

CATHARINE L. R. MCGHAN
Email address: cmcghan@umich.edu

Permanent Address:
2170 Stone Road
Ann Arbor, MI 48105
(301) 461-4594

Local Address:
2170 Stone Road
Ann Arbor, MI 48105
(301) 461-4594

OBJECTIVE:

Seeking opportunities that will supplement my graduate studies in the field of aerospace engineering.

EDUCATION:

University of Michigan Ann Arbor, MI
Ph.D. in Aerospace Engineering, Flight Dynamics and Control group Expected Dec. 2009

- NSF Fellow 2006-2008
- Advisor: Dr. Ella Atkins, Autonomous Aerospace Systems Lab, FXB Building, U of M

University of Maryland College Park, MD
M.S. in Aerospace Engineering, Space Systems study discipline, GPA 4.0 August 2006

- NSF Fellow 2005-2006
- Minta Martin Fellowship Recipient 2004-2005
- Advisor: Dr. Ella Atkins, Space Systems Lab, Neutral Buoyancy Research Facility, UMCP

University of Maryland College Park, MD
B.S. in Aerospace Engineering, GPA 4.0 within major May 2004

- Graduated Summa Cum Laude, with University Honors, Engineering Honors, Aerospace Honors
- Dean's List Fall 2000, Spring 2001, Fall 2001, Spring 2002, Fall 2002, Spring 2003, Fall 2003
- Banneker/Key Scholarship Recipient 8/2000 – 5/2004
- MD Distinguished Scholar Recipient 8/2000 – 5/2004

EXPERIENCE:

Autonomous Aerospace Systems Lab Ann Arbor, MI
Graduate Student Research Assistant 8/2006 – present

- Developed a Virtual Rover Interface (VRI) for the Autonomous Exploration Rover (AER).
- Presented a paper on the VRI at the Infotech@Aerospace conference in May 2007.
- Mentored a high school student through an AER-related project as part of a summer outreach program.
- Created and designed the Michigan Man(ipulator) small safe robotic arm project.
- Lead a team of UROP students in physical construction of, and software development for the MM arm.

Space Systems Lab College Park, MD
Graduate Student Research Assistant 5/2004 – 8/2006

- Managed usage of, and performed upkeep on, VPS and the SCAMP and SCAMP SSV vehicles.
- Developed, tuned, and tested a 6DOF decoupled PID controller for the SCAMP vehicle.
- Developed and tested semi-autonomous operational modes for SCAMP, including waypoint following.
- Presented a paper at the AIAA Guidance, Navigation, and Control conference in August 2006.

Undergraduate Researcher 5/2003 – 5/2004

- Wrote a trajectory planner for autonomous structural assembly that weighted time and fuel use.
- Presented a preliminary paper at the AIAA Region I Mid-Atlantic student conference in April 2004.
- Presented the final results to a small panel at UMCP in May 2004.

Small Smart Systems Center College Park, MD
Part-time Student Intern 5/2003 – 9/2003

- Researched and ordered small radio-controlled (R/C) engines for performance testing.
- Designed the interfaces for several small R/C engines to a dynamometer setup.
- Facilitated the testing of small R/C engines on an in-house designed dynamometer.

Space Systems Lab College Park, MD
Part-time Student Intern 6/2001 – 5/2003

- Worked on a Visual Positioning System (VPS) for the neutral buoyancy tank.

- Programmed software to interpret real-time visual data.
- Collaborated with graduate students on visual processing procedures for the VPS.

Hogg Construction, Inc.

Towson, MD
7/1999 - 1/2001

Part-time Clerical Assistant

- Catalogued and organized all blueprints and job files.
- Removed duplicate copies of blueprints from old jobs.
- Facilitated move to new office in Summer 1999.

Introduction to Engineering - Design Project

University of MD
8/2000 - 12/2000

Team Leader; Secretary

- Worked in a team to design and build a wind-powered water pump.
- Organized team meetings, encouraged participation, kept everyone on task.
- Revised and submitted the final report.

OTHER:

American Institute of Aeronautics and Astronautics (AIAA)

- *Student Member* (Fall 2000 - Present)
- *Hotel Accommodations chair, Region I Mid-Atlantic Student Conference* (Spring 2003)
- *Secretary, AIAA student chapter at UMCP* (Fall 2003 - Spring 2004)

Sigma Gamma Tau National Honor Society in Aerospace Engineering (SGT)

- *Student Member* (Spring 2002 - Present)

The Tau Beta Pi Association (TBP)

- *Student Member* (Fall 2002 - Present)
- *Chapter Maintenance committee executive, UMCP student chapter* (Spring 2003, Fall 2003, Spring 2004)

Scuba Certified

- *NAUI Scuba Diver Certification* (Received August 30, 2002)

Society of Women Engineers (SWE)

- *Student Member* (Winter 2002 - Present)

Awards while at UMCP

- *UMCP Department of Aerospace Engineering's Academic Achievement award* (Received April 2004)
- *AIAA Outstanding Achievement Award from the UMCP AIAA student chapter* (Received April 2004)

REFERENCES:

Available upon request.