



**Davidson Fellow  
Varun Kumar**

(\$25,000 Scholarship Recipient)



**Personal Info**

Varun Kumar  
Age: 17  
Bellaire, Texas

**School, College and Career Plans**

Varun is a recent graduate of Bellaire High School and will be attending Rice University in the fall. He plans to major in biochemistry and pursue a career in medicine or medical research.

**Davidson Fellows Submission (Science)**

In his project, "Novel Properties in Europium DOTA - tetraamide Complex for use in MRI Contrast Agents," Varun determined how to improve diagnostics in the field of medicine through more effective magnetic resonance imaging (MRI). Varun researched and built compounds that could be used to form a new class of MRI contrast agents, responsive to proteins instead of water concentration. By showing the distribution of proteins throughout a living system, these new agents could add a powerful dimension to MRI. The implications of Varun's research could provide a more comprehensive and less invasive form of diagnosis in almost every field of medicine.

**Biography**

Varun was originally prompted to conduct his research in the field of Magnetic Resonance Imaging (MRI) because it is a widely used tool of diagnostic imaging. MRI is routinely used throughout medicine because the procedure is completely safe and non-toxic.

Varun faced many challenges in his research including learning laboratory procedures of organic synthesis and basic reactions in organic chemistry. The biggest difficulty he overcame was an unusually unfavorable result. However, by exploring the reasons behind it, these results led him to investigate the possible role of using protein responsive contrast agents.

Varun has always believed he can make a difference and his scientific research is just one facet. As co-chairman of the United Way Kid's Way Youth Advisory Committee, a completely youth-run committee, Varun helps raise \$200,000 annually for Houston-area nonprofit organizations serving underprivileged children and youth. Varun also likes to share his culture and heritage by serving as the president of the Bellaire High School chapter of the Hindu Student Council. In his free time, Varun likes to jog and read.

*Please see next page.*

**The Davidson Institute for Talent Development**

9665 Gateway Drive, Suite B | Reno, Nevada 89521 | Ph: 775-852-3483 | Fax: 775-852-2184



**Davidson Fellow  
Varun Kumar**

*(Cont.)*

**Honors/Awards**

- 2006 Davidson Fellow
- 2006 National Merit Scholarship Winner
- 2006 Academic Decathlon – 1<sup>st</sup> Place in Economics, 3<sup>rd</sup> Place in Math
- Top Delegate Award for the International Court of Justice at the Houston Area Model United Nations Conference
- 2005 Siemens Westinghouse, Regional Finalist
- 2005 Jesse H. Jones Scholarship for Leadership and Philanthropy
- 2005 USA Biology Olympiad National Semifinalist
- 2004 Kinkaid Math Science Institute Quiz Bowl Winner
- 2003 National Forensics League Degree of Distinction

**Community Activities**

Varun was the president of his school's Model United Nations club and served as editor for his high school's award-winning school newspaper, the *Three Penny Press*. He has also volunteered at the Memorial Hermann Hospital and the Houston Museum of Natural Science.

###