



**Davidson Fellow Laureate
Shivani Sud**

(\$50,000 Scholarship Recipient)



Personal Info

Shivani Sud
Age: 16
Durham, North Carolina

School, College and Career Plans

Shivani will be a senior at Jordan High School. She hopes to eventually perform research in the field of medicine as a physician scientist.

Davidson Fellows Submission (*Science*)

In her project, "HIV-1 Tat and IGK-Chain Secretion Based Protein Transduction: A Novel Strategy for Molecule Delivery," Shivani developed a technology to deliver chemotherapeutic molecules to cancerous cells with increased efficiency. Her findings can assist with more efficient drug delivery by overcoming cell membrane barriers, one of the greatest challenges facing conventional chemotherapy. Through protein transduction, Shivani developed a drug delivery system focused on an amino acid region of the HIV-1 Tat protein that allows larger medicinal molecules to pass into the cell. Particularly relevant to controlling tumors in areas where surgery is not an option, this research can help combat cancer and infectious diseases through more effective chemotherapy treatments.

Biography

Shivani has always been intrigued by the ever changing nature of science and venturing into unmarked territory through research. She became particularly interested in cancer research as a young girl when one of her immediate family members was diagnosed with a brain tumor which was ultimately benign. While in middle school, Shivani sought out research opportunities has been working in labs ever since.

Shivani's various research projects have led her to laboratories far from home, teaching her to face the challenges of independence along with the hardships of the lab. These challenges in turn strengthened Shivani's abilities as a problem solver and reaffirmed that the work she was doing had the potential to help people suffering from cancer.

Shivani is a member of several clubs and volunteer associations including the Math Club, Model United Nations, Hope for Life, and Teen Court. She has been elected to be a tri-speaker at the 2007 North Carolina Youth Legislative Assembly. Shivani enjoys choreographing Indian dance, playing softball and volunteering in her temple. She hopes to share her curiosity, interest, desire and passion for learning with bright minds and extraordinary individuals.

Please see next page.



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(Cont.)

Honors/Awards

- 2006 Davidson Fellow Laureate
- 2006 AP Scholar with Honor
- 2006 Biomedical Research Intern at the National Cancer Institute at the National Institutes of Health
- 2006 Ambassador to Superintendent's council
- 2006 North Carolina Junior Science and Humanities Symposium (1st place)
- 2006 Minority Research Trainee Forum Abstract Competition Winner and Presenter
- North Carolina State Fair Biology Division (1st place)
- 2005 and 2004 Biomedical Research Intern, Temple University School of Medicine
- 2005 North Carolina Regional Science Fair (1st place)
- 2004 Mayor's Award for Community Service
- 2004 North Carolina Public Speaking Contest Winner

Community Activities

Shivani is very active in her school as president of the Model United Nations Team, and school ambassador to the superintendent. She has been elected as a tri-speaker for the 2007 North Carolina Youth Legislative Assembly and has served as an attorney for the Durham Teen Court for over five years. She volunteers at the Animal Protection Society as well as the Durham Rescue Mission.

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