

EDUCATION

- Postdoctoral Research Associate** **2013-2015**
Pacific Northwest National Laboratory – Richland, WA
- Ph.D. - Organic Chemistry, *summa cum laude*** **2008–2013**
University of Utah – Salt Lake City, UT
- B.S. - Chemistry, *cum laude*** **2004–2008**
Fort Lewis College – Durango, CO
-

EXPERIENCE

- Research Assistant Professor, Magnetic Materials MRSEC, Chemistry/Physics** **2018-current**
University of Utah – Salt Lake City, UT
- Synthetic support for a joint project between Miller, Boehme, Vardeny groups focus on magnetic materials. Focus on synthesis of novel organic magnets, various device fabrication methods including CVD, electrodeposition, epitaxy. Analysis such as XPS and related, AFM, EPR, ISHE, and other techniques.
- Research Assistant Professor, Janis Louie Group, Chemistry** **2018-current**
University of Utah – Salt Lake City, UT
- **Teaching** – Organic Chemistry I Laboratory, Honors General Chemistry Laboratory, Graduate-level Organometallics, General Chemistry I & II Lecture, Organic Chemistry I & II amongst others. Large to small class size, extensive use of teaching technologies such as clickers, Canvas, projection, etc. Teaching at the U of U extension school which services non-traditional students in smaller class sizes.
 - Participating member of the undergraduate education development committee.
 - Working with Organic chemistry lecturers and staff to update and redesign the laboratory experiments and lecture to enhance student experience, learning, skills.
 - Developing a professional skills course for graduate students to enhance their hirability in an oversaturated job market. Fully supported by the College of Science
 - Developing an X-ray Crystallography course for graduate and undergraduate students.
 - **Research** – Managing day to day operations of a group of 5 graduate students and 5 undergraduates.
 - Major contributor in all projects from ideation, publication, grant writing.
 - Focus is on organic synthetic development with an emphasis on organometallics, in particular catalysis and materials synthesis and characterization.
- Senior Consultant, Chemistry** **2017-current**
Glycosurf, LLC. – Salt Lake City, UT
- Development and execution of small to large scale chemical synthesis of glycosides, glycolipids, and other related compounds.
- Associate Instructor/Research Associate, Chemistry** **2017 – 2018**
University of Utah – Salt Lake City, UT
- Adjunct Professor, Chemistry** **2017**
Westminster College – Salt Lake City, UT
- Professor of Inorganic Chemistry lecture and Laboratory.
- Co-Director, Clean Tech Open - Utah** **2016 -current**
Salt Lake City, UT
- Regional director of a national incubator/competition program focused on local groundbreaking and early-stage clean technologies.
 - Provide technical and business training for scientific start-ups in the state of Utah. Provide networking and fundraising opportunities to companies throughout the state of Utah.

Program Manager, Utah Climate Action Network

2016 – 2017

Utah Clean Energy – Salt Lake City, UT

- Management of the day-to-day operations of Utah Climate Action Network, coordinating the networking, events, and activities of the 26+ members and their individual and collaborative efforts within the Network.
- Program and project development, fundraising/grant writing, execution and management.
- Experienced in stakeholder engagement with a large network of technical, policy, and ley professionals.

AAAS Science and Technology Policy Fellow, SunShot Initiative

2015 – 2016

United State Department of Energy, SETO – Washington, DC

- **Technology Manager (Soft-Costs and Technology-to-Market)** – Managed a multimillion-dollar project portfolio focused on non-hardware barriers to solar deployment including science education, human behavior, regulations and finance. Moving groundbreaking and early-stage technologies and business models to market with a focus on multiple software tools and PV manufacturing.
- Lead office in the development of funding opportunities focused on energy equity, low- to moderate-income and marginalized communities, environmental justice, and community renewal.
- Oversaw the National Community Solar Partnership; successfully developed and executed five national workshops for the Partnership, planned and executed the nationwide Community Solar Challenge.
- Experienced in stakeholder engagement with a large network of solar and clean energy professionals.

Post-Doctoral Research Associate, Center for Molecular Electrocatalysis

2013 - 2015

Pacific Northwest National Laboratory – Richland, WA

- **Synthesis Subgroup Lead** - Coordinated and lead regular meetings for research active scientists both on-site and collaborators abroad to address challenges in chemical synthesis.
- **Councilman, Post-Doctoral Advisory Council.** Lead reform in the areas of Post-Doc insurance, maternity leave, and career services reform at the lab through direct stakeholder engagement.
- **General** - Conducted mechanistic investigations into, and optimization of, electrochemical hydrogen-oxidation catalysts for clean energy storage applications.
- Development of new catalyst scaffolds for next generation hydrogen oxidation catalysts imperative for broad solar fuels development.
- Synthesis and characterization of new magnesium-based electrolyte materials for burgeoning battery systems.
- Numerous public presentations, lectures, and seminars.

Author/Editor/Editorial Board Member, Frontiers in Energy Research

2013 - 2015

United States Department of Energy, Office of Science

- Wrote and edited general and feature articles as well as designing issue themes and content for *Frontiers in Energy Research*, a US Department of Energy newsletter focused on research and staff within Energy Frontier Research Centers (EFRCs).

Graduate Research Assistant, Janis Louie Group

2008 - 2013

University of Utah – Salt Lake City, UT

- Development of carbon-heteroatom cross-coupling and cycloaddition reactions, key reactions in numerous chemical disciplines/applications.
- Extensively published in top-tier chemistry journals and books.
- Numerous public presentations, lectures, and seminars.
- **Chairman, Chemistry Student Advisory Committee.** Representative of chemistry dept. student body in Retention/Promotion/Tenure, college of science, and student council proceedings.

NSF – REU Scholar, Advisor: Dr. Prasat Kittakoop

2007

Chulabhorn Research Institute – Bangkok, Thailand

- Isolated and characterized a variety of bioactive molecule from wild-harvested indigenous medicinal evergreen *Eurycoma longifolia*.

- Awarded travel scholarship to present research at ACS meeting.

AWARDS & AFFILIATIONS

| | |
|---|------------------------|
| Top Rated Professor Across All Disciplines , U of U Extension Campus University of Utah – Salt Lake City, UT | 2018 - 2019 |
| AAAS Science and Technology Policy Fellow , SunShot Initiative United State Department of Energy, SETO – Washington, DC | 2015 - 2016 |
| American Association for the Advancement of Science , Member Cheves Walling Fellow , Chemistry Department University of Utah – Salt Lake City, UT | 2015 - present 2008 |
| James Mills Award , Chemistry Department Fort Lewis College – Durango, CO | 2008 |
| American Chemical Society , Member NSF Research Fellowship , Natural Products Chemistry Chulabhorn Research Institute – Bangkok, Thailand | 2007 – present 2007 |
| First Team All-American , Men's Collegiate Lacrosse Association Fort Lewis College – Durango, CO | 2007 |
| Most Valuable Player , Rocky Mountain Lacrosse Conference, MCLA Fort Lewis College – Durango, CO | 2007 |

PERSONAL

| | |
|--|------------|
| Volunteer House of Hope – Salt Lake City, UT | 16 – 2018 |
| Minority Advocate , AAAS Fellowship program US Department of Energy – Washington, DC | 2015-2016 |
| Research mentor , SULI Pacific Northwest National Laboratory – Richland, WA | 13-2015 |
| Assistant Coach , U15 Mid-Columbia Elite Lacrosse Club – Richland, WA | 015 |
| Head Coach , High School Three Rivers Lacrosse Club – Richland, WA | 13 - 2015 |
| Volunteer Camp Harmony – Malibu, CA | 13-present |
| Research Mentor , Chemistry Department University of Utah – Salt Lake City, UT | 08-2013 |

GRANTS

- "Advanced Synthesis of Polyfunctional Metal-Organic Frameworks" PI: Louie, J. NSF – DMR-TMRP, NSF 17-580. (Not funded)
- "Understanding Interactions Between Ni and Ligands: Tools for Nickel Catalyst Development" PI: Louie, J. NSF – CAT, (Not funded)
- "Advanced Synthesis of Polyfunctional Metal-Organic Frameworks" PI: Louie, J. DOE – BES-MSE. (Not funded)
- "Metal-Organic Frameworks as Multifunctional Topological Materials" PIs: Louie, J.; Deshpande, V.; Liu, F. NSF - Next Generation Quantum Systems, DE-FOA-0001909. (Not Funded)
- "Chemical-space driven exploration relevant to pharmaceuticals" PI: Louie, J. NIH – GMS, update. (Not Funded)

"Truncated ligands yield reversed selectivity in iron-catalyzed [2+2+2] cycloaddition towards 3,6-disubstituted 2-aminopyridines" Felten, S.; **Stolley, R. M.**; Louie, J.; *Manuscript in preparation*

"Understanding divergent reactivity of related ligand sets in iron-catalyzed [2+2+2] cycloaddition towards 4,6-disubstituted 2-aminopyridines" Felten, S.; **Stolley, R. M.**; Louie, J.; *Manuscript in preparation*

"Organic chemistry of nickel with chelating phosphines" Clevenger, A. L.; **Stolley, R. M.**; Aderibigbe, J.; Louie, J.; *Chem. Rev.* – invited review; *Manuscript in preparation*

"Total synthesis of indolizidine and quinolizidine alkaloids via nickel-catalyzed (4+2) cycloaddition" Renner, J.; Esslinger, B.; Thakur, A.; **Stolley, R. M.**; Louie, J. *Manuscript in preparation.*

"Origins of regio- and chemoselective iron-catalyzed [2+2+2] cycloaddition towards 4,6-disubstituted 2-aminopyridines: synergy of Fe-PDAI catalyst" Felten, S.; Harper, J. L.; **Stolley, R. M.**; Cheong, P. H.-Y.; Louie, J. *Manuscript in preparation.*

"[2 + 2 + 2] Cycloadditions of Alkynes with Heterocumulenes and Nitriles" Staudaher, N. D.; **Stolley, R. M.**; Louie, J. *Organic Reactions*, **2019**, 97, 1-202.

"Electronic effect of Ligands on the stability of Nickel-Ketene Complexes" Al, N.; **Stolley, R. M.**; Staudaher, N. D.; Louie, J. *Organometallics*, **2018**, 37, 3750-3755.

"A Comprehensive Study of the Reactions Between Chelating Phosphines and Ni(cod)₂" Clevenger, A. L.; **Stolley, R. M.**; Staudaher, N. D.; Al, N.; Rheingold, A. L.; Vanderlinden, R. T.; Louie, J.; *Organometallics*, **2018**, 37, 3259-3268. – **Invited Cover Article**

"Synthesis and Characterization of [(NHC)Ni(styrene)₂] Complexes: Isolation of Stable mono-Carbene Nickel Complexes and Benchmarking of %V_{Bur} in (NHC)Ni Systems" Felten, S.; Marshall, S. F.; Groom, A. J.; Vanderlinden, R. T.; **Stolley, R. M.**; Louie, J. *Organometallics*, **2018**, Submitted.

"Nickel Bis-Diphosphine Complexes: Controlling the Binding and Heterolysis of H₂" **Stolley, R. M.**; Darmon J. D.; Das, P.; Helm, M. L. *Organometallics*, **2016**, 35, 2965-2974.

"Solvent and electrolyte effects on Ni(P^R₂N^{R'}₂)₂-catalyzed electrochemical oxidation of hydrogen" **Stolley, R. M.**; Darmon J. D.; Helm, M. L. *Chem. Commun.* **2014**, 50, 3681-3684.

"A Breath of Fresh Air for Solar Energy" **Stolley, R. M.** *Front. Energy Res.* **2014**.

"Novel Mg electrolytes Consisting of Dichloride Magnesium Dimer Complexes" Li, G.; Cheng, Y.; **Stolley, R. M.**; Sprenkle, V. L.; Liu, Jun. *Physical Chemistry Chemical Physics* **2015**, 17(20):13307-13314.

"Novel Mg electrolytes Consisting of Dichloride Magnesium Dimer Complexes" Li, G.; Cheng, Y.; **Stolley, R. M.**; Sprenkle, V. L.; Liu, Jun. US IP-ID No. 30632-E *Patent Pending.*

"3,5-Disubstituted-2-Aminopyridines via Ni-catalyzed Cycloaddition of Terminal Alkynes and Cyanamides." Zhong, Y.; Spahn, N. A.; **Stolley, R. M.**; Nguyen, M. H.; Louie, J. *Synlett* **2015**; 26(03): 307-312.

"Synthesis, Mechanism of Formation, and Catalytic Activity of Xantphos Nickel π - Complexes" Staudaher, N.; **Stolley, R. M.**; Louie, J. *Chem. Commun.* **2014**, 50, 15577-15580.

"Light-harvesting materials: soft support for energy conversion" **Stolley, R. M.**; Helm, M. L. *Nature Chem.* **2014**, 6, 949-950.

"A Clear Future for Graphitic Electrodes" **Stolley, R. M.** *Front. Energy Res.* October **2014**.

"Multi-Junction Improve Your Function" **Stolley, R. M.** *Front. Energy Res.* July **2014**.

"E Pluribus Unum: EFRCs' Role in Facilitating Collaboration for Grand Challenge Problems" **Stolley, R. M.** *Front. Energy Res.* July **2014**.

"Mapping a Smooth Ride Through the Free Energy Landscape" **Stolley, R. M.** *Front. Energy Res.* April **2014**.

"A Legacy of Mentorship and Societal Impact" Stolley, R. M. *Front. Energy Res.* April **2014**.

"Synthesis and Study of $[\text{Ni}(\text{P}^{\text{iPr}}\text{R}_2\text{N}^{\text{Ph}_2})_2]^{2+}$: A Ni(II) Bis(diphosphine) Electrocatalyst Containing Proton Relays" Das, P.; **Stolley, R. M.**, van der Eide, E. F.; Helm, M. L. *Eur. J. Inorg. Chem.* **2014**, 4611-4618.

"Solvent, Electrolyte and Base Effects on $\text{Ni}(\text{P}^{\text{R}_2}\text{N}^{\text{R}'_2})_2$ -Catalyzed Electrochemical Oxidation of Hydrogen" **Stolley, R. M.**, Darmon, J. D.; Helm, M. L. *Chem. Commun.* **2013**, 48, 688-96.

Stolley, R. M.; Louie, J. "Organometallic Complexes of Nickel" Knowledge update, In *Science of Synthesis*. Plietker, B. J., Trost, B. M., Eds.; Thieme: New York, Stuttgart, 2013; Vol. 1, pp 1-61.

"Mechanistic Evaluation of the $\text{Ni}(\text{IPr})_2$ -Catalyzed Cycloaddition of Alkynes and Nitriles to Afford Pyridines: Evidence for the Formation of a Key $\eta^1\text{-Ni}(\text{IPr})_2(\text{RCN})$ Intermediate" **Stolley, R. M.**, Duong, H. A.; Thomas, D. R.; Louie, J. *Organometallics*, **2013**, 32, 4952-4960.

"The Discovery of $[\text{Ni}(\text{NHC})\text{RCN}]_2$ Species and Their Role as Cycloaddition Catalysts for the Formation of Pyridines" **Stolley, R.M.**; Duong, H.A.; Thomas, D. R.; Louie, J. *J. Am. Chem. Soc.* **2012**, 134, 15154-15162.

"Palladium-Catalyzed Arylation of Cyanamides" **Stolley, R.M.**; Guo, W.; Louie, J. *Org. Lett.* **2012**, 14, 322-325. *C&E News*, December 19, **2011**, p 36 (Science and Technology Concentrates).

"Nickel-Catalyzed [2+2+2]-Cycloaddition of Dienes and Cyanamides" **Stolley, R.M.**; Maczka, M. T.; Louie, J. *Eur. J. Org. Chem. Soc.* **2011**, 134, 3815-3824.

"Group 6 Metal Carbonyl Complexes of a Family of Bulky Phosphines: Spectroscopic and Structural Studies of Chromium (0)-, Molybdenum (0)-, Tungsten (0)-pentacarbonylsilylphosphines" Rooney, C. P.; Wade, J. L.; Hinkle, A. C.; **Stolley, R. M.**; Miller, S. M.; Helm, M. L. *Main Group Chem.* **2008**, 7, 155-165.

My **friends** would describe me as **affable** and **supportive**
My **coworkers** would describe me as **dependable** and **engaged**
My **supervisor** would describe me as **punctual** and **responsive**
My **students** would describe me as **prepared** and **stimulating**