

# Steven Lloyd Austin, Ph.D.

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## Education

Postdoctoral Scholar, Dept. of Chemistry, University of South Florida <i>Advisor: Professor H. Lee Woodcock</i>	2020-2025	Tampa, FL
Ph.D. Molecular Biophysics, Florida State University <i>Advisor: Professor Wei Yang</i>	2014-2020	Tallahassee, FL
B.A. Chemistry, University of South Florida <i>Advisor: Professor Bill J. Baker</i>	2007-2012	Tampa, FL
Minor in Biomedical Physics		

## Research Experience

### University of South Florida | Department of Chemistry | Tampa, FL | 2020-2025

*Postdoctoral Researcher* | Advisor: Prof. H Lee Woodcock

Outcomes: 2 published papers, contributor to funded R01 and Anton II compute time grants.

### Florida State University | Institute of Molecular Biophysics | Tallahassee, FL | 2014-2020

*Graduate Student Researcher* | Advisor: Prof. Wei Yang

Outcomes: 2 contributed talks, 1 conference poster, 1 seminar talk

### Novartis Institutes for Biomedical Research | Global Discovery Chemistry | Cambridge, MA | 2013-2014

*Open-access Separations Specialist* | Supervisor: Dr. John Reilly

Outcomes: 2 published papers, 1 conference poster

### Charles Stark Draper Laboratory | Bioengineering Center | Tampa, FL | 2012-2013

*Synthetic Research Assistant* | Supervisor: Dr. Leila Albers

Outcomes: Successful design and synthesis of lipid-based compounds under GLP standards.

### University of South Florida | Department of Chemistry | Tampa, FL | 2009-2012

*Undergraduate Researcher* | Advisor: Prof. Bill Baker

Outcomes: 3 conference posters

## Teaching Experience

### General Biochemistry | Instructor of Record | University of South Florida | Spring 2024

Designed exam and course materials, proctored exams, and held office hours and recitations weekly.

### General Chemistry I | Instructor of Record | University of South Florida | Fall 2023

Member of a cohort of 5 instructors covering 7 sections. Contributed to the shaping of course material in addition to the preparation and proctoring of exams.

### General Chemistry II Recitation | Teaching Assistant | Florida State University | Spring 2020, Fall 2015

Prepared lesson materials and taught recitation for multiple sections (approximately 60 students). Held office hours weekly. Proctored and graded all exams.

### General Biochemistry Recitation | Teaching Assistant | Florida State University | Fall 2019

Graded exams and held office hours weekly.

### General Chemistry II Lab | Teaching Assistant | Florida State University | Spring 2019, Summer 2017

Supervised and assisted students in performing laboratory experiments. Graded all lab reports weekly.

Working with Dr. Stephanie Dillon (Director of Freshman Chemistry Laboratories), I designed and implemented new materials for the course, including weekly quiz questions for Canvas.

### **Chemistry for Liberal Studies | Teaching Assistant | Florida State University | Spring 2018**

Interacted with and assisted non-major chemistry students in an immersive virtual laboratory setting powered by Second Life™.

### **Physical Chemistry II Recitation & Lab | Teaching Assistant | Florida State University | Spring 2017**

Graded exams and held office hours weekly. Evaluated, supervised, and assisted students in performing laboratory experiments. Wrote an Excel-based analysis used by students to determine fluorescence lifetimes in a pulsed laser experiment.

## **Mentorship**

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### **University of South Florida, Department of Chemistry | 2020-2024**

Mentor to graduate students by contributing to the cultivation of their research, preparation of publications, as well as oral and poster presentations.

### **Florida State University Young Scholars Program | 2017, 2019**

Mentor to high school students (3-4 students/yr) from across Florida who demonstrated academic excellence. Taught basic coding practices and introduction to molecular dynamics simulations. Students independently setup and performed simulations of enzymes and analyzed results under my guidance. Each student prepared a publication-like report and jointly created a research poster that they presented to their peers and faculty at FSU.

### **Foreign Exchange Mentor, Novartis Institutes for Biomedical Research | 2014**

Mentor to undergraduate visiting scholars from Ghana. I taught natural products extraction techniques using state-of-the-art purification instrumentation. Our collaboration resulted in a publication and a very rewarding transfer of knowledge and ideas regarding natural products drug discovery.

## **Publications**

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1. Wonmuk Hwang, **Steven L. Austin**, Arnaud Blondel, Eric D. Boittier, Stefan Boresch, Matthias Buck, Joshua Buckner, Amedeo Caflisch, Hao-Ting Chang, Xi Cheng, Yeol Kyo Choi, Jhih-Wei Chu, Michael F. Crowley, Qiang Cui, Ana Damjanovic, Yuqing Deng, Mike Devereux, Xinqiang Ding, Michael F. Feig, Jiali Gao, David R. Glowacki, James E. II Gonzales, Mehdi Bagerhi Hamaneh, Edward D. Harder, Ryan L. Hayes, Jing Huang, Yandong Huang, Phillip S. Hudson, Wonpil Im, Shahidul M. Islam, Wei Jiang, Michael R. Jones, Silvan Käser, Fiona L. Kearns, Nathan R. Kern, Jeffery B. Klauda, Themis Lazaridis, Jinhyuk Lee, Justin A. Lemkul, Xiaorong Liu, Yun Luo, Alexander D. Jr. MacKerell, Dan T. Major, Markus Meuwly, Kwangho Nam, Lennart Nilsson, Victor Ovchinnikov, Emanuele Paci, Soohyung Park, Richard W. Pastor, Amanda R. Pittman, Carol Beth Post, Samarjeet Prasad, Jingzhi Pu, Yifei Qi, Thenmalarchelvi Rathinavelan, Daniel R. Roe, Benoit Roux, Christopher N. Rowley, Jana Shen, Andrew C. Simmonett, Alexander J. Sodt, Kai Töpfer, Meenu Upadhyay, Arjan van der Vaart, Luis Itza Vazquez-Salazar, Richard M. Venable, Luke C. Warrensford, H. Lee Woodcock, Yujin Wu, Charles L. III Brooks, Bernard R. Brooks, and Martin Karplus. CHARMM at 45: Enhancements in Accessibility, Functionality, and Speed. *The Journal of Physical Chemistry B*, **2024-09-20**
2. Euclona M. Toci, **Steven L. Austin**, Ananya Majumdar, H. Lee Woodcock, and Caren L. Freel Meyers. Disruption of an Active Site Network Leads to Activation of C2 $\alpha$ -Lactylthiamin Diphosphate on the Antibacterial Target 1-Deoxy- D -xylulose-5-phosphate Synthase. *Biochemistry*, 63(5):671–687, **2024-03-05**
3. Felix Acheampong, John Reilly, Christopher Larbie, Matthew Spencer, Karl Gunderson, Regina Appiah-Opong, Christopher Howson, Jennifer Porier, Kellie Joyce, Valentina Jeliaskova, Sarah Voytek, Carol Ginsburg-Moraff, Stefan Thibodeaux, Jill Kublbeck, and **Steven Austin**. Methoxy-flavones identified from *Ageratum conyzoides* induce capase -3 and -7 activations in Jurkat cells. *Journal of Medicinal Plants Research*, **2017-10**
4. **S Austin**, D Dunstan, J Reilly, and M McKinnon. Automated Analysis of Open-Access HPLC Instrumentation Metrics. *Chromatography Today*, page 18, **2014-08-20**

## Presentations & Invited Seminars

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### Conference Talks & Seminars

1. **Austin S.**; Wu, D.; Yang, W. (2019) **Florida Annual Meeting and Exposition (American Chemical Society: Florida Section)**, Palm Harbor, FL. Biophysical and Physical Chemistry Symposium
2. **Austin S.**; Wu, D.; Yang, W. (2019) **257th ACS National Meeting & Exposition**; Orlando, FL. Computers in Chemistry Division: Computational Studies of Water Section
3. **Austin S.**; Wu, D.; Yang, W. (2019) **257th ACS National Meeting & Exposition**; Orlando, FL. Enhanced Sampling Symposium
4. **Austin S.** (2018, 2019) **The Cell and Molecular Biology Graduate Student Association at Florida State University**; Tallahassee, FL.
5. **Austin S.**; Wu, D.; Yang, W. (2018) **Structural Biology/Biochemistry Seminar at Florida State University**; Tallahassee, FL.

### Conference Posters (Presenters underlined)

1. **Austin, SL**; Wood, HL (2024) **Annual CHARMM Meeting**; Baltimore, MD.
2. Paudel, R.; Habibzadeh, N.; **Austin, SL**; Wood, HL (2024) **Raymond N. Castle Student Research Conference**; Tampa, FL.
3. **Austin, S**; Wu, D.; Yang, W. (2020) **259th ACS National Meeting & Exposition**; Philadelphia, PA. (Canceled due to COVID-19)
4. Okten, A.; Pinnamanteni, S.; **Austin, S**; Yang, W. (2015) **FSU Undergraduate Research Symposium**; Tallahassee, FL.
5. **Austin, S**. (2014) **Novartis Institutes for Biomedical Research Poster Presentations**; Cambridge, MA.
6. **Austin, S**; Beau, J; Baker, B. (2011) **American Society of Pharmacognosy**; San Diego, CA.
7. **Austin, S**; Beau, J; Baker, B. (2011) **National Conference for Undergraduate Research**; Ithaca, NY.
8. **Austin, S**; Beau, J; Baker, B. (2010) **Raymond N. Castle Student Research Conference**; Tampa, FL.

## Honors & Awards

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**NVIDIA GPU Award Finalist** | Computers in Chemistry 259th ACS National Meeting | **2020**

**Presentation Grant** | Congress of Graduate Students | Florida State University | **2019**

**Tampa Bay Seminole Club Scholarship** | **2017**

**Student Development Travel Grant** | Institute of Molecular Biophysics | Florida State University | **2016**

**Research Travel Grant** | Office of Undergraduate Research | University of South Florida | **2011**

**Honors College Research Travel Grant** | University of South Florida | **2011**

## Skills

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<b>Biophysical Theory</b>	Thermodynamics, Statistical Mechanics, Quantum Mechanics
<b>Molecular Simulation</b>	<a href="#">CHARMM Developer</a> , Anton 2, Schrödinger, QChem, IQMol
<b>Enhanced Sampling</b>	<a href="#">Extended-system Adaptive Biasing Force</a> , Replica Exchange, Metadynamics
<b>Molecular Visualization</b>	Visual Molecular Dynamics (VMD), PyMol
<b>Machine Learning</b>	Linear/Logistic regression, PCA, Genetic Algorithms
<b>Programming</b>	C++, CUDA, FORTRAN, Python, $\LaTeX$ , MATLAB, Bash, Awk
<b>Wet-lab techniques</b>	X-Ray Crystallography, Cryo-EM, NMR, CD
<b>MS Office</b>	Word, Excel, Outlook

## Academic Organizations

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**Students for the Effective Communication of Science** | **2014-2019**

Institute of Molecular Biophysics, Florida State University

*Vice President (2016) & Treasurer (2015)*

Molecular Biophysics student organization meeting once weekly to practice presentation skills and discuss research throughout the institute. As an officer, I was responsible for organizing a yearly invited Structural Biology & Biochemistry Seminar Speaker.

**The Cell and Molecular Biology Graduate Association | 2014-2019**

Department Biological Science, Florida State University

*Student Member*

As an out-of-department member I was able to stimulate exchange of knowledge and perspective in the context of molecular functionalities from protein dynamics to cell cycles.

## Professional References

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