

2026-27 ARCS MWC Scholar Award Recipients



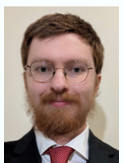
UNIVERSITY OF VIRGINIA



Hayden Barry

Forster Family Foundation Scholar
First Year Scholar, Materials Science
and Engineering

Hayden's research focuses on improving superconductor-insulator-superconductor junctions, which act as tiny, ultra-fast switches that are the building blocks of future quantum computers and advanced sensors.



Hayden Hollenbeck

MWC Chapter Scholar
First Year Scholar, Physics

Hayden is studying GPU-accelerated Monte Carlo detector simulation for high energy physics.



Mohan Shankar

Paula McNichols Memorial Scholar
First Year Scholar, Chemical Engineering

Mohan's research explores how metal cations exchanged into zeolites become solvated as molecules replace metal-framework bonds to form metal-ligand complexes that bridge homogeneous and heterogeneous catalysis, and how these species drive industrially relevant reactions.



Troy Hall

Smith Family Undergraduate Scholar
First Year Scholar, Aerospace Engineering

Troy's research involves developing a water tunnel test rig with a four-axis gantry and integrated sensor/motor control systems to study bio-inspired propulsion.



THE GEORGE WASHINGTON UNIVERSITY



Isaac Bilse

Barbara Luchsinger Memorial Scholar
Second Year Scholar, Computer Engineering

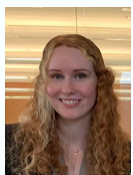
This work addresses communication bottlenecks in Mixture-of-Experts (MoE) LLM inference through hardware-software co-design tailored to the communication patterns of attention and MoE layers.



Elizabeth Decoteau

MWC Chapter Scholar
First Year Scholar, Chemistry

Elizabeth's research focuses on synthesizing metal-organic frameworks (MOFs) that capture and detect radioactive noble gases, providing new tools for nuclear forensics and environmental monitoring.



Morgan Pettebone

JCM Foundation Scholar
First Year Scholar, Biomedical Engineering

Morgan's research harnesses technologies in optogenetics, high-throughput imaging, and 3D-human cell/tissue engineering to achieve rapid and robust pacing of native cardiac tissues by light, which can advance new light-powered cardiac devices, in addition to other applications.



Catherine Porter

Toni and Hans Schierling Undergraduate Scholar
First Year Scholar, Physics and Data Science

Catherine's research focuses on automating the analysis of gorilla behaviors and features using deep machine learning.



GEORGETOWN UNIVERSITY

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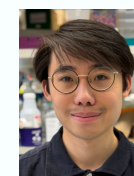


Samuel Allsup

Endowment Scholar

First Year Scholar, Biochemistry and Molecular & Cellular Biology

Samuel's research is focused on using viral elements of the human genome to induce cell death in ovarian cancer cells, as well as attracting cells from the immune system to attack ovarian tumors.



Douglas Kung

Doris and Karl Pierson Scholar
First Year Scholar, Tumor Biology

Douglas' research is focused on identifying the role of the disordered activation domain of estrogen receptor α in hormone-induced transcription.



Nicholas Lutz

MWC Chapter Scholar
First Year Scholar, Chemistry

Nicholas' research centers on engineering the pore space in ultra-microporous organic crystalline materials for use in useful commodity air gas chemical separations.



Hannah Snyder

Mars Foundation Scholar
First Year Scholar, Biology

Hannah's research will identify the mechanisms underlying the regulation and targeting of a precision antibacterial to understand its potential as an alternative treatment for deadly bacterial infections.



Anish Patel

Helen and Glenn Miller Undergraduate Scholar
First Year Scholar, Biochemistry and Government

Anish is examining the effects of ligand identity on the growth and morphology of cerium nanoparticles from cerium-oxo cluster precursors as part of the Knope Group.



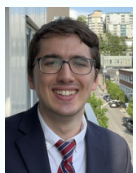
UNIVERSITY OF MARYLAND



Kieran Barvenik

Angie Delaney Memorial Scholar
Second Year Scholar, Mechanical Engineering

Kieran's research explores the development of novel soft hemispherical robots, including characterization of sensing ability, and how these can be used as low-cost grippers with a sense of touch.



Alexander "Sasha" Frolov

Endowment Scholar
Second Year Scholar, Computer Science

Zero-knowledge proofs are a cryptographic technique that lets users show statements like "I have a valid social security number" without revealing any private data, and Sasha's research focuses on making zero-knowledge proofs faster and more capable.



Holly Hemesath

Marilynn and Willard Sweetser Scholar
First Year Scholar, Biochemistry

Holly's research uses computational techniques to study the conformational cycle and dynamics of the molecular chaperone Heat Shock Protein 90.



Sarah Wielgosz

Simpson-Rhoads Scholar
First Year Scholar, Aerospace Engineering

Sarah's research uses machine learning to develop simpler models of spacecraft motion in the region between the Earth and Moon, where scientific and technological activity is rapidly growing.



Melisa Kalayoglu

Sparrell Family Undergraduate Scholar
First Year Scholar, Chemical Engineering and Animal Science

Melisa uses machine learning to study how proteins change structure when binding to other molecules.

All Scholars are PhD candidates except as noted.



JOHNS HOPKINS UNIVERSITY



Ian McKnight

Global Autoimmune Institute Scholar
First Year Scholar, Biomedical Engineering

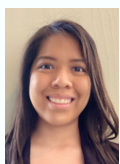
Ian is investigating how specific epithelial populations in the airways shape immune responses in the context of allergic asthma, as well as developing lipid nanoparticle-based delivery systems to therapeutically target these cells.



Kristan Morgan

Mars Foundation Scholar
First Year Scholar, Geography & Environmental Engineering

Kristan's research estimates CO2 sources and sinks in the Amazon, using NASA satellite data to model broader tropical South America to understand the environmental levers and knobs that control the contemporary tropical carbon cycle in one of Earth's most vulnerable environments.



Hannah Tsingine

Joan Jordano Scholar
First Year Scholar, Immunology

Hannah's research demonstrates a promising new gene-therapy approach that uses an AAV delivery system to provide long-lasting protection against deadly fungal infections by prompting muscle cells to secrete long-lasting, protective antibodies.



Varvara Wyart

ARCS MWC Co-Presidents Undergraduate Scholar
First Year Scholar, Applied Mathematics & Statistics and Physics

Varvara's research focuses on developing vision-enabled large language models that integrate medical image analysis and natural language processing to support efficient, accurate, and scalable computational pathology workflows.



ARCS Foundation Mission

ARCS (**A**chievement **R**ewards for **C**ollege **S**cientists) Foundation advances science and technology in the United States by providing financial awards to academically outstanding students who are US citizens studying to complete degrees in science, engineering, math, technology, and medical research.

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