

Amanda L. Silberstein

College Address:
Westmont College
Department of Chemistry
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Santa Barbara, CA 93108
Tel. (805)-565-7061

Professional and Academic Experience

Assistant Professor of Chemistry: Westmont College, Santa Barbara, CA

- August 2015 to present
- Taught introductory organic chemistry (CHM-101, CHM-102) and corresponding laboratory class (CHM-101L, CHM-102L)
- Developed and taught advanced organic chemistry (CHM-160)
- Designed and taught new advanced experimental organic chemistry laboratory (CHM-160L)
- Taught introductory physical chemistry (CHM-135)
- Supervised major honors and research students (CHM-198, CHM-199)

Postdoctoral Scholar: California Institute of Technology, Pasadena, CA

- July 2014 to July 2015
- Examined the effectiveness and toxicity of Py-Im polyamides targeting liver cancer in cell culture and in mice under the guidance of Professor Peter B. Dervan.

Graduate Research Assistant: University of California, Los Angeles, CA

- December 2009 to May 2014
- Explored the nickel-catalyzed amination of aryl sulfamates and carbamates under the direction of Professor Neil K. Garg.
- Developed the iron-catalyzed Kumada coupling of aryl sulfamates and carbamates to forge sp^2 - sp^3 C-C bonds.
- Completed the total synthesis of the antiviral compound tubingensin A utilizing a heterocyclic aryne cyclization to forge the natural product's vicinal quaternary centers.

Intern: Genentech, Inc., South San Francisco, CA

- June 2012 to August 2012
- Conducted process development research under Dr. Chong Han

Teaching Assistant: University of California, Los Angeles, CA

- Led discussions for undergraduate organic chemistry. (January 2010 to June 2010)
- Supervised and taught undergraduate experimental organic chemistry and laboratory technique. (September 2009 to December 2009)

Wet Lab Scientist: Advion BioSciences, Inc., Ithaca, NY

- June 2008 to June 2009
- Extracted analytes of interest from biological samples for pharmacokinetic LC/MS/MS analysis.

Education

University of California, Los Angeles, CA

- Ph.D., Organic Chemistry, June 2014
- Graduate Research Assistant, December 2009 to May 2014

California Institute of Technology, Pasadena, CA

- Bachelor of Science, Chemistry with Honors, June 2007

Honors and Awards

- Pfizer-UCLA Dissertation Award, 2014.
- Chemistry Department Fellowship, 2014.
- Pauley Fellowship, 2012–2013.
- Christopher S. Foote Fellowship, 2012–2014.
- UCLA Chemistry–Biology Interface Training Program Trainee, 2010–2013.
- UCLA University Fellowship, 2009–2014.

Publications

6. Chen, C.-Y.; Li, Y.; Jia, T.; He, L.; Hare, A. A.; Silberstein, A.; Gallagher, J.; Martinez, T. F.; Stiles, J. W.; Olenyuk, B.; Dervan, P. B.; Stiles, B. L. “Repression of the Transcriptional Activity of $ERR\alpha$ with Sequence-Specific DNA-Binding Polyamides” *Med. Chem. Res.* **2020**, *29*, 607–616.
5. Goetz, † A. E.; Silberstein, † A. L.; Corsello, M. A.; Garg, N. K. “Concise Enantiospecific Total Synthesis of Tubingensin A” *J. Am. Chem. Soc.* **2014**, *136*, 3036–3039. †Authors contributed equally.
4. Silberstein, A. L.; Ramgren, S. D.; Garg, N. K. “Iron-Catalyzed Alkylations of Aryl Sulfamates and Carbamates” *Org. Lett.* **2012**, *14*, 3796–3799.
3. Mesganaw, T.; Silberstein, A. L.; Ramgren, S. D.; Fine Nathel, N.; Hong, X.; Liu, P.; Garg, N. K. “Nickel-Catalyzed Amination of Aryl Carbamates and Sequential Site-Selective Cross-Couplings” *Chem. Sci.* **2011**, *2*, 1766–1771.
2. Ramgren, S. D.; Silberstein, A. L.; Yang, Y.; Garg, N. K. “Nickel-Catalyzed Amination of Aryl Sulfamates” *Angew. Chem. Int. Ed.* **2011**, *50*, 2171–2173.
1. Quasdorf, K. W.; Antoft-Finch, A.; Liu, P.; Silberstein, A. L.; Komaromi, A.; Blackburn, T.; Ramgren, S. D.; Houk, K. N.; Snieckus, V.; Garg, N. K. “Suzuki–Miyaura Cross-Coupling of Aryl Carbamates and Sulfamates” *J. Am. Chem. Soc.* **2011**, *133*, 6352–6363.

Patents

1. **Preparation of Arylamines by Nickel-Catalyzed Aminations of Aryl Alcohols with Amines.** Neil K. Garg, Stephen D. Ramgren, Amanda L. Silberstein, and Kyle W. Quasdorf. WO 2012094622.

Presentations

7. **Iron-Catalyzed Alkylations of Aryl Sulfamates and Carbamates (Talk).** Amanda L. Silberstein, Stephen D. Ramgren, and Neil K. Garg, *ACS National Meeting*, Indianapolis, IN, September 2013.
6. **Iron-Catalyzed Alkylations of Aryl Sulfamates and Carbamates (Talk).** Amanda L. Silberstein, Stephen D. Ramgren, and Neil K. Garg, *CBI Day Symposium (UCLA)*, Los Angeles, CA, September 2013.
5. **Metal-Catalyzed Cross-Coupling of Aryl Sulfamates and Carbamates (Poster).** Amanda L. Silberstein, Stephen D. Ramgren, and Neil K. Garg, *ACS DOC Graduate Research Symposium*, University of Delaware, Newark, DE, July 2013.
4. **Iron-Catalyzed Alkylations of Aryl Sulfamates and Carbamates (Poster).** Amanda L. Silberstein, Stephen D. Ramgren, and Neil K. Garg, *UCLA MBI Annual Retreat*, Lake Arrowhead, CA, October 2012.
3. **Amination of Aryl Sulfamates and Carbamates (Poster).** Stephen D. Ramgren, Amanda L. Silberstein, Tehetena Mesganaw, Noah F. Fine Nathel, Liana Hie, and Neil K. Garg, *Western Regional ACS Meeting*, Pasadena, CA, November 2011.
2. **Amination of Aryl Sulfamates and Carbamates (Poster).** Stephen D. Ramgren, Amanda L. Silberstein, and Neil K. Garg, *ACS National Meeting*, Anaheim, CA, March 2011.

1. **Methodology for the Synthesis of the Antibacterial Drug Linezolid (Poster).** Amanda L. Silberstein, Stephen D. Ramgren, and Neil K. Garg, *UCLA Sigman Symposium*, Los Angeles, CA, February 2011.

Professional Memberships

- American Chemical Society

Conferences and Seminars

- Attended Southern California Undergraduate Research Conference, Mount Saint Mary's University, Los Angeles, CA; April 2019.
- Attended American Chemical Society National Meeting, Orlando, FL, April 2019.
- Participated in POGIL Workshop on Writing Laboratory Exercises, Westmont College; June 2018.
- Participated in Mayterm Faith-Learning Seminar with Immigrant Hope; May 2017.
- Attended American Chemical Society National Meeting, San Francisco, CA; April 2017.

Grants

- Applied Professional Development Grant, Westmont College, CA; November 2019.
- Applied for Organic Syntheses Research Grant for Faculty at Primarily Undergraduate Institutions; October 2019.
- Applied for American Chemical Society Petroleum Research Fund Undergraduate New Investigator Research Grant; March 2017.
- Participated in collaborative effort between biology and chemistry to prepare a Keck Foundation Grant; Awarded June 2017.
- Participated in collaborative chemistry department application for a National Science Foundation Major Research Instrumentation grant; January 2017.

Undergraduates Supervised in Research and their Presentations

Terrel Armstrong (Spring 2020)

- Worked on the development of a method for the borylation of aryl sulfamates.

Samantha Reiner (Spring 2020)

- Worked on the development of a method for the borylation of aryl sulfamates.

Marliss Neal (Fall 2019, Fall 2020)

- Working on the development of a method for the borylation of aryl sulfamates.

Maggie Hime (Fall 2019, Spring 2020, Summer 2020)

- Worked on the development of a method for the borylation of aryl sulfamates.

Alyssa Avila (Summer 2019, Fall 2019, Spring 2020)

- Working on the development of a method for the borylation of aryl sulfamates.
- Presented a poster at the *Celebration of Summer Research Symposium*, Westmont College, October 2019. "Chemistry as Cheap as (a) Nickel; Nickel-Catalyzed Borylation of Aryl Sulfamates."

Eddie Wertz (Summer 2019, Fall 2019, Spring 2020)

- Worked on the development of a method for the borylation of aryl sulfamates.

- Presented a poster at the *Celebration of Summer Research Symposium*, Westmont College, October 2019. “Chemistry as Cheap as (a) Nickel; Nickel-Catalyzed Borylation of Aryl Sulfamates.”

Festo Mugire Muhire (Spring 2019, Summer 2019)

- Worked on the development of a method for the borylation of aryl sulfamates.
- Presented a poster at the *Celebration of Summer Research Symposium*, Westmont College, October 2019. “Chemistry as Cheap as (a) Nickel; Nickel-Catalyzed Borylation of Aryl Sulfamates.”

Rachel Schulz (Spring 2019, Fall 2019, Spring 2020, Summer 2020, Fall 2020)

- Working on the development of a method for the borylation of aryl sulfamates.
- Working on the development of a method for the *meta*-arylation of aryl carbamates.
- Will complete major honors project, Spring 2021.

Ana Bulger (Spring 2018, Summer 2018, Fall 2018, Spring 2019)

- Worked on the development of a method for the borylation of aryl sulfamates.
- Presented a poster at the *Celebration of Summer Research Symposium*, Westmont College, September 2018. “An Exploration in Connection: Borylation of Aryl Sulfamates.”
- Completed major honors project, Westmont College, May 2019. “Nickel-Catalyzed Borylation of Aryl Sulfamates.”
- Presented a poster at the ACS National Meeting, Orlando, FL, April 2019. “Borylation of Aryl Sulfamates via Nickel Catalysis.”
- Presented a poster at the Southern California Undergraduate Research Conference, Mount Saint Mary’s University, April 2019. “Borylation of Aryl Sulfamates via Nickel Catalysis.”
- Presented a poster at the *Spring Research Symposium*, Westmont College, April 2019. “Borylation of Aryl Sulfamates via Nickel Catalysis.”
- Began a Ph.D. program in organic chemistry at UCLA, Fall 2019.

Nathaniel Johnston (Spring 2018)

- Worked on the development of a method for the borylation of aryl sulfamates.
- Began a Ph.D. program in physical chemistry at UCLA, Fall 2020.

Odile Ndayishimiye Uwineza (Spring 2018, Summer 2018, Fall 2018, Spring 2019)

- Worked on the development of a method for the *meta*-arylation of aryl carbamates.
- Worked on the development of a method for the borylation of aryl sulfamates.
- Presented a poster at the *Celebration of Summer Research Symposium*, Westmont College, September 2018. “Discovering exceptions to well-established rules because Organic Chemistry is not hard enough as is: The Meta-arylation of Aryl Carbamates.”
- Presented a poster at the *Spring Research Symposium*, Westmont College, April 2019. “Meta-Arylation of Aryl Carbamates.”
- Presented a poster at the *Spring Research Symposium*, Westmont College, April 2019. “Borylation of Aryl Sulfamates via Nickel Catalysis.”

Allison Judy (Fall 2017, Spring 2018, Summer 2018, Fall 2018, Spring 2019)

- Worked on the development of a method for the borylation of aryl sulfamates.
- Worked on the development of a method for the *meta*-arylation of aryl carbamates.
- Presented a poster at the *Spring Research Symposium*, Westmont College, April 2018. “Copper-Catalyzed Meta-Arylation of Aryl *O*-Carbamates.”
- Presented a poster at the *Celebration of Summer Research Symposium*, Westmont College, September 2018. “An Exploration in Connection: Borylation of Aryl Sulfamates.”
- Presented a poster at the *Spring Research Symposium*, Westmont College, April 2019. “Borylation of Aryl Sulfamates via Nickel Catalysis.”

Sam Fredrickson (Fall 2017, Spring 2018)

- Worked on the development of a method for the *meta*-arylation of aryl carbamates.

Landon Schluter (Spring 2017, Summer 2017, Fall 2017, Spring 2018)

- Worked on the development of a method for the *meta*-arylation of aryl carbamates.
- Presented a poster at the *Celebration of Summer Research Symposium*, Westmont College, September 2017. “Lord of the Aromatic Rings: Return of the Meta Position.”
- Presented a poster at the *Spring Research Symposium*, Westmont College, April 2018. “Copper-Catalyzed Meta-Arylation of Aryl *O*-Carbamates.”

Nick Taylor (Spring 2017, Fall 2017, Spring 2018, Summer 2018, Fall 2018, Spring 2019)

- Working on the development of a method for the *meta*-arylation of aryl carbamates.
- Presented a poster at the *Spring Research Symposium*, Westmont College, April 2018. “Copper-Catalyzed Meta-Arylation of Aryl *O*-Carbamates.”
- Presented a poster at the *Celebration of Summer Research Symposium*, Westmont College, September 2018. “Discovering exceptions to well-established rules because Organic Chemistry is not hard enough as is: The Meta-arylation of Aryl Carbamates.”
- Completed major honors project, Westmont College, May 2019. “The Meta-Arylation of Aryl Carbamates.”
- Presented a poster at the ACS National Meeting, Orlando, FL, April 2019. “Meta-Arylation of Aryl Carbamates.”
- Presented a poster at the Southern California Undergraduate Research Conference, Mount Saint Mary’s University, April 2019. “Meta-Arylation of Aryl Carbamates.”
- Presented a poster at the *Spring Research Symposium*, Westmont College, April 2019. “Meta-Arylation of Aryl Carbamates.”

Madeline Merriman (Spring 2017, Summer 2017, Fall 2017, Fall 2018, Spring 2019)

- Worked on the development of a method for the borylation of aryl sulfamates.
- Presented a poster at the *Celebration of Summer Research Symposium*, Westmont College, September 2017. “Chemical Cooking 101: How to Mix and Whisk Sulfamates and Nickel Catalyst to Prepare Scrumptious Boronic Esters (Just Don’t Eat It!).”
- Completed major honors project, Westmont College, May 2019. “Nickel Catalyzed Borylation of Aryl Sulfamates.”
- Presented a poster at the ACS National Meeting, Orlando, FL, April 2019. “Borylation of Aryl Sulfamates via Nickel Catalysis.”
- Presented a poster at the Southern California Undergraduate Research Conference, Mount Saint Mary’s University, April 2019. “Borylation of Aryl Sulfamates via Nickel Catalysis.”
- Presented a poster at the *Spring Research Symposium*, Westmont College, April 2019. “Borylation of Aryl Sulfamates via Nickel Catalysis.”
- Awarded NIH Post-baccalaureate Intramural Research Training Award, October 2019.

Kaylee Hill (Fall 2016, Spring 2017)

- Worked on the development of a method for the borylation of aryl sulfamates.
- Presented a poster at the *Spring Research Symposium*, Westmont College, April 2017. “Nickel-Catalyzed Borylation of Aryl *O*-Sulfamates.”

Patrick Burree (Fall 2015, Summer 2016, Fall 2016)

- Worked on the development of a method for the borylation of aryl sulfamates.
- Presented a poster at the *Celebration of Summer Research*, Westmont College, September 2016. “Developing New Methods to Make Complex Organic Molecules: Nickel-Catalyzed Carbon-Boron Bond Formation.”

Josh Edmondson (Fall 2015, Fall 2016, Spring 2017)

- Worked on the development of a method for the borylation of aryl sulfamates.
- Presented a poster at the *Spring Research Symposium*, Westmont College, April 2017. “Nickel-Catalyzed Borylation of Aryl *O*-Sulfamates.”
- Began an M.D. program at Loma Linda University, Fall 2017.

Karli Holman (Fall 2015, Spring 2016, Summer 2016, Fall 2016)

- Worked on the development of a method for the borylation of aryl sulfamates.
- Presented a poster at the *Spring Research Symposium*, Westmont College, April 2016. “Borylation of Aryl Sulfamates via Nickel Catalysis.”
- Presented a poster at the *Celebration of Summer Research*, Westmont College, September 2016. “Developing New Methods to Make Complex Organic Molecules: Nickel-Catalyzed Carbon-Boron Bond Formation.”
- Completed major honors project, Westmont College, December 2016. “Nickel-Catalyzed Borylation of Aryl O-Sulfamates.”
- Presented a poster at the ACS National Meeting, San Francisco, CA, April 2017. “Nickel-Catalyzed Borylation of Aryl O-Sulfamates.”
- Began a Ph.D. program in organic chemistry at the California Institute of Technology, Fall 2017.

Westmont College Institutional Service

Committees and Taskforces

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| • Engineering Search Committee | Fall 2020-present |
| • Professional Development Committee | Fall 2018-present |
| ○ Chair | Fall 2019-Spring 2020 |
| • Chemistry Search Committee | Spring 2018 |
| • Budget and Salary Committee | Fall 2016-Spring 2018 |

Departmental Service

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| • Contributed to departmental 6-year review | Fall 2019-Summer 2020 |
| ○ Authored, administered and analyzed the alumni survey | |
| • Participated in Reading Group on Active Learning | Fall 2019-Spring 2020 |
| • Represented Chemistry at the Academic Fair on Preview Day | October 2019 |
| • Co-led trip to the Southern California Undergraduate Research Conference at which 6 students presented | April 2019 |
| • Led trip to ACS National Meeting in Orlando, FL at which 3 students presented | April 2019 |
| • Organized departmental chapel | November 2018 |
| • Participated in Admitted Student Day Coffee with Faculty | April 2018 |
| • Spoke as part of a panel for “Westmont Reads” on <i>Lab Girl</i> | March 2018 |
| • Hosted <i>Wayfinding</i> class at my home | March 2018 |
| • Participating in the designing, planning, and execution of the laboratory remodel phase II | Spring 2018 |
| • Organized/led summer research informational meeting | February 2018 |
| • Organized departmental chapel | November 2017 |
| • Participated in book group, <i>Faith and Wisdom in Science</i> | Summer 2017 |
| • Co-led trip to the ACS National Meeting in San Francisco, CA, at which three students presented | April 2017 |
| • Spoke at departmental chapel | November 2015 |