

Kristin Showalter

Autobiography: 07/24/07

Kristin grew up in Conyers, GA, outside of Atlanta, and attended Embry-Riddle Aeronautical University (ERAU) in Daytona Beach, FL where she was awarded the Presidential Scholarship and was admitted into the Honors Program. She recently received her BS in Engineering Physics with a minor in Mathematics, Suma Cum Laude.

While at Embry-Riddle, Kristin was an active member in several organizations and activities, including the Honors Students Association, the Moonbuggy Team, the Society of Woman Engineers (SWE), the ERAU Satellite Development Group, Omicron Delta Kappa (ODK) (a national honors society), and Sigma Pi Sigma (a national physics honors society). She served as Treasurer for both SWE and ODK, and was the team leader of the Attitude Determination and Control System (ADCS) team of the Satellite Development Group. She presented her work and experience as the ADCS team leader at the 2006 Space Generation Congress in Valencia, Spain.

Kristin also served as team leader for her capstone design project during her senior year at ERAU. The project, entitled S.T.O.R.M.S. for Structureless Telescope Observing and Resolving Multi-star Systems, entailed researching and designing a space-based telescope constructed of dozens of microsatellites held in formation by Coulomb forces. The purpose of the mission was to resolve binary and multi-star systems down to the order of meters. In addition to being team leader, Kristin performed research on the attitude determination and control technologies and methodologies for such a mission.

During her college career, Kristin participated in several research projects. She worked as a research assistant in ERAU's Space Weather Learning, Training, and Research program (SWELTR) for two years, using various computer programs to analyze and compare magnetosphere data. During this time, she co-presented the poster, "Long-Term Comparisons of SYM-H and Dst" at the Geomagnetic Environment Modeling Workshop (GEM) in June of 2004, and co-published the paper, "High-resolution global storm index: Dst vs. SYM-H" in the Journal of Geophysical Research in February, 2006. Additionally, Kristin received a grant from Embry-Riddle to research electrohydrodynamic devices, in which she built and tested several design configurations. Her work was awarded 2nd place in the 2007 ERAU Undergraduate Research Day competition.

Kristin spent the summer of 2004 working as an intern at the Carnegie Institution of Washington in the Geophysical Laboratories department. There, she developed LabVIEW code and a communications systems to engineer a procedure to extract DNA and proteins from simulant regolith in preparation for application to the Microarray Assay for Solar System Exploration (MASSE) project. She co-presented her work and preceding research at the Mars Astrobiology Science and Technology Workshop in September, 2004.

During the summer of 2005, Kristin worked as an intern for the Boeing Company in its Orbiter Engineering Fluids and Propulsions department at Kennedy Space Center. Over the summer, she participated in a pressure vessel reliability analysis for orbiter vehicles Discovery, Atlantis, and Endeavor, and she was involved in the review and development of cold-plate damage analysis as well as web site development. As a result of her work as an intern, Boeing offered Kristin the opportunity to participate in the Learning Together Program, a scholarship-work program in which she attended school part time to finish her degree while working half time at KSC. This experience culminated in a job with Boeing's Auxiliary Power Unit (APU) section, in which she is responsible for maintenance and problem resolution of APU systems of all orbiter vehicles, as well as their operation during shuttle launches and missions.

Kristin is participating in the 4Frontiers Corporation Generation II Human Mars Settlement study, in which she is serving as the lead consultant in the research of surface transportation and alternative energy sources. Additionally, Kristin works part time with the Zero Gravity Corporation (Zero-G) as a flight coach.

Kristin has been riding horses since she was eight years old, and horse-showed competitively for ten years. Her other hobbies include musical instruments (saxophone, guitar, and piano), languages, airplanes, the private space industry, and space advocacy, technology, and research.