



Davidson Institute  
**Fellows Scholarship**

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## **TROY TEEN AWARDED \$10,000 SCHOLARSHIP FOR DEVELOPING NEW APPROACH FOR AUTOMATING TREATMENT OF NEURODEGENERATIVE DISEASES**

### **Michelle Hua Named 2023 Davidson Fellows Scholarship Winner**

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Detroit – The Davidson Fellows Scholarship Program has announced the 2023 scholarship winners. Among the honorees is 18-year-old Michelle Hua of Troy. Hua won a \$10,000 scholarship for her project, *3D Acoustic Simulation and Optimization Algorithms for Transcranial Focused Ultrasound Delivered with Stereotactic Robotics*. She is one of only 21 students across the country to be recognized as a 2023 scholarship winner.

“To me, being a Davidson Fellow is an honor and an opportunity to inspire and to be inspired,” said Hua. “I can’t wait to share my work with all the other Fellows as well as learn about their fascinating research. As a group, I hope we can also inspire other young students to pursue their passions in science.”

Motivated by her grandfather’s Alzheimer’s symptoms that distanced him from his loved ones, Hua developed an interdisciplinary approach that combines computer science, biomedical engineering, and robotics to automate the treatment of neurodegenerative diseases and disorders with a surgical robot. Her research makes a significant contribution to the treatment of diseases such as Alzheimer’s and Parkinson’s and has numerous potential applications, including improved drug delivery, thermal ablation of cancer tumors, and treatments for essential tremor and depression.

Hua is an incoming first-year student at Harvard College. In addition to her research work, she is a competitive rhythmic gymnast, a silver medalist in the 2022 USA Gymnastics Championships, and a national level 10 gymnast. In her leisure time, Hua enjoys traveling, spending time with friends, and exploring different cuisines.

“We are proud to announce this year’s class of Davidson Fellows Scholarship recipients who have completed significant projects with the potential to benefit society in the fields of science, technology, engineering, mathematics, literature, and music,” said Bob Davidson, founder of the Davidson Institute. “The innovations and new thinking added by each class of Fellows

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serve as an inspiration for future scholars to apply novel technologies and groundbreaking ideas to solve the world's most difficult problems.”

The 2023 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 2023.

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 \$9.4 million in scholarship funds to 428 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 2023 Davidson Fellows, please visit: [DavidsonFellows.org](#).

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*High-resolution photos are available at*

[DavidsonFellows.org](#)