Kristin M. Showalter

EDUCATION:

- Embry-Riddle Aeronautical University (ERAU): BS in Engineering Physics, Honors Program, Summa Cum Laude
- Final GPA: 3.91/4.0
- Minor in Mathematics

EXPERIENCE:

- **The Boeing Company** – Propulsions Design Engineer – Kennedy Space Center, Boeing Fluids and Propulsions Dept, **Auxiliary Power Unit (APU) System** – Responsible for maintenance and problem resolution of APU systems of all orbiter vehicles. Communicated with vendors and customers in order to answer question, resolve problems, and handle design issues. Oversaw installation of heater modification. **Launch console experience, STS-114, 121, 115, 117**. Participant in the Boeing Learning Together Program. Additional experience in the orbiter's **Environmental Control and Life Support system, the Main Propulsion system, the Hydraulics system**, and the Auxiliary Power Unit system. Launch console experience with Environmental Control. January, 2006 – May, 2007. Summer internship at Kennedy Space Center, Boeing Fluids and Propulsions Dept. – assisted in tank reliability analysis for orbiter vehicles Discovery, Atlantis, and Endeavor; involved in review and development of cold-plate damage analysis; web site development for Hydraulics section. Summer 2005.
- **S.T.O.R.M.S.** – Structureless Telescope Observing and Resolving Multi-star Systems. Current senior design project – a structureless telescope at the Earth-Moon L2 point, using Coulomb forces to maintain formation, with the purpose of resolving images of multi-star systems. **Team leader**, responsible for weekly progress reports from the team, task lists, progress reports to the team advisor, and calendar dates. Researching attitude sensing and control systems, Coulomb force control, and optics.
- **Satellite Development Group** – **Leader** of the Attitude Determination and Control team from May, 2005 – March, 2006. Worked with the Attitude Determination and Control team for ERAU Satellite Development Group, designing a completely student built satellite from Embry-Riddle Aeronautical University. Researched sensors and stabilization techniques, and conducted calculations. November, 2004 – March, 2006.
- **Carnegie Institution of Washington** – Internship at the Geophysical Laboratories department. Developed LabVIEW code and worked with FieldPoint to create 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. Summer 2004.
- **SWELTR** - Working with the Space Weather Learning, Training, and Research Program (SWELTR). Coding in MatLab to analyze data from magnetometer stations. 2003 - 2005.
- **Electrohydrodynamic Levitating Devices** – Received a grant from ERAU to research Electrohydrodynamic (EHD) levitating devices, also called "lifters." Built and tested several design configurations. Received 2nd place in ERAU's Undergraduate Research Day competition with fellow student Jeremy Sotzen. Fall, 2006 – Spring, 2007.
- **Geospace Environment Modeling workshop. Presented** poster, "Long-Term Comparisons of SYM-H and Dst" with Dr. James Wanliss. June, 2004.
- **Mars Astrobiology Science and Technology workshop. Presented** poster, "Sample Preparation Systems Development for the Microarray Assay for Solar System Exploration (MASSE) Project" with Dr. Marc Fries and Molly Potter. September, 2004.
- **Next Generation Exploration Conference (NGEC)** – participated in planning session to develop strategies for human space exploration in the 21st century, for the Moon and Mars. Participant in the Mars Settlement and Society work group. August, 2006.
- **Space Generation Congress (SGC)** – **Presented** "Cubesat Management and Design" with fellow student Jeremy Sotzen. Worked to formulate and expand upon the visions and recommendations of youth on the exploration and peaceful uses of space. Participant in the Space Technology Development work group. September, 2006.
- **Embry-Riddle Aeronautical University Career Expo – Planned** Boeing events at the ERAU Career

Expo of November, 2006. **Organized** ERAU Boeing interns in advertising and working presentations and the expo.

- **Wurtsboro Flight Service** – assisted on the flight line; launched sailplanes; assisted customers on the flight line and in the office. Summer 2001-2003.
- **Zero Gravity Corporation** – volunteer coach: assist customers with ground operations and in flight.
- **4Frontiers Corporation** – head of Alternative Energy and Surface Transport teams. Researching and designing surface transport for a Mars colony: methane engines, materials, mechanisms, vehicles. Researching alternative energy options for a Mars colony: wind energy, solar energy, power beaming, fuel cells.

PUBLICATIONS:

- "High-resolution global storm index: Dst vs. SYM-H" co-authored with Dr. James Wanliss, published in the Journal of Geophysical Research. February, 2006.

SOFTWARE QUALIFICATIONS:

- Matlab, LabVIEW/FieldPoint, Java, C, and HTML
- Microsoft (MS) applications Word, Excel, Powerpoint, and Frontpage
- Computer-Aided Drawing (CAD) programs CATIA and ProEngineer (ProE)
- Satellite Tool Kit

LANGUAGES:

- French

AWARDS AND ACHIEVEMENTS:

- Member of the Embry-Riddle Aeronautical University **Honors Program**
- Recipient of the Embry-Riddle Aeronautical University Presidential Scholarship
- Recipient of the 2006-2007 Physical Sciences Department Outstanding Student Award
- Recipient of the 2006-2007 Most Outstanding Honors Program Graduate Award
- 2007 Embry-Riddle Aeronautical University Undergraduate Research Day, second prize
- Recipient of the 2005-2006 Honors Program Exemplary Academic Performance Award
- National Dean's List. 2004

ACTIVITIES:

- Treasurer of the Embry-Riddle branch of **Omicron Delta Kappa**. 2005 – 2006. Member: Fall 2004 – present.
- **Sigma Pi Sigma**. Member: Spring 2005 – present.
- Treasurer of the Embry-Riddle branch of the **Society of Women Engineers**. 2004 – 2005. Member: Fall 2003 – Fall 2005.
- Member of the Honors Students' Association. Chair of the Constitution Committee, responsible for writing and amending the Association's constitution. Member of the Education Committee, in charge of planning guest lectures, 2003 - 2004.
- Horseback riding. 1994 – present. 6^{th} place in the Atlanta Area Hunter Jumpers' Association. 1996.
- Poetry, sketching, reading, story-writing, music (piano, alto saxophone, guitar, flute), languages, environmental protection/preservation, private space industry