

2025-26 ARCS MWC Scholar Award Recipients



GEORGETOWN UNIVERSITY

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Katelyn Dial

Joan Jordano Scholar

First Year Scholar, Biochemistry and Molecular & Cellular Biology

Katelyn's research explores how psychedelics activate the serotonin 2A receptor to rapidly relieve depression by remodeling brain structures called perineuronal nets, which may enhance the brain's ability to adapt and heal.



Alexander Lekan

Forster Foundation Scholar

Second Year Scholar, Tumor Biology

Alexander's research uses high throughput single cell proteomic analysis technologies to identify immune cell populations that promote anti-tumor effects in pancreatic cancer.



Darrian Mills

MWC Chapter Scholar

First Year Scholar, Physics

Darrian's research focuses on developing a flexible skin patch that uses microfabricated heaters for the creation of micropores in the skin, enabling painless and non-intrusive drug delivery directly into the body.



Charli Minsavage-Davis

Mars Foundation Scholar

First Year Scholar, Biology

Charli's research uses genomics, quantitative models, and AI to explore how cloning in foundation species affects genetic variation and evolutionary potential.



THE GEORGE
WASHINGTON
UNIVERSITY
WASHINGTON, DC

THE GEORGE WASHINGTON UNIVERSITY



Isaac Bilsel

MWC Chapter Scholar

First Year Scholar, Electrical & Computer Engineering

To accelerate graph neural network inference, Isaac's work analyzes communication bottlenecks arising from high-degree graph vertices and introduces a novel on-chip network to efficiently support their collective communication patterns.



Sumner Gubisch

Willard & Marilyn Sweetser Scholar

First Year Scholar, Mechanical & Aerospace Engineering

Sumner's research focuses on advising thermoelectric materials by utilizing laser powder bed fusion to precisely engineer their microstructure and nanostructure, enabling targeted manipulation of material properties to enhance thermoelectric performance.



Olivia Nippe-Jeakins

Toni and Hans Schierling Undergraduate Scholar

First Year Scholar, Astronomy & Astrophysics/Physics

Olivia's work focuses on improving models of the emission from gamma-ray bursts in X-ray and optical light, which occurs after the initial burst, to study particle acceleration and radiation mechanisms in the jets emanating from these sources.



Phoebe Sharp

MWC Chapter Scholar

First Year Scholar, Computer Science & Physics

Phoebe's research studies Short Range Correlations (SRCs), where protons and neutrons in atomic nuclei pair together, using high energy photon scattering, with the goal of understanding nuclear matter at extreme densities such as in the cores of neutron stars.



UNIVERSITY OF
MARYLAND

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Kieran Barvenik

Endowment Scholar

First Year Scholar, Mechanical Engineering

Kieran's research explores soft robots with flexible hemispherical shells and pneumatic or hydraulic actuation that use mechanical buckling for enhanced speed and force, passively deform on contact to sense pressure changes, and function as low-cost grippers with touch sensitivity.



Alexander "Sasha" Frolov

Patsy Mote Memorial Scholar

First Year Scholar, Cybersecurity

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.



Rose Gebhardt

Virginia Wright Memorial Scholar

First Year Scholar, Aerospace Engineering

Rose's research models the fluid dynamics of robotic fish swimming near other agents and uses feedback control to optimize hydrodynamic benefits and bio-inspired behaviors, such as modifying vortex trajectories, maintaining desired distances, and performing rheotaxis.



Jeremy Hannon

MWC Chapter Scholar

First Year Scholar, Civil and Environmental Engineering

Jeremy's research examines nitrogen sources and transport patterns in tributaries of Lake Erie through the chemical analysis of environmental tracers with the goal of understanding and mitigating the region's harmful algal blooms.



Harikesh Kailad

Sparrell Family Undergraduate Scholar

First Year Scholar, Computer Science and Mathematics

Harikesh's cryptography work focuses on the development of anonymous credentials and the creation of anonymous forums with moderation, and their use for whistleblowing, credit scores, private messaging, and ad fraud detection.



JOHNS HOPKINS UNIVERSITY



Emily Ariail

McNichols Foundation Scholar

First Year Scholar, Biomedical Engineering

Emily's research combines molecular engineering and immunology to create novel cytokine/antibody fusion proteins that aim to improve and expand the accessibility of cell-based cancer immunotherapies.



Nicole Crumpler

Michelle & Julian Francis Scholar

First Year Scholar, Physics & Astronomy

Nicole's research combines theoretical physics and observational astronomy to explore unknown physics, such as dark matter and quantum gravity, by using black hole mergers and white dwarf stars to search for new signals.



Kathryn E. Kingsbury

Endowment Scholar

First Year Scholar, Chemistry

Kathryn's research designs new mixed-valent materials where Fe^{2+} and Fe^{3+} ions are connected by bridging atoms or molecules and studies how electrons move between the ions using techniques like Mössbauer spectroscopy, X-ray diffraction, UV-Vis spectroscopy, and magnetic measurements.



Nikita Sivakumar

Global Autoimmune Institute Scholar in Honor of Benjamin Kim, Esq and Amy Neuhardt, Esq

First Year Scholar, Biomedical Engineering, Computational Medicine

Nikita's research aims to develop a computational model using machine learning and 3D time-lapse images to understand how distinct motility behaviors of B- and T-cells in mouse lymph nodes contribute to their interactions during immune responses to infection and vaccination.



UNIVERSITY OF VIRGINIA



Nicolas Arnaud

Mars Foundation Scholar

First Year Scholar, Electrical Engineering

Nicolas's research develops and integrates low-noise on-chip analog circuits to convert weak optical signals into voltage for quantum optics measurements, with broader applications in communication systems and sensing.



Lauren Bowling

JCM Foundation Scholar

First Year Scholar, Material Science & Engineering

Lauren's research focuses on identifying refractory alloy compositions and oxides that can reduce oxidation and improve the performance of materials used in next-generation gas turbines and aeroengines.



Julia Davis

McNichols Foundation Scholar

First Year Scholar, Civil & Environmental Engineering

Julia's research examines how people make relocation decisions in response to climate-driven flooding, using historical flood data and personal risk perceptions to create a tool for fair and informed planning.



Clara Stahlmann Roeder

MWC Chapter Scholar

First Year Scholar, Biology & Biomedical Engineering

Clara's research studies how age and prior social experience affect the perception and response to social environments, focusing on fighting behavior in the long-lived forked fungus beetle, including how these factors influence future fighting success, strategies, mating behavior, and pheromone composition.



ARCS Foundation Mission

ARCS (Achievement Rewards for College Scientists) 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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