

Aarya Venkat

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EDUCATION

UNIVERSITY OF GEORGIA

PHD BIOCHEMISTRY

UC, SAN DIEGO

MS CHEMISTRY

June 2017 | GPA: 3.8

LINKS

ResearchGate:// [Aarya_Venkat](#)

LinkedIn:// [AaryaVenkat](#)

Github:// [HelloAarya](#)

ACCOMPLISHMENTS

- Won the Outstanding Graduate Teaching Assistant Award
- Published the feature article in a Teaching Magazine
- Delivered a General Chemistry lecture to 400 students at UC, San Diego

SKILLS

PROGRAMMING

Java • Python • \LaTeX • GIT • Unix • Bash

BIOINFORMATICS

Cytoscape App Development • BLAST • FASTA • Algorithms • Quantitative Structure-Activity Relationship • Principal Component Analysis • RMSD analysis • ANOVA • Regression • Time-series analysis • K-Means Clustering

COMPUTATIONAL CHEMISTRY

Molecular Dynamics

AmberTools15 • NAMD2 (CUDA)

Forcefield Parametrization

Amber14 • GAFF • CHARMM

Computational Tools

Molecular Operating Environment (MOE)

• Maestro • Glide • VMD • Antechamber

• PyMOL • Chimera • LEaP • Sander •

PMEMD-CUDA

MISCELLANEOUS

PCR • ELISA • RNA interference • Western Blot • SDS-PAGE • 3D Printing

EMPLOYMENT HISTORY

KANNAN LAB | GRADUATE RESEARCH ASSISTANT

July 2018 – Present | Athens, GA

- Gaining structural insights for Glycosyltransferases via Molecular Dynamics.

WHEELER LAB | GRADUATE RESEARCH ASSISTANT

Aug 2017 – June 2018 | Athens, GA

- Performing quantum calculations using Gaussian '09 to determine low energy conformers of Urea and Thiourea derivatives.

UNIVERSITY OF GEORGIA | GRADUATE TEACHING ASSISTANT

Aug 2017 – May 2018 | Athens, GA

- Taught three classes a week as a laboratory teaching assistant (1212L).

GILSON LAB | GRADUATE RESEARCH ASSISTANT

Oct 2015 – May 2017 | La Jolla, CA

- Developed PathInsight, a program to model the downstream effects of small binding compounds in a biological pathway.

UC, SAN DIEGO | GRADUATE TEACHING ASSISTANT

Jan 2017 – June 2017 | La Jolla, CA

- Taught three general chemistry lecture classes every week to 90 students.

NATIONAL RESOURCE FOR NETWORK BIOLOGY | INTERN

April 2016 – Dec 2016 | San Francisco, CA

PUBLICATIONS

Patents

Venkat, A., Castro, Y. and Manning, T. "Using Computational QSAR Methods to Propose a New Group of Antibiotics for Dental Applications," U.S. Provisional Patent Appl. 62/359,638, July 22, 2016.

Papers

Venkat, A. and Wheeler, S. E. (2018). Tuning the Conformational Behavior of Ureas through Substituent Effects. [In Prep]

Venkat, A. (2017). PathInsight: A Novel Tool for Modeling Biomolecular Pathways. UC San Diego: Chemistry.

Venkat, A., Amerson, A. L., and Bielmyer-Fraser, G. K. (2016) "Influence of Water Hardness on Accumulation and Effects of Silver in the Green Alga, *Raphidocelis subcapitata*," Georgia Journal of Science: Vol. 74: No. 2, Article 5.

Park, S., Venkat, A., Gopinath, A., and Kang, J. (2015). Quantitative Analysis of the Trends Exhibited by the Three Interdisciplinary Biological Sciences: Biophysics, Bioinformatics, and Systems Biology. Journal of Microbiology & Biology Education, 16(2), 198.

VOLUNTEERING

TEACHING LEADERSHIP COURSES

2018 | Atlanta, GA

Developed a curriculum focused on understanding ethics, morals, and empathy and their roles in good leadership.

TEACHING COMPUTER LITERACY

2018 | Athens, GA

Established weekend computer literacy courses at the Athens-Clarke county library.

OUTREACH ADVANCEMENT TOWARDS HOPE (OATH)

2015-2016 | San Diego, CA

UCSD organization helping the underserved in downtown San Diego through medical outreach, performing medical screenings under the guidance of a certified physician.

AIDING VILLAGES AFTER THE 2015 NEPAL EARTHQUAKE

2015 | Badrinath, India

Helped organize and hand deliver supplies, including food and oil, to villagers in the Himalayan mountains affected by the earthquake and landslides.

RESOURCE AND INSURANCE NAVIGATOR GROUP (RING)

2013-2015 | Valdosta, GA

Emory student organization focused on helping underserved communities acquire affordable health care. Worked in public relations, developed marketing campaigns, and served as a graphic designer.

MEDICAL STUDENTS AIDING IN INDIA'S DEVELOPMENT (MSAID)

2010-2012 | Manipal, India

Organization focused on serving the impoverished areas in India. Helped fundraise money to build a new roof at an old folks home. Additionally organized and raised awareness for volunteering opportunities at a nearby orphanage. Helped facilitate methods for interacting and communicating with all the orphans, including those that were intellectually disabled. Aided in giving sensitivity training to volunteers working with disabled children.

PRESENTATIONS

2019

Cancer Immunotherapies. Biochemistry Symposium Host. University of Georgia.

2018

Teaching and Laboratory Assistant Orientation. Q&A Panelist. University of Georgia.

2017

PathInsight: A Novel Tool for Modeling Biomolecular Pathways. Thesis Defense. UCSD.

Guest Lecture on Chemical Equilibrium. Chemistry 6B, UCSD.

2016

Does Competition Enhance Learning Over a Relaxed Guided Lesson? Teaching Methods Poster Presentation. Natural Sciences Building, UCSD.

2015

Influence of Water Hardness on Accumulation and Effects of Silver in the Green Alga, *Raphidocelis subcapitata*. Biology Poster Presentation. PI: Gretchen Biellmyer, VSU.

Using Computational QSAR Methods to Propose a New Group of Antibiotics for Dental Applications. Chemistry Poster Presentation. PI: Thomas Manning, VSU.

Thermodynamics of Calcium Metal Reactions. Chemistry Poster Presentation. PI: Thomas Manning, VSU.

2014

Proposal of a Novel Glucometer Implant. Chemistry Poster Presentation. PI: Tolulope Salami, VSU.