

2024 Goddard Memorial Dinner Keynote Scholarship Finalists



FINALIST: Abigail Frank

Abigail is a sophomore at Purdue University, majoring in Aeronautical and Astronautical Engineering. As Project Manager of the Purdue Space Program's (PSP) High Altitude Team, she leads a team of over 100 students designing, testing and building a reusable solid rocket capable of reaching 15 kilometers with a biological payload. The experiment will study how plants react to high g-forces. She previously served as Lead Propulsion Engineer, overseeing a team developing a novel test stand, conducting characterization testing, designing a flight-ready motor, and studying grain geometry's effect on in-flight performance. As Test Operations and Mission Control Engineer, she was also responsible for safety procedures and physical infrastructure for manufacturing and testing of sub-systems. At Purdue, Abigail is an Honors College Mentor, Honors Engineering Mentor, and part of the current cohort of Leading Women Toward Space Careers. She is particularly interested in leadership philosophies and building highly functional teams.

Last summer, Abigail conducted research in Kenya funded by the National Science Foundation. She focused on educational policy and curriculum frameworks, integrating young mothers into the Tumaini Innovation Center as a way of providing long-term employment opportunities and pathways out of extreme poverty. Her research has received awards of excellence from the Purdue Undergraduate Research Conference and the John Martinson Honors College and is part of the Global Health Talk Speaker Series.

In high school, Abigail was a NASA Western Aerospace Scholar through the University of Washington and conducted an extensive review of the psychological consequences of long-term space travel. She led her school's Sustainability Club and continues to be captivated by the intersection of sustainability and human spaceflight. She was valedictorian and earned the IB Diploma and Oregon Seal of Biliteracy. She maintains close relationships with her teachers and returns regularly to her high school to give presentations and advise students on gap year options, ethical volunteering, high school-to-college transitions, and STEM opportunities.

A long athletic career in competitive rhythmic gymnastics took Abigail all over the U.S., Canada, and Japan, and she was a member of the U.S. Junior Olympic Team. She went on to serve as Head Coach of a large gymnastics team, was recognized as regional Coach of the Year, and built a strong and enduring training program for her athletes. Horses have been a big part of Abigail's life since the age of six, and she was selected as Oregon Horsewoman of the Year and is a 3-time equestrian National Champion.

Abigail has traveled extensively and enjoys learning from people of varied cultures. She has volunteered with coral reef restoration biologists and elephant caretakers in Thailand, learned to build and install solar power arrays in Kenya, and assisted nurses at a snakebite clinic in Tanzania, among other projects.

She is an avid hiker and rock climber and has explored dozens of national parks and natural wonders on five continents. She maintains a very long list of wild places she hopes to explore someday.

Professionally, Abigail intends to earn a Ph.D. and serve to advance the frontiers of space exploration.

FINALIST: William Kirby

Will Kirby is a 2nd lieutenant Space Operations Officer in the USSF and a first-year graduate student studying space systems engineering at Johns Hopkins University. He is a former NASA GSFC intern and a recipient of the 2023 John Mather Nobel Scholarship and intends on utilizing the grant to share research at professional conferences. While at Goddard, he created a technology tracking report for NASA's Internal Research & Development Program (IRAD) and helped identify commonalities between successful IRAD project proposals. A Virginia Tech alum, he is also a graduate of the Air Force Reserve Officer Training Corps and the Virginia Tech Corps of Cadets. He is a founding member of the Space Training Advancement & Readiness Squadron and was a key leader in organizing the first ever "STARS Align" conference, which brought 180 cadets from 27 universities across the East Coast to Virginia Tech for a weekend-long educational experience. His work resulted in his Air Force ROTC unit garnering 12 slots for cadets to enter the Space Force, nearly 10% of the entire nation's allotment. Additionally, while at school, his senior engineering and design Capstone project placed first. This fall he utilized his investigative experience at Goddard to function as the Principal Investigator for an acoustic de-icing system through L'SPACE Academy, a NASA proposal workshop. In addition to his love for space, Will is an avid backpacker and has trekked over 80% of the Appalachian Trail. He also enjoys spending quality time with his family, friends, and dog, a very vocal labrador. Will hopes to see mankind become an interplanetary species within his lifetime and will have an active role in shaping the future of space exploration.



Semper supra!



FINALIST: Abbygail Nerger

Abbygail Nerger is a freshman student at the University of Nevada, Reno. She is currently working on her undergraduate degree in Biomedical Engineering. Abbygail's passion for STEM is evident in her hobbies, clubs and positions she holds. She helped run her high school's First Tech Challenge (FTC) robotics team as vice president in 2022 and as treasurer in 2023. In 2022 she also won the Northern Nevada Affiliate Award from the

National Center for Women and Information Technology (NCWIT) for her efforts in robotics as well as her school's Girls Who Code club. For the last six years she has been launching and experimenting with rockets as a member of the Tripoli Rocketry Association (TRA). Her local TRA chapter and the local National Association of Rocketry (NAR) chapter joined forces to create the Sierra Rocketry Club. During this time, Abbygail had been putting together small rocket workshops for kids ages six to twelve when she noticed a need to inspire the next generation of rocketeers. The club's Board of Directors recognized her work and invited her to join the board as a representative for young and/or female identifying members. In her free time, Abbygail enjoys playing the piano, solving Rubik's cubes and volunteer coaching for her high school's ski team. When she graduates with her Biomedical Engineering degree she hopes to make prosthetics for amputees or conduct research in the medical device industry. She could definitely imagine herself working in the aerospace industry to make devices for astronauts.

FINALIST: Isabella Sidoruk

Isabella Sidoruk is a junior at Tufts University studying Cognitive and Brain Science (BS) and Science, Technology and Society (BS). Her academic journey is fueled by a profound passion for psychology and STEM research, coupled with a strong commitment to community service and the outdoors. After graduating as valedictorian from her high school, Sidoruk subsequently began working as a research assistant in the Tufts Applied Cognition Lab where she has spearheaded multiple impactful studies. Her work explores proactive and reactive control states in the brain, unraveling the cognitive mechanisms behind multitasking, memory, and attention. She has presented her research on these projects at various conferences, including the Laidlaw Scholars Global Conference and the New England Psychological Association (NEPA) annual conference and she has recently published a poster presentation with an accompanying paper in progress titled "Talk is Cheap: Examining the Relationship Between Self-reported and Task-Based Attentional Control".



As a Laidlaw Scholar, Isabella has conducted extensive research and contributed to "Leadership in Action" pursuits in struggling nations to enact change. Isabella has been a cornerstone in

community events and recruiting efforts to spread the mission of Laidlaw as a member of the Advisory Board and is dedicated to inspiring the next generation of scholars. As a STEM Ambassador, she hopes to make a difference and lead by example to address gender disparities in STEM fields by inspiring and empowering the next generation, especially those with marginalized identities. She is passionate about her involvement in Girls in STEM, a club which provides a supportive and inclusive environment where girls can explore their interests in STEM, receive mentorship, and engage in educational activities. She believes that as a woman, it is important to advocate for representation in the STEM field.

Also, as the president of Active Minds at Tufts, Sidoruk works to eradicate the stigma associated with mental illness and finds solutions to support mental health initiatives on campus. She became intrigued in the brain and space as a young child, inspired by her grandfather's work on the Lunar Excursion Module and the Apollo Missions as a Human Factors Engineer at Northrop Grumman. Utilizing her understanding of cognitive processes and human behavior, she strives to discover solutions that enhance human capability, driving progress in research and space exploration initiatives. To continue these interests, Sidoruk became a member of SEDS (Students for the Exploration and Development of Space) in her sophomore year, aiming to represent her passion for space exploration and the future of humanity in the cosmos. Through her research and expertise, she aims to unlock the mysteries of the mind, paving the way for innovations in education, technology, and mental health interventions that empower individuals to reach their full cognitive potential.



FINALIST: Saahil Sinha

Saahil Sinha is a senior at Foothill High School in Santa Ana, California. He is in the International Baccalaureate Diploma program and has earned the California State Seal of Biliteracy in Spanish. In September, he was named a Semifinalist in the National Merit Scholarship competition. At Foothill, he is a part of the 4-year engineering pathway, where students learn how to take an idea from 3D design to fabrication. Last year, he worked with his classmates as a machinist developing 3 highly efficient go-karts for the UCI Energy Invitational race, bringing home first, second, and third place. He is currently leading a 3-person team to design and build a harmonic-drive equatorial mount for astrophotography for his senior project. In 10th grade, Saahil created his own business selling 3D printed astronomy parts. His main product is a mounting system that allows people to use a widely loved camera lens as a telescope, complete with autofocus and guiding capabilities, making astrophotography more accessible. Saahil has received numerous awards from the Royal Greenwich Observatory in the UK for his work in astrophotography. In addition to being published in the Observatory's official Astrophotographer of the Year viewbook, he was awarded multiple times in the Young category. In 2022, a filmmaker representing the Observatory flew to California to film a mini documentary about Saahil's work that played in the Royal Museums Greenwich for one year. In 2023, Saahil was selected to participate in the Summer Science Program (SSP) in Astrophysics at New Mexico State University. He and the other participants spent six weeks

determining the orbital elements of near-Earth asteroids from their own observations with a research grade telescope, publishing all their data to the Minor Planet Center. They also ran intensive simulations to ensure that those asteroids pose no danger to us living here on Earth. Saahil plans on using his education in aerospace engineering to pioneer a new era of space exploration. He believes that exploration of the resources available in the Solar System, from cobalt in the Asteroid Belt to hydrogen for nuclear fusion on the Jovian planets, have the ability to advance humanity together.

FINALIST: Daniel Smiley

Daniel Smiley is a senior at Ventura High School in Ventura, California. He will be pursuing a bachelor of science degree in mechanical and aerospace engineering at Princeton University in the fall. Daniel's love of space began at the age of six when he came within a few feet of the Space Shuttle Endeavour as it rolled through the streets of Los Angeles in 2012 en route to its permanent home at the California Science Center. His notable early achievements in aerospace include dressing up as Gene Krantz for Halloween in middle school and writing a 20,000-word historical fiction novel about Apollo 18 as a thirteen-year-old.



Daniel is most proud of being the founder of Ventura High School's Rocket Club, where he hosts weekly meetings—where the club dissects recent launches and news—and organizes launch viewings from nearby Vandenberg Space Force Base. The club also puts on an annual Bottle Rocket Launch Competition on his campus quad open to all students. In May, the club will travel to the Mojave Desert to launch real model rockets.

Daniel is a winner of the engineering division of the Ventura County Science Fair with his project recreating Elon Musk's hyperloop technology at a 1/87 scale. He is a four-year varsity member of his school's golf team and also active in Scouts BSA where he served as his troop's Senior Patrol Leader and is planning to be awarded the rank of Eagle this spring. Lastly, and perhaps most inspiring to fellow nerds, Daniel was elected Homecoming King this past fall.

After Princeton, he hopes to use his passion for aerospace to educate others and ultimately send humans to the Moon, Mars, and beyond.