

**Davidson Fellow**

**Sahil Khetpal**

\$10,000 Scholarship Recipient



**Personal Info**

Age: 17

Plano, Texas

**School, College and Career Plans**

A recent graduate of Texas Academy of Mathematics and Science, Sahil will attend University of Pennsylvania, Wharton School of Business. He is double-majoring in business and chemical engineering and looks forward to a career in blending his passion for business and science.

**Davidson Fellows Submission** (Science)

In his project, "*Carbon Nanotubes as a Cancer Drug Delivery System*," Sahil developed a carbon nanotube-based drug-delivery system for tumor targeted chemotherapy and photo-therapy of cancer, a dual therapy. This versatile platform attacks tumors on two fronts and mitigates the severe side effects associated with conventional chemotherapy. He also investigated a gadonanotube for the development of a new drug delivery system. Sahil's system has the potential to both diagnose cancer at an earlier stage and provide the dual therapy mechanism to efficiently combat it.

**Biography**

Sahil was born into a family of doctors and engineers and has always been encouraged to follow his interests in math and science. He completed most of his advanced courses by his sophomore year and consequently, chose to attend Texas Academy of Mathematics and Science (TAMS) for his junior and senior year. TAMS is an early college entrance program for students gifted in math and science. At TAMS Sahil was able to take classes at University of North Texas and pursue his interest in chemistry which allowed him to begin his Davidson Fellows project.

Although Sahil's interest in chemistry had a role in Fellows project, the real motivation came from seeing several family members suffer from cancer. Sahil had substantial challenges to overcome while working on his project, namely that most of the work was done at Stony Brook University to be close to his mentors. He also had to learn advanced organic chemistry to conduct the reactions essential to his project. Through all this he learned patience and creativity to overcome obstacles to reach his goals.

In his spare time Sahil enjoys watching movies, playing soccer, alto saxophone, video games and hanging out with friends. He was president of his school's Research Organization, was involved with the Junior Engineering and Technical Society (JETS), Mu Alpha Theta and Science Bowl.

*Please see next page.*



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*cont.*

**Honors/Awards**

- 2010 Davidson Fellow
- 2010 National Proton Energy Scholarship Winner
- 2010 National AXA Achievement Scholarship Winner
- 2010 Intel Science Talent Search Semifinalist
- 2009 Siemens Regional Finalist
- 2009 Sanofi-Aventis BioGENEius Research Challenge Finalist
- 2009 International First Step to Nobel Prize in Physics Honorable Mention
- 2009 National Massachusetts Institute of Technology-Lemelson InvenTeams Grant
- 2009 Texas State Science and Engineering Fair Second Place Chemistry, Texas
- 2009 Stockholm Junior Water Research Prize Second Place, Texas
- 2009 Fort Worth Regional Science Fair First Place
- 2009 San Antonio Regional Science Bowl Second Place
- 2008 University Interscholastic League Alto Saxophone Soloist Superior Rating
- 2008 University Interscholastic League Also Saxophone Ensemble Superior Rating
- 2007 American Classical Music Festival Outstanding Soloist
- 2007 Central Region Mathematics Mandelbrot Team First Tier

**Community Activities**

Sahil is the co-founder and co-president of Invisible Children, an organization created to raise awareness of the situation in Northern Uganda. Invisible Children raised \$2,000 for the children of Northern Uganda and educated over 300 high school students about their plight.

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