

Michael J. Fairchild

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Education

Ph.D. Applied Mathematics, UNC Charlotte, expected 2012. GPA=4.0.
B.S., Mathematics (honors) and Physics (honors), UNC Charlotte, 2007.
Math GPA=4.0, Physics GPA=4.0, Overall GPA=3.97.

Research Interests

Geometric mechanics, differential geometry, analysis, mathematical & computational biology.

Publications

- M.J. Fairchild, *Motion Generation and Control for the Chaplygin Beanie*, In preparation.
- M.J. Fairchild, P.M. Hassing, S.D. Kelly, P. Pujari, P. Tallapragada, *Single-Input Planar Navigation via Proportional Heading Control Exploiting Nonholonomic Mechanics or Vortex Shedding*, Dynamic Systems and Control Conference, 2011.
- D. J. Jacobs, M. J. Fairchild, *Thermodynamics of the β -hairpin to Coil Transition: Application of Free Energy Decomposition and Constraint Theory*, Chapter 2 of the book *Progress in Biopolymer Research*, ISBN 1-60021-984-5, Nova Publishers, March 2008.

Awards

2010: Graduate Teaching Award (best graduate student teacher, university-wide), UNC Charlotte.
2009: Givens Fellow, Argonne National Laboratory, summer 2009.
2007: \$25,000 TIAA-CREF doctoral fellowship in applied mathematics, UNC Charlotte
2006: Feichtner Award and Scholarship, UNC Charlotte
2006: Junior Marshal
2005: Lynn Houser Pearce mathematics scholarship (top undergraduate math student), UNC Charlotte

Teaching Experience

For each of the courses listed below, I've had **full instructor** responsibilities.

Fall 2010: Calculus I
Spring 2010: Calculus IV
Fall 2009: Differential Equations
Spring 2009: Calculus IV
Fall 2008: Linear Algebra

Computer Skills

Fluent in C, C++, Java, MATLAB, L^AT_EX, Mac OS X, Linux. Competent in Fortran, Mathematica, Maple, BLAS/LAPACK, MPI and HPC, data structures and algorithms, 80x86 assembler, TCP/IP networking, object orientation, UML, shell scripting.

Professional Affiliations

Society for Industrial and Applied Mathematics (SIAM)
American Mathematical Society (AMS)
Mathematical Association of America (MAA)
Pi Mu Epsilon, Phi Kappa Phi, Sigma Pi Sigma, Society of Physics Students

Languages

English (native), German (basic).

Personal

Skydiving, travel, ham radio (station callsign KG4GMH).

References

Dr. Scott D. Kelly
Associate Professor & Graduate Coordinator
Department of Mechanical Engineering
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Dr. Thomas R. Lucas
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Dr. Misun Min
Assistant Computational Scientist
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Dr. Gregory J. Gbur
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Dr. Donald J. Jacobs
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