

Serena M. Eley

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EDUCATION

9/98-6/02	California Institute of Technology (Caltech) - Physics, B.S.	Pasadena, CA
7/03-9/03	International Space University (ISU) - <i>Summer Session Program</i> Studied satellites, space systems analysis and design, space engineering, space physical sciences, space life sciences, space information technology, and space policy, law, business and management	Strasbourg, France
8/04-present	University of Illinois Urbana-Champaign (UIUC) - Physics, Ph.D. candidate	Champaign, IL

WORK EXPERIENCE

6/05-present	NASA Goddard Space Flight Center <i>NASA Academy, Research Assistant in Cryogenics and Fluids Branch</i> · Developing a technique for fabricating $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ thin film-based superconducting joints for a high field magnet	Greenbelt, MD
1/04-8/04	Raytheon Infrared Operations · Tested short/mid-wave infrared focal plane arrays (FPAs); assisted in planning the development of a FPA test station. Characterized $\text{Hg}_{1-x}\text{Cd}_x\text{Te}$ films	Goleta, CA
10/02-7/03	International Superconductivity Technology Center (ISTEC) <i>Luce Scholars Fellowship Program, Research Assistant</i> · Synthesized (under high pressure) and analyzed infinite-layer Sr-La-Cu-O superconductors	Tokyo, Japan
10/01-8/02	California Institute of Technology <i>Senior Thesis, Research Assistant in the Condensed Matter Physics Department</i> · Fabricated MgB_2 thin film-based SNS junctions using ion milling, metal sputtering, photolithography, electron beam lithography, and focused ion beam milling techniques	Pasadena, CA
12/01-6/02	California Institute of Technology <i>Teaching Assistant (TA) for the Applied Physics Laboratory (APh 77)</i> · Taught and maintained the x-ray diffraction and superconductivity labs	Pasadena, CA
9/01-10/01	Max Planck Institute for Physics <i>Intern in the H1-Group</i> · Wrote LABVIEW and C++ programs for upgraded H1 LAr Calorimeter Trigger test electronics	Munich, Germany
6/01-8/01	Harvard-Smithsonian Center for Astrophysics <i>Intern in High Energy Astrophysics Department</i> · Analyzed Chandra data and potential x-ray telescope coatings using x-ray reflectivity	Cambridge, MA
1/01-6/02	California Institute of Technology, NASA's Jet Propulsion Laboratory <i>Team leader for NASA Reduced Gravity Student Flight Opportunities Program</i> · Built experiment to fabricate ZBLAN microspheres; tested the optical properties in 1g and 0g. Ran experiment in microgravity aboard NASA's KC-135 airplane at NASA's JSC	Pasadena, CA
9/00-10/00	National University of Singapore <i>Intern at the Center for Magnetic and Superconducting Materials</i> · Studied superconducting thin film-based devices fabrication procedures	Singapore
6/00-9/00	Raytheon Infrared Operations <i>Test Engineer in the Astronomy Department</i> · Tested infrared focal plane arrays	Goleta, CA
6/99-9/99	NASA Ames Research Center <i>NASA EA Program, Test Engineer in the Sensors & Instrumentation Branch</i> · Assisted in development and testing of infrared and submillimeter detectors and the associated read-out electronics; prepared cryogenic instrument dewars for testing · Assisted in design and fabrication of electronic circuits, optical and mechanical components for in-house use and the restoration of a class IV CO_2 laser; assisted in data analysis	Mountain View, CA
6/98-8/98	California Institute of Technology, NASA's Jet Propulsion Laboratory <i>Summer Undergraduate Research Fellowship, Intern in the Astrobiology Department</i> · Used various culture techniques to map the growth of Mono Lake extremophiles	Pasadena, CA
6/97-8/97	North Carolina A&T State University <i>NASA SHARP Plus Research Apprenticeship Program, Mechanical Engineering</i> · Tested Transmittance Function Monitoring vibrometry technique for detecting damage in aerospace structures	Greensboro, NC

COMPUTER SKILLS

• Mathematica, MS Office, AutoCAD • Windows, MAC, Unix • PASCAL, C, MATLAB, LABVIEW

ACTIVITIES & ACHIEVEMENTS

9/98-1/04	•Community service: Union Rescue Mission, Building Bridges co-founder & president •Track, Cross Country •Fellowships & Awards: Caltech Merit Scholar (1998-2002), Pre-freshman Caltech Summer Undergraduate Research Fellowship (1998), Mellon Minority Undergraduate Fellowship (MMUF), Luce Scholar (2002-2003), International Achievement Summit delegate (2004)
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