



Davidson Fellow Laureate

Eric Sherman

(\$50,000 Scholarship Recipient)



Personal Info

Age: 16
Ephrata, Pennsylvania

School, College and Career Plans

Eric is a graduate of Ephrata High school, and will attend Swarthmore College in the fall where he will major in biology, genetics or bioinformatics. He plans to pursue a career as a research scientist in the field of genetics after receiving a Ph.D. or a combined M.D./Ph.D.

Davidson Fellows Submission (*Science*)

In his project, "Computer Analysis of the HLA Histocompatibility Complex: Identification of Bone Marrow Donor Matches," Eric developed a technique that allows scientists to identify potential bone marrow donors in one percent of the time and for six percent of the cost of traditional techniques. Using polymerase chain reaction and cycle sequencing, he sequenced the genes that determine a person's Human Leukocyte Antigen (HLA) type. Eric then wrote a computer program to analyze the DNA sequence and return possible HLA matches. This technique can potentially be used to identify donors for other transplantable organs, such as kidney, liver and lung, creating the opportunity to save hundreds of lives and millions of dollars each year.

Biography

Eric attended public school from kindergarten through 12th grade and was Salutatorian of his graduating class. He has had a non-traditional educational experience, being grade-accelerated twice: he completed first and second grade in one year and fourth and fifth grade in another year. In sixth and eighth grades, Eric was subject accelerated in math and science, respectively. He was also accelerated in several subjects in high school. During his senior year, Eric took five courses at local colleges.

In 2008, Eric attended the Pennsylvania Governor's School for the Sciences program at Carnegie Mellon University, and received the Paul Morton Research Grant Award.

Eric enjoys building and flying remote-control airplanes, alpine skiing and bicycle riding. In high school, he was co-editor-in-chief of the yearbook, and participated in local, regional and national science fairs, the ski club, and the quiz bowl. Eric has played the trombone/baritone in his school's jazz band, orchestra, concert band and marching band.

Please see next page.



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(Cont.)

Honors/Awards

- 2009 Davidson Fellow Laureate
- 2009 Intel Science Talent Search Semi-Finalist
- 2009, 2008, 2007 National Honor Society
- 2009, 2008, 2007 Spanish National Honor Society
- 2008 Published as lead author in the *American Journal of Human Genetics*
- 2008 Poster presenter: American Society of Human Genetics Conference in Philadelphia
- 2008 Lancaster Newspapers Science and Engineering Fair Reserve Champion
- 2007 Intel International Science and Engineering Fair Third Place Cellular and Molecular Biology
- 2007 Davidson Fellow Honorable Mention
- 2007 Commonwealth of Pennsylvania Citation for Scientific Research
- 2007 Lancaster Newspapers Science and Engineering Fair Grand Champion
- 2006 Intel International Science and Engineering Fair Second Place Microbiology
- 2006 Lancaster Newspapers Science and Engineering Fair Grand Champion
- 2003- Present Davidson Young Scholar

Community Activities

The main focus of Eric's volunteerism has been in the genetics research lab at The Clinic for Special Children in Strasburg, Penn. where he developed his Davidson Fellows project. He has volunteered more than 2,000 hours over the past two years, doing both clinical and research work. He has also volunteered as the Ephrata Area Schools Information Technology Department assistant and served as a "Star Night" guide for local third grade students.

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