Catherine PFAFF

CONTACT
INFORMATION

Department of Mathematics
Univ. of California Santa Barbara

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APPOINTMENTS

University of California Santa Barbara — July 2015 - August 2018
Ky Fan Visiting Assistant Professor

Universität Bielefeld — July 2014 - August 2015
Postdoctoral Research Fellow

Université d'Aix-Marseille — January 2013 - June 2014
Laboratoire d'Excellence Postdoctoral Research Fellow

VISITING POSITIONS

Centre de Recerca Matemàtica — Fall 2012
Research Programme on Automorphisms of Free Groups

Bard College at Simon's Rock — Fall 2011 - Spring 2012
Visiting Assistant Professor of Mathematics

Mathematical Sciences Research Institute — Fall 2007
Associate Member (as a graduate student)

EDUCATION

Rutgers University, Ph.D. in Mathematics — October 2012
Advisor: Lee Mosher

University of Chicago, Honors B.S. in Mathematics — May 2004

PUBLICATIONS/
PREPRINTS

1) Y. Algom-Kfir, I. Kapovich, C. Pfaff, *Stable Strata of Geodesics in Outer Space.*
arXiv:1706.00673, submitted, 2017.

2) Y. Algom-Kfir, C. Pfaff, *Normalizers and centralizers of cyclic subgroups generated by lone axis fully irreducible outer automorphisms.*
New York Journal of Mathematics 23 (2017), 365381.

3) Y. Algom-Kfir, C. Pfaff, *A Dense Geodesic Ray in Reduced Outer Space.*
Groups, Geometry, & Dynamics, to appear.

4) I. Kapovich, C. Pfaff, *A Train Track Directed Random Walk on $Out(F_r)$.*
International Journal of Algebra and Computation (IJAC). Volume No.25, Issue No. 5.

5) L. Mosher, C. Pfaff, *Lone Axes in Outer Space.*
Algebraic & Geometric Topology 16.6 (2016): 3385-3418.

6) C. Pfaff, *Ideal Whitehead Graphs in $Out(F_r)$ IV.*
Topology Proceedings, subject to revisions.

7) C. Pfaff, *Ideal Whitehead Graphs in $Out(F_r)$ III.*
J. Topol. Anal. DOI: 10.1142/S1793525316500084 (2015), Volume No.08, Issue No. 02 (2016).

8) C. Pfaff, *Ideal Whitehead Graphs in $Out(F_r)$ II.*
Journal of Homotopy and Related Structures: Volume 10, Issue 2 (2015), pp 275-301.

9) C. Pfaff, *Ideal Whitehead Graphs in $Out(F_r)$ I.*
New York Journal of Mathematics, Volume 21 (2015) 417-463.

10) C. Pfaff, *$Out(F_3)$ Index Realization.*
Mathematical Proc. of the Cambridge Philosophical Society, vol. 159, issue 03, pp. 445-458.

Ky Fan Visiting Assistant Professorship, UCSB, *2015 - 2018.*

Humboldt Research Fellowship for Postdoctoral Researchers, not utilized, *2015.*

NSF Conference Grant DMS - 1331129, *2013.*

NSF Graduate Research Fellowship Honorable Mention, *2006.*

NSF Graduate Research Fellowship Honorable Mention, *2005.*

Henry C. Torrey Graduate Fellowship (recruitment fellowship), *2004 - 2006.*

Weill Fellowship (summer funding fellowship), *2004.*

Organizational Roles

Scientific Committee - "Groups explored through geometry and dynamics"	*Fall 2017*
Organizer - "Groups explored through geometry and dynamics"	*Fall 2017*
Co-Organizer of UCSB Topology Seminar	*Fall ′16 - Spring ′18*
Organizer of Universität Bielefeld Oberseminar Gruppen und Geometrie	*Fall ′14 - Spring ′15*
Organizer & Co-PI for "Special Program on the Geometry of Outer Space	*Summer 2013*
Organized Graduate Student Geometric Group Theory Seminar	*Fall ′08 - Spring ′09*
Organized Grad Stud Mapping Class Group & Teichmüller Theory Seminar	*Spring 2008*
Head of Rutgers Directed Reading Program Committee	*2005 - 2008*
A Primary Organizer of Asha for Education International Conference	*Spring 2007*
University of Chicago Math Club President	*2002 - 2003*

Proofreading

Upon request proofread *A Primer on Mapping Class Groups* Ch. 2 by B. Farb, D. Margalit

Upon request proofread *PCMI Lectures on the geometry of Outer space* by M. Bestvina

University of California Santa Barbara

Math 3A (Calculus I)	Spring ′17
Math 3B (Calculus II)	Fall ′15, ′16, Spring ′17
Math 34B (Calc. for Social & Life Sciences II)	Spring ′17
Math 8 (Transition to Higher Mathematics)	Winter ′16, Spring ′17
Math 117 (Methods of Analysis)	Spring ′16

Universität Bielefeld

Graph Theory I	Fall 2014
Graph Theory II	Spring 2015

Bard College at Simon's Rock

Elementary Functions (Precalculus)	Fall ′11, Spring ′12
Calculus	Spring ′12
Geometric Group Theory	Fall ′11

Rutgers University

Calculus I	Summer ′08
Multivariable Calculus (Calculus III)	Summer ′07
Differential Equations for Engineers	Summer ′09

Academic Advisor for 2 College Students	Fall 2011- Spring 2012
Founder & Committee Head - Rutgers Directed Reading Program	2005-2008
Mentor in Rutgers Directed Reading Program in Mathematics	2005-2008
University of Chicago Young Scholars Program Counselor	Summer 2003
University of Chicago Young Scholars Program Assistant	2001-2004
Bard College at Simon's Rock Mathclub Faculty Advisor	Fall 2011- Spring 2012

	Joint Mathematics Meetings - Special Session Boundaries for groups and spaces, *Winter 2017*
	Groups explored through geometry and dynamics, Princeton, *Fall 2017*
	Fall Eastern Sectional - Special Session on Geometric Group Theory, *Fall 2017*
	Spring Eastern Sectional - Special Session on Computational & Algorithmic Group Theory, *Spring 2017*
	Spring Eastern Sectional - Special Session on Infinite Permutation Groups, Totally Disconnected Locally Compact Groups, & Geometric Group Theory, *Spring 2017*
	AWM Research Symposium - Special Session in Geometric Group Theory, *Spring 2017*
	Southern California Women in Mathematics Symposium, *Winter 2017*
	Dubrovnik VIII - Geom. Top., Geom. Group Theory and Dyn. Sys., *Summer 2015*
	Bielefeld-Münster Seminar on Groups, Geometry and Topology, *Winter 2014*
	Geometric Group Theory in Bonn, *Fall 2014*
	Geometry on Groups and Spaces ICM Satellite Conference, Korea, *Summer 2014*
	KAIST Geometric Topology Fair, Korea, *Summer 2013*
	Cool-down Workshop for Conference on Automorphisms of Free Groups, CRM, *Fall 2012*
	Opening Workshop on Automorphisms of Free Groups, CRM, *Fall 2012*
	46th Spring Topology and Dynamics Conference Special Session, Mexico, *Spring 2012*
	Workshop on Geometric Group Theory, Part II, Louisiana State University, *Summer 2011*
	Geometric Group Theory Conference, Technion, *Summer 2011*
	OSU Workshop on the Torelli Group, Mapping Class Group, and $Out(F_n)$, *Summer 2011*

	Hofstra, Colloquium, *Fall 2017*
	CUNY, Topology Seminar *Fall 2017*
	University of Virginia, Algebra Seminar, *Fall 2017*
	San Francisco State University, Geometry & Topology Seminar, *Spring 2017*
	University of South California, Geometry & Topology Seminar, *Spring 2017*
	UIUC, Geometry, Groups & Dynamics/GEAR Seminar, *Spring 2017*
	University of California Riverside, Colloquium, *Winter 2017*
	California Polytechnic State University, San Luis Obispo, Colloquium, *Winter 2017*
	California State University at Long Beach, Colloquium, *Fall 2016*
	California Polytechnic State University, San Luis Obispo, Colloquium, *Fall 2016*
	Claremont Topology Seminar, *Fall 2016*
	San Jose State University, Colloquium, *Fall 2016*
	University of Virginia, Geometry Seminar, *Fall 2016*
	University of Illinois at Chicago, Geometry, Topology, and Dynamics Seminar, *Winter 2015*
	Wawrick University, Geometry & Topology Seminar, *Spring 2015*
	SUNY Buffalo, Colloquium, *Spring 2015*
	SUNY Buffalo, Topology Seminar, *Spring 2015*

Univ. of Utah, Max Dehn Seminar on Geom., Top., Dyn., & Groups, *Winter 2014*

UIUC, Geometry, Groups & Dynamics/GEAR Seminar, *Winter 2014*

University of Oklahoma, Geometry and Topology Seminar, *Winter 2014*

Haifa University, Colloquium, *Winter 2014*

Technion, Geometry and Topology Seminar, *Winter 2014*

École Normale Supérieure de Lyon, Séminaire de Géométrie et Dynamique, *Summer 2014*

Hebrew University, Algebra seminar, *Spring 2014*

Université de Rennes 1, Séminaire de théorie ergodique, *Spring 2014*

Institut de Mathématiques de Toulouse, Séminaire de Géométrie, *Spring 2014*

Yale University, Geometry and Topology Seminar, *Fall 2013*

University of Chicago, Geometry/Topology Seminar, *Fall 2013*

University of Illinois at Chicago, Geometry, Topology, and Dynamics Seminar, *Winter 2013*

University of Illinois Urbana-Champaign, Group Theory Seminar, *Winter 2013*

CUNY Graduate Center, Algebra Seminar, *Fall 2013*

Seoul National University, *Summer 2013*

Universite Paris-Sud 11, Higher Teichmüller-Thurston spaces, *Spring 2013*

Brown University, Geometry Topology Seminar, *Spring 2013*

University of Michigan, Topology Seminar, *Spring 2012*

Michigan State University, Low Dimensional Topology Seminar, *Spring 2012*

University at Albany, SUNY Geometry and Topology Seminar, *Spring 2012*

University of Illinois Urbana-Champaign, Group Theory Seminar, *Winter 2012*

Rutgers-Newark, Topology/Geometry Seminar, *Spring 2010*

CUNY Graduate Center, Geometry and Topology Seminar, *Spring 2010*

Lee Mosher (PhD Advisor)
Professor of Mathematics
Rutgers -Newark
mosher@andromeda.rutgers.edu

Benson Farb
Professor of Mathematics
University of Chicago
farb@math.uchicago.edu

Moritz Kaßman (Teaching Reference)
Professor of Mathematics
Universität Bielefeld
moritz.kassmann@uni-bielefeld.de

Daryl Cooper
Professor of Mathematics
University of California Santa Barbara
cooper@math.ucsb.edu

Ilya Kapovich
Professor of Mathematics
University of Illinois at Urbana-Champaign
kapovich@math.uiuc.edu

Darren Long (Teaching Reference)
Professor of Mathematics
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REFERENCES