

Dylan S. Blohm

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Education

Princeton University, Princeton, NJ

August 2023 – Present

- PhD Candidate in Molecular Biology
- Petry Lab, President's Fellowship, Graduate Scholars Program
- Master of Arts in Molecular Biology, 2025 NSF-GRFP Honorable Mention

Georgia Institute of Technology, Atlanta, GA

August 2017 – December 2020

- Bachelor of Science in Biology with Honors
- Minor in Physiology

Pike County High School, Zebulon, GA

August 2013 – May 2017

- Salutatorian

Experience

Research Specialist – Emory University, Biochemistry Dept

July 2021 – August 2023

- Utilized single particle cryo-electron microscopy and x-ray crystallography for the structural analysis of proteins
- Mentored local high school students and Emory undergraduates in biochemical research and protein purification methodologies
- Simultaneously worked on four projects with academic and governmental collaborators, while providing support for others
- Extensive research into the biochemical functions and structural details of proteins related to respiratory, oncogenic, neurodegenerative, and immune systems

Biomedical Engineering Machine Shop Tech – Georgia Tech

July 2018 – July 2021

- Solely assisted researchers and students in the master's program for Biomedical Innovation and Development (MBID) in crafting medical device prototypes
- Operated laser cutter, 3D printer, CNC Mill, CNC Lathe, and other tools for teaching, research, and prototyping needs
- Altered and presented model design changes to researchers and MBID students
- Aided in iterative prototyping for all projects made in the design lab

Truett's Grill – Restaurant Server

June 2016 – July 2019

- Interacted with customers and efficiently multitasked in a fast-paced environment
- Enhanced my customer service, hospitality, and interpersonal skills

Projects

Cellular Biophysics Undergraduate Senior Researcher

August 2020 – December 2020

- Generated an Algorithmic Model to Illustrate the Impact of Hyaluronan-rich Glycocalyx on Single Cell Migration
- Researched how glycocalyx directly influences integrin-ligand adhesion strengths
- Interpreted the influence of mechanical factors on single cell migration

Cardiovascular Fluid Mechanics Lab Researcher

May 2018 – December 2019

Impact of Transcatheter Mitral Valve Replacement Devices on the neo-LVOT

- Computational fluid dynamics analysis of left ventricular models with Ansys
- Converted CT scans into 3D models of the left ventricle, atrium, mitral valve, and aorta
- Manufactured left ventricular models with 3D printing for benchtop flow-loop testing

Research Intern at Atlanta Botanical Gardens

May 2018 – August 2018

Phylogenetic Relationships Among Euglossine Bee Pollinated Orchid Species

- Isolated DNA from orchid leaf tissue to research orchid phylogenetics
- Performed PCR to amplify two chloroplast genes, *rbcL* and *matK*

Skills

Lab: Single Particle Cryo-Electron Microscopy, Negative Staining, Plunge Freezing Cryo-Grid Preparation, Protein Purification, SDS-PAGE, Affinity Chromatography, Size Exclusion Chromatography, Ion Exchange Chromatography, Bacterial, Insect and Mammalian Cell Culture, Dynamic Light Scattering, X-ray Crystallography, DNA Purification, PCR, Cloning

Instrumentation: FEI Talos 120KV Transmission Electron Microscope, Vitrobot Mark IV Plunge Freezer, Pelco Glow Discharger, AKTA Pure FPLC, Wyatt DynaPro Plate Reader III, ARI Crystal Phoenix, Benchtop Microscope, Incubator, Centrifuge, Autoclave, Stratasys 3D Printer, Soluble Support Bath, VLS6.60 Laser Cutter, CNC 3 axis Mill, Manual Lathe, Cold Cut Circulating Saw, Bandsaw, Drill Press, Belt Sander, General Hand Tools

Computing Software: Relion, EMAN2, CryoSPARC, Chimera, SolidWorks, Materialise Mimics, Ansys, MS Office

Publications

- 1) Ahn, H., Calderon, B. M., Fan, X., Gao, Y., Horgan, N. L., Jiang, N., **Blohm, D. S.**, Hossain, J., Rayyan, N. W. K., Osman, S. H., Lin, X., Currier, M., Steel, J., Wentworth, D. E., Zhou, B., & Liang, B. (2023). Structural basis of the American mink ACE2 binding by Y453F trimeric spike glycoproteins of SARS-CoV-2. *Journal of medical virology*, 95(10), e29163. <https://doi.org/10.1002/jmv.29163>
- 2) Han, Y., Sarkar, H., Xu, Z., Lopez-Darwin, S., Wei, Y., Hang, X., Liu, F., Tran, K., Wang, W., Miller, J. M., DeCoste, C. J., **Blohm, D. S.**, Satcher, R. L., Zhang, X. H., & Kang, Y. (2025). Tumors hijack macrophages for iron supply to promote bone metastasis and anemia. *Cell*, 188(22), 6335-6354.e26. <https://doi.org/10.1016/j.cell.2025.08.013>