

Louise B. Helenius
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Objective

- Incorporate and enhance skills gained during my undergraduate career by working on stimulating projects in a full-time position.

Experience

- **Research Assistant, University of Wisconsin Space Physics** (May 1999 to present.)
Designed and implemented a 3-D magnetohydrodynamics code, intended to simulate a loose magnetic flux tube in the local interstellar medium. Currently updating to Eulerian system (ZEUS) to further explore cloud dynamics and applications of our model outside the local interstellar medium.
Contact: Dr. Donald P. Cox *cox@wisp.physics.wisc.edu*, (608) 262-5916.
- **Research Assistant, University of California Berkeley Astrophysics** (June 2003 to Aug 2003.)
Developed program to determine velocity profiles from HI and Ha emissions in the Orion Superbubble region. Presently using this data to explore bubble dynamics.
Contact: Carl Heiles *heiles@astro.berkeley.edu*, (510) 642-4510.
- **Researcher, QSS. Group at NASA Ames Research Center** (May 2002 to August 2002.)
Helped build a program aimed at quickly creating and simulating rovers. Designed and implemented basic interface components (camera controls, moving standard and physics based models in the scene, etc.), worked on modeling and procedural animation.
Contact: Dr. Charles Frederick Neveu *neveu@ptolemy.arc.nasa.gov*, (650) 604-2525.
- **Coordinator, Undergraduate Projects Lab**, (May 2001 to present.)
Participate and engage others in computer science related projects. Previously worked on graphics projects such as simulating tinker toys and a real time cloth simulation. Help maintain the lab and user database. Organize and hold special events.
Contact: UPL Coords, *upl@upl.cs.wisc.edu*, (608) 262-5659.
- **Student Teaching Assistant, Wisconsin Emerging Scholars Program**, (August 2000 to May 2002.)
Worked with undergraduate students to help them understand the fundamental concepts of calculus and its applications.
Contact: Melinda Certain *certain@math.wisc.edu*, (608) 263-7490.
- **Peer Mentor Tutor, Peer Mentor Tutor Program**, (August 2001 to December 2001.)
Worked with struggling undergraduates enrolled in general college physics. Organized and held two lectures/discussions per week.
Contact: Dr. Susan Nossal *nossal@wisp.physics.wisc.edu*, (608) 262-9598.

Skills

- **Programming Languages:** C++, C, Java, IDL
- **Graphics Tools:** OpenGL, Maya
- **Operating Systems:** Windows, UNIX

Education

- **University of Wisconsin, Madison.**
Completing BS degrees in Computer Science, Mathematics, Physics and Astronomy May 2004.

Awards

- **The Lieberman Family Undergraduate Summer Research Fellowship 2001**
- **The Fay Ajzenberg-Selove Award 2002**

Publications

- **Flux-Tube Dynamics and Local Fluff.** D. Cox, L. Helenius *The Astrophysical Journal*, January 20, 2003. 583:205-228.