



**Davidson Fellow
Lucas Moller**

(\$10,000 Scholarship Recipient)



Personal Info

Lucas Moller
Age: 16
Moscow, Idaho

School, College and Career Plans

Entering his senior year at Moscow High School, Lucas continues his ongoing research of Mars with Dr. Markus Tuller and his studies in Spanish at the University of Idaho. He has not decided on a major or prospective university to attend in 2006.

Davidson Fellows Submission (*Science: Space Science*)

In his project "Static and Dynamic Analysis of Mars Dust: Application to Mars Exploration," Lucas studied the physics of dust particles to provide data in the design of exploration and support systems for Martian spaceflight missions. The accumulation of wind-blown dust can significantly reduce the lifetime, durability, and performance of support systems, including solar panels and other mechanical devices. Lucas examined the static and dynamic properties of mineral dust in a simulated Martian environment. His experiment has been incorporated in two Mars lander missions, by NASA in 2001 and the European Space Agency (ESA) in 2003.

Biography

When Lucas was in the fifth grade he learned about an international challenge for students to develop an experiment that would fly on a Mars mission. This challenge initiated his interest in space science and has led him to his current research. As his project evolved, it was adapted and refined for different mission opportunities, and he worked with different mentors, including Jet Propulsion Laboratory scientists, NASA and European Space Agency researchers, and university professors.

Since junior high school, Lucas has taken nine semesters of Spanish language courses, including Spanish 301 at the University of Idaho. He needs six credits to complete his college minor.

Aside from his interests in science and language, Lucas has been running long distance races for his school track and cross country teams for five years. He has also been involved in a student club to promote fun and randomness. He enjoys photography and backcountry hiking and is an experienced downhill skier.

Please see next page.



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(Cont.)

Honors/Awards

- 2005 Davidson Fellow
- 2005 Visiting Student at First High School of Mytilini, Greece
- 2003 Presidential Education Award, Moscow Junior High School
- 2003 – NASA Student Involvement Program, Design a Mission to Mars National Competition, First Place
- 2003, 2002 – European Space Agency Mars Express Mission, Beagle2 Lander; Environmental Sensor Suite dust angle sensor, Experiment Scientist
- 2001, 2000 – NASA Mars Surveyor 2001 Lander mission, Mars Environmental Compatibility Assessment (MECA) experiment platform-dust angle sensor, Experiment Scientist
- 2002-2005 – \$42,600 in competitive grant funding as co-principal investigator
- 2001-2004 – Authored 10 publications in scientific literature
- 2001-2004 – Six presentations at national scientific conferences
- 2000 – U.S. Senate floor speech: “Tribute to Lucas Moller” by U.S. Senator Michael Crapo, April 26.
- 1999 NASA-JPL/The Planetary Society, International Student Nanoexperiment Challenge Winner

Community Activities

Lucas was involved in community support activities with the Boy Scouts of America for a number of years. He has given peer outreach presentations about his research activities to high school and college students in Greece and the U.S.

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