Alexandra Pettet

CONTACT INFORMATION

University of Michigan
Mathematics, 2074 East Hall
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RESEARCH INTERESTS

Topology and geometric group theory: automorphisms groups of free groups, mapping class groups, and subgroups.

EMPLOYMENT

University of Michigan, Ann Arbor, Michigan U.S.A.

RTG Assistant Professor, September 2008 - present.

Stanford University, Stanford, California U.S.A.

Szëgo Assistant Professor, September 2007 - June 2008.
Samelson Postdoctoral Fellow, September 2006 - August 2007.

EDUCATION

University of Chicago, Chicago, Illinois U.S.A.

Ph.D, Mathematics, June 2006.
Advisor: Benson Farb
Thesis: *Cohomology of some subgroups of the automorphism group of a free group.*

M.S., Mathematics, December 2002.

University of Toronto, Toronto, Ontario Canada

B.S., Mathematics, May 2001.

VISITED INSTITUTIONS

University of Toronto, Toronto, Canada.	July - August 2009
Mathematical Sciences Research Institute, Berkeley, California.	August - December 2008
University of Southampton, Southampton, U.K.	June, 2007
Université de Bourgogne, Dijon, France.	January - March 2005

HONORS AND AWARDS

National Science Foundation three-year grant.	September 2008
Engineering and Physical Sciences Research Council (United Kingdom), visitor grant.	June, 2007
National Science and Engineering Research Council of Canada PGS D.	2004-2006
National Science and Engineering Research Council of Canada PGS A.	2002-2004

PREPRINTS

Current twisting and nonsingular matrices, (with Matt Clay), submitted.

Twisting out fully irreducible automorphisms, (with Matt Clay), submitted.

Finiteness properties for a subgroup of the pure symmetric automorphism group, submitted.

On the Johnson filtraton of the automorphism group of a free group, (with Frederick Cohen and Aaron Heap), in preparation.

Small filling sets of curves on a surface (with James W. Anderson and Hugo Parlier), submitted.

Periodic maximal flats are not peripheral, (with Juan Souto), submitted.

Publications

The spine that was no spine, (with Juan Souto), L'Enseignement Mathématique 54 (2008), 273–285.

Minimality of the well-rounded retract, (with Juan Souto), Geometry and Topology, Volume 12 (2008), 1543–1556.

The Johnson homomorphism and the second cohomology of IA_n,
Algebraic and Geometric Topology, Vol. 5, (2005), 725–740.

Formulae relating the Berstein and Iwahori-Matsumoto presentations of an affine Hecke algebra, (with T.J. Haines), J. Algebra, Vol. 252, (2002), 127–149.

Selected invited talks

International Conference on Geometric & Combinatorial Methods in Group Theory & Semigroup Theory (plenary).	Lincoln, Nebraka
Ecole Polytechnique Fédérale de Lausanne.	Lausanne, Switzerland
Mathematical Sciences Research Institute.	Berkeley, California
Wasatch Topology Conference.	Park City, Utah
Laboratoire Émile Picard, Université Paul Sabatier.	Toulouse, France
Université de Bourgogne.	Dijon, France

Teaching

College Instructor, University of Michigan — Fall 2008 and Winter 2009
Linear Algebra and Differential Equations.
Calculus.

College Instructor, Stanford University — Fall 2006 and Winter 2008
Multivariable Calculus.

College Instructor, University of Chicago — September 2003 - March 2006
Studies in Mathematics
Mathematics for the Social Sciences.

Directed Reading Program mentor, University of Chicago — March - June 2004
Dynamical Systems.

Teaching Assistant, Universtiy of Chicago — September 2002 - June 2003
Analysis on $\mathbf{R}^n$.

Teaching Assistant, University of Toronto — September 2000 - May 2001
Calculus.

Personal

Citizenship: U.S., Canada, U.K.