

# Aarya Venkat

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## EDUCATION

### UNIVERSITY OF GEORGIA

PHD BIOCHEMISTRY  
Future Faculty Fellow  
Present | GPA: 3.8

### UC, SAN DIEGO

MS CHEMISTRY  
June 2017 | GPA: 3.8

## LINKS

ResearchGate:// [Aarya\\_Venkat](#)  
LinkedIn:// [AaryaVenkat](#)  
Github:// [Arikat](#)  
Website:// [Aarya](#)

## ACCOMPLISHMENTS

- ARCS Foundation Scholar, 2021
- Three Minute Thesis Winner, 2021
- Graduate Student Association Student Highlight, 2020
- Future Faculty Fellowship, 2019
- Outstanding Teacher Award, 2019
- Outstanding Teacher Award, 2018
- General Chemistry Guest lecture to 400 students at UC, San Diego in 2017

## SKILLS

### PROGRAMMING

Java • Python •  $\text{\LaTeX}$  • GIT • Bash

### BIOINFORMATICS

Cytoscape App Development •  
Quantitative Structure-Activity  
Relationship • Cluster Analysis •  
Multivariate Statistical Analysis

### COMPUTATIONAL CHEMISTRY

#### Molecular Dynamics

Amber suite • GROMACS suite

#### Quantum Mechanics

Gaussian • Natural Bond Orbital Analysis

#### Molecular Modeling

Maestro • Rosetta • Autodock • VMD •  
PyMOL • Homology Modeling

### MISCELLANEOUS

PCR • Western Blot • 3D Printing •  
Photoshop • Illustrator

## RECENT EMPLOYMENT HISTORY

### KANNAN LAB | GRADUATE RESEARCH ASSISTANT

July 2018 – Present | Athens, GA

- Gaining structural insights for Glycosyltransferases via Molecular Dynamics.

### UNIVERSITY OF GEORGIA | GRADUATE TEACHING ASSISTANT

Aug 2017 – May 2020 | Athens, GA

- Teaching Assignments: Chem 1211, Chem 1212, Bio 1103.
- Grader Assignments: BCMB 3100, BCMB 3600

## 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 (citations: 36)

Yeung, W., ... Venkat, A., & Kannan, N. (2021). An evolutionary constraint-guided phylogeny of the holozoan tyrosine kinome. Molecular biology and evolution. Accepted.

Taujale, Rahil, et al. (2021). "The GTXplorer portal to access, navigate and mine evolutionary relationships of fold A glycosyltransferases." GLYCOBIOLOGY. Accepted.

Huang, L. C., Taujale, R., Gravel, N., Venkat, A., ... & Kannan, N. (2021). KinOrtho: a method for mapping human kinase orthologs across the tree of life and illuminating understudied kinases. Accepted.

Gosztyla, Maya L., et al. (2021). "Responses to 10 common criticisms of anti-racism action in STEMM." PLOS Computational Biology: e1009141.

Zhang, A., Venkat, A., ... & Haltiwanger, S. (2021). Peters plus syndrome mutations affect the function and stability of human  $\alpha$ 1, 3-glucosyltransferase. Journal of Biological Chemistry, 100843.

Huang, L.C., Yeung, W., Wang, Y., Cheng, H., Venkat, A., Li, S., Ma, P., Rasheed, K. and Kannan, N., 2020. Quantitative Structure–Mutation–Activity Relationship Tests (QSMART) model for protein kinase inhibitor response prediction. BMC bioinformatics, 21(1), pp.1-22.

Taujale, R., Venkat, A., et al. (2020) Deep evolutionary analysis reveals the design principles of fold A glycosyltransferases. Elife, 9, p.e54532.

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

### SCIENCE OLYMPIAD LAB MANAGER

2017-2020 | Athens, GA

Aid in setting up Chemistry and Forensic labs for high school Science Olympiad. Ensure lab safety protocols are followed as students compete.

### TEACHING COMPUTER LITERACY

2018-2020 | Athens, GA

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

### NATIONAL HISTORY DAY JUDGE

2020 | Athens, GA

Judged Performances and Documentaries for middle school and high school students. Provided critiques to aid them in state and national competitions.

### UNDERGRADUATE SYMPOSIUM JUDGE

2019 | Athens, GA

Judged Biochemistry poster presentations.

### TEACHING LEADERSHIP COURSES

2018 | Atlanta, GA

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

### 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.

## MENTORSHIP

Swati Bala - UGA Biology student  
Nathan Gravel - UGA PREP scholar  
Ehsan Suez - UGA ILS rotation student  
Donovan Cantrell - UGA Biochemistry grad student  
Max Kuhr - UGA Biology student  
Ganesh Prabakaran - UGA Biology student  
Jamini Patel - UGA Biology student  
Raga Dasana - High school student  
Victor Valbuena - High school student

## PRESENTATIONS/POSTERS

2020

Playground Learning: Team Learning and Gamification. USG Teaching & Learning Conference (Cancelled: COVID-19)

Unfolded Protein Response. Biochemistry Symposium Chair. University of Georgia.

2019

Deep Evolutionary Analysis Reveals the Design Principles of Fold A Glycosyltransferases. Glycobiology Conference Poster. PI: Natarajan Kannan, UGA

Cancer Immunotherapies. Biochemistry Symposium Host. University of Georgia.

Teaching and Laboratory Assistant Orientation. Delivered Lecture on Efficient Grading Practices. University of Georgia.

2018

Teaching and Laboratory Assistant Orientation. "Teaching Tips" 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 Bielmyer, 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.

## WORKSHOPS

2020

Writing a Diversity Statement - GradTeach Workshop - Workshop leader, 2020

Spring Teaching Symposium - Workshop leader

Spring Teaching Symposium - Organizer