

Mark R. O'Brien

CONTACT INFORMATION	Bromfield Pearson Department of Mathematics Tufts University Medford, MA 02155 USA	<i>Cell:</i> (781) 724-2798 <i>Office:</i> (617) 627-5728 <i>E-mail:</i> mark.o_brien@tufts.edu <i>Webpage:</i> www.geocities.com/psistarpsi80
RESEARCH INTERESTS	Geometric group theory, algebraic topology, group theory	
EDUCATION	Tufts University , Medford, Massachusetts USA Ph.D. Candidate, Mathematics (expected graduation date: May 2008) <ul style="list-style-type: none">• Dissertation Topic: "Right-Angled Coxeter Group Actions on $CAT(0)$ spaces"• Advisor: Kim Ruane Lycoming College , Williamsport, Pennsylvania USA B.A., Physics, Astronomy, Minor, Math Jan, 2003	
HONORS AND AWARDS	$\Phi\nu\sigma\iota\kappa$ award for senior with highest scholastic average	Awarded 2003
	QED award for departmental service,	Awarded 2003
	The Benjamin C. Conner Prize in Mathematics for the graduating student who has done outstanding work in mathematics	Awarded 2003
	Graduated Magna Cum Laude from Lycoming College	Awarded 2003
TEACHING EXPERIENCE	Calculus I and II, Tufts University (four semesters total). Responsible for preparing and presenting all lectures as well as exam grading. TA for undergraduate courses in physics, math and astronomy. Courses include introduction to physics, introduction to astronomy, calculus I, II, and III, linear algebra, symmetry, and abstract algebra I and II.	
PAPERS IN PREPARATION	<i>"When does a universal Coxeter group have a strict fundamental domain?"</i> <i>"Right-angled Coxeter group actions on $CAT(0)$ spaces"</i> (thesis)	
PRESENTATIONS ON RESEARCH	Review of summer research, Purdue University, West Lafayette, IN	August 2, 2001
	Review of summer research at the annual American Association of Physics Teachers (AAPT) in Philadelphia, PA	January 20, 2002
	Review of summer research, University of Florida, Gainesville, FL	August 3, 2002
	Colloquia at Lycoming College on topics including including Fourier series, complex variables, Bessel functions, tensor calculus	
	Lectures in Geometric Group Theory and Topology seminar at Tufts University on Braid Theory, Croke and Kleiner's example of a $CAT(0)$ group without a well defined boundary, and thesis research	

PROFESSIONAL
EXPERIENCE

Participated in the Research Experience for Undergraduates 2001 program at Purdue University, High Energy Astrophysics research for Professor Wei Cui, searching for quasi periodic oscillations in the pulsar Sax J1808.4-3658, West Lafayette, Indiana **Summer 2001**

Participated in the Research Experience for Undergraduates 2001 program at Purdue University, Astrophysics research for Professor Stephen Durbin, measuring the cosmic microwave background, West Lafayette, Indiana **Summer 2001**

Participated in the Research Experience for Undergraduates 2002 program at the University of Florida, theoretical condensed matter research for Professor Kevin Ingersent, creating a computer model to simulate the effects of randomness on ferromagnetism in a manganese doped gallium arsenide diluted magnetic semiconductor, Gainesville, Florida **Summer 2002**