

CURRICULUM VITAE
MARGARET E. OLSON

Contact Information

Roosevelt University
College of Pharmacy
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Educational Background

Postdoctoral Fellow in Chemistry, The Scripps Research Institute (2016 - 2019)
Ph.D. in Medicinal Chemistry, University of Minnesota (2015)
B.A. in Biology (*cum laude*), Illinois Wesleyan University (2010)

Professional Appointments

- 2019 – Present Assistant Professor of Medicinal Chemistry (Tenure-Track), Roosevelt University,
College of Pharmacy, Schaumburg, IL
- 2016 – 2019 Postdoctoral Fellow in Chemistry, The Scripps Research Institute, Department of
Chemistry
Research: Hapten design and adjuvant optimization for methamphetamine and
cocaine vaccines. Strategies for the irreversible inhibition of Botulinum
Neurotoxin A.
Advisor: Professor Kim D. Janda
- 2010 – 2015 Graduate Fellow in Medicinal Chemistry, University of Minnesota, Department of
Medicinal Chemistry
Thesis: High-throughput screening and chemical synthesis for the
discovery of APOBEC3 DNA cytosine deaminase inhibitors.
Advisor: Associate Professor Daniel A. Harki
Co-Mentor: HHMI Professor Reuben S. Harris (University of Minnesota,
Department of Biochemistry)
- 2009 Undergraduate Research in Medicinal Chemistry, Chulabhorn Research Institute,
Bangkok, Thailand (ThaiREU)
Research: Synthesis of 4,4-disubstituted-2-arylchromans via *ortho*-quinone
methide precursors.
Advisor: Professor Poonsakdi Ploypradith
- 2008 – 2009 Undergraduate Research in Organic Chemistry, Illinois Wesleyan University,
Department of Chemistry
Research: Iron (III) tosylate catalyzed deprotection of aromatic acetals in water.
Advisor: Professor Ram S. Mohan

Awards & Honors

- 2014 – 2015 Abul-Hajj/Hanna Exceptional Graduate Student Award in Medicinal Chemistry, University of Minnesota, Department of Medicinal Chemistry
- 2014 Best Abstract, 5th Annual Masonic Cancer Center Research Symposium, University of Minnesota, Masonic Cancer Center
- 2012 Women Chemists Committee / Eli Lilly & Company Travel Award, American Chemical Society
- 2010 National Science Foundation – Research Experience for Undergraduates Chemistry Leadership Group Travel Award
- 2010 Phi Beta Delta, Epsilon Chi Chapter (International Studies Honor Society), Illinois Wesleyan University
- 2008 – 2010 Beta Beta Beta (Biological Honor Society), Illinois Wesleyan University

Grant Support

- 2022 HHMI Inclusive Excellence Grant Mini-Summer Proposal, Roosevelt University, Role: PI; Status: Awarded (\$1,000)
- 2022 Faculty Research, Leave and Professional Improvement Committee Summer Research Grant, Roosevelt University, Role: PI; Status: Awarded (\$1,500)
- 2021 Faculty Research, Leave and Professional Improvement Committee Summer Research Grant, Roosevelt University, Role: PI; Status: Awarded (\$1,500)
- 2021 New Investigator Award, American Association of Colleges of Pharmacy, Role: PI; Status: Awarded (\$8,750)

Fellowship Support

- 2017 – 2019 Postdoctoral Fellowship, Ruth L. Kirschstein Individual NRSA (F32 DA044692), National Institutes of Health, National Institute on Drug Abuse
- 2014 – 2015 Predoctoral Fellowship, Ruth L. Kirschstein Individual NRSA (F31 CA183246), National Institutes of Health, National Cancer Institute
- 2013 – 2014 Predoctoral Fellowship, American Chemical Society, Division of Medicinal Chemistry
- 2011 – 2013 Predoctoral Traineeship, National Institutes of Health Chemistry Biology Interface Training Grant (T32 GM08700), University of Minnesota
- 2011 – 2012 Bighley Fellowship, University of Minnesota, College of Pharmacy
- 2010 – 2011 Portuguese Fellowship, University of Minnesota, Department of Medicinal Chemistry

Peer-Reviewed Publications

23. Olson ME*, Hart PC, Hornick MG, Stefanski A, Rajab IM, Potempa LA. “A biofunctional review of C-reactive protein (CRP) as a mediator of inflammatory and immune responses: differentiating how pentameric and modified CRP isoforms affect responses” *Front. Immunol.* **2023**. *Abstract Accepted/Manuscript in Preparation.*
22. Ferrins, L, Araujo, E, Boudreau, MW, Grenier-Davies, MC, Haranahalli, K, Journigan, VB, Klug, DM, Olson ME. “Engaging the medicinal chemists of tomorrow” *J. Med. Chem.* **2022**, *65*, 6353-6355.

21. Hornick, MG, Olson ME, Jadhav AL. “SARS-CoV-2 psychiatric sequelae: A review of neuroendocrine mechanisms and therapeutic strategies” *Int. J. Neuropsychopharmacol.* **2022**, *12*, 1-12.
20. Potempa LA, Rajab IM, Olson ME, Hart PC. “C-reactive protein and cancer. Interpreting the differential bioactivities of its pentameric (pCRP) and monomeric, modified (mCRP) isoforms” *Front. Immunol.* **2021**, <https://doi.org/10.3389/fimmu.2021.744129>.
19. Turner LD, Nielsen AL, Lin L, Pellett S, Sugane T, Olson ME, Janda KD. “Exploring warhead reactivity and function for covalent inhibition of Botulinum neurotoxin A” *RSC Med. Chem.* **2021**, *12*, 960-969.
18. Belz T, Olson ME, Giang E, Law M, Janda KD. “Synthesis of substituted-benzaldehyde adjuvants towards the development of a Hepatitis C virus vaccine model” *ACS Med. Chem. Lett.* **2020**, *11*, 2428-2432.
17. Lin L[‡], Olson ME[‡], Sugane T[‡], Turner LD, Tararina MA, Nielsen AL, Kurbanov EK, Pellett S, Johnson EA, Cohen SM, Allen KN, Janda KD. “A catch and anchor approach to combat both toxicity and longevity of Botulinum neurotoxin A” *J. Med. Chem.* **2020**, *63*, 11100–11120.

[‡]Authors contributed equally to this work.

16. Rajab IM, Majerczyk D, Olson ME, Addams JMB, Choe ML, Nelson MS, Potempa LA. “C-reactive protein in gallbladder diseases – diagnostic and therapeutic insights” *Biophys. Rep.* **2020**, *6*, 49-67.
15. Olson ME, Sugane T, Zhou B, Janda KD. “Consequence of hapten stereochemistry: An efficacious methamphetamine vaccine” *J. Am. Chem. Soc.* **2019**, *141*, 14089-14092.
14. Lin L, Olson ME, Eubanks LM, Janda KD. “Strategies to counteract Botulinum neurotoxin A: Nature’s deadliest biotoxin” *Acc. Chem. Res.* **2019**, *52*, 2322-2331.
13. Olson ME, Eubanks LM, Janda KD. “Chemical interventions for the opioid crisis: Key advances and remaining challenges” *J. Am. Chem. Soc.* **2019**, *141*, 1798-1806.
12. Banks ML, Olson ME, Janda KD. “Immunopharmacotherapies for treating opioid use disorder” *Trends Pharmacol. Sci.* **2018**, *39*, 908-911.
11. Kimishima A, Olson ME, Natori Y, Janda KD. “Efficient syntheses of cocaine vaccines and their in vivo evaluation” *ACS Med. Chem. Lett.* **2018**, *9*, 411-416.

*ACS Editors’ Choice

*Featured on the Front Cover of *ACS Med. Chem. Lett.*

10. Kimishima A, Olson ME, Janda KD. “Investigations into the efficacy of multi-component cocaine vaccines” *Bioorg. Med. Chem. Lett.* **2018**, *28*, 2779-2783.
9. Olson ME, Janda KD. “Vaccines to combat the opioid crisis” *EMBO Rep.* **2018**, *19*, 5-9.

*Commentary: First in Human: Opioid epidemic spurs renewed research into drug misuse vaccines – S&P Global Market Intelligence; <https://www.spglobal.com/marketintelligence/en/news-insights/trending/Oq5Io6WadKoQNnKNExCgYQ2>

8. Olson ME, Harris RS, Harki DA. “APOBEC enzymes as targets for virus and cancer therapy” *Cell Chem. Biol.* **2018**, *25*, 36-49.
7. Breunig SL, Olson ME, Harki DA. “Rapid, Microwave Accelerated Synthesis of [1,2,4]Triazolo[3,4-*b*][1,3,4]oxadiazoles from 4-Acylamino-1,2,4-Triazoles” *Tetrahedron Lett.* **2016**, *57*, 4056-4060.
6. Olson ME, Abate-Pella D, Perkins AL, Li M, Carpenter MA, Rathore A, Harris RS, Harki DA. “Oxidative reactivities of 2-furylquinolines: Ubiquitous scaffolds in common high-throughput screening libraries” *J. Med. Chem.* **2015**, *58*, 7419-7430.

*Commentary: False Positives Are Always Waiting – In the Pipeline (Derek Lowe)

<http://blogs.sciencemag.org/pipeline/archives/2015/09/16/10569>

5. Brand LJ, Olson ME, Ravindranathan P, Guo H, Kempema AM, Andrews TE, Chen X, Raj GV, Harki DA, Dehm SM. "EPI-001 is a selective peroxisome proliferator-activated receptor-gamma modulator with inhibitory effects on androgen receptor expression and activity in prostate cancer" *Oncotarget* **2015**, 6, 3811-3824.
4. Olson ME, Li M, Harris RS, Harki DA "Small molecule APOBEC3G DNA cytosine deaminase inhibitors based on a 4-amino-1,2,4-triazole-3-thiol scaffold" *ChemMedChem* **2013**, 8, 112-117.
*Featured on the Back Cover of *ChemMedChem*
3. Struntz NB, Hu T, White BR, Olson ME, Harki DA "Inhibition of guanosine monophosphate synthetase by the substrate enantiomer L-XMP" *ChemBioChem* **2012**, 13, 2517-2520.
2. Olson ME, Carolan JP, Chiodo MV, Lazzara PR, Mohan RS "Iron (III) tosylate-catalyzed deprotection of aromatic acetals in water" *Tetrahedron Lett.* **2010**, 51, 3969-3971.
1. Bothwell JM, Angeles VV, Carolan JP, Olson ME, Mohan RS "A mild and chemoselective method for the deprotection of tert-butyldimethylsilyl (TBDMS) ethers using iron (III) tosylate as a catalyst" *Tetrahedron Lett.* **2010**, 51, 1056-1058.

Presentations - Invited Seminar

13. 264th American Chemical Society National Meeting & Exposition (Chicago, IL) Oral Presentation WCC-3743420: "Investigation of novel strategies for overcoming bacterial virulence" M.E. Olson. August 2022.
12. American Association of Colleges of Pharmacy (Grapevine, TX) Oral Presentation: "ARM Yourself for NIA Success: Understanding the Applicant-Reviewer-Mentor (ARM) Triad" A. Coop, J.M. Rimoldi, M.E. Olson. July 2022.
11. Illinois Wesleyan University, Natural Sciences Colloquium (Bloomington, IL). Oral Presentation: "From Overcoming Antibiotic Resistance to Vaccines for Methamphetamine: Vignettes in Today's Medicinal Chemistry Landscape" M.E. Olson. October 2021.
10. Worcester Polytechnic Institute, Department of Chemistry & Biochemistry (Worcester, MA). Oral Presentation: "Bioorganic Chemistry at the Interface of Immunology and Infectious Disease: Recent Advances in Addiction Vaccines and Botulinum Neurotoxin" M.E. Olson. November 2018.
9. Union College, Department of Chemistry (Schenectady, NY). Oral Presentation: "Medicinal Chemistry at the Interface of Immunology and Infectious Disease: Next-Generation Addiction Vaccines and Botulinum Neurotoxin Inhibitors" M.E. Olson. October 2018.
8. 55th Interagency Botulism Research Coordinating Committee Meeting (Chicago, IL). Oral Presentation: "Strategies for the irreversible inhibition of BoNT/A" M.E. Olson, T. Sugane, L. Lin, S. Pellett, M. Tararina, E.A. Johnson, K. Allen, K.D. Janda. October 2018.
7. University of Nebraska Medical Center, Department of Pharmaceutical Sciences (Omaha, NE). Oral Presentation: "Medicinal Chemistry at the Interface of Immunology and Infectious Disease: Next-Generation Addiction Vaccines and Botulinum Neurotoxin Inhibitors" M.E. Olson. October 2018.
6. University of Minnesota National Institutes of Health Chemistry Biology Interface Training Grant Symposium (Minneapolis, MN). Oral Presentation: "Chemically-driven characterization of liposomal tucaresol immunopotential" M.E. Olson, K.D. Janda. May 2018.
5. 248th American Chemical Society National Meeting & Exposition (San Francisco, CA). Oral Presentation MEDI-309: "Development of small molecule inhibitors of the breast cancer oncoprotein APOBEC3B" M.E. Olson. August 2014.

4. Abul-Hajj/Hanna Exceptional Graduate Student Award in Medicinal Chemistry (Minneapolis, MN). Oral Presentation: "*Small molecule inhibitors of APOBEC3-catalyzed endogenous mutation*" M.E. Olson. May 2014.
3. 52nd MIKI Meeting-in-Miniature (Chicago, IL). Oral Presentation: "*Discovery of first-in-class inhibitors of APOBEC3 DNA cytosine deaminases*" M.E. Olson, M. Li, A.L. Perkins, M.A. Carpenter, A. Rathore, D. Abate-Pella, R.S. Harris, and D.A. Harki. April 2014.
2. Chemistry Biology Colloquium Series (Minneapolis, MN). Oral Presentation: "*Harnessing endogenous mutation by inhibiting the APOBEC3 enzymes*" M.E. Olson. October 2013.
1. Inaugural NIH Regional Career Development Conference at the Chemistry-Biology Interface (Urbana, IL). Oral Presentation: "*Small molecule inhibition of the APOBEC3 enzymes: A drug discovery strategy to reduce endogenous mutation*" M.E. Olson. June 2013.

Presentations - Poster

21. 54th Interagency Botulism Research Coordinating Committee Meeting (San Francisco, CA). Poster Presentation: "*Bifunctional strategies for the irreversible inhibition of BoNT/A*" M.E. Olson, L. Lin, L.M. Eubanks, K.D. Janda. October 2017.
20. 250th American Chemical Society National Meeting & Exposition (Boston, MA). Poster Presentation MEDI-126: "*Covalent chemical probes of APOBEC3 DNA cytosine deaminases*" M.E. Olson, A.L. Perkins, M. Li, R.S. Harris, D.A. Harki. August 2015.
19. University of Minnesota National Institutes of Health Chemistry Biology Training Grant Symposium (Minneapolis, MN). Poster Presentation: "*Small molecule inhibitors of APOBEC3 DNA cytosine deaminases as leads for HIV-1 and cancer therapy*" M.E. Olson, A.L. Perkins, M. Li, R.S. Harris, and D.A. Harki. May 2015.
18. 53rd MIKI Meeting-in-Miniature (Lawrence, KS). Poster Presentation: "*Small molecule inhibitors of APOBEC3 DNA cytosine deaminases as leads for HIV-1 and cancer therapy*" M.E. Olson, A.L. Perkins, M. Li, R.S. Harris, and D.A. Harki. April 2015.
17. 5th Annual Masonic Cancer Center Research Symposium (Minneapolis, MN). Poster Presentation: "*Development of small molecule inhibitors of the breast cancer oncoprotein APOBEC3B*" M.E. Olson. October 2014.
16. Structural Biology Related to HIV/AIDS - 2014 (Bethesda, MD). Poster Presentation: "*Small molecule probes of APOBEC3-catalyzed mutation*" M.E. Olson, A.L. Perkins, M. Li, R.S. Harris, and D.A. Harki. June 2014.
15. Gordon Research Conference: Bioorganic Chemistry (Andover, NH). Poster Presentation: "*Small molecule probes of APOBEC3-catalyzed endogenous mutation*" M.E. Olson, A.L. Perkins, D. Abate Pella, M. Li, M.A. Carpenter, A. Rathore, R.S. Harris, and D.A. Harki. June 2014.
14. University of Minnesota National Institutes of Health Chemistry Biology Training Grant Symposium (Minneapolis, MN). Poster Presentation: "*Discovery of an APOBEC3G inhibitor from a decomposed high-throughput screening hit*" M.E. Olson, A.L. Perkins, D. Abate Pella, M. Li, M.A. Carpenter, A. Rathore, R.S. Harris, and D.A. Harki. May 2014.
13. 247th American Chemical Society National Meeting & Exposition (Dallas, TX). Poster Presentation MEDI-336: "*Discovery of an APOBEC3G inhibitor from a decomposed high-throughput screening hit*" M.E. Olson, A.L. Perkins, D. Abate Pella, M. Li, M.A. Carpenter, A. Rathore, R.S. Harris, and D.A. Harki. March 2014.

12. 'Wisc-e-Sota' 1st Joint UMN-UW Virology Training Grant Symposium (La Crosse, WI). Poster Presentation: "*Small molecule inhibitors and probes of APOBEC3-catalyzed DNA cytosine deamination*" M.E. Olson, A.L. Perkins, D. Abate Pella, M. Li, R.S. Harris, and D.A. Harki. September 2012.
11. Inaugural NIH Regional Career Development Conference at the Chemistry-Biology Interface (Urbana, IL). Poster Presentation: "*Small molecule inhibitors and probes of APOBEC3-catalyzed DNA cytosine deamination*" M.E. Olson, A.L. Perkins, D. Abate Pella, M. Li, R.S. Harris, and D.A. Harki. June 2013.
10. 2013 Institute for Molecular Virology Symposium (Minneapolis, MN). Poster Presentation: "*Small molecule inhibitors and probes of APOBEC3-catalyzed DNA cytosine deamination*" M.E. Olson, A.L. Perkins, D. Abate Pella, M. Li, R.S. Harris, and D.A. Harki. May 2013.
9. University of Minnesota National Institutes of Health Chemistry Biology Training Grant Symposium (Minneapolis, MN). Poster Presentation: "*Small molecule inhibitors and probes of APOBEC3-catalyzed DNA cytosine deamination*" M.E. Olson, A.L. Perkins, D. Abate Pella, M. Li, R.S. Harris, and D.A. Harki. May 2013.
8. 51st MIKI Meeting-in-Miniature (Minneapolis, MN). Poster Presentation: "*Small molecule inhibitors and probes of APOBEC3-catalyzed DNA cytosine deamination*" M.E. Olson, A.L. Perkins, D. Abate Pella, M. Li, R.S. Harris, and D.A. Harki. April 2013.
7. 244th American Chemical Society National Meeting & Exposition (Philadelphia, PA). Poster Presentation MEDI-136: "*Development of 1,2,4-triazole-3-thiol based inhibitors of APOBEC3G cytosine deaminase*" M.E. Olson, M. Li, R.S. Harris, D.A. Harki. August 2012.
6. AAPS Student Chapter and the College of Pharmacy Research Office Pharmacy Research Day (Minneapolis, MN). Poster Presentation: "*Small molecule APOBEC3G cytosine deaminase inhibitors based on the 1,2,4-triazole-3-thiol scaffold*" M.E. Olson, M. Li, R.S. Harris, and D.A. Harki. May 2012.
5. University of Minnesota National Institutes of Health Chemistry Biology Training Grant Symposium (Minneapolis, MN). Poster Presentation: "*Small molecule APOBEC3G cytosine deaminase inhibitors based on the 1,2,4-triazole-3-thiol scaffold*" M.E. Olson, M. Li, R.S. Harris, and D.A. Harki. May 2012.
4. 2012 Institute for Molecular Virology Symposium (Minneapolis, MN). Poster Presentation: "*Small molecule APOBEC3G cytosine deaminase inhibitors based on the 1,2,4-triazole-3-thiol scaffold*" M.E. Olson, M. Li, R.S. Harris, and D.A. Harki. May 2012.
3. 50th MIKI Meeting-in-Miniature (Iowa City, IA). Poster Presentation: "*Design and synthesis of APOBEC3G inhibitors to mortalize HIV-1*" M.E. Olson, M. Li, R.S. Harris, and D.A. Harki. April 2012.
2. 239th American Chemical Society National Meeting & Exposition (San Francisco, CA). Poster Presentation CHED-938: "*Investigations into the synthesis of 4,4-disubstituted-2-arylchromans via ortho-quinone methide precursors*" M.E. Olson, P. Ploypradith. March 2010.
1. Illinois Wesleyan University, John Wesley Powell Research Conference 2008 (Bloomington, IL). Poster Presentation: "*Iron (III) tosylate catalyzed deprotection of acetals*" M.E. Olson, J.P. Carolan, M.P. Devore, K.K. Tasche, and R.S. Mohan. April 2008.

Editorial Experience

2022	Review Editor, Microbial Vaccines, Frontiers in Cellular and Infection Microbiology
2022	Topic Editor of "Recent Pharmacological Innovation for the Opioid Crisis", Frontiers in Pharmacology
2013 – Present	Peer-reviewed manuscripts for <i>Journal of Medicinal Chemistry</i> , <i>PLoS One</i> , <i>Bioorganic & Medicinal Chemistry</i> , <i>RSC Medicinal Chemistry</i>

Professional Memberships & Service

2022 – Present	Chair, Younger Medicinal Chemists Committee (YMCC), American Chemical Society (ACS)
2021-Present	Past Chair, Curriculum Committee, Roosevelt University, College of Pharmacy
2021	American Association of Colleges of Pharmacy (AACCP) Faculty Delegate, Roosevelt University, College of Pharmacy
2021	Voting Member, Internal Medicine Faculty Search Committee, Roosevelt University, College of Pharmacy
2021	Voting Member, Ambulatory Care Faculty Search Committee, Roosevelt University, College of Pharmacy
2020 – Present	Member, Younger Medicinal Chemists Committee (YMCC), American Chemical Society (ACS)
2020 – Present	College Representative, Undergraduate Council, Roosevelt University
2019 – Present	Faculty Mentor, Industrial Pharmacists Organization, Roosevelt University, College of Pharmacy
2019 – 2021	Voting Member, Assessment Committee, Roosevelt University, College of Pharmacy
2019 – 2021	Chair, Curriculum Committee, Roosevelt University, College of Pharmacy
2019 – 2020	Curriculum Liaison, Self-Study Committee, Roosevelt University, College of Pharmacy
2019	Chair, Pharmacology Faculty Search Committee, Roosevelt University, College of Pharmacy
2019	Voting Member, Internal Medicine Faculty Search Committee, Roosevelt University, College of Pharmacy
2019	Voting Member, Ambulatory Care Faculty Search Committee, Roosevelt University, College of Pharmacy
2019 – Present	Member, American Association of Colleges of Pharmacy
2017 – 2018	Public Relations Officer, Network for Women in Science, Scripps Research Institute
2017	Reviewer, Society of Fellows Travel Awards, Scripps Research Institute
2016 – 2017	Reviewer, Summer High School Student Research Education Program, Scripps Research
2016 – 2017	Chemistry Demonstrations, Science Saturdays for Middle and High School Students, Scripps Research Institute, Department of Chemistry
2014	Organizer & Seminar Host (Prof. Michael Pollastri), Student Selected Seminar, University of Minnesota, Department of Medicinal Chemistry
2012 – 2013	Member, Recruitment Committee, University of Minnesota, Department of Medicinal Chemistry
2012 – 2013	Co-Chair & Speaker Host (Prof. Floyd Romesberg), Chemistry Biology Interface Training Grant Symposium, University of Minnesota
2012 – 2013	Organizer & Keynote Host (Prof. Marvin Miller), Medicinal Chemistry Meeting-in-Miniature (MIKI Meeting), University of Minnesota

- 2011 – 2012 Organizer & Speaker Host (Prof. Kim Janda), Chemistry Biology Interface Training Grant Symposium, University of Minnesota
- 2011 – 2012 Secretary, American Association of Pharmaceutical Scientists, University of Minnesota Student Chapter, College of Pharmacy
- 2010 – 2012 Member, Website Revision Committee, University of Minnesota, Department of Medicinal Chemistry
- 2008 – Present Member, American Chemical Society

Teaching – Pharmacy Courses

Spring 2019-2022

PHAR 531: Musculoskeletal Disorders, Immune System, and Pulmonary Disorders

Teaching Load: 7 Hours

Material Taught: Medicinal Chemistry of Pulmonary Agents, Corticosteroids, Non-Opioid Analgesics, Opioid Analgesics, Colchicine, Xanthine Oxidase Inhibitors Uricosurics, Bisphosphonates, Immunosuppressants, DMARDs and Antihistamines

PHAR 532: Endocrine Systems (**Course Coordinator – 2020-2022**)

Teaching Load: 5 Hours

Material Taught: Medicinal Chemistry of Thyroid and Anti-Thyroid Medications, Hormonal Steroid Agents, and Diabetes Agents

PHAR 634: Neurologic Disorders

Teaching Load: 4 Hours

Material Taught: Medicinal Chemistry of Neuromuscular Blocking Agents, Anticonvulsants, and Migraine Medications

PHAR 635: Psychiatric and Behavioral Conditions (*2019, 2021, 2022 Only*)

Teaching Load: 4 Hours

Material Taught: Medicinal Chemistry of Antidepressants, Anxiolytics and Antipsychotics

Summer 2019-2022

PHAR 636: Hematologic and Oncologic Disorders

Teaching Load: 10 Hours

Material Taught: Medicinal Chemistry of Alkylating Agents, Organoplatinum Complexes, Antimetabolites, Antitumor Antibiotics, Topoisomerase Inhibitors, Antimitotic Agents, Kinase Inhibitors and Hormonal Agents

Fall 2019-2021

PHAR 601: Self-Care & Non-Rx Therapeutics

Teaching Load: 1 Hour

Material Taught: Pharmacology of Internal Analgesics

PHAR 630: Renal Systems and Genitourinary Systems (*2019 Only*)

Teaching Load: 2 Hours

Material Taught: Medicinal Chemistry of Erectile Dysfunction, Benign Prostatic Hyperplasia, and Urinary Incontinence

PHAR 631: Cardiovascular Systems (**Course Coordinator – 2019**)

Teaching Load: 5 Hours

Material Taught: Antihypertensives, Antihyperlipoproteinemics, Inhibitors of Cholesterol Biosynthesis, Antiarrhythmic Agents, Antianginal Medications, Antithrombotics, and Antiplatelet Medications

Winter 2019-2022

PHAR 530: Principles of Drug Action (**Course Coordinator – 2019**)

Teaching Load: 18 Hours

Material Taught: Pharmacokinetics, Pharmacodynamics, Chemical Classification of Drugs, Drug Properties (pH/pKa, Solubility, Lipophilicity), Drug Receptor Interactions, Stereochemistry, Isomers, Pharmacophores, Structure-Activity Relationships, Isosteres, Phase I Metabolic Reactions, Phase II Metabolic Reactions, Medicinal Chemistry of Cholinergic Agents and Adrenergic Agents

PHAR 633: Infectious Diseases

Teaching Load: 7 Hours

Material Taught: Cell Wall Inhibitors, Protein Synthesis Inhibitors, Antivirals, Antiretrovirals, Antifungals

Mentorship Experience

- 2022 Massara Alessa, Summer Research Elective in Medicinal Chemistry, Roosevelt University, College of Pharmacy; *Current Position*: Pharmacy Student (P2), Roosevelt University, College of Pharmacy
- 2022 Bijal Patel, Summer Research Elective in Medicinal Chemistry, Roosevelt University, College of Pharmacy; *Current Position*: Pharmacy Student (P2), Roosevelt University, College of Pharmacy
- 2022 Izabela Rozborska, Summer Research Elective in Medicinal Chemistry, Roosevelt University, College of Pharmacy; *Current Position*: Pharmacy Student (P2), Roosevelt University, College of Pharmacy
- 2022 Anna Tanzif, Summer Research Elective in Medicinal Chemistry, Roosevelt University, College of Pharmacy; *Current Position*: Pharmacy Student (P2), Roosevelt University, College of Pharmacy
- 2021 – 2022 Paulina Sobus, Summer Research Elective in Medicinal Chemistry, Roosevelt University, College of Pharmacy; *Current Position*: Pharmacy Student (P3), Roosevelt University, College of Pharmacy
- 2020 – 2021 Angelina Anderson, Undergraduate Honors Thesis, Roosevelt University; *Current Position*: Master's Student in Biology, DePaul University
- 2020 – 2021 Mustafa Almayyah, Summer Research Elective in Medicinal Chemistry, Roosevelt University, College of Pharmacy; *Current Position*: Pharmacy Grad Intern, CVS
- 2020 – 2021 Devan Herrera, Summer Research Elective in Medicinal Chemistry, Roosevelt University, College of Pharmacy; *Current Position*: Pharmacy Grad Intern, CVS
- 2020 Syed Farooqui, Summer Research Elective in Medicinal Chemistry, Roosevelt University, College of Pharmacy; *Current Position*: Pharmacy Grad Intern, CVS
- 2020 Alex Serrano, Summer Research Elective in Medicinal Chemistry, Roosevelt University, College of Pharmacy; *Current Position*: Pharmacy Intern, Walgreens
- 2019 Parth Shah, Summer Research Elective in Medicinal Chemistry, Roosevelt University, College of Pharmacy; *Current Position*: Pharmacist, CVS
- 2019 Raniah Kareem, Summer Research Elective in Medicinal Chemistry, Roosevelt University, College of Pharmacy; *Current Position*: Pharmacy Manager, Kroger

- 2018 Lynee Massey, Summer Undergraduate Research Fellow (SURF) in Chemistry, Scripps Research; *Current Position:* Graduate Student in Chemistry, Scripps Research
- 2016 – 2019 Lucy Lin, Doctoral Research in Chemistry, Scripps Research; *Current Position:* Patents Technical Writer, Ionis Pharmaceuticals, Inc.
- 2013 – 2015 Stephanie L. Breunig, Undergraduate Research in Chemistry, University of Minnesota; *Current Position:* PhD Candidate in Chemistry, California Institute of Technology
- 2012 – 2014 Eva A. Skellie, Undergraduate Research in Biology, Society & the Environment, University of Minnesota; *Current Position:* Sr. Specification Analyst, Ecolab
- 2010 – 2011 Teaching Assistant, University of Minnesota, College of Pharmacy; Courses: Principles of Medicinal Chemistry, Immune System & Infectious Disease