI: 10.1002/chem.201203675