Curriculum Vitae 2016

Eriko Hironaka

Contact Information

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Education

1990	Doctor of Philosophy, Brown University, Providence, RI. Advisor: Alan Landman. Thesis Title: *Abelian coverings of the complex plane branched along configurations of real lines*.
1984	BA, Harvard University, Cambridge, MA. Major: Mathematics.

Professional Experience

2015-present	Senior Editor, Book Program, American Mathematical Society.
2011–present	Professor, Florida State University.
2002–2011	Associate Professor, Mathematics, Florida State University.
1997–2002	Assistant Professor, Mathematics, Florida State University.
1994–1997	C.L.T.A. Assistant Professor, Mathematics, University of Toronto.
1992–1994	Szego Instructor, Mathematics, Stanford University.
1991-1992	Max-Planck-Institut-fur-Mathematik, Bonn, Germany.
1990-1991	Visiting Assistant Professor, Stanford University.
1989-1990	Visiting Assistant Professor, Haverford College.

Recent Visiting Positions

Spring 2015	Harvard University, Cambridge, MA.
Fall 2014	ICERM, Providence, RI.
2011–2012	Tokyo Institute of Technology, Tokyo, Japan.
Fall 2009	Harvard University, Cambridge, MA.
2004–2005	Osaka University, Osaka, Japan.

Awards and Recognitions

2014-2016	Marion Bradley Brennan Professorship, Florida State University,

Contracts and Grants Funded

(Jul 2011–Aug 2016) *Fibered 3-Manifolds and their Monodromy*. Simons Foundation Collaboration Grant (Florida State University)

(Apr 2009–Mar 2010) *Topology of Algebraic Varieties*. National Science Foundation Conference Grant (Florida State University)
(Sept 1995- July 1997) National Sciences and Engineering Research Council of Canada Research Grant (University of Toronto)
(Sept 1993-Aug 1995) National Science Foundation Research Grant (Stanford University)

Department Service (Florida State University)
Member, Executive Committee (2008-2010, 2013-2014)
Faculty Evaluation Committee (2003-2004, 2010–2011, 2013-2014).
Pure Mathematics Program Director (2008-2010, 2013-2014)
Organizer, Department Open House "Math Fun Day" (Oct. 2014)
Co-organizer, Department Open House "Math Fun Day" (Oct. 2013, Oct. 2015)
Co-organizer, Topology Week and FSU-UF joint workshop in Topology (March 2013)
Chair, Visibility Committee (2012–2014).
Member, Graduate Committee (2002, 2005–2014).

University Service (Florida State University)
(Fall 2014) Science Committee for Faculty Promotions
(Fall 2013) Marcus Professorship Award selection committee
(Fall 2012) Chair search committee, Psychology Department

Service to the Profession
(2014) Co-organizer, AMS special session on "Topology and Number Theory", Knoxville, TN (*with K. Petersen*)
(2014) Mittag-Leffler Institute conference proceedings co-editor (*with Ruth Kellerhals*)
(2013) Co-organizer, Mittag-Leffler Institute, Summer Workshop on Growth and Mahler Measure in Geometry and Topology (*with R. Kellerhals*)
(2009) PI - NSF Conference Grant and co-organizer, Conference on Topology of Algebraic Varieties, Jaca, Spain.

Students Supervised
1. Jamil Mortada (PhD 2011) co-directed with Sergio Fenley
Dissertation: *Artin and Dehn twist subgroups of the mapping class group.*
2. Dominic Pafundi (BS 2011)
Honors Thesis Title: *A simple roundhouse class of genus two*.
3. Kyle Armstrong (PhD 2012) co-directed with Kathleen Petersen
Dissertation: *Principal elements of mixed-sign Coxeter groups.*
4. David Valdivia (PhD 2011)
Dissertation: *Pseudo-Anosov sequences with asymptotically small dilatation*
5. Aktas, Mehmet (expected PhD Summer 2016)
Thesis Topic: *Dessins d'Enfants for completely reducible trigonal curves*
6. Billet, Robert (expected PhD Spring 2017)
Thesis Topic: *Teichmueller polynomials for Coxeter mapping classes.*

Recent publications

[1] On Coxeter mapping classes and fibered alternating links (accepted Michigan Journal of Mathematics) joint with Livio Liechti.

[2] Digraphs and cycle polynomials for free-by-cyclic groups. joint with Yael Algom-Kfir and Kasra Rafi Geometry and Topology vol.9 (2), 2015, p.1111-1154)

[3] Penner sequences and asymptotics of minimum dilatations for subfamilies of the mapping class group. Topology Proceedings vol. 44, 2014, p. 315-324

[4] Small dilatation pseudo-Anosov mapping classes and short circuits on train track automata. Proceedings of Mittag-Leffler Institute (non-refereed) (January, 2014)

[5] Lipschitz constants to curves complexes. joint with Vaibhav Gadre, Christopher Leininger and Richard Kent Math. Res. Letters vol. 10 (2013) no. 4, p. 1-10

[6] Generalized lantern relations and planar line arrangements. Computational Algebraic and Analytic Geometry of Low-dimensional Varieties, Contemp. Math. vol 572, 2012, p. 113--125

[7] Small dilatation pseudo-Anosov mapping classes coming from the simplest hyperbolic braid. Alg. and Geom. Top., vol 10, 2010, p. 2041--2060

In preparation:

[8] A disconnected deformation space of rational maps (in preparation) joint with Sarah Koch

[9] Quotient families of mapping classes (in revision)

[10] Mapping classes associated to mixed-sign Coxeter graphs (in revision)

Selected Talks

Keynote and Plenary Talks:

(2014) Geometry and Topology Seminar at Brown and Yale (GATSBY), Brown University, Providence, RI. Title: *Fibered face theory, polynomials and entropy.*

(March 2013) Semi-Plenary presentation at 47th Spring Topology and Dynamics Conference, Central Connecticut State University, Hartford, Connecticut. Title: *Minimum dilatation problem for pseudo-Anosov mapping classes.*

(March 2012) Plenary presentation at Annual Meeting, Mathematical Society of Japan, University of Science, Tokyo, Japan. Title: *Minimum dilatation problem and quasi-periodicity conjecture.*

(March 2012) Three lecture series at Workshop on Branched Coverings, Degenerations, and Related Topics, Hiroshima University, Hiroshima, Japan. Title: *Fibered faces and the dynamics of mapping classes in special subgroups of the mapping class group.*

Conference Talks:

(August 2015) Workshop on Invariants in Low Dimensional Geometry, (Gazi University, Ankara, Turkey) Title: *Dilatations of pseudo-Anosov mapping classes*.

(July 2015) Workshop on Geometry Group Theory, (CIRM, Luminy, France) Title: *Dual Digraphs and Entropy.*

(March 2015) Arkansas Spring Lecture Series (U. Arkansas) Title: *Dual Digraphs and Entropy.*

(April 2014) Cascade Topology Seminar (Oregon State University, Corvalis) Title: *Dynamics of free group automorphisms.*

(April 2014.) Redbud Conference Oklahoma (University of OK, Norman) Title: *Digraphs and dilatations.*

(May 2014) Institute for Pure and Applied Mathematics (IPAM) Algebraic Techniques for Combinatorial and Computational Geometry (UCLA) Title: *Braid monodromy of line arrangements and generalized lantern relations.*

(May 2014) Georgia Topology Conference (University of Georgia) Title: *Small dilatations pseudo-Anosov mapping classes.*

(August 2012) Low-dimensional Topology and Number Theory, MFO, Oberwolfach, Germany. Title: Small dilatation pseudo-Anosov mapping classes.

(April 2012) Intelligence of Low Dimensional Topology, RIMS, Kyoto, Japan. Title: *Small dilatation pseudo-Anosov mapping classes.*

(March 2012) Mini- Workshop on ``Growth'' at Osaka, Osaka City University, Osaka, Japan. Title: *Constructions of pseudo- Anosov mapping classes with small growth rates associated to mixed-sign Coxeter graphs.*

Invited Lectures:

(February 2015) Caltech, Topology Seminar. Title: *Fibered face theory and entropy for free-by-cyclic groups.*

(October 2013) Harvard University, Geometry and Dynamics seminar. Title: *Train track maps, branched surfaces and cycle polynomials.*

(October 2013) Brown University, Topology seminar Title: *Toward a fibered face theory for free group automorphisms.*

(June 2013) Institute Fourier, Grenoble, Topology Seminar. Title: Minimum dilatation problem for pseudo-Anosov mapping classes.

(June 2013) University of Geneva, Fables geometriques seminar. Title: *Mahler measure in*

geometry and topology.

(April 2013) Yale University, Geometry and Topology Seminar. Title: *Properties of PF digraphs and applications to the geometry of Teichmueller space and the curve complex.*

(March 2013) University of Wisconsin, Madison. Topology Seminar. Title: *Mixed sign Coxeter systems and mapping classes.*

(October 2012) Undergraduate Research Colloquium, University of North Texas. Title: *Lehmer's number and the golden mean.*

(October 2012) Millican Colloquium, University of North Texas. Title: *Pseudo-Anosov mapping classes with small dilatation.*

(July 2012) Topology Seminar, Josai University, Saitama, Japan. Title: *Small dilatation pseudo-Anosov mapping classes.*

(June 2012). Topology Seminar, Kyoto University. Title: *Generalized Coxeter graphs and mapping classes.*

(April 2012). Dynamics, Seminar, Tokyo Institute of Technology, Tokyo, Japan. Title: *Mixed-sign Coxeter mapping classes.*

(April 2012). Topology Seminar, University of Tokyo. Title: *Pseudo-Anosov mapping classes with small dilatation.*