

Lauren D. Hagler

Curriculum Vitae

147 Birch St.
Apt. 3
Redwood City, CA 94062

laurendhagler@gmail.com
(205) 937-0785
www.linkedin.com/laurendhagler

Education

Aug 2015 – May 2020 Ph.D. Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL
Jan 2012 – May 2015 B.S. Chemistry, cum laude, The University of Alabama, Tuscaloosa, AL
Aug 2010 – Dec 2011 Agnes Scott College, Decatur, GA

Research Experience

- 07/2020 – present **Postdoctoral Scholar**, Stanford University
Advisor: Prof. Daniel Herschlag
RNA biology; protein-RNA interactions, RNA structure
- 08/2015 - 05/2020 **Graduate Research Assistant**, University of Illinois
Advisor: Prof. Steven C. Zimmerman
Dissertation Title: Relating Structure and Function: Discovery of Novel Inhibitor of Myotonic Dystrophy
Synthetic organic chemistry; chemical biology; computational chemistry; nucleic acid-targeting small molecules; in situ click chemistry; confocal imaging; computational docking; molecular dynamics (MD) simulation
- 08/2013 - 05/2015 **Undergraduate Research Assistant**, The University of Alabama
Advisor: Prof. Silas C. Blackstock
Physical organic chemistry; small molecule organic synthesis; donor-acceptor co-crystallization

Teaching Experience

- 2017 **Graduate Teaching Assistant**
University of Illinois at Urbana-Champaign
Discussion Instructor for Organic Chemistry I
- 2015-2016 **Graduate Teaching Assistant**
University of Illinois at Urbana-Champaign
Discussion Instructor for Organic Chemistry II
Teachers Ranked as Excellent, Fall 2015

2014 **Student Assistant**
The University of Alabama
Office of Disability Services, General Chemistry I

2014 **Grading Teaching Assistant**
The University of Alabama
Organic Chemistry Laboratory

Awards and Honors

- Women in Chemistry (WIC) Inclusive Leadership Award, 2019
- University of Illinois Organic Area Fuson Travel Award, 2019
- University of Illinois Organic Area Pines Travel Award, 2018-2019
- Novartis Fellowship, 2018-2019
- Sloan Research Prize Fellowship, 2018-2019
- University of Illinois Snyder Fellowship, 2017-2018
- Ford Foundation Fellowship Program Honorable Mention, 2017
- NIH Chemistry-Biology Interface Training Program Fellowship, 2016-2018
- University of Illinois R. C. Fuson Fellowship, 2016-2017
- Alfred P. Sloan Foundation's Minority Ph.D. (MPHD) Program Sloan Scholar, 2015-2016
- University of Illinois Roger Adams Fellowship, 2015-2016
- American Chemical Society Scholar, 2014-2015
- Gamma Sigma Epsilon Chemistry Honor Society, 2014
- Delta Epsilon Iota Academic Honor Society, 2013
- Tau Sigma National Honor Society, 2013
- Golden Key International Honor Society, 2012

Service and Career Development

- National Organization for the Professional Advancement of Black Chemists and Chemical Engineers President, UIUC, 2019-2020
- National Organization for the Professional Advancement of Black Chemists and Chemical Engineers Graduate Student Liaison, UIUC, 2018-2019
- Diversity Committee, UIUC Department of Chemistry, 2018-2019
- Sylvia M. Stoesser Lecture Planning Committee, UIUC Department of Chemistry, 2018-2019
- Sloan University Center for Exemplary Mentoring Peer Mentor, UIUC, 2016-2019
- Retreat for Graduate Women Planning Committee, UIUC Department of Chemistry, 2018
- Assistant Director for Graduate Diversity and Program Climate Search Committee, UIUC Department of Chemistry, 2017-2018
- Chemistry Poster Judge, Annual Biomedical Research Conference for Minority Students (ABRCMS), 2017-2018

- Bonding with Chemistry Girl's Day Camp Volunteer, Women Chemist Committee at UIUC, 2015-2019
- Senate Admissions Committee, UIUC, 2016-2017
- Summer Pre-Doctoral Institute Associate Fellow, UIUC Graduate College, 2015
- Gamma Sigma Epsilon Chemistry Honor Society Organic Chemistry Tutor, The University of Alabama, 2014
- President of Witkaze (Black Student Organization), Agnes Scott College, 2011
- First-Year Representative of Witkaze (Black Student Organization), Agnes Scott College, 2010-2011

Publications

1. **Hagler, L.D.**; Luu, L.M.; Bonson, S.E.; Mitchell, N.L.; Vergara, J.I.; Curet, L.D.; Zimmerman, S.C. A Versatile Target-Guided Screen for Discovering Multivalent, Bidirectional Transcription Inhibitors of a Trinucleotide Repeat Disease. *Manuscript in preparation*.
2. **Hagler, L.D.***; Luu, L.M.*; Tonelli, M.; Lee, J.; Hayes, S.; Serrano, J.F.; Vergara, I.; Bonson, S.E.; Butcher, S.E.; Zimmerman, S.C. Expanded DNA and RNA Trinucleotide Repeats in Myotonic Dystrophy Type 1 Select Their Own Multitarget, Sequence-Selective Inhibitors. *Biochemistry* **2020**, *59*, 3463-3472. (*Authors contributed equally)
3. Chien, C.; Wu, P.; Stange, R.; Chang, C.; Lai, Z.; Hagler, L.D.; Zimmerman, S.C.; Hou, M. Structural Basis for Targeting T:T Mismatch with Triaminotriazine-acridine Conjugate Induces a U-shaped Head to Head Four-Way Junction in CTG Repeat DNA. *J. Am. Chem. Soc.* **2020**, *142*, 11165-11172.
4. **Hagler, L.D.**; Bonson, S.E.; Koechiril, P.; Zimmerman, S.C. Assessing the Feasibility of U-base Flipping in RNA-small Molecule Complexes Using Molecular Dynamics Simulations. *Can. J. Chem.* **2020**, *98*, 261-269.
5. Montemayor, E.J; Virta, J.M; Hagler, L.D.; Zimmerman, S.C.; Butcher, S.E. Structure of an RNA Helix with Pyrimidine Mismatches and Cross-strand Stacking. *Acta Cryst.* **2019**, *F75*, 652-656.
6. Serrano, J.F.; Lee, J.; Curet, L.D.; Hagler, L.D.; Bonson, S.E.; Schuster, E.; Zimmerman, S.C. Development of Novel Macrocyclic Small Molecules that Target CTG Trinucleotide Repeats. *Bioorg. Med. Chem.* **2019**, *27*, 2978-2984.
7. Lee, J.; Bai, Y.; Chembazhi, U.V.; Peng, S.; Yum, K.; Luu, L.M.; Hagler, L.D.; Serrano, J.F.; Chan, H.Y.E.; Kalsotra, A.; Zimmerman, S.C. Intrinsically Cell-penetrating Multivalent and Multitargeting Ligands for Myotonic Dystrophy Type 1. *Proc. Natl. Acad. Sci.* **2019**, *116*, 8709-8714.

8. Bai, Y.; Nguyen, L. T.; Song, Z.; Peng, S.; Lee, J.; Zheng, N.; Kapoor, I.; Hagler, L.D.; Cai, K.; Cheng, J.; Chan, H.Y.E.; Zimmerman, S.C. Integrating Display and Delivery Functionality with a Cell Penetrating Peptide Mimic as a Scaffold for Intracellular Multivalent Multitargeting. *J. Am. Chem. Soc.* **2016**, *168*, 9498-9507.

Presentations

“Discovery of Multivalent, Bidirectional Transcription Inhibitors for Myotonic Dystrophy Type 1 (DM1)” **National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCCChE) 2019 National Meeting**, St. Louis, MO, November 2019.

“Template-Assisted Click Chemistry as a Therapeutic Strategy for Myotonic Dystrophy Type 1 (DM1)” **258th ACS National Meeting & Exposition**, San Diego, CA, August 2019

“Discovery of Multivalent, Bidirectional Transcription Inhibitors for Myotonic Dystrophy Type 1 (DM1)” **Bioorganic Chemistry Gordon Research Conference**, Andover, NH, June 2019.

“Template-Assisted Click Chemistry as a Method for Discovering Small Molecule Therapeutics for Myotonic Dystrophy Type 1 (DM1).” **Pines Award Lecture**, The University of Alabama, Tuscaloosa, AL, November 2018.

“Template-Assisted Click Chemistry as a Method for Discovering Small Molecule Therapeutics for Myotonic Dystrophy Type 1 (DM1).” **National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCCChE) 2018 National Conference**, Orlando, FL, September 2018.

“Analyzing Base Flip-Out Complexes Between RNA and DNA and Small Molecule Ligands through Docking and Molecular Dynamics Simulation.” **National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCCChE) 2016 National Meeting**, Raleigh, NC, November 2016

“Analyzing Base Flip-Out Complexes Between RNA and DNA and Small Molecule Ligands through Docking and Molecular Dynamics Simulation.” **11th Annual Gateway Computing Environments Conference**, San Diego, CA, November 2016

“Accelerating RNA-Templated Reactions using Bioorthogonal Click Chemistry.” **Illinois Summer Research Symposium**, Champaign, IL, July 2015.

“Increasing the Pi-Electron Density in a Pyrazole Donor Molecule to Optimize its Donor-Acceptor Bonding with Quinones.” **Undergraduate Research Conference**, The University of Alabama, Tuscaloosa, AL, April 2014.