Chad A.S. Mullikin

Resume

Current Address

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Goals and Objectives

Use my knowledge and skills in a way that is beneficial to the population at large while continuing to challenge myself intellectually.

Education

Ph.D., Mathematics, University of Georgia, August, 2006.

M.S., Mathematics, Georgia Institute of Technology, May, 2000.

B.S., University of West Georgia, 1998.

Work Experience

Assistant Professor, Spring Hill College, August 2006 - Present.

- Teaching: 2 sections of precalculus, 3 sections of differential calculus, 2 sections of integral calculus, 1 section of calculus for computer science majors, 1 section of linear algebra, 1 section of introductory topology. Rated between "superior" and "outstanding" by students.
- Administrative: Science Division Web Development, Freshman Seminar Leader, Math Club Faculty Advisor, Member Curriculum Committee.
- Awards and Achievements: Honorary member of fraternity Tau Kappa Epsilon.

Graduate Student 1998-2005

- Teaching: 2 sections of differential calculus, 2 sections of discrete mathematics, 4 sections of differential calculus labs, and 1 section of preparing new graduate students to teach classes. Rated between "superior" and "outstanding" by students.
- Co-leader in VIGRE summer undergraduate research experiences "Massively parallel computation of geometrically optimal knots" and "Mathematics and Visualization."
- Awards and Achievements: B.J. Ball Scholarship, University Outstanding Teaching Assistant Award, Department Outstanding Graduate Teaching Award, Marion Crider Award for Excellence in Mathematics.

Professional Organizations

- American Mathematical Society
- Kappa Mu Epsilon (Math Honors Fraternity)
- Pi Mu Epsilon (Math Honors Fraternity)

Technical Experience

Operating Systems

- Mac: OS X 10.2-10.4
- Microsoft: Windows 98, 2000, NT, XP
- Linux/Unix: Red Hat Fedora Core 1-4, Darwin (Mac), Solaris

Software Development

- C/C++, FORTRAN, Pascal, Perl
- Developed Simulated Annealer (using C) for optimization of knot energy.

Technical Software

- Maple, MATLAB, Geomview, KnotPlot, IBM Data Explorer

Other Software

- LaTeX, Microsoft Office Suite, Open Office Suite, Gimp, Macromedia Freehand, Wordpress

Publications

(1) "Upper Bounds for Ropelength as a Function of Crossing Number".
with J. Cantarella, X.W. Faber. *Topology and its Applications* 135 (2003) no. 1-3, p. 253-264.

- We find an upper bound on the ropelength of a knot proportional to the square of its crossing number.

(2) "A Class of Curves in Every Knot Type Where Chords of High Distortion are Common".
Topology and its Applications 154 (2007) no. 14, p. 2697-2708.

- We show that pairs of points with high distortion are very common on curves of minimum length in the set of curves in a given knot type with distortion bounded above and distortion thickness bounded below.