Curriculum Vitae

Tara Elise Brendle

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Citizenship: United States

Education

- Ph.D., Mathematics, Columbia University, May 2002

- M.A., Mathematics, Columbia University, October 1996

- B.S. (*Magna Cum Laude*), Mathematics, Haverford College, May 1995

Research

Research Interests: Geometric group theory, low-dimensional topology,
mapping class groups

Doctoral Thesis: The Torelli Group and Representations of Mapping Class Groups

Thesis Advisor: Joan Birman

Employment

VIGRE Assistant Professor   Fall 2002 - present
Cornell University, Department of Mathematics

Instructor / Teaching Assistant   Fall 1995 - Spring 2002
Columbia University, Department of Mathematics

Papers and Publications

- *On the linearity problem for mapping class groups,* (with Hessam Hamidi-Tehrani), Algebraic and Geometric Topology, Vol. 1 (2001), 449-468.

- *Every mapping class group is generated by 6 involutions,* (with Benson Farb), Journal of Algebra, Vol. 278 (2004), 187-198.

- *Commensurations of the Johnson kernel,* (with Dan Margalit), Geometry and Topology, Vol. 8 (2004), 1361-1384.

- *Braids: a survey,* (with Joan Birman), to appear in the "Handbook of Knot Theory", ed. William W. Menasco and Morwen B. Thistlethwaite, arXiv:math.GT/0409205.

- *The Birman-Craggs-Johnson homomorphism and abelian cycles in the Torelli group,* (with Benson Farb), (in preparation, `http://www.math.cornell.edu/~brendle/cycles.pdf`).

Recent Conference Talks

- Invited Speaker, Joint Mathematical Meetings, Special Session on Dynamics of Mapping Class Groups on Moduli Spaces, Atlanta, January 2005.

- Invited Participant/Speaker, Workshop on Braid Groups and Applications, Banff International Research Station, October 2004.

- Invited Speaker, Conference on Combinatorial Topology in Mapping Class Groups, University of Chicago, April 2004.

- Invited Speaker, Georgia Topology Conference, June 2003.

- Invited Speaker, AMS Sectional Meeting, Special Session on Mapping Class Groups, Ann Arbor, Michigan, March 2002.

- CBMS Conference, Rensselaerville, NY, August 2004.

- Albany Group Theory Conference, Octobers 2004, 2003, and 2001.

Seminar Talks and Colloquia

- University of Chicago, Geometry/Topology Seminar, January 2005, January 2003.

- Columbia University, Topology Seminar, December 2004.

- UC Santa Barbara, Topology Seminar, November 2004.

- University of Pennsylvania, Geometry-Topology Seminar, April 2004.

- University of Rochester, Topology Seminar, April 2004.

- Université du Québec à Montréal, CIRGET Seminar (Centre interuniversitaire de recherches en géométrie et topologie), April 2004.

- University of Utah, Max Dehn Seminar, March 2004.

- University of Akron, Math Department Colloquium, "Generating the mapping class group" February 2004.

- University at Buffalo, Geometry/Topology Seminar, February 2004.

- Binghamton University, Geometry & Topology Seminar, February 2004, November 2002.

- Louisiana State University, Topology Seminar, February 2004.

- McMaster University, Geometry/Topology Seminar, November 2003, November 2002.

- Bryn Mawr College, Bi-College Colloquium, "Are mapping class groups linear?" December 2002.

- Topology Seminar, The University of Texas at Austin, November 2001.

Selected Undergraduate Talks

- Cornell University, Research Experience for Undergraduates, Smorgasbord Seminar Talk, "Complexes of Curves", July 2004.

- EDGE Symposium, "How to give a research talk", Atlanta, June 2004.

- University of Akron, Undergraduate Lecture, "From knots to braids", February 2004.

- Cornell University, Research Experience for Undergraduates, Smorgasbord Seminar Talk, "Mapping class groups", July 2003.

Upcoming Talks

- CUNY Group Theory Seminar, February 2005.

- Invited Speaker, "Braids, Links, and Mapping Class Groups" (conference honoring Joan Birman), March 2005.

- Featured Speaker, MAA EPADEL Spring Sectional Meeting, April 2005.

- Invited Speaker, Canadian Mathematical Society Summer Meeting, Session on Geometric Topology, University of Waterloo, June 2005.

Awards and Honors

Junior Faculty Teaching Award, Dept. of Math., Cornell University	2004
Presidential Graduate Student Teaching Award, Columbia University	2002
VIGRE Research Fellowship, Columbia University	Summer 2000
Columbia University Department of Mathematics Fellowship	1995–1998
Alice T. Schaefer Prize in Mathematics, Honorable Mention	1995
Phi Beta Kappa	1995
Departmental High Honors for Senior Thesis, Haverford College Mathematics	1995
Mary Wheeler King Scholarship in Mathematics, Haverford College	1995
Barry Goldwater Scholarship, Goldwater Foundation	1994–1995
Archibald MacIntosh Scholar-Athlete Award, Haverford College	1992
National Merit Scholarship	1991–1992

Teaching Experience

VIGRE Assistant Professor, Cornell University

Introduction to Topology	Fall 2004
Linear Algebra and Differential Equations	Fall 2004
Mapping Class Groups, Berstein Graduate Seminar	Spring 2004
Knots and Braids, Topics in Geometric Topology	Fall 2003
Calculus II for Engineers	Fall 2002

Instructor, Columbia University

Basic Mathematics	Fall 2001, Spring 2001, Summer 1997
Calculus IS-IIS Mathematica Recitation	Spring 2001, Fall 2000, Fall 1996 - Fall 1999
Calculus IA	Spring 2000
Linear Algebra	Summer 1999

Teaching Assistant, Columbia University

Calculus (Various Levels, Mathematica-based)	1996–2001

Related Work Experience

Seminar Organizer Fall 2003 - present
Topology and Geometric Group Theory Seminar
Cornell University

Topology Festival Organizing Committee Fall 2002 - present
Cornell University

EDGE Summer Program
(Enhancing Diversity in Graduate Education)

Participant/Speaker, EDGE Symposium   Atlanta, 2004
Short Course Instructor, Hyperbolic Geometry   Pomona College, 2003
Graduate Student Mentor   Bryn Mawr College 1998, 2000
       Spelman College, 1999, 2001

Referee
Algebraic and Geometric Topology
Transactions of the AMS
International Journal of Algebra and Computation

Advanced Placement Exam Committee   Fall 2003 - present
Mathematics Department, Cornell University

Postdoctoral Fellow / Assistant   July 2003
Minicourse: Mapping class groups and   University of Chicago
     Teichmuller space

Instructor   May 2005
Program for Women in Mathematics   Institute for Advanced Studies, Princeton
Two-week minicourse on surfaces for undergraduates

Professional Memberships

American Mathematical Society

Mathematical Association of America

Association for Women in Mathematics

References

Joan Birman, Columbia University, `jb@math.columbia.edu`

Benson Farb, University of Chicago, `farb@math.uchicago.edu`

Richard Hain, Duke University, `hain@math.duke.edu`

Allen Hatcher (research and teaching), Cornell University, `hatcher@math.cornell.edu`

Shigeyuki Morita, University of Tokyo, `morita@ms.u-tokyo.ac.jp`

Patrick Gallagher (teaching), Columbia Univesity, `pxg@math.columbia.edu`late