Curriculum Vitae
Maiya Yu

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Education

University of Michigan College of Literature, Science, and the Arts — **Ann Arbor, MI**
Bachelor of Science — *September 2017 – May 2021*
Pure Mathematics, Honors Biochemistry; Minor in Computer Science — *GPA: 3.613*

Publications

1. Wenxi Yu, **Maiya Yu**, Makaía M. Papasergi-Scott, and Gregory G. Tall. Production of phosphorylated Ric-8A proteins using Protein Kinase CK2. *Protein Expression and Purification*, 154:98 – 103, 2019

2. Rui Qi, Brandon Walker, Zhifeng Jing, **Maiya Yu**, Gabriel Stancu, Ramakrishna Edupuganti, Kevin N. Dalby, and Pengyu Ren. Computational and experimental studies of inhibitor design for Aldolase A. *The Journal of Physical Chemistry B*, 123(28):6034–6041, 2019. PMID: 31268712

3. Alexander Vizurraga, Rashmi Adhikari, Jennifer Yeung, **Maiya Yu**, and Gregory G Tall. Mechanisms of Adhesion G protein Coupled Receptor activation. *Journal of Biological Chemistry*, 2020

4. Jennifer Yeung, Reheman Adili, Emily N. Stringham, Rong Luo, Alexander Vizurraga, Luciana K. Rosselli-Murai, Hannah M. Stoveken, **Maiya Yu**, Xianhua Piao, Michael Holinstat, and Gregory G. Tall. GPR56/ADGRG1 is a platelet collagen-responsive GPCR and hemostatic sensor of shear force. *Proceedings of the National Academy of Sciences*, 2020

Research Experience

University of Michigan — **Ann Arbor, MI**
Department of Pharmacology, Advisor: Dr. Gregory G. Tall — *September 2018 – Present*
Undergraduate Research Assistant — *October 2017 – April 2018*

- Worked on and coordinated projects involving purification of heterotrimeric G proteins and G protein chaperones Ric-8A and Ric-8B for structural and functional analyses.
- Purified proteins and complexes using affinity chromatography, ion-exchange chromatography, gel-filtration chromatography, and an AKTA FPLC system.
- Used bacterial expression systems and recombinant baculoviral expression systems in insect cells to express proteins of interest.
- Ran Bradford assays, SDS-PAGE, Phos-tag PAGE, and Western blots to analyze proteins before, during, and after purification.
- Produced recombinant plasmids using molecular biology techniques including DNA purification, PCR subcloning, restriction enzyme digestions, DNA ligation reactions, and bacterial culture.
- Performed binding assays using radiolabeled GTPγS in order to test successful protein folding and phosphorylation.

University of Texas at Austin — **Austin, TX**
Department of Biomedical Engineering, Advisor: Dr. Pengyu Ren — *June 2018 – August 2018*
Undergraduate Researcher

- Researched chemotherapeutic potential of several naphthalene-2,6-diyl-based Aldolase A inhibitors.
- Used molecular dynamics simulations and the AMOEBA chemical force field to analyze binding and compute binding free energy of several aldolase-inhibitor systems.
- Wrote Python scripts to analyze specific atomic level interactions and to calculate solvent-accessible surface area.

Teaching Experience

Math Lab, University of Michigan — **Ann Arbor, MI**
Department of Mathematics — *January 2019 – Present*
Math Tutor

- Tutored courses including Pre-Calculus, Calculus 1, 2 and 3, Differential Equations, and both proof-based and non-proof-based Linear Algebra.
- Adapted teaching style to meet different student needs.

- Provided guidance in small group and individual settings.

Virtual Tech Camps **Remote**
iD Tech *July 2020 – August 2020*
Online Instructor

- Taught weeklong virtual programming courses in C++, Python, and Scratch for elementary and high school students.
- Developed supplementary activities to support student knowledge and development of key programming skills.
- Implemented informal assessment measures and altered pedagogical techniques to ensure instruction is developmentally appropriate.

MWrite Program, University of Michigan **Ann Arbor, MI**
Department of Chemistry and Sweetland Writing Center *January 2020 – May 2020*
Writing Fellow *January 2019 – May 2019*

- Supported students and faculty in implementation of Write-to-Learn assignments in second-semester Organic Chemistry lab course.
- Held office hours to support students in a one-on-one environment.
- Met with faculty and other fellows to discuss prompt implementation and student success.
- Provided technical support to students using the Canvas peer-review interface.
- Provided students with feedback on responses to encourage revision and deeper thinking.

Presentations

BioTalk Seminar, Ann Arbor, MI August 7, 2020

- **Oral Presentation,** A Dual-Dual Expression System for Purification of G Protein α Subunits and Heterotrimers

GPCR Retreat, Bromont, Quebec, Canada September 27, 2019

- **Poster,** A Dual-Dual Expression System for Purification of G Protein α Subunits and Heterotrimers

Pharmacology SURF Symposium, Ann Arbor, MI August 8, 2019

- **Oral Presentation,** A Dual-Dual Expression System for Purification of G Protein α Subunits and Heterotrimers

Biomedical Engineering Society Annual Meeting, Atlanta, GA October 20, 2018

- **Poster,** Computational studies of novel inhibitors of aldolase A via molecular dynamic simulations

Summer Scholars Symposium, Austin, TX August 2, 2018

- **Poster,** Computational studies of novel inhibitors of aldolase A via molecular dynamic simulations

UROP Symposium, Ann Arbor, MI April 18, 2018

- **Poster,** Protein Kinase CK2 Phosphorylation of Ric-8A Potentiated its Enzymatic Activities Towards G protein α Subunits and Permitted its Crystallization

Activities

Michigan Science Olympiad Board **East Lansing, MI**
Michigan Science Olympiad *August 2020– Present*
Board Member

- Served on Event Committee to determine full slate of events for State Tournament.
- Served as first and only college student on the Michigan Science Olympiad Board.

University of Michigan Science Olympiad Club **Ann Arbor, MI**
University of Michigan *May 2019 – Present*
Executive Director

- Procured funding in the amount of $20,000 for the organization by coordinating writing of fundraising letters to potential departmental sponsors.
- Coordinated organization and oversaw 13-person board of directors.
- Oversaw expansion of organization to include over 200 volunteers and event to reach nearly 1000 students.
- Supported board of directors and volunteers in administrative and executive role including planning a transition to an online tournament.

University of Michigan Science Olympiad Club **Ann Arbor, MI**
University of Michigan *July 2017 – May 2019*
Human Resources Officer

- Developed protocols and policies for tournament volunteer conduct to comply with University policies.
- Coordinated and recruited over 100 tournament volunteers to ensure events ran smoothly.

Skills

Computer Skills

- Python, C++, Bash, LaTeX, HTML, and CSS
- Adobe Illustrator, Microsoft Office, G Suite, Molecular Dynamics Simulations, VMD, Pymol, and Jmol

Biochemistry

- SDS PAGE, Phos-Tag PAGE, Bradford Assay, Bacteria Culture, Column Chromatography, Western Blot, GTPγS G protein activity assay, PCR, Subcloning, Insect Cell Culture, and DNA Purification

Other

- Public Speaking, Science Communication

Honors and Achievements

- **University Honors**, Fall 2017, Winter 2018, Fall 2018, Winter 2020
- **Mary E.Wilsberg Scholarship**, 2017-2018, 2018-2019, 2019-2020, 2020-2021 (renewed each year)
- **National Merit Finalist**, 2017-2018