

# James L. Hougland

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## Professional Experience

2021-present	<b>Professor</b>	Department of Chemistry Department of Biology (By Courtesy) Syracuse University, Syracuse, NY
2016-2021	<b>Associate Professor</b>	Department of Chemistry Department of Biology (By Courtesy) Syracuse University, Syracuse, NY
2015-present	<b>Director</b>	Biochemistry Program Syracuse University, Syracuse, NY
2012-present	<b>Adjunct Asst. Professor</b>	Department of Biochemistry and Molecular Biology SUNY Upstate Medical University, Syracuse, NY
2010-2016	<b>Assistant Professor</b>	Department of Chemistry Department of Biology (By Courtesy) Syracuse University, Syracuse, NY
2005-2010	<b>NIH Postdoctoral Fellow</b>	Department of Chemistry University of Michigan, Ann Arbor, MI

## Education

2005-2010	<b>Postdoctoral training</b>	Chemistry / Biological Chemistry University of Michigan, Ann Arbor, MI Advisor: Professor Carol A. Fierke
2005	<b>Ph.D.</b>	Chemistry University of Chicago, Chicago, IL Advisor: Professor Joseph A. Piccirilli
1999	<b>M.S.</b>	Chemistry University of Chicago, Chicago, IL
1998	<b>B.A. (with honors) <i>magna cum laude</i></b>	Chemistry and Integrated Science Northwestern University, Evanston, IL

## Awards and Fellowships

### *Faculty*

American Diabetes Association Junior Faculty Development Award, 2016-2018  
March of Dimes Basil O'Connor Starter Scholar Award, 2014-2016  
American Diabetes Association Junior Faculty Award, 2013-2015  
Early Career Investigator Travel Fellowship, Diabetic Kidney Disease: Drug  
Discovery and Clinical Development Challenges, New York Academy of  
Sciences, December 2014  
Pew Biomedical Scholars Nominee, Syracuse University, 2011

### *Postdoctoral*

NIH Postdoctoral Fellowship (2006-2009)  
American Heart Association Postdoctoral Fellowship (*declined*)  
Graduate and Postdoctoral Travel Award, 2007 ASBMB National Meeting  
American Chemical Society Division of Biological Chemistry Travel Award,  
Spring 2008 ACS National Meeting  
Archives of Biochemistry and Biophysics Poster Award,  
21<sup>st</sup> Enzyme Mechanisms Conference

*Graduate* NIH Predoctoral Training Program at the Interface of Chemistry and Biology  
McCormick Fellowship  
Department of Defense Predoctoral Fellowship, Honorable Mention  
George Van Dyke Tiers Student Travel Award  
First Prize, 2005 Graduate Student Research Poster Session, Dept. of Chemistry

*Undergraduate* National Merit Scholarship  
Dean's List  
Phi Beta Kappa  
Golden Key Honor Society  
Lewis H. Sarrett Undergraduate Research Award (Chemistry Department)

## Professional Memberships and Affiliations

BioInspired Syracuse: Institute for Material and Living Systems  
Syracuse Biomaterials Institute (SBI)  
Upstate Cancer Research Institute  
Hill Collaboration in Environmental Medicine Cancer Focus Group  
American Association for the Advancement of Science  
The American Chemical Society (Biological Chemistry Division)  
American Society for Biochemistry and Molecular Biology  
New York Academy of Sciences  
American Diabetes Association  
Alpha Chi Sigma

## Publications

*As Associate Professor at Syracuse University*

(undergraduate authors underlined, graduate student authors denoted with #)

M. B. Campaña<sup>#</sup>, T. R. Davis<sup>#</sup>, E. R. Cleverdon<sup>#</sup>, M. Bates, N. Krishnan, E. R. Curtis, M. D. Childs, Y. Morales-Rodriguez, M. Sieburg, H. Hehnlly, L. G. Luyt, and **J. L. Houglan**

“Ghrelin *O*-acyltransferase interacts with extracellular peptides and exhibits unexpected cellular localization for a secretory pathway enzyme”

*Submitted*; bioRxiv preprint: [Link to preprint server](#)

T. R. Davis<sup>#</sup>, M. R. Pierce<sup>#</sup>, S. X. Novak<sup>#</sup>, and **J. L. Houglan**

“Ghrelin octanoylation by ghrelin *O*-acyltransferase: Protein acylation impacting metabolic and neuroendocrine signaling” – Invited review (peer reviewed)

*Open Biology*, in revision

S. L. Deschaine, M. Farokhnia, A. Gregory-Flores, L. J. Zallar, Z.-B. You, H. Sun, D. M. Harvey, R. C.N. Marchette, B. J. Tunstall, B. K. Mani, J. Moose<sup>#</sup>, M. R. Lee, F. Akhlaghi, M. Roberto, **J. L. Houglan**, J. M. Zigman, G. F. Koob, L. F. Vendruscolo, and L. Leggio

“A closer look at alcohol-induced changes in the ghrelin system: Novel insights from preclinical and clinical data”

*Addiction Biology*, **2021**, Apr 27:e13033. doi: 10.1111/adb.13033. [Link to journal](#)

Y. Wang, O. Kilic, C. M. Csizmar, S. Ashok<sup>#</sup>, **J. L. Houglan**, M. D. Distefano, and C. R. Wagner

“Engineering reversible cell-cell interactions using enzymatically lipidated chemically self-assembled nanorings”

*Chemical Science*, **2021**, 12, 331-340. [Link to journal](#)

J. E. Moose<sup>#</sup>, K. A. Leets, N. A. Mate, J. D. Chisholm, and **J. L. Houglan**

“An overview of ghrelin *O*-acyltransferase inhibitors: A literature and patent review for 2010-2019” – Invited review (peer reviewed)

*Expert Opinion on Therapeutic Patents*, **2020**, 30, 581-593. [Link to journal](#)

S. Ashok<sup>#</sup>, E. R. Hildebrandt, M. C. Samuelson-Ruiz, D. S. Hardgrove, D. W. Coreno, W. K. Schmidt, and **J. L. Houglan**

“Protein farnesyltransferase catalyzes unanticipated farnesylation and geranylgeranylation of shortened target sequences”

*Biochemistry*, **2020**, 59, 1149-1162. [Link to journal](#)

M. J. Blanden<sup>#</sup>, S. Ashok<sup>#</sup>, and **J. L. Houglan**

“Mechanisms of CaaX protein processing: Protein prenylation by FTase and GGTase-I”

In: “*Comprehensive Natural Products III: Chemistry and Biology*” In: Hung-Wen (Ben) Liu, Tadhg P. Begley (eds.) *Comprehensive Natural Products III: Chemistry and Biology*. **2020** vol. 4, pp. 497-527. Elsevier. DOI: 10.1016/B978-0-12-409547-2.14837-1

A. Abizaïd and **J. L. Houglan**

“Ghrelin signaling pathways: GOAT and GHS-R1a take a LEAP” – Invited review (peer reviewed)

*Trends in Endocrinology and Metabolism*, **2020**, 31, 107-117. [Link to journal](#)

M. B. Campaña<sup>#</sup>, F. J. Irudayanathan, T. R. Davis<sup>#</sup>, K. R. McGovern-Gooch<sup>#</sup>, R. Loftus<sup>#</sup>, M. Ashkar, N. Escoffery, M. Navarro, M. A. Sieburg, S. Nangia, and **J. L. Houglan**

“The ghrelin *O*-acyltransferase structure reveals a catalytic channel for transmembrane hormone acylation”

*Journal of Biological Chemistry*, **2019**, 294, 14166-74. [Link to journal](#); bioRxiv preprint. [Link to preprint server](#)

M. A. Sieburg, E. R. Cleverdon<sup>#</sup>, and **J. L. Houglan**

“Biochemical assays for ghrelin acylation and inhibition of ghrelin *O*-acyltransferase”- Invited chapter

*Methods in Molecular Biology*, **2019**, 2009, 227-241. [Link to journal](#)

**J. L. Houglan**

“Ghrelin octanoylation by ghrelin *O*-acyltransferase: Unique protein biochemistry underlying metabolic signaling” – Invited review (peer reviewed)

*Biochemical Society Transactions*, **2019**, 47, 169-78. [Link to journal](#)

B. M. Berger, J. H. Kim, E. R. Hildebrandt, I. C. Davis, M. C. Morgan, **J. L. Houglan**, and W. K. Schmidt

“Protein isoprenylation in yeast targets a broad range of COOH-terminal tetrapeptide sequences, including those not adhering to the CaaX consensus”

*Genetics*, **2018**, 210, 1301-16. [Link to journal](#)

- Highlighted article

E. R. Cleverdon<sup>#</sup>, T. R. Davis<sup>#</sup>, and **J. L. Houglan**

“Functional group and stereochemical requirements for substrate binding by ghrelin *O*-acyltransferase revealed by unnatural amino acid incorporation”

*Bioorganic Chemistry*, **2018**, 79, 98-106. [Link to journal](#)

M. J. Blanden<sup>#</sup>, K. F. Suazo, E. R. Hildebrandt, D. S. Hardgrove, M. Patel, W. P. Saunders, M. D. Distefano, W. K. Schmidt, and **J. L. Houglan**

“Efficient farnesylation of an extended C-terminal C(x)<sub>3</sub>X sequence motif expands the scope of the prenylated proteome”

*Journal of Biological Chemistry*, **2018**, 293, 2770-2785. [Link to journal](#)

A. Shala-Lawrence, M. J. Blanden<sup>#</sup>, S. M. Krylova, S. A. Gangopadhyay<sup>#</sup>, S. S. Beloborodov, **J. L. Houglan**, and S. N. Krylov

“Simultaneous analysis of a non-lipidated protein and its lipidated counterpart: Enabling quantitative investigation of protein lipidation’s impact on cellular regulation”

*Analytical Chemistry*, **2017**, *89*, 13502-7. [Link to journal](#)

K. R. McGovern-Gooch<sup>#</sup>, N. S. Mahajani<sup>#</sup>, A. Garagozzo, A. J. Schramm, L. G. Hannah, M. A. Sieburg, J. D. Chisholm, and **J. L. Houglan**

“Synthetic triterpenoid inhibition of human ghrelin *O*-acyltransferase: The involvement of a functionally required cysteine provides mechanistic insight into ghrelin acylation”

*Biochemistry* **2017**, *56*, 919-31. [Link to journal](#)

E. R. Cleverdon<sup>#</sup>, K. R. McGovern-Gooch<sup>#</sup>, and **J. L. Houglan**

“The octanoylated energy regulating hormone ghrelin: An expanded view of ghrelin’s biological interactions and avenues for controlling ghrelin signaling” - Invited review (peer reviewed)

*Molecular Membrane Biology*. **2016**, *33*, 111-24. [Link to journal](#)

K. R. McGovern-Gooch<sup>#</sup>, T. Rodrigues, J. E. Darling<sup>#</sup>, A. Abizaid, and **J. L. Houglan**

“Ghrelin octanoylation is completely stabilized in biological samples by alkyl fluorophosphonates”

*Endocrinology* **2016**, *157*, 4330-4338. [Link to journal](#)

As Assistant Professor at Syracuse University

K. R. McGovern<sup>#</sup>, J. E. Darling<sup>#</sup>, and **J. L. Houglan**

“Progress in small molecule and biologic therapeutics targeting ghrelin signaling” - Invited review (peer reviewed)

*Mini Reviews in Medicinal Chemistry* **2016**, *16*, 465-80. [Link to journal](#)

Y. Zhang, M. Blanden<sup>#</sup>, S. Chava, S. A. Gangopadhyay<sup>#</sup>, M. Rashidian, **J. L. Houglan**, and M. D. Distefano

"Simultaneous site-specific dual protein labeling using protein prenyltransferases"

*Bioconjugate Chemistry* **2015**, *26*, 2542-53. [Link to journal](#)

M. Wellman, Z. Patterson, H. Mackay, J. E. Darling<sup>#</sup>, B. K. Mani, J. Zigman, **J. L. Houglan**, and A. Abizaid

“Novel regulator of acylated ghrelin, CF801, reduces body weight, food intake & adiposity in mice”

*Frontiers in Endocrinology* **2015**, *6*, 144. [Link to journal](#)

F. Zhao, J. E. Darling<sup>#</sup>, R. A. Gibbs, and **J. L. Houglan**

“A new class of ghrelin *O*-acyltransferase inhibitors incorporating triazole-linked lipid mimetic groups”

*Bioorganic and Medicinal Chemistry Letters* **2015**, *25*, 2800-3. [Link to journal](#)

J. E. Darling<sup>#</sup>, F. Zhao, R. J. Loftus<sup>#</sup>, L. M. Patton, R. A. Gibbs, and **J. L. Houglan**

“Structure-activity analysis of human ghrelin *O*-acyltransferase reveals chemical determinants of ghrelin selectivity and acyl group recognition”

*Biochemistry* **2015**, *54*, 1100-10. [Link to journal](#)

S. C. Flynn<sup>#</sup>, D. E. Lindgren and **J. L. Houglan**

“Quantitative determination of cellular farnesyltransferase activity: Towards defining the minimum substrate reactivity for biologically relevant protein farnesylation”

*ChemBioChem*, **2014**, *15*, 2205-10. [Link to journal](#)

S. A. Gangopadhyay<sup>#</sup>, E. L. Losito, and **J. L. Houglan**

“Targeted reengineering of protein geranylgeranyltransferase type I selectivity functionally implicates active site residues in protein substrate recognition”

*Biochemistry*, **2014**, *53*, 434-46. [Link to journal](#)

J. E. Darling<sup>#</sup>, E. P. Prybolsky, M. Sieburg, and **J. L. Houglan**  
“A fluorescent peptide substrate facilitates investigation of ghrelin recognition and acylation by ghrelin *O*-acyltransferase”  
*Analytical Biochemistry*, **2013**, 437, 68-76. [Link to journal](#)

**J. L. Houglan**, J. E. Darling<sup>#</sup>, and S. C. Flynn<sup>#</sup>  
“Post-translational protein modification during oxidative stress”  
In: “*Molecular Basis of Oxidative Stress: Chemistry, Mechanisms, and Disease Pathogenesis*”, F.A. Villamena, ed., **2013**, Chapter 3, 71-92. [Link to publisher](#)

**J. L. Houglan**, S. A. Gangopadhyay<sup>#</sup>, and C. A. Fierke  
“Expansion of protein farnesyltransferase specificity using “tunable” active site interactions: Development of bioengineered prenylation pathways”  
*Journal of Biological Chemistry*, **2012**, 287, 38090-100. [Link to journal](#)

A. Placzek, **J. L. Houglan**, and R. A. Gibbs  
“Synthesis of frame-shifted farnesyl diphosphate analogs”  
*Organic Letters*, **2012**, 14, 4038-41. [Link to journal](#)

*Manuscripts in preparation*

J. E. Moose<sup>#</sup>, J. Calhoun, Z. Spada, J. D. Chisholm, and **J. L. Houglan**  
“Identification of new classes of GOAT inhibitors through virtual screening”

*Postdoctoral, graduate, and undergraduate publications*

N. London, C. L. Lamphear, **J. L. Houglan**, C. A. Fierke, and O. Schueler-Furman  
“Identification of a novel class of farnesylation targets by structure-based modeling of binding specificity”  
*PLoS Computational Biology*, **2011**, 7, e1002170. [Link to journal](#)

C. L. Lamphear, E. A. Zverina, **J. L. Houglan**, and C. A. Fierke  
“Global identification of protein prenyltransferase substrates: Defining the prenylated proteome”  
In: *The Enzymes, Volume 29: Protein Prenylation Part A*, F. Tamanoi, C. Hrycyna and M. Bergo, eds., **2011**, Chapter 12, 207-234. [Link to chapter](#)

**J. L. Houglan**, K. A. Hicks, H. L. Hartman, R. A. Kelly, T. J. Watt, and C. A. Fierke  
“Identification of novel peptide substrates for protein farnesyltransferase reveals two substrate classes with distinct sequence selectivities”  
*Journal of Molecular Biology*, **2010**, 395, 176-190. [Link to journal](#)

A. J. Krzysiak, A. V. Aditya, **J. L. Houglan**, C. A. Fierke, and R. A. Gibbs  
“Synthesis and screening of a CaaL peptide library versus FTase reveals a surprising number of substrates”  
*Bioorganic and Medicinal Chemistry Letters*, **2010**, 20, 767-770. [Link to journal](#)

**J. L. Houglan** and C. A. Fierke  
“Getting a handle on protein prenylation” (News and Views editorial)  
*Nature Chemical Biology*, **2009**, 5, 197-198. [Link to journal](#)

**J. L. Houglan**, C. L. Lamphear, S. A. Scott, R. A. Gibbs, and C. A. Fierke  
“Context-dependent substrate recognition by protein farnesyltransferase”  
*Biochemistry*, **2009**, 48, 1691-1701. [Link to journal](#)

- highlighted on *Biochemistry* home page  
- selected by *Biochemistry* editors for inclusion into “Thematic Collection: Membrane Proteins”

**J. L. Houglan** and J. A. Piccirilli  
“2'-Amino-modified ribonucleotides as probes for local interactions within RNA”

*Methods in Enzymology*, **2009**, 468, 107-125. [Link to journal](#)

**J. L. Houglan**, **R. N. Sengupta**, Q. Dai, S. K. Deb, and J. A. Piccirilli  
"The 2'-hydroxyl group of the guanosine nucleophile donates a functionally important hydrogen bond in the *Tetrahymena* ribozyme reaction"  
*Biochemistry*, **2008**, 47, 7684-7694. [Link to journal](#)  
- chosen as a "Hot Article" by editors of *Biochemistry*

Q. Dai, S. K. Deb, **J. L. Houglan**, and J. A. Piccirilli  
"Improved synthesis of 2'-amino-2'-deoxyguanosine and its phosphoramidite"  
*Bioorganic and Medicinal Chemistry*, **2006**, 14, 705-713. [Link to journal](#)

**J. L. Houglan**, J. A. Piccirilli, M. Forconi, J. Lee, and D. Herschlag  
"How the group I intron works: A case study of RNA structure and function"  
In: *The RNA World*, 3<sup>rd</sup> Edition, R.F. Gesteland, J.F. Atkins, and T.R. Cech, eds.,  
**2006**, Chapter 6, 133-206. [Link to publisher](#)

**J. L. Houglan**, A.V. Kravchuk, D. Herschlag, and J. A. Piccirilli  
"Functional identification of catalytic metal ion binding sites within RNA"  
*PLoS Biology*, **2005**, 3, e277. [Link to journal](#)

**J. L. Houglan**, S. K. Deb, **D. Maric**, and J. A. Piccirilli  
"An atomic mutation cycle for exploring RNA's 2'-hydroxyl group"  
*Journal of the American Chemical Society* **2004**, 42, 13578-9. [Link to journal](#)

I. Cohen, H. Li, **J. L. Houglan**, M. Mrksich, and S. R. Nagel  
"Using selective withdrawal to coat microparticles"  
*Science* **2001**, 292, 265-267. [Link to journal](#)

F. D. Lewis, **J. L. Houglan**, and S. A. Markarian  
"Formation and anomalous behavior of aminonaphthalene-cinnamionitrile exciplexes"  
*Journal of Physical Chemistry A* **2000**, 104, 3261-3268. [Link to journal](#)

## Patents

"Fluorescence assay for ghrelin *O*-acyltransferase activity"  
Patent US9115383B2  
Inventors: **James L. Houglan**; Joseph E. Darling

"Inhibitors targeting human ghrelin *O*-acyltransferase"  
Patent US9340578B2  
Inventors: **James L. Houglan**; Richard A. Gibbs

## Funding

*active*

"Defining the molecular architecture for transmembrane acylation by a membrane bound *O*-acyltransferase"  
National Institutes of Health (R01GM134102)  
Principal Investigator: James L. Houglan  
Proposed period: 9/1/19 - 8/31/22  
Total cost: \$962,172

"Determining the scope of prenylatable protein sequences"  
National Institutes of Health (R01GM132606)  
Principal Investigator: James L. Houglan (Co-investigator); Walter Schmidt (Univ. of Georgia)  
Proposed period: 9/20/19 - 7/31/23  
Total cost: \$1,570,894 (SU Subcontract Total Cost: \$346,568)

“A fluorescence-enabled protein chromatography system for purification and characterization of integral membrane enzymes”

Administrative Supplement for Equipment: “Defining the molecular architecture for transmembrane acylation by a membrane bound *O*-acyltransferase”

National Institutes of Health (R01 equipment supplement)

Principal Investigator: James L. Houglan

Proposed period: 9/1/20 - 8/31/21

Total cost: \$79,123 (SU cost share \$33,00; Total award \$112,123)

“Targeted ghrelin *O*-acyltransferase ligands for the detection and treatment of prostate cancer”

Syracuse University Collaboration for Unprecedented Success and Excellence (CUSE) Grant Program

Principal Investigator: James L. Houglan

Period: 6/1/21-5/30/23

Total cost: \$24,000

“REU Site: Undergraduate Research in Chemistry at Syracuse University”

National Science Foundation

Principal Investigator: Michael Sponsler; James L. Houglan (Co-PI)

Proposed period: 4/1/20-3/31/23

Total cost: \$365,691

*completed*

“Bringing a membrane enzyme into structural focus: Interdisciplinary computational-biochemical modeling of ghrelin *O*-acyltransferase”

Syracuse University Collaboration for Unprecedented Success and Excellence (CUSE) Grant Program

Principal Investigator: James L. Houglan

Period: 5/1/18-4/30/20

Total cost: \$30,000

“Targeting ghrelin acylation for control of glucose homeostasis”

American Diabetes Association Junior Faculty Development Award (1-16-JDF-042)

Principal Investigator: James L. Houglan

Period: 1/1/16-12/31/18 (*No cost extension until 12/31/19*)

Total cost: \$414,000

“Bringing a novel diabetes therapeutic target into structural focus: Biochemical validation of a computational model for ghrelin *O*-acyltransferase”

American Diabetes Association Minority Undergraduate Internship Award (7-18-MUI-001)

Principal Investigator: James L. Houglan

Period: 7/1/18-6/30/19

Total cost: \$3,000

“Preparative ultracentrifuge to support biochemical and biological studies”

Small Equipment Grant Program (College of Arts & Sciences Supplement)  
Syracuse University

Principal Investigator: James L. Houglan

Proposed period: 4/25/19

Total cost: \$63,000

“Structural and biochemical investigation of ghrelin processing”

American Diabetes Association Minority Undergraduate Internship Award (7-16-MUI-01)

Principal Investigator: James L. Houglan

Period: 9/1/16-8/31/17



Total cost: \$3,000

“Structural investigation of ghrelin processing”

Syracuse University Small Grant Program

Principal Investigators: James L. Houglan and Carlos Castañeda

Period: 11/18/15-6/30/17

Total cost: \$11,250

“Development and validation of ghrelin *O*-acyltransferase inhibitors for treating hyperphagia in Prader-Willi syndrome” (*competitive renewal of Best Idea Grant*)

Foundation for Prader-Willi Research

Principal Investigator: James L. Houglan

Period: 9/1/15-8/31/16 (NCE to 2/28/17)

Total cost: \$75,600

“Investigating ghrelin *O*-acyltransferase as a potential target for treating Prader-Willi syndrome”

Basil O’Connor Starter Scholar Research Award, March of Dimes (5-FY14-81)

Principal Investigator: James L. Houglan

Period: 2/1/14-1/31/16

Total cost: \$150,000

“Targeting ghrelin acylation for control of glucose homeostasis”

American Diabetes Association Junior Faculty Award (1-13-JF-30-BR)

Principal Investigator: James L. Houglan

Period: 11/1/13-12/31/14 (no cost extension to 6/30/15)

Total cost: \$70,000

[Project profile](#)

“Investigation of ghrelin *O*-acyltransferase as a target for treating for hyperphagia in Prader-Willi syndrome”

Best Idea Grant, Foundation for Prader-Willi Research

Principal Investigator: James L. Houglan

Period: 8/1/13-7/31/14 (no cost extension to 12/31/14)

Total cost: \$108,000

[Project profile](#)

2014 Young Investigators Internship Program

(Undergraduate researcher supplement to “Investigation of ghrelin *O*-acyltransferase as a target for treating for hyperphagia in Prader-Willi syndrome”)

Foundation for Prader-Willi Research

Principal Investigator: James L. Houglan

Period: 6/10/14-8/5/14

Total cost: \$6,000

[Project profile](#)

“p53 and APC tumor suppressor gene mutation effects on protein prenylation”

American Cancer Society Institutional Research Grant (Upstate Cancer Research Institute, IRG-11-052-01)

Principal Investigator: James L. Houglan

Period: 1/1/13 – 12/31/13

Total cost: \$30,000

“Evolution of novel farnesyltransferase activity”

National Institutes of Health Postdoctoral Fellowship (F32 GM078894)

Principal Investigator: James L. Houglan

Period: 8/1/06 - 1/31/09

Total cost: \$123,486



## Professional Development

May 2021	DiversityEdu: Personal Skills for a Diverse Campus (online diversity training course) Syracuse University Syracuse, NY
June 2020	SU CHANcE (Collaborative High Impact Activities in Natural Science Education) HHMI Virtual Workshop “Inclusive teaching techniques; Belonging in science for URM students; Making the most of ‘Hot Moments’ in class” Syracuse University Syracuse, NY
January 2019	SU CHANcE (Collaborative High Impact Activities in Natural Science Education) HHMI Inclusive Excellence Kickoff Workshop Syracuse University Syracuse, NY
October 2018	Inclusive Teaching Workshop Syracuse University Syracuse, NY
August 2016	Medicinal Chemistry workshop; NSF-sponsored cCWCS (Chemistry Collaborations, Workshops & Communities of Scholars) Minneapolis, MN
June 2014	ASBMB Mentoring Workshop for Early Career Scientists Washington, DC
July 2013	NIH Mentoring Workshop for New Faculty in Organic and Biological Chemistry Dallas, TX
February 2013	STEM Partnership Program SU ADVANCE Syracuse, NY
October 2012	National Science Foundation Grants Conference Arlington, VA
July 2012	National Institutes of Health Regional Seminar on Program Funding and Grants Administration Washington, D.C.
August 2010	New Faculty Training Workshops (teaching strategies, group mentorship, diversity awareness) Syracuse University

## Teaching

### Syracuse University

Spring 2021	CHE 675 - Advanced Organic Chemistry (enrollment of 8) CHE690 - Graduate Independent Study (Novak) BCM460 - Undergraduate Research in Biochemistry (Alexandra Olanescu, Jackson Calhoun, Giavana Prucha)
Fall 2020	CHE799 - Seminar in General Chemistry (enrollment of 14) CHE690 - Graduate Independent Study (Novak) BCM460 - Undergraduate Research in Biochemistry (Alexandra Olanescu, Jackson Calhoun)
Summer 2020	CHE690 - Graduate Independent Study (Novak)
Spring 2020	CHE685 - Advanced Organic Chemistry (enrollment of 3)

	BCM460 - Undergraduate Research in Biochemistry (Alexandra Olanescu) CHE450 - Undergraduate Research in Chemistry (David Coreno, Yiqui "Ray" Lei, Zachary Spada) Guest Lecture – BIO400/600 (Pharmaceuticals and Self) "Ghrelin and Ghrelin O- acyltransferase"
Fall 2019	CHE685 - Organic Mechanisms (enrollment of 10) BCM460 - Undergraduate Research in Biochemistry (Jackson Calhoun, Alexandra Olanescu) CHE450 - Undergraduate Research in Chemistry (David Coreno, Yiqui "Ray" Lei)
Spring 2019	CHE685 - Organic Mechanisms (enrollment of 5) BCM 476- Biochemistry II (enrollment of 28) BCM460 - Undergraduate Research in Biochemistry (Rachel Lange, Nathan Rowell) CHE450 - Undergraduate Research in Chemistry (David Coreno, Yiqui "Ray" Lei, Rebecca Walker) CHE690 - Graduate Independent Study (Pierce)
Fall 2018	CHE450 - Undergraduate Research in Chemistry (Alexandra Olanescu, David Coreno, Yiqui "Ray" Lei, Melissa Navarro, Rebecca Walker) CHE690 - Graduate Independent Study (Pierce)
Summer 2018	CHE690 - Graduate Independent Study (Pierce)
Spring 2018	CHE414/614 - Introduction to Medicinal Chemistry (enrollment of 27 undergraduate / 19 graduate) BCM460 - Undergraduate Research in Biochemistry (Michael Aiduk) CHE450 - Undergraduate Research in Chemistry (David Coreno, Melissa Navarro) CHE690 - Graduate Independent Study (Moose)
Fall 2017	CHE275 - Organic Chemistry 1 (enrollment of 181) CAS101 - First Year Forum (enrollment of 16) BCM460 - Undergraduate Research in Biochemistry (Michael Aiduk) CHE690 - Graduate Independent Study (Moose)
Summer 2017	CHE690 - Graduate Independent Study (Moose)
Spring 2017	CHE414/614 - Introduction to Medicinal Chemistry (enrollment of 21 undergraduate / 18 graduate) BCM460 - Undergraduate Research in Biochemistry (Naomi Rivera-Robles, Mohammad Ashkar, Michael Aiduk) CHE690 - Graduate Independent Study (Ashok, Davis)
Fall 2016	CHE275 - Organic Chemistry 1 (enrollment of 166) CHE799 - Seminar in General Chemistry (enrollment of 33) CAS101 - First Year Forum (enrollment of 11) BCM460 - Undergraduate Research in Biochemistry (Naomi Rivera-Robles) CHE690 - Graduate Independent Study (Ashok, Davis)
Summer 2016	CHE690 - Graduate Independent Study (Ashok, Davis) CHE450 - Undergraduate Research in Chemistry (Natasha Tcheki-Jamgotchian)
Spring 2016	CHE600 - Chemistry and Biology of Posttranslational Modification (enrollment of 4) BCM460 - Undergraduate Research in Biochemistry (Anthony Schramm, Mark Rodriguez) BCM499 - Undergraduate Honors Capstone Research (Anthony Schramm) CHE690 - Graduate Independent Study (Campana)

Fall 2015	CHE275 - Organic Chemistry I (enrollment of 170) CHE690 - Graduate Independent Study (Campana)
Summer 2015 Spring 2015	CHE690 - Graduate Independent Study (Campana) CHE685 - Organic Mechanisms (enrollment of 6) BCM460 - Undergraduate Research in Biochemistry (Leslie Patton, Anthony Schramm) BIO460 - Undergraduate Research in Biology (Paige Armas) BCM499 - Undergraduate Honors Capstone Research (Leslie Patton) CHE690 - Graduate Independent Study (Cleverdon)
Fall 2014	CHE275 - Organic Chemistry I (enrollment of 193) BIO460 - Undergraduate Research in Biology (Paige Armas) CHE450 - Undergraduate Research in Chemistry (Amanda Lieu) CHE690 - Graduate Independent Study (Cleverdon)
Summer 2014 Spring 2014	CHE690 - Graduate Independent Study (Cleverdon) CHE450 - Undergraduate Research in Chemistry (Danielle Lindgren) CHE690 - Graduate Independent Study (McGovern)
Fall 2013	CHE275 - Organic Chemistry I (enrollment of 183) CHE690 - Graduate Independent Study (McGovern) Guest Lecture - CHE427/627 "Introduction to Posttranslational Modification" Guest Lecture - CHE678 "Enzyme Regulation"
Summer 2013 Spring 2013	CHE690 - Graduate Independent Study (McGovern) BCM460 - Undergraduate Research in Biochemistry (Edward Prybolsky) CHE450 - Undergraduate Research in Chemistry (Danielle Lindgren) CHE690 - Graduate Independent Study (Blanden, Gangopadhyay)
Fall 2012	CHE675 - Advanced Organic Chemistry (enrollment of 11) BIO575 / BCM600 - Biochemistry (1 of 3 Co-instructors; enrollment of 84) BCM460 - Undergraduate Research in Biochemistry (Susan Zhang, Edward Prybolsky) CHE690 - Graduate Independent Study (Blanden, Gangopadhyay, Loftus) Guest Lecture - CHE427/627 "Introduction to Posttranslational Modification" Guest Lecture - CHE600 "Enzyme Kinetics"
Summer 2012 Spring 2012	CHE690 - Graduate Independent Study (Blanden, Gangopadhyay, Loftus) CHE685 - Organic Mechanisms (enrollment of 9) CHE450 - Undergraduate Research in Chemistry (Edward Prybolsky) CHE690 - Graduate Independent Study (Darling, Flynn)
Fall 2011	CHE675 - Advanced Organic Chemistry (enrollment of 14) BCM460 - Undergraduate Research in Biochemistry (Susan Zhang, Edward Prybolsky) CHE690 - Graduate Independent Study (Darling, Flynn) Guest Lecture - CHE427/627 "Introduction to Posttranslational Modification"
Summer 2011 Spring 2011	CHE690 - Graduate Independent Study (Darling, Flynn) CHE685 - Organic Mechanisms (enrollment of 9) BCM460 - Undergraduate Research in Biochemistry (Susan Zhang, Edward Prybolsky)
Fall 2010	CHE600 - Chemistry and Biology of Posttranslational Modification (enrollment of 11) Guest Lecture - CHE427/627 "Introduction to Posttranslational Modification"

**Training and Advising***Graduate Students (Ph. D.)*

Fall 2020 - present	Amber Ford (University Fellow)
Fall 2019 - present	Sadie Novak
Fall 2017 - present	Mariah Pierce
Fall 2016 - present	Jacob Moose
Fall 2015 – Summer 2020	Sudhat Ashok <i>Graduated with Ph. D. in Chemistry, July 2020; subsequent position, medical school, SUNY-Buffalo</i>
Fall 2015 - present	Tasha Davis (GAANN Fellow)
Fall 2014 - Summer 2020	Maria Campana (STEM fellow, (All-University Doctoral Prize) <i>Graduated with Ph. D. in Chemistry, July 2020; subsequent position, Postdoctoral fellow, Fantauzzo laboratory, University of Colorado Anschutz Medical Campus</i>
Fall 2013 - Summer 2018	Elizabeth Cleverdon <i>Graduated with Ph. D. in Chemistry, July 2018; subsequent position, Postdoctoral fellow, Ogden laboratory, St Jude Children's Research Hospital</i>
Fall 2012 - Summer 2017	Kayleigh McGovern (GAANN Fellow) <i>Graduated with Ph. D. in Chemistry, August 2017; subsequent position, Postdoctoral fellow, Baird laboratory, University of the Sciences</i>
Fall 2012 - Spring 2013	Rachel Meredith (IGERT Fellow, joint with Prof. Martin Forstner, SU Physics)
Fall 2011 - Summer 2018	Melanie Blanden (STEM Fellow, GAANN Fellow) <i>Graduated with Ph. D. in Chemistry, August 2018; subsequent position, Assistant Professor, Department of Chemistry and Biochemistry, Utica College</i>
Fall 2011 - Fall 2016	Soumyashree Gangopadhyay (All-University Doctoral Prize) <i>Graduated with Ph. D. in Chemistry, December 2016; subsequent position, Postdoctoral fellow, Choudhary laboratory, Broad Institute/Harvard Medical School</i>
Fall 2010 - Summer 2015	Joseph Darling (NSF Predoctoral Fellow, All-University Doctoral Prize) <i>Graduated with Ph.D. in Chemistry, August 2015; subsequent position: Postdoctoral fellow, Subramaniam laboratory, National Institutes of Health</i>
Fall 2010 - Summer 2015	Susan Flynn <i>Graduated with Ph.D. in Chemistry, August 2015; subsequent position, Research Educator for Biomedical Chemistry, Freshman Research Immersion program, SUNY-Binghamton</i>
Fall 2010 - Spring 2012	Robert Wilson (joint with Prof. Daniel Clark)

*Graduate Students (M. S.)*

Fall 2011 - Summer 2013	Rosemary Loftus (GAANN Fellow) <i>Graduated with M.S. in Chemistry, June 2013; subsequent position, dental school, Virginia Commonwealth University</i>
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*Undergraduate Students (Syracuse University)*

Spring 2020	Zachary Spada
Summer 2019 - Spring 2021	Jackson Calhoun (Renee Crown Honors student, graduated with Honors and Distinction in Biochemistry) <i>Subsequent position: Doctoral program in Medicinal Chemistry, University of Connecticut, Storrs, CT</i>
Fall 2018 - Spring 2020	Yiqui "Ray" Lei <i>Subsequent position: Doctoral program in Chemistry, University of Pennsylvania, Philadelphia, PA</i>
Fall 2018 - Spring 2019	Rebecca Walker <i>Subsequent position: Doctoral program in Clinical Psychology, William James College, Newton, MA</i>
Spring 2018 - Spring 2020	David Coreno <i>Subsequent position: Research technician, Regeneron, Tarrytown, NY</i>
Spring 2018 - Spring 2019	Melissa Navarro

Spring 2018 - Spring 2021	Alexandra Olanescu (SUSTAIN STEM Scholar)
Spring 2018 - Fall 2018	Til Baniya (SUSTAIN STEM Scholar)
Fall 2016 - Summer 2018	Michael Aiduk (Renee Crown Honors student, SU Scholar, 2018 ACC-MOM presenter) <i>Subsequent positions: Research Assistant, Cowan laboratory, Harvard Stem Cell Institute, Cambridge, MA; MD-PhD program, Duke University School of Medicine</i>
Fall 2016 - Fall 2017	Mohammad Ashkar <i>Subsequent position: Medical school, College of Osteopathic Medicine, New York Institute of Technology</i>
Spring 2016 - Summer 2016	Natasha Tcheki-Jamgotchian
Spring 2016 - Spring 2017	Naomi Rivera-Robles (Renee Crown Honors student, American Diabetes Association Undergraduate Minority Undergraduate Internship Award) <i>Subsequent position: Laboratory technician, Raina laboratory, Dept. of Biology, Syracuse University</i>
Spring 2016	Lauren Hannah <i>Subsequent position: Undergraduate researcher, Welch research group, Dept. of Biology, Syracuse University</i>
Summer 2014 - Fall 2015	Paige Armas <i>Subsequent position: Pharmacy school, Northeastern University</i>
Spring 2014 - Spring 2016	Anthony Schramm (Renee Crown Honors student, 2016 ACC-MOM presenter, graduated with Honors and Distinction in Biochemistry) <i>Subsequent position: Medical school, Stony Brook School of Medicine</i>
Fall 2013 - Spring 2015	Amanda Lieu <i>Subsequent position: Undergraduate researcher, Totah research group, Dept. of Chemistry, Syracuse University</i>
Fall 2013 - Spring 2015	Leslie Patton (Renee Crown Honors student, graduated with Honors and Distinction in Biochemistry, Phi Beta Kappa) <i>Subsequent position: Graduate school, Dept. of Biochemistry, Texas A&amp;M University</i>
Spring 2013 - Spring 2014	Danielle Lindgren <i>Subsequent position: Masters degree program, FNSSI, Syracuse University</i>
Fall 2010 - Spring 2013	Susan Zhang (Renee Crown Honors student, graduated with Honors and Distinction in Biochemistry) <i>Subsequent position: Laboratory technician, Dept. of Microbiology, New York University Langone Medical Center</i>
Fall 2010 - Spring 2013	Edward Prybolsky (Renee Crown Honors student, graduated with Honors and Distinction in Biochemistry) <i>Subsequent position: Graduate school, Dept. of Chemistry, University of Chicago</i>
<i>Undergraduate Students (REU and other summer programs)</i>	
June 2021 - August 2021	Daneira Gomez-Sotomayor (REU, University of Puerto Rico)
	Vicky Yang (REU, Colgate University)
June 2019 - August 2019	Yasandra Morales-Rodriguez (REU, University of Puerto Rico)
June 2018 - August 2018	Najae Escoffery (REU, St. Francis College)
	Meaghan Burrows (REU, LeMoyne College)
June 2017 - August 2017	Carlos Iñiguez (REU, University of Houston)
June 2015 - August 2015	Casey Cabrinha (REU, St. Lawrence University) <i>Subsequent position: Medical school, Jacobs School of Medicine and Biomedical Sciences, SUNY University at Buffalo</i>
June 2014 - August 2014	Brea Hampton (REU, High Point University) <i>Subsequent position: Graduate school, Biological and Biomedical Sciences program, UNC Chapel Hill</i>
	Ariana Garagozzo (REU and FPWR Young Investigator, Dickinson College) <i>Subsequent position: Graduate school, Department of Psychology, Roosevelt University</i>

June 2013 - August 2013	Rebecca D'Amico (REU, SUNY-Plattsburgh) <i>Subsequent position: Graduate school, Biochemistry and Molecular Biology Program, Penn State University</i>
June 2012 - August 2012	Kevin Siegenthaler (REU, SUNY-Geneseo) <i>Subsequent position: Graduate school, Biochemistry, Molecular and Cell Biology Program, Cornell University</i>
June 2011 - Aug. 2011	Erica Losito (REU, Hamilton College) <i>Subsequent position: Graduate school, Program in Molecular Biophysics, Johns Hopkins University</i>

## Service

<i>Editorial board member</i>	Chemical Biology, <i>Scientific Reports</i> (2016-present)
<i>Service as peer reviewer</i> (Repeat reviewer for <i>ChemBioChem</i> , <i>ACS Chemical Biology</i> , <i>Biochemistry</i> , <i>Bioconjugate Chemistry</i> , <i>PLoS One</i> , <i>Bioorganic and Medicinal Chemistry Letters</i> )	Board of reviewers, <i>Journal of Pediatric Biochemistry</i> Ad hoc reviewer, <i>ACS Chemical Biology</i> Ad hoc reviewer, <i>ACS Sustainable Chemistry &amp; Engineering</i> Ad hoc reviewer, <i>Amino Acids</i> Ad hoc reviewer, <i>BBA- Molecular and Cell Biology of Lipids</i> Ad hoc reviewer, <i>Biochemical Journal</i> Ad hoc reviewer, <i>Biochemistry</i> Ad hoc reviewer, <i>Bioconjugate Chemistry</i> Ad hoc reviewer, <i>Bioorganic and Medicinal Chemistry</i> Ad hoc reviewer, <i>Bioorganic and Medicinal Chemistry Letters</i> Ad hoc reviewer, <i>Bioorganic Chemistry</i> Ad hoc reviewer, <i>ChemBioChem</i> Ad hoc reviewer, <i>Critical Reviews In Biochemistry &amp; Molecular Biology</i> Ad hoc reviewer, <i>Endocrine</i> Ad hoc reviewer, <i>Journal of Biological Chemistry</i> Ad hoc reviewer, <i>Journal of Chemical Information and Modeling</i> Ad hoc reviewer, <i>Journal of Computer Aided Molecular Design</i> Ad hoc reviewer, <i>Journal of Molecular Biology</i> Ad hoc reviewer, <i>Journal of Physiology and Pharmacology</i> Ad hoc reviewer, <i>Molecular Metabolism</i> Ad hoc reviewer, <i>Nature Chemistry</i> Ad hoc reviewer, <i>Nature Communications</i> Ad hoc reviewer, <i>New Journal of Chemistry</i> Ad hoc reviewer, <i>Open Biology</i> Ad hoc reviewer, <i>PloS One</i> Ad hoc reviewer, <i>RSC Medicinal Chemistry</i> Ad hoc reviewer, <i>Scientific Reports</i> Ad hoc reviewer, <i>SLAS Discovery</i> Ad hoc reviewer, <i>Tetrahedron Letters</i>
<i>Grant reviewer</i> (Repeat grant reviewer for <i>the National Science Foundation and FPWR</i> )	Grant reviewer, Biotechnology and Biological Sciences Research Council (UK) Grant reviewer, CUSE grant program, Syracuse University Grant reviewer, Foundation for Prader-Willi Research (FPWR) Grant reviewer, Research Corporation for Scientific Advancement Grant reviewer, Medical Research Council Grant reviewer, National Science Foundation Grant reviewer, National Science Centre (Poland) Graduate fellowship reviewer, National Science Foundation NIH MSFB study section (Early Career Reviewer), Feb 2014
<i>Professional offices</i> 2016 - 2018	Nominating Committee, Division of Biological Chemistry, American Chemical Society

*Meeting organizer / judge*

July 2022 ( <i>upcoming</i> )	Chair, Protein Lipidation: Enzymology, Signaling, and Therapeutics FASEB Summer Research Conference
June 2021 ( <i>upcoming</i> )	Chair, Protein Lipidation: Enzymology, Signaling, and Therapeutics FASEB Summer Research Conference
July 2019	Vice Chair, Protein Lipidation: Enzymology, Signaling, and Therapeutics FASEB Summer Research Conference
July 2019	Poster judge, Protein Lipidation: Enzymology, Signaling, and Therapeutics FASEB Summer Research Conference
September 2018	Poster judge, Acylation of Intracellular and Secreted Proteins: Mechanisms and Functional Outcomes, Biochemical Society Meeting, Brighton, UK
July 2018	Poster judge, Enzymes, Coenzymes, and Metabolic Pathways Gordon Research Conference, Waterville Valley, NH
August 2017	Presider, Early Career Investigators in Biological Chemistry, 254 <sup>th</sup> American Chemical Society National Meeting, Washington, DC
July 2017	Poster judge, Protein Lipidation: Enzymology, Signaling, and Therapeutics FASEB Summer Research Conference
March 2016	Presider, Young Investigators in Biological Chemistry, 251 <sup>st</sup> American Chemical Society National Meeting, San Diego, CA
July 2015	Session chair, 2015 FASEB Science Research Conference: Protein Lipidation, Signaling, and Membrane Domains
April 2013	Session chair and program committee, 39 <sup>th</sup> Annual Northeast Bioengineering Conference (NEBEC)

*Community and Outreach*

March 2019	Special awards judge, Central New York Science and Engineering Fair (CNYSEF)
December 2018	Faculty advisor/expert for team NXTG3N, FIRST Lego Robotics Competition
June 2015	STEM Faculty panel speaker, Louis Stokes Alliance for Minority Participation (LSAMP), Syracuse University
April 2015	Hosted field hockey transfer recruit interested in biochemistry major for lab and facilities tour
March 2015	Hosted Chemistry Department table for Spring Reception for Accepted Students, Syracuse University
March 2015	Poster judge, Central New York Science and Engineering Fair (CNYSEF)
March 2014	Poster judge, Central New York Science and Engineering Fair (CNYSEF)
March 2014	Panel speaker on “The Academic job Search”, First Generation Faculty Program Syracuse University
December 2013	Poster judge, Syracuse Academy of the Science Science Fair (middle school and high school)
October/November 2013	Syracuse University Project Advance (SUPA) Chemistry Seminar Speaker
September 2013	Panel speaker, First Generation PhD Program, Syracuse University September 2013
August 2013	Hosted Dr. Phil Pivawer and Dr. Terry Morrill (SU Chemistry alumni) on tour of the Center for Science and Technology and the Life Science Complex
May 2012	Poster judge, 2nd Life Sciences Symposium Poster Session, Syracuse University
May 2012	Panel speaker on journal publishing, Future Professoriate Program Conference and Retreat
March 2012	Discussion leader, First Generation Faculty Program Luncheon, Syracuse University
March 2012	Event Supervisor, New York State Science Olympiad Regional Competition
January 2012	Panel speaker, First Generation Faculty Program, Syracuse University
December 2010	Co-hosted Chemistry department open house for undergraduate students from SUNY-Brockport

*Department, College and University*



*College committees and service*

Spring 2021	Future Professors Fellowship Program Selection Committee
Spring 2021	SOURCE / Honors Undergraduate Research Grant Reviewer
Summer 2020	Women in Science and Engineering - Future Professional Program (WiSE-FPP) portfolio critique ( <i>offered constructive criticism to two female chemistry PhD students based on their professional portfolios</i> )
Spring 2020	Seinfeld Scholar Review Committee
Spring 2020	Norma Slepecky Research Prize Review Committee
Summer 2019	Women in Science and Engineering - Future Professional Program (WiSE-FPP) portfolio critique ( <i>offered constructive criticism to two female chemistry PhD students based on their professional portfolios</i> )
Spring 2019-present	BioInspired Syracuse Executive Committee
Spring 2019	Lunch speaker, First-Gen PhD Program
Spring 2019	Seinfeld Scholar Review Committee
Fall 2018-present	Syracuse Biomaterials Institute Executive Committee
Fall 2018	Meredith Symposium Selection and Judging Committee
Spring 2018	Honors Capstone Prize Selection Committee (Sciences)
Spring 2018	Panel Member, Gates Cambridge Scholarship Mock Interview for Soleil Young
Fall 2017	Meredith Symposium Selection and Judging Committee
Summer 2017	Women in Science and Engineering - Future Professional Program (WiSE-FPP) portfolio critique ( <i>offered constructive criticism to three female chemistry PhD students based on their professional portfolios</i> )
Spring 2017	Honors Capstone Prize Selection Committee (Sciences)
Fall 2016	Meredith Symposium Selection Panel
Summer 2016	Women in Science and Engineering - Future Professional Program (WiSE-FPP) portfolio critique ( <i>offered constructive criticism to two female chemistry PhD students based on their professional portfolios</i> )
Spring 2016	Norma Slepecky Research Prize Review Committee
Spring 2016	Ornstein Scholarship Review Committee
2015-present	Faculty associate of Syracuse Learning Community, focusing on STEM and GenOne learning communities
Summer 2015	Women in Science and Engineering - Future Professional Program (WiSE-FPP) portfolio critique ( <i>offered constructive criticism to two female chemistry PhD students based on their professional portfolios</i> )
Summer 2015	Summer Advisor for Incoming First-Year Students
Spring 2015	Panel Member, Gates Cambridge Scholarship Mock Interview for Natalie Rebyevev
Summer 2014	Summer Advisor for Incoming First-Year Students
2011-2012	Biology Department Faculty Search Committee ( <i>external member</i> )

*Departmental committees*

2019 - 2020	Faculty Search Committee (Medicinal Chemistry)
2018 - present	Faculty Mentoring / P&T Committee for Rachel Steinhardt
2018 - present	Awards & Recognition, <i>Chair</i>
2017 - 2018	Faculty Search Committee (Organic)
2017 - 2018	Faculty Mentoring / P&T Committee for Tara Kahan
2015 - 2018	Curriculum Committee, <i>Chair</i>
2015 - 2016	Faculty Search Committee (Organic)
2014 - present	Biochemistry Advising
2014 - present	Biochemistry Steering Committee
2014 - present	Graduate Regulations Revision Committee
2012 - 2014	Graduate Student Advancement Committee
2013 - 2014	Faculty Search Committee (Chemistry-Biology joint search)
2012 - 2013	Infrastructure Development Committee
2011 - 2012	Web Page Committee
2010 - 2012	Forensic Equipment Committee

2010 - 2012	Graduate Student Recruitment Committee
<i>Departmental speakers hosted</i>	
Spring 2021	Amanda Barner (Dept. of Medicinal Chemistry, University of Michigan)
Fall 2020	Jeremy Lohman (Dept. of Biochemistry, Purdue University)
Spring 2020	Meghan Blackledge (Dept. of Chemistry, High Point University)
Fall 2019	Erika Taylor (Dept. of Chemistry, Wesleyan University)
Spring 2019	Vahe Bandarian (Dept. of Chemistry, University of Utah)
Fall 2018	Joseph Piccirilli (Dept. of Chemistry, University of Chicago)
Fall 2017	John Tomsho (Dept. of Chemistry and Biochemistry, University of the Sciences)
Spring 2017	Philip Bevilacqua (Dept. of Chemistry, Penn State)
Fall 2015	Katherine Hicks (Dept. of Chemistry, SUNY-Cortland)
Fall 2015	Marion Emmert (Dept. of Chemistry and Biochemistry, Worcester Polytechnic Institute)
Spring 2015	Nathan West (Dept. of Chemistry, University of the Sciences)
Fall 2014	Samuel Pazicni (Dept. of Chemistry, University of New Hampshire)
Fall 2014	Kent Kirschenbaum (Dept. of Chemistry, New York University)
Fall 2013	Mark Distefano (Dept. of Chemistry, University of Minnesota)
Fall 2013	Andrew Murkin (Dept. of Chemistry, University of Buffalo)
Spring 2013	Caren Meyers (Dept. of Pharmacology and Molecular Sciences, Johns Hopkins University)
Fall 2012	Mary Kay Pflum (Dept. of Chemistry, Wayne State University)
Fall 2011	Richard Gibbs (Dept. of Medicinal Chemistry and Molecular Pharmacology, Purdue University)
Fall 2011	Marcy Hernick (Dept. of Biochemistry, Virginia Tech)
Fall 2011	Heather Coleman (Dept. of Biology, Syracuse University)
Spring 2011	Subha Das (Dept. of Chemistry, Carnegie Mellon University)

*Graduate student committees**Chemistry department*

2019 - present	Rowan Meador (Advisor: Chisholm)
2018 - present	Amber Liles (Advisor: Doyle)
2018 - present	Robert Anderson (Advisor: Chisholm)
2017 - 2021	Ian Tinsley (Advisor: Doyle)
2017 - 2021	Jennifer Yoon (Advisor: Makhlynets)
2016 - 2017	Shafi Ali (Advisor: Totah)
2016 - present	Yuchen Jin (Advisor: Luk), <i>Chair</i>
2016 - present	Katelyn Leets (Advisor: Chisholm)
2016 - 2017	Elaina Zito (Advisor: Doyle), <i>Chair</i>
2015 - 2016	Alexandra Remillard (Advisor: Castañeda), <i>Chair</i>
2014 - 2018	Michelle Takacs (Advisor: Korendovych)
2014 - 2017	Tiffany Greenfield (Advisor: Doyle), <i>Chair</i>
2013 - 2017	Tiffany Dunston (Advisor: Korendovych), <i>Chair</i>
2012 - 2016	Yan Nie (Advisor: Doyle)
2011 - 2015	Robert Wilson (Advisor: Clark)
2011 - 2012	Sumedh Phatak (Advisor: Sponsler)
2011 - 2014	Andrew Banikywa (Advisor: Braiman)
2010 - 2016	Jigisha Sheth (Advisor: Chisholm)
2010 - present	Chris Russo (Advisor: Chisholm)
2010 - 2014	Brian Huta (Advisor: Doyle)
2010 - 2012	Yi Luo (Advisor: Totah)

*Other departments*

2021 - present	Peter Raymond-Smiedy (Dept. of Biology, Syracuse University, Advisor: Castañeda)
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2013 - 2015 Stephen Shinsky (Dept. of Biochemistry & Molecular Biology, SUNY-Upstate  
Medical University, Advisor: Cosgrove)  
2010 - 2013 Ryan Tappel (Dept. of Chemistry, SUNY-ESF, Advisor: Nomura)

*Doctoral and masters defense committees**Chemistry department*

Summer 2021 Jennifer Yoon (Advisor: Makhlynets)  
Tongyin Zheng (Advisor: Castañeda)  
Spring 2021 Ian Tinsley (Advisor: Doyle)  
Summer 2020 Maria Campaña (Advisor: Houglan)  
Sudhat Ashok (Advisor: Houglan)  
Spring 2020 Nivedita Mahajani (Advisor: Chisholm)  
Summer 2019 Richard McDonough (Advisor: Chaiken)  
Spring 2019 Tamie Suzuki (Advisor: Chisholm)  
Summer 2018 Michelle Takacs (Advisor: Korendovych)  
Elizabeth Cleverdon (Advisor: Houglan)  
Melanie Blanden (Advisor: Houglan)  
Spring 2018 Alexandre Dixon (Advisor: Chisholm)  
Fall 2017 Elaina Zito (Masters defense, Advisor: Doyle), *Chair*  
Summer 2017 Tiffany Greenfield (Advisor: Doyle)  
Kayleigh McGovern-Gooch (Advisor: Houglan)  
Spring 2017 Tiffany Dunston (Advisor: Korendovych)  
Fall 2016 Soumyashree Gangopadhyay (Advisor: Houglan)  
Daniel Wallach (Advisor: Chisholm)  
Summer 2016 Brian Duffy (Advisor: Chisholm)  
Spring 2016 Jigisha Sheth (Advisor: Chisholm)  
Yan Nie (Advisor: Doyle)  
Fall 2015 Caitlin Miller (Advisor: Borer)  
Summer 2015 Joseph Darling (Advisor: Houglan)  
Susan Flynn (Advisor: Houglan)  
Robert Wilson (Advisor: Clark)  
Lauren Kaminsky (Advisor: Clark)  
Ijaz Ahmed (Advisor: Clark)  
Summer 2014 Amanda Lashua (Advisors: Sponsler and Hudson)  
Andrew Banikywa (Advisor: Braiman)  
Brian Huta (Advisor: Doyle)  
Summer 2013 Rosemary Loftus (Masters defense, Advisor: Houglan)  
Fall 2012 Yi Luo (Masters thesis, Advisor: Totah)  
Summer 2012 Debbie Valentin (Advisor: Doyle)  
Fall 2011 Debjyoti Bandyopadhyay (Advisor: Luk)  
Sumedh Patak (Masters thesis, Advisor: Sponsler)  
Spring 2011 David Dixson (Advisor: Doyle)  
Wei Ouyang (Advisor: Borer)

*Other departments*

Spring 2021 Nandhini Rajagopal (Dept. of Biomedical Engineering, Advisor: Nangia), *Chair*  
Fall 2020 Thomas Anneberg (Dept. of Biology, Advisor: Segraves), *Chair*  
Summer 2020 Holly Jones (Masters defense, Dept. of Biology, Advisor: C. Castañeda)  
Shengpei Wang (Dept. of Biology, Advisor: Althoff), *Chair*  
Rose Al-Saadi (Masters defense, Dept. of Biology, Advisor: S. Hall), *Chair*  
Spring 2020 Flaviyan Jerome Irudayanathan (Dept. of Biomedical Engineering, Advisor:  
Nangia), *Chair*  
Fall 2019 Emma Whittington (Dept. of Biology, Advisor: Dorus), *Chair*  
Summer 2019 Alexandra Nichitean (Masters defense, Dept. of Biology, Advisor: S. Hall), *Chair*  
Spring 2019 Wei Wang (Dept. of Biology, Advisor: Korol), *Chair*  
Spring 2019 Nycole Maza (Dept. of Ophthalmology, SUNY-Upstate Medical University,  
Advisor: Calvert), *External Examiner*

Fall 2018	Kelsey Martinez (Dept. of Biology, Advisor: Fridley), <i>Chair</i>
Spring 2018	Lisa Nguyen (Masters defense, Dept. of Biomedical Engineering, Advisor: Nangia), <i>Chair</i>
Spring 2018	Yao Xiao (Dept. of Biology, Advisor: Coleman), <i>Chair</i>
Fall 2017	Matthew Allen (Masters defense, Dept. of Biology, Advisor: S. Hewett), <i>Chair</i>
Spring 2017	Benjamin Phillippi (Masters defense, Dept. of Biomedical Engineering, Advisor: Henderson), <i>Chair</i>
Spring 2017	Erica Layow (Dept. of Science Teaching, Advisor: Dotger)
Spring 2017	Adam Blanden (Dept. of Biochemistry & Molecular Biology, SUNY-Upstate Medical University, Advisor: Loh), <i>External Examiner</i>
Fall 2016	Brian Gress (Dept. of Biology, Advisor: Pitnick), <i>Chair</i>
Summer 2016	Nan Wang (Masters defense, Dept. of Biomedical Engineering, Advisor: Nangia), <i>Chair</i>
Spring 2016	Elizabeth Droge-Young (Dept. of Biology, Advisor: Pitnick), <i>Chair</i>
Fall 2015	Twinkle Chowdhury (Masters defense, Dept. of Biology, Advisor: S. Hewett), <i>Chair</i>
Summer 2014	Huimei Zheng (Dept. of Biochemistry & Molecular Biology, SUNY-Upstate Medical University, Advisor: Loh), <i>External Examiner</i>
Spring 2013	Ryan Tappel (Dept. of Chemistry, Dept. of Chemistry, SUNY-ESF, Advisor: Nomura)
Fall 2012	Robin Jones (Dept. of Biology, Advisor: Pepling), <i>Chair</i>
	Venkatasubramanian Dharmarajan (Dept. of Biology, Advisor: Cosgrove), <i>Chair</i>
Summer 2012	Julie Caruano (Dept. of Biology, Advisor: Raina), <i>Chair</i>

*Honors / Capstone thesis reader for Syracuse University undergraduate students*

Spring 2021	Lauren Chamberlin, <i>Nrl Activation Domain Regulates DNA Binding Specificity</i> (Capstone thesis, Biology, Advisor: Barry E. Knox, SUNY Upstate Medical University)
Spring 2020	Rachel Lange, <i>T-bet+ Plasmablast, Memory, and Bone Marrow Cells Produce Qualitatively Different IgM During Intracellular Bacterial Infection</i> (Capstone thesis, Biochemistry, Advisor: G. Winslow, SUNY Upstate Medical University)
Spring 2019	Yongna Lei, <i>Effects of ALS-Linked Mutations on the Liquid-Liquid Phase Separation Behavior of Ubiquilin-2</i> (Capstone thesis, Biochemistry, Advisor: Castañeda)
Spring 2018	Ismael Gonzalez, <i>Comparing the Binding Interactions of UBXD8 UBA with Ubiquitin and PolyUbiquitin Chains</i> (Capstone thesis, Biochemistry, Advisor: Castañeda)
Spring 2018	Esther Park, <i>Effects of UBA Mutations on Ubiquilin-2 Structure and Phase Separation Behavior</i> (Capstone thesis, Biochemistry, Advisor: Castañeda)
Spring 2015	Kris Murray, <i>Overexpression and gene profiling of asparagine synthetase in hybrid poplar</i> (Capstone thesis, Biochemistry, Advisor: Coleman)
Spring 2014	Kelsey Monteith, <i>The purification and characterization of the drosophila melanogaster trithorax protein and its implications in the studies of the SET domain family of proteins</i> (Honors thesis, Biochemistry, Advisor: Cosgrove)
Spring 2013	Vivian Yaci Yu, <i>Expression and purification of recombinant saposin B for coenzyme Q10 purification</i> (Capstone thesis, Biochemistry, Advisor: Doyle)
Spring 2013	Krystyna Zhezherya, <i>Design of metalloproteins for catalysis and bioimaging</i> (Capstone thesis, Biochemistry, Advisor: Korendovych)
Spring 2012	Eleanor Robertson, <i>Metal-citrate transport in the gram-positive bacterium kineococcus radiotolerans</i> (Capstone thesis, Biochemistry, Advisor: Doyle)

**Presentations**

*Public seminars and interviews*

December 2020	Panel speaker, “ <i>The CRISPR Revolution: How Genome Editing is Transforming the Life Sciences Webinar</i> ”
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- Syracuse University Alumni Academy  
[Link to presentation video](#)
- November 2020 Panel speaker, “*BioInspired Research: How does COVID-19 work and how can we stop it?*”  
BioInspired Syracuse  
[Link to presentation video](#)
- September 2017 Radio interview, “*Understanding the ‘hunger hormone’ ghrelin*”  
Upstate Medical University Healthlink On Air  
[Link to radio interview](#)
- Invited seminars*
- December 2021 (upcoming) “Why did the octanoyl group cross the membrane? The structural and biochemical foundations for ghrelin octanoylation by ghrelin O-acyltransferase (GOAT)”  
Chemical Biology of Lipids and Protein-Lipid Modifications, Pacificchem 2021 Honolulu, HI
- February 2021 “Hungry like the GOAT: The unique biochemistry and biology of ghrelin”  
Department of Pharmaceutical Sciences  
University of Connecticut
- September 2020 “Hungry like the GOAT: The unique biochemistry and biology of ghrelin”  
Department of Chemistry  
Penn State University
- April 2020 (postponed – COVID-19 pandemic) “Hungry like the GOAT: The unique biochemistry and biology of ghrelin”  
Department of Biochemistry and Molecular Pharmacology  
University of Massachusetts - Amherst
- February 2020 “Hungry like the GOAT: The unique biochemistry and biology of ghrelin”  
Department of Biochemistry & Molecular Biology  
SUNY Upstate Medical University
- January 2020 “Hungry like the GOAT: The unique biochemistry and biology of ghrelin”  
Department of Chemistry and Biochemistry  
Loyola University
- December 2019 “Hungry like the GOAT: The unique biochemistry and biology of ghrelin”  
Department of Chemistry and Biochemistry  
San Diego State University
- November 2019 “Hungry like the GOAT: The unique biochemistry and biology of ghrelin”  
Department of Chemistry  
University of Florida
- July 2019 “Hungry like the GOAT: The unique biochemistry and biology of ghrelin”  
The Protein Lipidation Conference: Enzymology, Signaling, and Therapeutics  
FASEB Summer Research Conference, Olean, NY
- November 2018 “Hungry like the GOAT: The unique biochemistry and biology of ghrelin”  
Department of Biochemistry & Biomedical Sciences  
McMaster University
- November 2018 “Hungry like the GOAT: The unique biochemistry and biology of ghrelin”  
Centre for Research on Biomolecular Interactions  
York University
- November 2018 “Hungry like the GOAT: The unique biochemistry and biology of ghrelin”  
Departments of Biochemistry and Neuroscience  
University of Georgia
- November 2018 “Hungry like the GOAT: The unique biochemistry and biology of ghrelin”

- Sigma Xi Monie A. Fersht Award Symposium  
Georgia Tech
- October 2018 “Ghrelin acylation by ghrelin *O*-acyltransferase: Unique chemistry leading to unique biological function”  
Asa Gray Seminar Series  
Department of Biology, Utica College
- September 2018 “Ghrelin acylation by ghrelin *O*-acyltransferase: Unique protein biochemistry leading to unique biological function”  
Acylation of Intracellular and Secreted Proteins: Mechanisms and Functional Outcomes, Biochemical Society Meeting, Brighton, UK
- July 2018 “Ghrelin acylation by ghrelin *O*-acyltransferase: Unique chemistry leading to unique biological function”  
The Ghrelin Symposium (Satellite meeting for the International Congress of Neuroendocrinology), Toronto, ON, CA
- July 2017 “For some proteins, eight is enough: Understanding and controlling ghrelin octanoylation by ghrelin *O*-acyltransferase”  
FASEB Summer Research Conference on Protein Lipidation: Enzymology, Signaling and Therapeutics, Saxtons River, VT
- February 2017 “Greasing the wheels of protein function: The chemistry and biology of protein lipidation”  
Department of Chemistry and Biochemistry, Clark University
- December 2016 “Greasing the wheels of protein function: The chemistry and biology of protein lipidation”  
Syracuse Biomaterials Institute, Syracuse University
- November 2016 “Greasing the wheels of protein function: The chemistry and biology of protein lipidation”  
Department of Chemistry and Biochemistry, College of Charleston
- October 2016 “Engineering and exploiting multispecific enzymes for bioorthogonal protein labeling”  
Bioorthogonal Chemistry Symposium, 2016 ACS Northeast Regional Meeting  
Binghamton, NY
- September 2016 “Greasing the wheels of protein function: The chemistry and biology of protein lipidation”  
Department of Chemistry, Ithaca College
- July 2016 “Ghrelin acylation by ghrelin *O*-acyltransferase: A potential target to treat hyperphagia in Prader-Willi syndrome”  
9<sup>th</sup> IPWSO Conference, Toronto, Ontario, Canada
- April 2016 “Ghrelin acylation by GOAT: a potential target for controlling glucose homeostasis”  
Taft Seminar Series, East Carolina Diabetes & Obesity Institute (ECDOI)  
East Carolina University
- September 2015 “Chemistry and biology of protein lipidation”  
Department of Chemistry and Biomolecular Sciences, University of Ottawa
- “Chemistry and biology of protein lipidation”  
Department of Chemistry, Syracuse University
- May 2015 “Chemistry and biology of protein lipidation”  
Department of Biochemistry, Case Western University
- April 2015 “Chemistry and biology of protein lipidation”

Department of Molecular Medicine, Cornell University  
“Chemistry and biology of protein lipidation”  
Department of Pharmacology, Johns Hopkins University

March 2015 “Chemistry and biology of protein lipidation”  
Department of Chemistry, Wayne State University  
“Chemistry and biology of protein lipidation”  
Department of Chemistry, University of Michigan  
“Chemistry and biology of protein lipidation”  
Department of Chemistry, SUNY-Buffalo

February 2015 “Chemistry and biology of protein lipidation”  
Department of Chemistry, Purdue University  
“Chemistry and biology of protein lipidation”  
Department of Chemistry, University of Chicago  
“Chemistry and biology of protein lipidation”  
Department of Chemistry and Biochemistry, University of the Sciences  
“Chemistry and biology of protein lipidation”  
Department of Chemistry, Villanova University

January 2015 “Ghrelin acylation by ghrelin *O*-acyltransferase: Substrate selectivity,  
mechanism, and inhibitor development”  
24<sup>th</sup> Enzyme Mechanisms Conference, Galveston, TX

November 2014 “Ghrelin acylation as a target to treat hyperphagia in Prader-Willi syndrome”  
2014 FPWR Research Conference, Garden City, NY

September 2014 “Chemistry and biology of protein lipidation”  
Department of Chemistry, New York University  
“Chemistry and biology of protein lipidation”  
Department of Neuroscience, Carleton University  
“Chemistry and biology of protein lipidation”  
Department of Chemistry, University of New Hampshire

April 2014 “Chemistry and biology of protein lipidation”  
Department of Chemistry, SUNY-Potsdam

March 2014 “Ghrelin acylation by human ghrelin *O*-acyltransferase: Substrate selectivity,  
mechanism, and inhibitor development”  
Chemical Biology of Protein Lipid Modification Symposium  
247th American Chemical Society National Meeting, Dallas, TX

February 2014 “Chemistry and biology of protein lipidation”  
Department of Chemistry, Xavier University of Louisiana  
“Chemistry and biology of protein lipidation”  
Department of Chemistry, Nicholls State University  
“Chemistry and biology of protein lipidation”  
Department of Chemistry, Loyola University New Orleans

October 2013 “Chemistry and biology of protein lipidation”  
Department of Chemistry, Clarkson College

September 2013 “Chemistry and biology of protein lipidation”  
Department of Chemistry, Hamilton College



- July 2013 “Ghrelin acylation by human ghrelin *O*-acyltransferase: Substrate selectivity, mechanism, and inhibitor development”  
FASEB Summer Research Conference on Protein Lipidation, Signaling, and Membrane Domains, Saxtons River, VT
- November 2012 “Chemistry and biology of protein lipidation”  
Natural Sciences Seminar Series  
Department of Chemistry, York College
- April 2012 “Chemistry and biology of protein lipidation”  
Department of Biochemistry and Molecular Biology, SUNY-Upstate Medical University
- “Chemistry and biology of protein lipidation”  
Department of Chemistry, SUNY-College of Environmental Science and Forestry
- March 2011 “The Challenge of Specificity in Post-Translational Modification: Substrate Recognition by Protein Farnesyltransferase”  
Department of Biology, Syracuse University
- “The Challenge of Specificity in Post-Translational Modification: Substrate Recognition by Protein Farnesyltransferase”  
Department of Chemistry, Adelphi University
- July 2010 “The Challenge of Specificity in Post-Translational Modification: Substrate Recognition by Protein Farnesyltransferase”  
SB3 Symposium, Syracuse University
- February 2010 “The Challenge of Specificity in Post-Translational Modification: Substrate Recognition by Protein Farnesyltransferase”  
Department of Chemistry, Syracuse University
- January 2010 “The Challenge of Specificity in Post-Translational Modification: Substrate Recognition by Protein Farnesyltransferase”  
Department of Chemistry and Chemical Biology,  
Indiana University-Purdue University Indianapolis (IUPUI)
- “The Challenge of Specificity in Post-Translational Modification: Substrate Recognition by Protein Farnesyltransferase”  
Department of Chemistry & Biochemistry, Utah State University
- December 2009 “The Challenge of Specificity in Post-Translational Modification: Substrate Recognition by Protein Farnesyltransferase”  
Department of Chemistry & Biochemistry, Worcester Polytechnic Institute
- “The Challenge of Specificity in Post-Translational Modification: Substrate Recognition by Protein Farnesyltransferase”  
Department of Chemistry, Lehigh University
- February 2005 “Investigating Catalysis in the *Tetrahymena* Group I Ribozyme”  
College of Pharmacy, University of Texas at Austin  
Medicinal Chemistry Division Seminar
- Oral presentations*
- March 2020 “Catalyzing chemistry across membranes is hungry work: The structural and biochemical foundations for ghrelin octanoylation by ghrelin *O*-acyltransferase (GOAT)”  
259<sup>th</sup> American Chemical Society National Meeting, Philadelphia, PA (cancelled due to COVID-19 pandemic)
- August 2018 “Ghrelin acylation by ghrelin *O*-acyltransferase: Exploring the biochemistry of a unique posttranslational modification”

- 256<sup>th</sup> American Chemical Society National Meeting, Boston, MA
- August 2017 "Expanding the scope of the prenylated proteome: Forbidden C-terminal sequences can be efficiently prenylated by protein farnesyltransferase"  
254<sup>th</sup> American Chemical Society National Meeting, Washington, DC
- March 2016 "Ghrelin acylation by human ghrelin *O*-acyltransferase: Substrate selectivity, mechanism, and inhibitor development"  
251<sup>st</sup> American Chemical Society National Meeting, San Diego, CA
- May 2013 "Developing Methods for Quantitative In Vivo Studies of Protein Prenylation"  
Upstate Cancer Research Institute Principal Investigator Seminar
- May 2012 "Chemistry and biology of protein lipidation"  
Upstate Cancer Research Institute Principal Investigator Seminar
- October 2008 "Context-dependent Substrate Sequence Recognition by Protein Farnesyltransferase"  
Mechanistic Biochemistry Club, University of Michigan, Ann Arbor, MI
- "Context-dependent Substrate Sequence Recognition by Protein Farnesyltransferase"  
28<sup>th</sup> Midwest Enzyme Chemistry Conference, Chicago, IL
- August 2007 "Defining the Functional Basis for Specificity in Protein Farnesyltransferase"  
Biological Chemistry Retreat, University of Michigan, Kalamazoo, MI
- May 2005 "Functionally Important 2'-Hydroxyl Hydrogen Bond Donors Within RNA Revealed by Atomic Mutation Cycle Analysis"  
Tenth Annual Meeting of the RNA Society, Banff, Alberta, Canada
- June 2004 "Identifying Catalytic Metal Ion Binding Sites Within the Core of the *Tetrahymena* Group I Ribozyme"  
Ninth Annual Meeting of the RNA Society, Madison, WI
- January 2004 "Defining Catalytic Metal Ion Binding Sites in the *Tetrahymena* Group I Ribozyme"  
Chicagoland RNA Club, Chicago, IL
- October 2003 "Defining Catalytic Metal Ion Binding sites in the *Tetrahymena* Group I Ribozyme"  
Rustbelt RNA Meeting, Mt. Sterling, OH
- January 2003 "Elucidating the Contribution of Transition-State Hydrogen Bonding in the *Tetrahymena* Ribozyme"  
Chemistry-Biology Interface Training Grant Integrative Discussion, Chicago, IL
- October 2002 "Identifying Ligands Within the *Tetrahymena* Ribozyme that Bind and Position the Catalytic Metal Ions"  
Molecular Biosciences Retreat, University of Chicago, Delavan, WI
- October 2001 "Building an RNA Active Site from the Inside Out: The Outside"  
Chemistry-Biology Interface Training Grant Annual Symposium, Chicago, IL
- Posters*
- July 2018 "Ghrelin acylation by ghrelin *O*-acyltransferase: Exploring the biochemistry of a unique posttranslational modification"  
Enzymes, Coenzymes, and Metabolic Pathways Gordon Research Conference, Waterville Valley Resort, NH
- July 2017 "Simultaneous analysis of a non-lipidated protein and its lipidated counterpart: Enabling quantitative investigation of protein lipidation's impact on cellular regulation"

- May 2017 FASEB Summer Research Conference on Protein Lipidation: Enzymology, Signaling and Therapeutics, Saxtons River, VT  
“For some proteins, eight is enough: Understanding and controlling ghrelin octanoylation by ghrelin *O*-acyltransferase”  
Chemical Biology Discussion Group Year-End Symposium  
New York Academy of Sciences, New York, NY
- January 2017 “Ghrelin acylation by ghrelin *O*-acyltransferase: Investigation of ghrelin recognition during hormone processing and small molecule inhibitor development”  
25<sup>th</sup> Enzyme Mechanisms Conference, Tampa, FL
- June 2016 “Ghrelin acylation by human ghrelin *O*-acyltransferase: Substrate selectivity, mechanism, and inhibitor development”  
Bioorganic Gordon Research Conference, Proctor Academy, Andover, NH
- December 2014 “Ghrelin acylation by human ghrelin *O*-acyltransferase: A novel target for control of glucose homeostasis”  
Diabetic Kidney Disease: Drug Discovery and Clinical Development Challenges  
New York Academy of Sciences, New York, NY
- July 2014 “Ghrelin acylation by human ghrelin *O*-acyltransferase: Substrate selectivity, mechanism, and inhibitor development”  
Enzymes, Coenzymes, and Metabolic Pathways Gordon Research Conference, Waterville Valley Resort, NH
- January 2013 “Investigation of ghrelin acylation by human ghrelin *O*-acyltransferase”  
23<sup>rd</sup> Enzyme Mechanisms Conference, San Diego, CA
- July 2011 “‘Tunable’ active site interactions engender substrate selectivity in protein farnesyltransferase”  
FASEB Summer Research Conference on Protein Lipidation, Signaling, and Membrane Domains, Saxtons River, VT
- January 2009 “Context-dependent substrate sequence recognition by protein farnesyltransferase”  
21st Enzyme Mechanisms Conference, Tucson, AZ
- April 2008 “Investigating the functional basis for specificity in protein farnesyltransferase”  
ACS National Meeting, New Orleans, LA
- April 2007 “Investigating the functional basis for specificity in protein farnesyltransferase”  
ASBMB National Meeting, Washington, D.C.
- September 2006 “Investigating the functional basis for specificity in protein farnesyltransferase”  
Midwest Enzyme Chemistry Conference, Evanston, IL
- August 2006 “Investigating the functional basis for specificity in protein farnesyltransferase”  
Biological Chemistry Retreat, University of Michigan, Kalamazoo, MI
- June 2004 “Identifying catalytic metal ion binding sites within the core of the *Tetrahymena* group I ribozyme”  
FASEB Summer Research Conference on Nucleic Acid Enzymes, Saxtons River, VT
- August 2002 “Catalytic metal ion binding sites in the *Tetrahymena* group I ribozyme: The search for ligands”  
Ribozymes and RNA Catalysis, Dundee, Scotland
- June 2002 “Identifying ligands within the *Tetrahymena* ribozyme that bind and position the catalytic metal ions”  
Seventh Annual Meeting of the RNA Society

- June 2002, Madison, WI
- October 2001 “Identifying ligands within the *Tetrahymena* ribozyme that bind and position the catalytic metal ions”  
Midwest Enzyme Chemistry Conference, Chicago, IL
- August 2001 “Identifying ligands within the *Tetrahymena* ribozyme that bind and position the catalytic metal ions”  
American Chemical Society National Meeting, Chicago, IL
- October 2000 “The role of individual metal ions within an RNA active site”  
Midwest Enzyme Chemistry Conference, Chicago, IL
- May 2000 “The role of individual metal ions within an RNA active site”  
Fifth Annual Meeting of the RNA Society, Madison, WI

### **Presentations by Houglan Research Group Members**

(undergraduate presenters underlined, graduate student presenters denoted with #)

#### *Oral presentations*

- May 2018 “Towards an understanding of the active site and catalytic mechanism of ghrelin *O*-acyltransferase”  
M. Aiduk  
Renee Crown Honors Capstone Presentation  
Syracuse University
- April 2018 “Towards an understanding of the active site and catalytic mechanism of ghrelin *O*-acyltransferase”  
M. Aiduk  
13<sup>th</sup> Annual ACC Meeting of the Minds (MOM) Conference  
Boston College, Boston, MA
- August 2017 “Ghrelin processing and maturation: Developing a molecular-level framework for hormone activation and biological function”  
E. C. Cleverdon# and James L. Houglan  
254<sup>th</sup> American Chemical Society Meeting, Washington, D.C.
- May 2017 “Structural and biochemical investigation of ghrelin processing”  
N. Rivera-Robles  
Renee Crown Honors Capstone Presentation  
Syracuse University
- October 2016 “Redefining the potential prenylome: Prenylation of non-canonical C-terminal sequences in peptides and proteins”  
M. J. Blanden#, W. K. Schmidt, and J. L. Houglan  
Northeast Regional Meeting of the American Chemical Society, Binghamton, NY
- October 2016 “Structural and biochemical investigation of ghrelin recognition and processing”  
E. R. Cleverdon# and J. L. Houglan  
Northeast Regional Meeting of the American Chemical Society, Binghamton, NY
- October 2016 “Investigation of a functionally essential domain within human ghrelin *O*-acyltransferase”  
M. B. Campana# and J. L. Houglan  
Northeast Regional Meeting of the American Chemical Society, Binghamton, NY
- August 2016 “Redefining the potential prenylome: Prenylation of non-canonical C-terminal sequences in peptides and proteins”

- M. J. Blanden<sup>#</sup>, W. K. Schmidt, and J. L. Houglan  
Biological Chemistry Young Investigators Symposium  
252<sup>nd</sup> American Chemical Society National Meeting, Philadelphia, PA
- August 2016 “Investigation of a functionally essential domain within human ghrelin *O*-acyltransferase”  
M. B. Campana<sup>#</sup> and J. L. Houglan  
252<sup>nd</sup> American Chemical Society National Meeting, Philadelphia, PA
- May 2016 “Investigation of substrate length dependence and inhibition of ghrelin acylation”  
A. Schramm  
Renee Crown Honors Capstone Presentation  
Syracuse University
- April 2016 “Investigation of substrate length dependence and inhibition of ghrelin acylation”  
A. Schramm  
11<sup>th</sup> Annual ACC Meeting of the Minds (MOM) Conference  
Syracuse University, Syracuse, NY
- July 2015 “Investigating multispecificity in protein prenylation: Reengineering GGTase-I substrate selectivity and development of a calibrated sensor for cellular GGTase-I activity”  
S. A. Gangopadhyay<sup>#</sup>, E.L. Losito, and J. L. Houglan  
FASEB Summer Research Conference on Protein Lipidation, Signaling, and Membrane Domains, Saxtons River, VT
- May 2015 “Characterization of the ghrelin *O*-acyltransferase active site”  
L. Patton  
Renee Crown Honors Capstone Presentation  
Syracuse University
- May 2014 “Investigating the substrate selectivity of ghrelin *O*-acyltransferase”  
J. E. Darling<sup>#</sup>, F. Zhao, R. A. Gibbs, and J. L. Houglan  
Graduate Student Symposium, SUNY University at Buffalo
- May 2014 “Quantitating protein prenyltransferase activity within a living cell”  
S. C. Flynn<sup>#</sup> and J. L. Houglan  
Graduate Student Symposium, SUNY University at Buffalo
- May 2013 “Investigation of ghrelin acylation by ghrelin *O*-acyltransferase”  
E. Prybolsky  
Renee Crown Honors Capstone Presentation  
Syracuse University
- May 2013 “Development of protein farnesyltransferase variants with altered substrate selectivity”  
S. Zhang  
Renee Crown Honors Capstone Presentation  
Syracuse University
- Posters*
- July 2019 “Probing ghrelin acylation by ghrelin *O*-acyltransferase (GOAT): Mutagenesis and chemoselective inhibition studies”  
T. R. Davis<sup>#</sup>, J. Moose<sup>#</sup>, K. R. McGovern-Gooch<sup>#</sup>, M. I. Aiduk, Y. Lei, and J. L. Houglan  
The Protein Lipidation Conference: Enzymology, Signaling, and Therapeutics  
FASEB Summer Research Conference, Olean, NY  
**Poster Award Winner**
- October 2018 “Development of a bacterial expression system for the acyl serine esterase Notum”

- M. L. Burrows, M. Pierce<sup>#</sup>, and J. L. Houglan  
Council for Undergraduate Research REU Symposium  
Alexandria, VA
- August 2018 “Investigation of functionally essential cysteine residues within human ghrelin *O*-acyltransferase”  
M. D. I. Aiduk, T. R. Davis<sup>#</sup>, and J. L. Houglan  
256<sup>th</sup> American Chemical Society National Meeting, Boston, MA
- August 2018 “Investigation of the catalytic mechanism for ghrelin acylation within ghrelin *O*-acyltransferase (GOAT)”  
T. R. Davis<sup>#</sup>, M. Aiduk, and J. L. Houglan  
256<sup>th</sup> American Chemical Society National Meeting, Boston, MA
- August 2018 “Expanding the potential prenylome through unanticipated prenylation of non-canonical C-terminal peptide sequences”  
S. Ashok<sup>#</sup>, W. L. Schmidt, and J. L. Houglan  
256<sup>th</sup> American Chemical Society National Meeting, Boston, MA
- August 2018 “Substrate selectivity reengineering to assess a structural model of ghrelin *O*-acyltransferase”  
N. Escoffery, M. Campaña<sup>#</sup>, and J. L. Houglan  
Research Experience for Undergraduates (REU) poster session  
Syracuse University
- August 2018 “Development of a bacterial expression system for the acyl serine esterase Notum”  
M. L. Burrows, M. Pierce<sup>#</sup>, and J. L. Houglan  
Research Experience for Undergraduates (REU) poster session  
Syracuse University
- May 2018 “Investigation of the catalytic mechanism for ghrelin acylation within ghrelin *O*-acyltransferase (GOAT)”  
T. R. Davis<sup>#</sup>, M. Aiduk, and J. L. Houglan  
Graduate Student Symposium, SUNY University at Buffalo
- May 2018 “Expanding the potential prenylome through unanticipated prenylation of non-canonical C-terminal peptide sequences”  
S. Ashok<sup>#</sup>, W. L. Schmidt, and J. L. Houglan  
Graduate Student Symposium, SUNY University at Buffalo
- August 2017 “Investigation of a functionally essential domain within human ghrelin *O*-acyltransferase”  
M. Campana<sup>#</sup>, M. Ashkar, and J. L. Houglan  
254<sup>th</sup> American Chemical Society Meeting, Washington, D.C.
- August 2017 “Mutational analysis of human ghrelin *O*-acyltransferase”  
M. Ashkar, M. Campana<sup>#</sup>, and J. L. Houglan  
254<sup>th</sup> American Chemical Society Meeting, Washington, D.C.
- July 2017 “Developing a molecular-level framework for ghrelin processing, maturation, and biological function”  
E.C. Cleverdon<sup>#</sup> and J. L. Houglan  
FASEB Summer Research Conference on Protein Lipidation: Enzymology, Signaling, and Therapeutics, Saxton’s River, VT
- July 2017 “Efficient farnesylation of “forbidden” C-terminal C(x)<sub>3</sub>X sequences expands the scope of the prenylated proteome”  
M. J. Blanden<sup>#</sup>, K. F. Suazo, E. R. Hildebrandt, M. Patel, D. S. Hardgrove, W. P. Saunders, M. D. Distefano, W. K. Schmidt, and J. L. Houglan

- FASEB Summer Research Conference on Protein Lipidation: Enzymology, Signaling, and Therapeutics, Saxton's River, VT  
**Poster Award Winner**
- August 2016 "Structural and biochemical investigation of ghrelin processing"  
E. R. Cleverdon<sup>#</sup>, C. L. Cabrinha, C. Castañeda, and J. L. Houglan  
252<sup>nd</sup> American Chemical Society National Meeting, Philadelphia, PA
- August 2016 "Ghrelin acylation by ghrelin *O*-acyltransferase: Enzyme mutagenesis studies and inhibitor development"  
K. R. McGovern-Gooch<sup>#</sup>, N. Mahajani<sup>#</sup>, A. J. Schramm, A. Garagozzo, J. D. Chisholm, and James L. Houglan  
252<sup>nd</sup> American Chemical Society National Meeting, Philadelphia, PA
- March 2016 "Chemoenzymatic protein labeling and isolation from eukaryotic cell lysates using prenyltransferases with reengineered substrate selectivity"  
M. J. Blanden<sup>#</sup>, B. Hampton, J. Houglan  
251<sup>st</sup> American Chemical Society National Meeting, San Diego, CA
- August 2015 "Expression and mutation of human proghrelin"  
C. L. Cabrinha, E. R. Cleverdon<sup>#</sup>, and J. L. Houglan  
Research Experience for Undergraduates (REU) poster session  
Syracuse University
- August 2015 "Developing a calibrated fluorescence sensor for probing cellular farnesylation"  
P. S. Armas, S. A. Gangopadhyay<sup>#</sup>, and J. L. Houglan  
Research Experience for Undergraduates (REU) poster session  
Syracuse University
- July 2015 "Ghrelin acylation by human ghrelin *O*-acyltransferase: Enzyme mutagenesis studies and inhibitor library screening"  
K. R. McGovern<sup>#</sup>, A. Schramm, A. Garagozzo, and J. L. Houglan  
FASEB Summer Research Conference on Protein Lipidation, Signaling, and Membrane Domains, Saxtons River, VT
- July 2015 "Investigating multispecificity in protein prenylation: Reengineering GGTase-I substrate selectivity and development of a calibrated sensor for cellular GGTase-I activity"  
S. A. Gangopadhyay<sup>#</sup>, E. L. Losito, and J. L. Houglan  
FASEB Summer Research Conference on Protein Lipidation, Signaling, and Membrane Domains, Saxtons River, VT
- June 2015 "Investigating human ghrelin *O*-acyltransferase: Functional studies and inhibitor screening"  
K. R. McGovern<sup>#</sup>, A. Schramm, A. Garagozzo, and J. L. Houglan  
Northeast Regional Meeting of the American Chemical Society, Ithaca, NY
- June 2015 "Expression and characterization of human proghrelin"  
E. R. Cleverdon<sup>#</sup> and J. L. Houglan  
Northeast Regional Meeting of the American Chemical Society, Ithaca, NY
- June 2015 "Development of a calibrated sensor for cellular geranylgeranyl transferase-I activity"  
S. A. Gangopadhyay<sup>#</sup> and J. L. Houglan  
Northeast Regional Meeting of the American Chemical Society, Ithaca, NY
- August 2014 "Development of novel GGTase-I variants with altered substrate specificity through targeted active site reengineering"  
S. A. Gangopadhyay<sup>#</sup>, E. L. Losito, and J. L. Houglan  
248<sup>th</sup> American Chemical Society National Meeting, San Francisco, CA



- August 2014 “Optimization of chemoenzymatic protein labeling and isolation from eukaryotic cells using enzymes with reengineered selectivity”  
B. K. Hampton, M. J. Blanden<sup>#</sup>, and J. L. Houglund  
Research Experience for Undergraduates (REU) poster session  
Syracuse University
- August 2014 “Defining the catalytic machinery of human ghrelin *O*-acyltransferase”  
A. Garagozzo, K. R. McGovern<sup>#</sup>, and J. L. Houglund  
Research Experience for Undergraduates (REU) poster session  
Syracuse University
- May 2014 “Reengineering the substrate selectivity of protein geranylgeranyltransferase type I through targeted active site mutagenesis”  
S. A. Gangopadhyay<sup>#</sup>, E. L. Losito, and J. L. Houglund  
Graduate Student Symposium, SUNY University at Buffalo
- May 2014 “Defining the catalytic machinery of hGOAT”  
K. R. McGovern<sup>#</sup>, R. J. Loftus<sup>#</sup>, and J. L. Houglund  
Graduate Student Symposium, SUNY University at Buffalo
- September 2013 “Probing the reactivity threshold for in vivo protein prenylation”  
S. C. Flynn<sup>#</sup>, S. Zhang, and J. L. Houglund  
246<sup>th</sup> American Chemical Society National Meeting, Indianapolis, IN
- August 2013 “Developing an expression method for human proghrelin”  
R. N. D’Amico, J. E. Darling<sup>#</sup>, and J. L. Houglund  
Research Experience for Undergraduates (REU) poster session  
Syracuse University
- July 2013 “Probing the reactivity threshold for in vivo protein prenylation”  
S. C. Flynn<sup>#</sup> and J. L. Houglund  
FASEB Summer Research Conference on Protein Lipidation, Signaling, and Membrane Domains, Saxtons River, VT
- July 2013 “Investigation of human ghrelin *O*-acyltransferase (hGOAT) using a novel fluorescent substrate.”  
J. E. Darling<sup>#</sup>, E. P. Prybolsky, and J. L. Houglund  
FASEB Summer Research Conference on Protein Lipidation, Signaling, and Membrane Domains, Saxtons River, VT
- March 2013 “Investigation into the degradation pathway of prenylated proteins”  
M. J. Blanden<sup>#</sup> and J. L. Houglund  
Syracuse University Life Sciences Symposium
- March 2013 “Investigation and engineering of GGTase-I substrate selectivity”  
S. A. Gangopadhyay<sup>#</sup>, E. L. Losito, and J. L. Houglund  
Syracuse University Life Sciences Symposium
- March 2013 “Investigation of ghrelin acylation by human ghrelin *O*-acyltransferase.”  
J. E. Darling<sup>#</sup>, R. J. Loftus<sup>#</sup>, E. P. Prybolsky, and J. L. Houglund  
Syracuse University Life Sciences Symposium
- October 2012 “Investigation and engineering of GGTase-I substrate selectivity”  
S. A. Gangopadhyay<sup>#</sup>, E. L. Losito, and J. L. Houglund  
Northeast Regional Meeting of the American Chemical Society, Rochester, NY
- October 2012 “Investigation into the degradation pathway of prenylated proteins”  
M. J. Blanden<sup>#</sup> and J. L. Houglund  
Northeast Regional Meeting of the American Chemical Society, Rochester, NY
- October 2012 Probing the reactivity threshold for in vivo protein prenylation  
S.C. Flynn<sup>#</sup>, D. E. Lindgren, and J. L. Houglund

- October 2012 Northeast Regional Meeting of the American Chemical Society, Rochester, NY  
“Expression and characterization of human ghrelin *O*-acyltransferase.”  
J. E. Darling<sup>#</sup>, E. P. Prybolsky, and J. L. Houglan  
Northeast Regional Meeting of the American Chemical Society, Rochester, NY
- October 2012 “Locating the active site of human ghrelin *O*-acyltransferase (hGOAT)”  
R. J. Loftus<sup>#</sup>, K. D. Siegenthaler, and J. L. Houglan  
Northeast Regional Meeting of the American Chemical Society, Rochester, NY
- October 2012 “Development of protein farnesyltransferase variants with altered substrate selectivity”  
S. Zhang and J. L. Houglan  
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- August 2012 “Development of a ghrelin *O*-acyltransferase expression system in *E. Coli* and analysis of steric limitations at position 2 in ghrelin”  
K. D. Siegenthaler and J. L. Houglan  
Research Experience for Undergraduates (REU) poster session  
Syracuse University
- August 2012 “Selection, functional, and structural characterization of novel farnesyltransferase variants”  
S. Zhang and J. L. Houglan  
Research Experience for Undergraduates (REU) poster session  
Syracuse University
- May 2012 “Chemistry and biology of post-translational protein lipidation”  
S. C. Flynn<sup>#</sup> and J. L. Houglan  
Syracuse University Life Sciences Symposium
- August 2011 “Substrate recognition by protein geranylgeranyltransferase type I”  
E. L. Losito and J. L. Houglan  
Research Experience for Undergraduates (REU) poster session  
Syracuse University