

Eriko Hironaka
(revised September 2008)

Present Position:

Associate Professor, Florida State University

Education:

Brown University, Ph.D. 1990, Advisor Alan Landman

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Current and Previous Academic Positions

Florida State University, Associate Professor (2002-present)

Florida State University, Assistant Professor (1997-2002)

University of Toronto, C.L.T.A. Assistant Professor (1994-1997)

Stanford University, Szego Instructor (1992-1994)

Awards and Grants

Japan Society for the Promotion of Science (JSPS) Grant, Osaka University (June 1, 2004 – March 31, 2005)

First Year Assistant Professor (FYAP) Grant, Florida State University. (June–August 1998)

National Sciences and Engineering Research Council of Canada Research Grant (NSERC) University of Toronto. (1995-1997)

National Science Foundation (NSF) Research Grant, Stanford University. (1993-1995)

Personal Information:

Born December 12, 1962 in Princeton, NJ. Dual US/Japan citizenship. Married. Two children.

Research

Area of Specialization: Low-dimensional topology and geometry

Preprints:

[1] *Cyclotomic factors of Coxeter polynomials* (joint with Benedict H. Gross, and Curtis T. McMullen) (2007) to appear in J. Number Theory

Publications:

[1] *On hyperbolic deformations of algebraic links and small Mahler measure* Proceedings of 3rd Franco-Japonaise Symposium on Singularities (2005)

[2] *A family of pseudo-Anosov braids with small dilatation (with Eiko Kin)* Algebraic and Geometry Topology 6 (2006) 699 – 738

[3] *Salem-Boyd sequences and Hopf plumbing* Vol. 43, No. 3, Osaka J. of Math (2006)

[4] *Special classes of algebraic integers in low-dimensional topology* Proceedings of RIMS conference on Number Theory and Geometry (2005)

[5] *Chord diagrams and Coxeter links.* J. London Math. Soc. (2) 69 (2004) 243–257

[6] *Lehmer's problem, McKay's correspondence, and 2,3,7.* Contemp. Math. Proc. Vol. 324, 2003, p. 123 – 138

[7] *The Lehmer polynomial and pretzel knots.* Can. Math. Soc. Bulletin, Vol. 44(4), 2001, p. 440 - 451

[8] *The arithmetic and geometry of Salem numbers* (joint with Eknath Ghate) Bull. Amer. Math. Soc. (N.S.) Vol. 38, 2001, no. 3, p. 293 - 314

[9] *Boundary manifolds of line arrangements.* Math. Ann. vol. 319, 2001, p. 17 - 32

[10] *Plumbing graphs for normal surface-curve pairs.* Advanced Studies in Pure Mathematics, Arrangements - Tokyo 1998

[11] *Alexander stratifications of character varieties.* Ann. de l'Inst. Four., Vol. 47, No. 2, 1997, p. 555 - 583.

[12] *Torsion points on an algebraic subset of an affine torus.* Inter. Math. Res. Not., No. 19, 1996, p. 953 - 982.

[13] *Multi-polynomial invariants for plane algebraic curves.* Proceedings: Conference on algebraic geometry and singularities. Beijing 1994

[14] *Abelian coverings of the complex projective plane branched along configurations of real lines.* Memoirs of Amer. Math. Soc., Vol. 105, No. 502, 1993.

[15] *Intersection theory on branched covering surfaces and polynomial periodicity.* Inter. Math. Res. Notices., No. 6, 1993, p. 185 - 196.

[16] *Polynomial periodicity for Betti numbers of coverings surfaces.* Invent. Math. 108, 1992, p. 289-321.

Visiting Research Positions (2004-2008):

Harvard University (9/06-6/07)

Max-Planck-Institut-für-Mathematik (6/05-8/05)

Osaka University (6/04 - 7/04, 10/04 - 6/05)

Research Institute of Mathematical Sciences (8/04 - 9/04)

Seminars and Colloquia (2004-2008):

University of Chicago, Geometry/Topology Seminar (5/70/08) Title: *Mapping classes from graphs*

University of Chicago, Geometry/Topology Seminar (5/10/07) Title: *Graphs, Coxeter systems, and pseudo-Anosov mappings*

University of Kyoto, Topology Seminar (2/15/05) Title: *Bounds on least dilatations of braids*

University of Osaka, Topology Seminar (2/2/05) Title: *Amalgamations of surface homeomorphisms*

University of Osaka, Colloquium (1/17/05) Title: *Growth of Salem numbers and Mahler measures of fibered knots and links.*

University of Melbourne, Topology/Geometry Seminar (12/22/04) Title: *Salem numbers from knots and links*

Waseda University, Topology Seminar (12/3/04) Title: *Growth of Salem numbers and Mahler measures of fibered knots and links*

University of Tokyo, Topology Seminar (7/20/04) Title: *Lehmer's polynomial and Coxeter links*

KOOK seminar, Osaka (6/26/04) Title: *Lehmer's polynomial and Coxeter links*

University of Osaka, Topology Seminar (6/22/04) Title: *Lehmer's polynomial and Coxeter links*

University of Hiroshima, Topology Seminar (6/11/04) Title: *Star graphs and growth rates of polygonal reflection groups*

University of Texas, Austin, Number Theory Seminar (9/25/03) Title: *Lehmer's problem and Coxeter links*

Institute des Hautes Etudes Scientifiques, Bures-sur-Yvette, France, Mathematics Seminar (6/16/03) Title: *Growth rates of Coxeter links*

Conferences and Workshops (2004-2008):

Banff, Calgary "Low-dimensional Topology and Number Theory" (10/22/07-10/29/07) Title: *Cyclotomic factors of Coxeter polynomials*

C.I.R.M., Luminy "Variations on Mahler's measure" (5/30/05-6/3/05) Title: *Salem-Boyd sequences and surface homeomorphisms*

Research Institute of Mathematical Sciences Conference: "Algebraic number theory and related topics", Kyoto (12/6/04) Title: *Salem and P - V numbers from Knots and Links*

Topology Symposium, Yamagata (7/31/04) Title: *Lehmer's polyomial and Coxeter links*
A.M.S. Special Session "Algebraic Geometry and Topology", Tallahassee, FL(3/13/04-
3/14/04) Co-organizer

Service

Departmental Committees (2004-2008):

Director of Pure Math (Spring 2008 – present)

Executive Committee (Spring 2008 – present)

Faculty Evaluation Committee (Spring 2003-Spring 2004)

Department webpage design supervision (Spring 2000-Spring 2004)

Doctoral Committee:

Advanced Topic Examination Committee:

Christian Laing (04)

Outside Activities (2004-2008):

Conference Organization:

Conference in honor of Anatoly Libgober on his 60th birthday,

Zaragoza, Spain (June 2009)

(est. 47 invited speakers, 150 participants)

AMS Special Session on Algebraic Geometry and Topology,

Tallahassee, FL (3/10/04-3/12/04)

Refereeing and Reviewing (2004-2008):

Refereeing:

American Journal of Mathematics (2007)

Acta Mathematica Sinica (2007)

Journal of Geometry and Topology (2007)

Topology and its Applications (2004),

Michigan Math. Journal (2004),

Reviewer for MathSciNet (3-5 a year)

Teaching

Fall 2008

MAA 4224 Introduction to Analysis	18 students
MAS 4302 Introduction to Abstract Algebra	28 students
MAS 6939 Algebra Seminar, 1 credit hour	9 students
MTG 6939 Topology Seminar, 1 credit hour	8 students

Spring 2008

MTG 5932 Differential Topology, 3 credit hours	8 students
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Fall 2007

MAA 4224 Introduction to Analysis	22 students
MTG 6939 Topology Seminar, 1 credit hour	4 students

Fall 2006 - Spring 2007

Research leave at Harvard University

Spring 2006

MTG 5932-01 Differential Topology, 3 credit hours	8 students
MTG 6939 Topology Seminar, 1 credit hours	6 students

Fall 2005

MAA 4224 Introduction to Analysis	8 students
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Fall 2004 - Spring 2005

Sabbatical at Osaka University

Spring 2004

MAC 2312-07 Calculus II, 4 credit hours	39 students
MAS 4303-01 Abstract Algebra, 3 credit hours	8 students