



Davidson Institute  
**Fellows Scholarship**

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**DAVIE TEEN AWARDED \$50,000 SCHOLARSHIP FOR INNOVATIVE  
BIOENGINEERING APPROACH TO KNEE IMPLANT RESEARCH**  
**Calvin Mathew Named A 2024 Davidson Fellows Laureate Scholarship Winner**

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Miami – The Davidson Fellows Scholarship Program has announced the 2024 scholarship winners. Among the honorees is 17-year-old Calvin Mathew of Davie. Mathew won a \$50,000 scholarship for his project, *3D Printing Personalized Knee Implants: Novel Computational Geometric Models for Stem Cell Regeneration in Meniscus Tears*. He is one of only four students nationwide to be recognized as a Davidson Fellows Laureate and one of only 20 scholarship winners in the 2024 Fellows class.

“As a Davidson Fellow, I am most excited to connect with the other amazing Fellows and continue my biomedical engineering journey!” said Calvin Mathew.

Mathew, after seeing firsthand how his mother’s torn meniscus pain progressed to osteoarthritis, developed a method to create artificial knee tissue by 3D printing meniscus implants using gelatin and chondroitin sulfate, common biomaterials. He personalized these implants using patient MRI scans, biocomputational simulations, and latticing techniques. Testing showed that his implants closely mimic the biomechanical properties of natural meniscus tissue and support stem cell differentiation. His approach, which is 100 times cheaper than current industry standards, offers a promising and affordable solution for treating torn cartilage in athletes, the elderly, and individuals with osteoarthritis.

Mathew is a rising senior at American Heritage Schools, Broward Campus in Plantation. His primary scientific interest is tissue and organ transplantation. Outside the lab, he volunteers to raise funds and awareness about organ donation and leads transplant patient support groups.

"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."

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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](#).

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