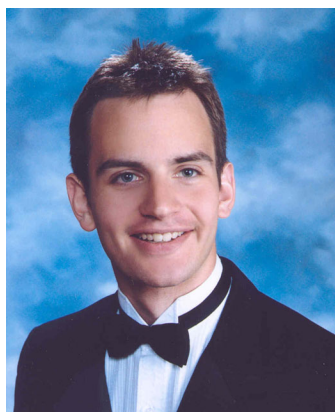




Davidson Fellow

Brett Harrison

(\$25,000 Scholarship Recipient)



Personal Info

Brett Harrison

Age: 17

Dix Hills, New York

School, College and Career Plans

This summer Brett will attend the Research Science Institute, where 50 carefully selected high school students will conduct research at the Massachusetts Institute of Technology. He will return to Half Hollow Hills High School West as a senior and has future plans to major in mathematics and computer science.

Davidson Fellows Submission *(Mathematics)*

In his project titled "A Proof of Seymour's Conjecture for All Oriented Graphs," Brett proved a long-standing problem in the field of graph theory called Seymour's conjecture, which was formulated in 1993 by a Princeton mathematics professor about the square of an oriented graph. Using a combinatorial method, Brett developed a proof that is more precise than the conjecture itself, proving the existence and location of certain objects in a graph. Brett's findings have broad implications in the fields of communications, computer networking and structural design.

Biography

Throughout his education, Brett has always found love and appreciation for the complexity of mathematics. He began an accelerated mathematics curriculum in tenth grade when he taught himself geometry and trigonometry so that he could take pre-calculus a year early. That same year, Brett worked with a professor from a nearby college to learn graph theory. His search for a deeper understanding of the intricacies of mathematics brought him to explore math outside of the high school curriculum, leading him to Seymour's Conjecture.

Brett loves music and plays the alto, soprano and baritone saxophones, guitar and piano. He was selected to play alto saxophone and baritone saxophone in the All-County Symphonic Band for 2003, 2004 and 2005. He plays first alto saxophone for the school symphonic band as well as the school jazz ensemble, and he plays guitar for the theatre department's pit orchestra. Brett is also a talented athlete, running two years of varsity cross country and playing three years of varsity tennis. In 2004, Brett was named an All-League tennis player.

Please see next page.



**Davidson Fellow
Brett Harrison**

(Cont.)

Honors/Awards

- 2005 Davidson Fellow
- 2005 Harvard Book Award
- 2005 Rensselaer Mathematics Award
- 2005 Bausch and Lomb Science Award
- 2005 CalTech Signature Award
- 2005 Independent Study in Multivariable Calculus and Complex Analysis
- 2005, 2004, 2003 Academic Quizbowl Team
- 2005, 2004, 2003 Long Island Math Fair, Gold Medalist
- 2004 Long Island Science and Engineering Fair, First Place and Best in Category in Mathematics
- 2004 Intel International Science and Engineering Fair, First Place Karl Menger Memorial Award from The American Mathematics Society; Second Place Grand Award in Mathematics from Intel
- 2004 LIMSAT Young Scientist Award
- 2004 Ross Mathematics Summer Program for Number Theory at Ohio State University

Community Activities

In September, 2004, Brett started a class where he teaches number theory to younger mathematics research students.

During the year, Brett volunteers at Gurwin Geriatric Center, a local nursing home.

###