Curriculum Vitae

Eriko Hironaka

Last Revised: August 19, 2010

General Information

University address: Mathematics
College of Arts & Sciences
Love Building 210-A
Florida State University
Tallahassee, Florida 32306-4510

E-mail address: hironaka@math.fsu.edu

Web site: www.math.fsu.edu/~hironaka

Professional Preparation

1990 Doctor of Philosophy, Brown University, Providence, RI. Major: Mathematics. Supervisor: Alan Landman.

E. Hironaka. (1990). *Abelian coverings of the complex plane branched along configurations of real lines*. (Doctoral dissertation, Brown University, Providence, RI). Retrieved from The Brown University Theses and Dissertations, http://dl.lib.brown.edu/theses/theses.php?task=search&id=5851.

1987 Masters Degree, Brown University, Providence RI. Major: Mathematics. Algebraic Geometry. Supervisor: William Fulton.

Hironaka, E. (1987). *Branched Coverings of Normal Varieties*. (Master's thesis, Brown University, Providence RI). Retrieved from Brown University Thesis and Dissertations, http://dl.lib.brown.edu/theses/theses.php?task=search&id=5850.

1984 BA, Harvard University, Cambridge, MA. Major: Mathematics.

Professional Experience

2002–present 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.

Visiting Professorship(s)

2009	Harvard University, Cambridge, MA.
2004–2005	Osaka University, Osaka, Japan.
2004	Research Institute of Mathematical Sciences, Kyoto, Japan.
2004	Osaka University, Osaka, Japan.
2003	Institute des Hautes Etudes Scientifiques, Bures-sur-Yvette, France.
2002	Max-Planck-Institut-fur-Mathematik, Bonn, Germany.
2001	Max-Planck-Institut-fur-Mathematik, Bonn, Germany.
1999	Harvard University, Cambridge, MA.
1999	Math Sciences Research Institute, Berkeley, CA.
1999	Institute des Hautes Etudes Scientifiques.
1998	Institute des Hautes Etudes Scientifiques, Bures-sur-Yvette, France.
1996–1999	Math Sciences Research Institute, Berkeley, CA.
1995	Institut Fourier, Grenoble, France.
1992	Visiting Researcher, Institute des Hautes Etudes Scientifiques, Bures-sur-Yvette, France.
1991–1992	Visiting Researcher, Max-Planck-Institut-fur-Mathematik, Bonn, Germany.
1990–1991	Visiting Assistant Professor, Stanford University.
1989–1990	Visiting Assistant Professor, Haverford College.

Current Membership in Professional Organizations

American Mathematical Society

Teaching

Courses Taught

Special Topics in Mathematics (MAT5933)
Advanced Seminar in Topology (MTG6939)
Introduction to Abstract Algebra II (MAS4303)
Elementary Topology I (MTG4302)
Advanced Seminar in Algebra (MAS6939)
Introduction to Analysis I (MAA4224)
Introduction to Abstract Algebra I (MAS4302)
Engineering Mathematics I (MAP3305)
Ordinary Differential Equations (MAP2302)
Topics in Geometry (MTG5932)
Differential Topology (MAT5932)
Groups Rings and Vector Spaces I (MAS 5307)
Calculus II (MAC 2312)
Calculus I (MAC 2311)
Topology I (MTG5326)
Applied Linear Algebra (MAS3105)

New Course Development

Differential Topology -- A third course in the topology sequence required for masters and doctoral graduate students in pure mathematics (2006)

Doctoral Committee Chair

Armstrong, J. Kyle, doctoral candidate. (2012). *Mixed-Sign Coxeter Systems (preliminary)*.

Valdivia, Aaron D, doctoral candidate. (2011). *Teichmuller polynomials and asymptotics of minimal dilatation pseudo-Anosov mapping classes (preliminary)*.

Doctoral Committee Co-Chair

Mortada, J., doctoral student. (2011). *Embeddings of Artin Groups in the Mapping Class Group*.

Doctoral Committee Member

Wang, D., doctoral candidate. (2014).
Biswas, S., doctoral candidate. (2012).
Wang, G., doctoral candidate. (2012).
Stryker, J. P., doctoral candidate. (2011).
Boulis, C., doctoral candidate. (2003).
Jones, D., doctoral candidate. (2003).

Chair of Bachelor's Thesis Supervisory Committees

Dominic Pafundi, student. (2011). *Train track maps (tentative)*.

Research and Original Creative Work

Program of Research and/or Focus of Original Creative Work

My main area of interest is low-dimensional topology and geometry. I study algebraic curves and surfaces, knots and links, 3-manifolds, surface automorphisms, group representations, and polynomial invariants.

Publications

Refereed Journal Articles

Hironaka, E. (in press 2010). Small dilatation pseudo-Anosov mapping classes coming from the simplest hyperbolic braid. *Journal of Algebraic and Geometric Topology*, 15 pages.

This paper describes an infinite sequence of mapping classes that realizes the conjectural minimum (in the orientable case) for all even genus not divisible by 6. The paper also shows how Lehmer's number, and other remarkable algebraic integers are naturally generated from the golden mean.

Gross, B., Hironaka, E., & McMullen, C. (2009). Cyclotomic factors of Coxeter polynomials. *Journal of Number Theory*, *129*, 1034--1043.

This paper explains the periodic appearance of cyclotomic factors for Coxeter polynomials of the En Coxeter graphs. These graphs include the "exceptional" spherical and affine Coxeter systems, as well as, hyperbolic Coxeter systems that give rise to small Salem numbers, including Lehmer's number. Journal of Number Theory has U of Texas journal impact ranking #82.
http://www.ma.utexas.edu/users/lsilvest/rankings/mranking.html.

Hironaka, E. (2009). What is Lehmer's number? *Notices of the American Mathematical Society*, *56 (3)*, 374--375.

This paper surveys properties of Lehmer's number and ways in which it appears in geometry and dynamics.

Hironaka, E. (2006). Salem-Boyd sequences and Hopf plumbing. *Osaka Journal of Mathematics*, *43 (3)*, 497--516.

Salem-Boyd polynomial sequences were developed in the 1960s and 70s to study sequences of Salem numbers and other special algebraic integers. This paper shows that iterated Hopf plumbing generates Salem-Boyd sequences. Osaka Journal of Mathematics has U of Texas journal impact ranking #83 http:www.ma.utexas.edu/users/lsilvest/rankings/mranking.html.

Hironaka, E., & Kin, E. (2006). A family of pseudo-Anosov braids with small dilatation. *Journal of Algebraic Geometry and Topology*, *6*, 699--738.

This paper presents an infinite sequence of pseudo-Anosov braids (which can be thought of as unidirectional flows within a tube) with special properties: they are simple to describe and conjecturally minimize entropy for all odd strand braids.

Hironaka, E. (2004). Chord diagrams and Coxeter links. *Journal of London Mathematical Society*, *69 (2)*, 243--257.

This paper gives an explicit constructive relation between Lehmer's number, the (-2,3,7)-pretzel knot, and the E10 Coxeter system. Journal of London Mathematical Society has U of Texas journal impact ranking #56. http://www.ma.utexas.edu/users/lsilvest/rankings/mranking.html.

Hironaka, E. (2001). The Lehmer polynomial and pretzel knots. *Canadian Mathematical Society Bulletin*, *44 (4)*, 440--451.

This paper proves Lehmer's minimality conjecture in the context of pretzel knots. Canadian Mathematical Society Bulletin has U of Texas ranking #120. http://www.ma.utexas.edu/users/lsilvest/rankings/mranking.html.

Ghate, E., & Hironaka, E. (2001). The arithmetic and geometry of Salem numbers. *Bulletin of the American Mathematical Society (N.S.)*, *38(3)*, 293--314.

This paper brings together several approaches to studying Salem numbers: as a straightforward question about certain kinds of roots of polynomials, and as a subtle problem involving central questions in arithmetic geometry and geometric topology. Enath Ghate is a faculty member at that Tata Institute of Mathematics in Bombay India. The main collaboration occurred while we were both visitng the Institute des Hautes Etudes Scientifique in the summer of 1998. Bulletin of the American Mathematical Society has Science Watch impact ranking #3 http://sciencewatch.com/dr/sci/08/jan20-08_22/, U of Texas impact ranking #7. http://www.ma.utexas.edu/users/lsilvest/rankings/mranking.html.

Hironaka, E. (2001). Boundary manifolds and line arrangements. *Mathematische Annalen*, *319*, 17-32.

The 4-dimensional real topology of a neighborhood of a collection of complex lines in the two (complex) dimensional complex plane depends on both local information, and subtle global information that is subject to restrictions coming from the complex geometry. This paper shows how to encode the information in a graph and manageable local data. Mathematische Annalen has U of Texas journal impact ranking #21.

Hironaka, E. (1997). Alexander stratifications of character varieties. *Annales de l'Institute Fourier*, *47(2)*, 555-583.

This paper gives computable geometric restrictions on Alexander invariants of Kahler groups. Annales de l'Institute Fourier has U of Texas research journal impact ranking #43 http://www.ma.utexas.edu/users/lsilvest/rankings/mranking.html.

Hironaka, E. (1996). Torsion points on an algebraic subset of an affine torus. *International Mathematics Research Notices*, *19*, 953--982.

This paper investigates polynomial functions that count torsion points on an algebraic subset of an affine torus. It contains theorems about the "shapes" of these polynomials giving, for example, bounds on the periodicity of the coefficients in terms of the defining equations.

Hironaka, E. (1993). Abelian coverings of the complex projective plane branched along configurations of real lines. *Memoirs of the American Mathematical Society*, *105(502)*, vi--85.

This book-length article presents algorithms for computing topological and geometric invariants of branched coverings, focusing on examples that are simple enough to make explicit computations, but general enough to exhibit the subtlety of local versus global topological information. The Memoirs of the American Mathematical Society Book Series has U of Texas journal impact ranking #9: http://www.ma.utexas.edu/users/lsilvest/rankings/mranking.html.

Hironaka, E. (1993). Intersection theory on branched covering surfaces and polynomial periodicity. *International Mathematics Research Notices*, *6*, 185--196.

In this paper we use Mumford's theory of intersections of algebraic curves on normal surfaces to prove that the first Betti number of towers of branched coverings of a smooth complex projective surface is polynomial periodic. This improved previous results by removing the need for restrictions on the branch locus.

Hironaka, E. (1992). Polynomial periodicity for Betti numbers of covering surfaces. *Inventiones Mathematicae*, *108(2)*, 289--321.

This paper proves that the first Betti number of towers of coverings of a smooth complex projective surface, with some restrictions on the branch locus, is a polynomial periodic function. The Inventiones Mathematicae has U of Texas journal impact ranking. #6 http://www.ma.utexas.edu/users/lsilvest/rankings/mranking.html.

Invited Book Chapters

Hironaka, E. (2005). Special classes of algebraic integers in low-dimensional topology. In M.

Morishita (Ed.), *Number Theory and Geometry* (pp. 120--130). Research Institute for Mathematical Sciences Publication, Kyoto, Japan.

This paper describes relations between minimization problems in number theory and in geometry and topology, bridging two disparate realms of mathematics.

Refereed Proceedings

Hironaka, E. (2007). On hyperbolic deformations of algebraic links and small Mahler measure. In J.P. Brasselet, & T. Suwa (Eds.), *Singularities in geometry and topology 2004* (pp. 77--94). Adv. Stud. Pure Math., vol. 46, Math. Soc. Japan, Tokyo.

This paper studies families of hyperbolic links that can be obtained from algebraic links, in particular those associated to the classical A-D-E singularities, by deforming them slightly using Hopf plumbing.

Hironaka, E. (2003). Lehmer's problem, McKay's correspondence, and 2,3,7. In C.G. Melles, J.P. Brasselet, G. Kennedy, K. Lauter, & L. McEwan (Eds.), *Resolution of singularities and noncommutative geometry, Luminy* (pp. 123--138). Contemporary Math vol. 324.

This paper describes an intriguing relation between the monodromy of the (-2,3,7)-pretzel knot and the growth rate of the (2,3,7) triangle group. The way Lehmer's number appears in these contexts is shown to be analogous to McKay's correspondence in algebraic singularity theory.

Hironaka, E. (2000). Plumbing graphs for normal surface-curve pairs. In Falk, M., & Terao, H. (Eds.), *Workshop on Mathematics Related with Arrangements of Hyperplanes (Tokyo Metropolitan University, Tokyo)* (pp. 127--144). Kinokuniya Company Ltd., Tokyo.

This paper develops a calculus for plumbing on graph manifolds that arise as neighborhoods of curves on a normal surface. This generalizes results by W. Neumann for curves on smooth surfaces.

Hironaka, E. (1997). Multi-polynomial invariants of plane algebraic curves. In Lu, Q, Yau, S., & Libgober, A. (Eds.), *Singularities and and Complex Geometry (Beijing, China)* (pp. 67--74). AMS/IP Studies in Advance Mathemaitcs.

This paper discusses the existence of polynomial periodic invariants of surfaces obtained as towers of coverings of a smooth complex projective variety, and shows how these invariants relate to the combinatorics and topology of the branch curves.

Presentations

Invited Keynote and Plenary Presentations at Conferences

For invited keynote and plenary presentations at conferences, 100.0% were international in scope.

Hironaka, E. (presented 2003, March). *Lehmer's problem for chord diagram links*. Plenary presentation at Topology and Dynamical Systems, Lubbock, TX: Supported by National Science Foundation. (International)

Invited Presentations at Conferences

For invited presentations at conferences, 76.5% were international, 11.8% were national, 11.8% were regional in scope.

Hironaka, E. (presented 2010, April). *Families of small dilatation mapping classes*. Presentation at Workshop on pseudo-Anosov mapping classes with small dilatation, Madison, Wisconsin: University of Wisconsin. (International)

http://www.math.wisc.edu/~jeanluc/pAconf.html.

Hironaka, E. (presented 2010, March). *Mapping classes with small dilatation*. Presentation at Low Dimensional Topology and Number Theory II, Tokyo, Japan: Tokyo University, Graduate Center. (International)

Hironaka, E. (presented 2007, October). *Cyclotomic factors of Coxeter polynomials*. Presentation at Low-dimensional Topology and Number Theory, Banff, Calgary, Canada: Banff International Research Station. (International)

Hironaka, E. (presented 2005, June). *Salem-Boyd sequences and surface homeomorphisms*. Presentation at Variations on Mahler's measure, Luminy, France: Centre International de Recontres Mathematiques. (International)

Hironaka, E. (presented 2004, December). *Salem and P-V numbers from Knots and Links*. Presentation at Algebraic number theory and related topics, Kyoto, Japan: Research Institute of Mathematical Sciences. (International)

Hironaka, E. (presented 2004, July). *Lehmer's polyomial and Coxeter links*. Presentation at Topology Symposium, Yamagata, Japan: Japan Mathematical Society. (International)

Hironaka, E. (presented 2004, May). *Salem-Boyd sequences and surface homeomorphisms*. Presentation at Variations on Mahler's measure, Luminy, France: Centre International de Recherche Mathematique. (International)

Hironaka, E. (presented 2002, March). *Chord Diagrams and Coxeter Links*. Presentation at Special Session: Geometry and Topology, Atlanta, GA: American Mathematical Society. (International)

Hironaka, E. (presented 2001, November). *Lehmer's polynomial and isolated hypersurface singularities*. Presentation at Special Session on topology of algebraic varieties, Irvine, CA: American Mathematical Society. (International)

Hironaka, E. (presented 2001, October). *Lehmer's problem, Coxeter diagrams, and fibered knots*. Presentation at Singularities Conference in honor of Ruth Michler, Annapolis, ML: United States Naval Academy. (International)

Hironaka, E. (presented 2001, July). *Hyperplane arrangements, 2-colored graphs, and knots*. Presentation at Singularities Conference in honor of Ruth Michler, Luminy, France:

Centre Internationale des Rencontres Mathematiques. (International)

Hironaka, E. (presented 2000, March). *The Topology of Algebraic Plane Curves*. Presentation at Eleventh Southeast Geometry Conference, Charleston, NC: University of Charleston. (Regional)

Hironaka, E. (presented 2000, January). *Planar Line Arrangements*. Presentation at Special Session: Singularities in Algebraic and Analytic Geometry, Washington, DC: American Mathematical Society. (National)

Hironaka, E. (presented 1999, October). *Fundamental groups of real algebraic varieties*. Presentation at Special Session, Charlotte, NC: American Mathematical Society. (Regional)

Hironaka, E. (presented 1999, July). *Plumbing data for algebraic plane curves*. Presentation at Real Algebraic Geometry Conference, Safi, Morocco: Moroccan Mathematical Society. (International)

Hironaka, E. (presented 1999, January). *Graph manifolds for algebraic plane curves*. Presentation at Special Session on Singularities in Algebraic and Analytic Geometry, San Antonio, TX: American Mathematical Society. (National)

Hironaka, E. (presented 1998, July). *Boundary manifolds of line arrangements*. Presentation at Hyperplane Arrangements Conference, Tokyo, Japan: Tokyo Metropolitan University. (International)

Invited Lectures

For invited lectures, 25.0% were international, 8.3% were national, 66.7% were local in scope.

Hironaka, E. (2010, March). *Mapping classes with small dilatation*. Lecture delivered at University of Florida, Colloquium, Gaineville, Fl. (Local)

Hironaka, E. (2009, November). *Small dilatation pseudo-Anosov mapping classes coming from the simplest pseudo-Anosov braid*. Lecture delivered at University of Chicago, Topology Seminar, Chicago, IL. (Local)

Hironaka, E. (2009, November). *Small dilatation pseudo-Anosov mapping classes coming from the simplest pseudo-Anosov braid*. Lecture delivered at University of Illinois, Urbana-Champaign, Topology Seminar, Urbana-Champaign, IL. (Local)

Hironaka, E. (2009, October). *Small dilatation pseudo-Anosov mapping classes coming from the simplest pseudo-Anosov braid*. Lecture delivered at Valley Geometry Seminar, Amherst, MA. (Local)

Hironaka, E. (2009, September). *Lehmer's problem and dilatations of mapping classes*. Lecture

delivered at Tufts University, Colloquium, Medford, MA. (Local)

Hironaka, E. (2009, September). *Small dilatation pseudo-Anosov mapping classes coming from the simplest pseudo-Anosov braid*. Lecture delivered at Harvard University, Dynamics and Geometry Seminar, Cambridge, MA. (National)

Hironaka, E. (2009, August). *Lehmer's problem and dilatations of mapping classes*. Lecture delivered at Worldwide Center of Mathematics, Cambridge, MA. (Local)

Hironaka, E. (2009, March). *Pseudo-Anosov mapping classes with small dilatation constructed from graphs*. Lecture delivered at Harvard University, Dynamics and Geometry Seminar, Cambridge, MA. (Local)

Hironaka, E. (2008, May). *Mapping classes from graphs*. Lecture delivered at University of Chicago, Topology Seminar, Chicago, IL. (Local)

Hironaka, E. (2007, May). *Graphs, Coxeter systems, and pseudo-Anosov mappings*. Lecture delivered at University of Chicago, Geometry and Topology Seminar, Chicago, IL. (Local)

Hironaka, E. (2005, February). *Bounds on least dilatations of braids*. Lecture delivered at University of Tokyo, Topology Seminar, Tokyo, Japan. (International)

Hironaka, E. (2005, January). *Growth of Salem numbers and Mahler measures of fibered knots and links*. Lecture delivered at University of Osaka, Colloquium, Osaka, Japan. (International)

Hironaka, E. (2004, December). *Salem numbers from knots and links*. Lecture delivered at Topology/Geometry Seminar, University of Melbourne, Melbourne, Australia. (Local)

Hironaka, E. (2004, December). *Growth of Salem numbers and Mahler measures of fibered knots and links*. Lecture delivered at Waseda University, Topology Seminar, Tokyo, Japan. (Local)

Hironaka, E. (2004, July). *Lehmer's polyomial and Coxeter links*. Lecture delivered at Tokyo University, Topology Seminar, Tokyo University, Graduate Center, Tokyo Japan. (Local)

Hironaka, E. (2004, June). *Star graphs and growth rates of polygonal reflection groups*. Lecture delivered at Topology Seminar, University of Hiroshima. (International)

Hironaka, E. (2004, June). *Lehmer's polynomial and Coxeter links*. Lecture delivered at KOOK Seminar, Osaka, Japan. (International)

Hironaka, E. (2003, September). *Lehmer's problem and Coxeter links*. Lecture delivered at Number Theory Seminar, University of Texas, Austin, TX. (Local)

Hironaka, E. (2003, June). *Growth rates of Coxeter links*. Lecture delivered at Institute des Hautes Etudes Scientifiques, Bures-sur-Yvette, France. (International)

Hironaka, E. (2002, June). *Duality for Coxeter systems*. Lecture delivered at Singularities Seminar, University of Leuven, Leuven, Belgium. (Local)

Hironaka, E. (2002, May). *Duality for Coxeter systems*. Lecture delivered at Max-Planck-Insitut-fur-Mathematik, Bonn, Germany. (International)

Hironaka, E. (2002, March). *Coxeter Links*. Lecture delivered at Geometry Seminar, Georgia Tech, Atlanta, GA. (Local)

Hironaka, E. (2001, October). *Singularities, Links, and Algebraic Numbers*. Lecture delivered at University of Florida Number Theory Seminar, Gainesville, FL. (Local)

Hironaka, E. (2001, August). *Lehmer's problem, Coxeter diagrams, and fibered knots*. Lecture delivered at Max-Planck-Institut-fur-Mathematik, Bonn, Germany. (International)

Hironaka, E. (2001, March). *Lehmer's problem, and pretzel links*. Lecture delivered at University of Utah, Colloquium, Salt Lake City, UT. (National)

Hironaka, E. (2001, March). *The geometry of Salem numbers*. Lecture delivered at University of South Alabama, Seminar, Mobile, AL. (National)

Hironaka, E. (2000, March). *The Geometry of Salem Numbers*. Lecture delivered at Oklahoma State University, Colloquium, Stillwater, OK. (Local)

Hironaka, E. (1999, December). *Residual finiteness for "unknotted" plane algebraic curves*. Lecture delivered at University of Massachusetts, Valley Geometry Seminar, Amherst, MA. (Local)

Hironaka, E. (1999, November). *The geometry of Salem numbers*. Lecture delivered at State Univesrity of New York, Topology Seminar, Stony Brook, NY. (Local)

Hironaka, E. (1999, November). *The geometry of Salem numbers*. Lecture delivered at Cornell University, Colloquium, Ithaca, NY. (Local)

Hironaka, E. (1999, June). *Plumbing data for algebraic plane curves*. Lecture delivered at University of Lisbon, Colloquium, Lisbon, Portugal. (Local)

Hironaka, E. (1999, May). *Plumbing graphs for real linee arrangements*. Lecture delivered at Universidad Complutense, Algebraic Geometry Seminar, Madrid, Spain. (Local)

Hironaka, E. (1999, February). *Graph manifolds of complex projective plane curves*. Lecture delivered at State University of New York, Colloquium, Buffalo, NY. (Local)

Hironaka, E. (1998, October). *Lehmer's polynomial and pretzel knots*. Lecture delivered at Harvard University, Basic Notions Seminar, Cambridge, MA. (Local)

Hironaka, E. (1998, July). *Lehmer's polynomial and pretzel knots*. Lecture delivered at Saitama University, Algebraic Geometry Seminar, Saitama, Japan. (International)

Hironaka, E. (1998, June). *Alexander stratifications for quasi-Kahler groups*. Lecture delivered at Ecole Normale Superieure, Algebraic Geometry Seminar, Paris, France. (International)

Contracts and Grants

Contracts and Grants Funded

Hironaka, E. (Apr 2009 - Mar 2010). *Topology of Algebraic Varieties*. Funded by National Science Foundation. Total award $49,860.

Hironaka, E. (Jun 1998 - Aug 1998). *Topology of Algebraic Varieties*. Funded by Florida State University, First Year Assistant Professor (FYAP) Grant. Total award $8,000.

Hironaka, E. (1995 - 1997). *Topology of complex projective varieties*. Funded by National Sciences and Engineering Research Council of Canada (NSERC). Total award $36,000.

NSERC grants cover travel, expenses, and overhead, but do not offer summer salary.

Hironaka, E. (1993 - 1995). *Geometry and Topology of Algebraic Varieties*. Funded by National Science Foundation (NSF) Research Grant. Total award $90,000.

Amount is approximate and includes 2 months summer salary plus $2500 for travel and supplies and overhead to Stanford University.

Service

Florida State University

FSU College Committees

Reviewer, COFRS Grant (2008).

FSU Department Committees

Elected Member, Faculty Evaluation Committee (2010–2013).

Pure Mathematics Program Representative, Executive Committee (2008–2010).

Member, Graduate Committee (2005–present).

Elected Member, Faculty Evaluation Committee (2003–2004).

Chair, Unit Assessment Survey Committee (2002–2003).

Member, Graduate Admissions Committee (2002).

Member, Visibility Committee (1999–2002).

FSU Program Committees

Director, Pure Mathematics Program (2008–2010).

The Profession

Guest Reviewer for Refereed Journals

Annals of Mathematics (2010).

Journal of Number Theory (2010).

Journal of Geometry and Physics (2010).

Geometriae Dedicata (2010).

Journal of Australian Mathematical Society (2009).

Journal of Geometry and Topology (2009).

Acta Mathematica Sinica (2007).

Journal of Geometry and Topology (2007).

American Journal of Mathematics (2006).

Bulletin of London Mathematical Society (2004).

Michigan Journal of Mathematics (2004).

Topology and its Applications (2003).

Pacific Journal of Mathematics (2003).

Pacific Journal of Mathematics (2002).

Journal of London Mathematical Society (2002).

Reviewer or Panelist for Grant Applications

Israel Science Foundation (2010).

National Security Agency (2009).

Israel Science Foundation (2006).

National Security Agency (2004).

National Science Foundation (3 reviews) (2003).

[#] National Science Foundation (1992).

Service to Professional Associations

Committee on Women in the Mathematical Sciences, AMS-ASA-AWM-IMS-MAA-NCTM-SIAM (2010–2013).

Co-organizer, PI - NSF Conference Grant, Conference on Topology of Algebraic Varieties, Jaca, Spain (2009–2010).

Co-organizer, AMS Special Session on Algebraic Geometry and Topology, Tallahassee, FL (2004).

Co-organizer, AMS Special Session on Topology of Algebraic Varieties, Irvine, CA (2001).

Consultant to Editor, Developments in Modern Mathematics (Japanese) -- the question was whether this book should be translated into English, American Mathematical Society Publications (1997).

Math Sci. Net -- Reviewer, Reviews of at total of 20 journal articles during this period, American Mathematical Society (1997–2010).

Service to Other Universities

Co-organizer: Dynamics and Topology Seminar, *Harvard University, Department of Mathematics* (2010).

Advisor for visiting PhD student Miguel A. Marco. Weekly hour long meetings, *University of Valladolid, Spain* (2002).

Doctoral Thesis Commmittee for Jose-Ignacio Cogolludo, *University of Madrid, Madrid, Spain* (1999).

The Community

Parent Extended-Day Volunteer, Gave weekly origami classes to extended-day students in 3rd-8th grades for one month, School of Arts and Sciences (2009).

Parent Extended-Day Volunteer, Gave weekly origami classes to extended-day students in 3rd-8th grades for one month, School of Arts and Sciences (2008).

Parental Theme Volunteer, Taught weekly "theme" projects to 2nd and 3rd graders, School of Arts and Sciences (Grades K-8), Tallahassee, FL (2007–2008).

[#] Professional activities that occurred prior to my employment at FSU.