

**Davidson Fellow**  
**Rebecca Jolitz**

\$10,000 Scholarship Recipient



**Personal Info**

Age: 15  
Los Gatos, California

**School, College and Career Plans**

A graduate of Ridgeline Academy with concurrent full-time enrollment at Ohlone Community College, K-12 Exceptional Student Program, Rebecca will attend University of California, Berkeley. She plans to major in physics and mathematics, and pursue a career in astronomy.

**Davidson Fellows Submission** (Science)

In her project, "*Rock with a High Albedo Scattering Experiment: A Determination of Likelihood for Martian Hypolithic Bacteria,*"

Rebecca examined whether hypolithic cyanobacteria, a photosynthetic organism found under rocks in climatically extreme environments, could theoretically have enough sunlight to survive on Mars. Using an original computer program that simulated a million individual beams of sunlight hitting a Martian rock, Rebecca found that there was enough light for cyanobacteria to survive on Mars, indicating that Mars may not be a dead world. Rebecca's research could help to discover the means through which life on Mars may exist.

**Biography**

By the time Rebecca was in 7<sup>th</sup> grade, she began to feel unchallenged in her rural school which did not offer any advanced curriculum. She enrolled in the Ohlone College K-12 Exceptional Student Program and began to take the hardest math and science classes she could. Rebecca was able to go in-depth on topics such as chemistry, biology and physics, giving her a head start at UC Berkeley.

Rebecca has always been interested in astronomy, spending nights with her father finding objects in the night sky. Her journey toward her Davidson Fellows began in 4<sup>th</sup> grade when she went to a lecture on radio astronomy at the NASA Ames Research Center and became intrigued with the possibility of life on Mars. Rebecca had hurdles to surmount, mainly verification of results and the time-consuming nature of her research. Through this process she learned the importance of preparation, reasoning and diligence.

In her spare time, Rebecca enjoys playing the piano, learning classical sheet music and covers of her favorite bands. She also enjoys sketching and creative writing.

*Please see next page.*



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*cont.*

**Honors/Awards**

- 2010 Davidson Fellow
- 2010 Junior Science and Humanities Symposium Regional Finalist
- 2010 UC Berkeley Regents' and Chancellor's Scholarship
- 2010 National Honor Society for Women in Chemistry Promethium Chapter Award
- 2010 Materials Information Society Second Place Award for Superior Use of Materials
- 2010 American Chemical Society Award Third Place
- 2010 NASA Ames & AIAA Galileo Memorial Scholarship
- 2010 Chevron David P. Smay Scholarship
- 2009 – 2008 EYH Student Ambassador, University of California, Santa Cruz Chapter
- 2007 10<sup>th</sup> Annual Mars Society Co-presenter
- 2007 Toshiba Exploravision Paper Co-author
- 2008 Silicon Valley Women 2.0 Business Plan Competition Semifinalist
- 2008 – Present Vision and Media at CoolClip.net Founder

**Community Activities**

Rebecca volunteers for public and school star parties to show kids her favorite night sky objects. She is also a member of the American Chemical Society and Mars Society.

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