Davidson Institute
Fellows Scholarship

For Immediate Release
August 21, 2024

Contact: Megan Bedera
775-997-5690
Megan@AmplifyRelations.com

NEW YORK TEENS AWARDED $30,000 IN SCHOLARSHIPS FOR ACHIEVEMENTS IN ENGINEERING, SCIENTIFIC AND LITERATURE RESEARCH

Roark Petermann, Aadita Roy and Ellen Wang Each to be Awarded $10,000 Scholarships

New York – The Davidson Fellows Scholarship Program has announced the 2024 scholarship winners. Among the honorees are Roark Petermann, 17, of Walden; Aadita Roy, 17, of Pelham; and Ellen Wang, 16, of Bronx. Only 20 students across the country are recognized as 2024 scholarship winners.

“I am indescribably honored to be named a Davidson Fellow,” said Roark Petermann. “The award is, to me, a reminder of the unique role that the humanities and social sciences can have in tackling critical issues.”

For his project, Petermann created *Centripetal Agonies*, an exploration of the interconnectedness of suffering across living beings through a historical lens spanning centuries. By examining the entanglements of religious traditions, mass hysteria, societal dynamics, and the limitations of language, the project reveals the roots of tragedy and the abstraction of ethics between species. Using animal rights as a key focus, it proposes a radical shift in linguistic philosophy, blending poetry, fiction, and critical essays to explore the potential of language as both a binding and liberating force. The work gestures toward a post-anthropocentric condition, challenging traditional perspectives on communication, history, and ethics.

"Being recognized as a Davidson Fellow is a tremendous honor,” said Aadita Roy. “I am filled with pride to join such an inspiring and hardworking group of high school students who are dedicated to making a positive impact on the world."

For her project, Roy created a human organoid model using human pluripotent stem cells (hPSCs) to mimic the pancreas, addressing the need for better models to study diabetes. By differentiating hPSCs into organoids containing pancreatic endocrine cells, endothelial cells, and macrophages, she explored the impact of unstimulated and proinflammatory macrophages on β-cell viability. Her findings revealed that proinflammatory macrophages can induce pyroptosis, a type of cell death, in β-cells within the organoids. This model offers new insights into macrophage-mediated β-cell death, potentially guiding the development of new diabetes treatments.

"To me, being named a Davidson Fellow is more than an endorsement and a celebration of what I have achieved through hard work – it is an unparalleled opportunity to join an

Cont.

intellectually stimulating community of young talents and motivates me to go above and beyond in my continued expedition into uncharted territories of scientific discovery," said Ellen Wang. "I am immensely grateful to the Davidson Institute for this opportunity that upholds my aspiration to launch a research career in the future."

For her project, Wang developed an innovative approach to studying Arctic Sea ice dynamics by introducing new features to the classical Ising model in statistical physics and training a deep neural network to learn from it. Her simulations produced results that closely match actual sea ice behavior, demonstrating the effectiveness of combining classical physics models with modern computing techniques. This research identifies the fundamental mechanisms behind sea ice loss and highlights the potential of interdisciplinary approaches in climate science. Her work contributes to the understanding of climate change and could pave the way for future research aimed at mitigating the environmental and economic impacts of Arctic Sea ice loss.

"This year's class of Davidson Fellows Scholarship recipients exemplifies the power of innovation and perseverance," said Bob Davidson, founder of the Davidson Institute. "Our Fellows continue to push the boundaries of their educational and research pursuits, striving to solve some of the world's most challenging problems by leveraging creative, outside-the-box thinking and cutting-edge technology to expand their networks, access new sources of information, and deliver an impressive array of diverse projects."

The 2024 Davidson Fellows will be honored during a reception at the Smithsonian National Museum of the American Indian in Washington, D.C. and with a virtual project presentation ceremony in September 2024.

The Davidson Fellows Scholarship program offers $50,000, $25,000 and $10,000 college scholarships to students 18 or younger, who have completed significant projects that have the potential to benefit society in the fields of science, technology, engineering, mathematics, literature and music. The Davidson Fellows Scholarship has provided more than $9.9 million in scholarship funds to 448 students since its inception in 2001, and has been named one of the most prestigious undergraduate scholarships by *U.S. News & World Report*. It is a program of the Davidson Institute, a national nonprofit organization headquartered in Reno, Nev. that supports profoundly gifted youth.

About the Davidson Institute

Founded by Bob Davidson in 1999, the Davidson Institute recognizes, nurtures and supports profoundly intelligent young people, and provides opportunities for them to develop their talents to make a positive difference. The Institute offers support through a number of programs and services, including the Davidson Fellows Scholarship and the Davidson Academy of Nevada. For more information about the 2024 Davidson Fellows, please visit: DavidsonFellows.org.

###

High-resolution photos are available at
DavidsonFellows.org