

Jane Piore Gilman

Professor of Mathematics, Rutgers University, Newark

Curriculum Vitae

June 2009

Contact Information

Analysis Program
Division of Mathematical Sciences
National Science Foundation
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Education

B.S., University of Chicago, December 1965
Ph.D., Columbia University, May 1971

Employment

1984 - present	Professor	Department of Mathematics, Rutgers-Newark
1977 - 1984	Associate Professor	Department of Mathematics, Rutgers-Newark
1972 - 1977	Assistant Professor	Department of Mathematics, Rutgers-Newark
1971 - 1972	Instructor	Department of Mathematics, SUNY Stony Brook

Supported Visiting Positions

9/08 - 8/10	Analysis Program Officer	National Science Foundation
7/06 - 12/06	Visiting Fellow	Yale University
10/95-12/95	Member	Institutes des Hautes Études Scientifiques
1993 (4 weeks)	Visitor	University of Warwick
1990 - 1991	Visiting Professor	Princeton University
1989 (4 weeks)	Member	Mittag-Leffler Institute, Sweden
1988 - 1989	Visiting Mathematician	Princeton University
1/86 - 6/86	Member	Mathematical Sciences Research Institute
1979 - 1980	Member	Institute for Advanced Study

Other Visiting Positions

1/96 - 6/96	Member	Mathematical Sciences Research Institute
1/92 - 6/92	Member	Institute for Advanced Study

Chair, Rutgers Newark, Department of Mathematics, 1982-90

Fields of Interest Kleinian groups, Teichmüller theory, hyperbolic geometry including computational aspects.

Honors and Awards

1. Columbia University Graduate Fellowship, 1966-70.
2. National Science Foundation grant, co-PI, Relative Teichmüller Spaces and Relative Mapping Class Groups, 1972-73.
3. Rutgers Summer Fellowship for Assistant Professors, 1976.
4. Grant from Institute for Advanced Study, Princeton, NJ, to work on *The Nielsen-type and the Bers-Thurston Classification of the Mapping Class Group*, 1979-80.
5. Rutgers Council on Instructional Development Grant, PI, Intensive Sections of College Algebra, PI; grant supported my teaching in one and supervising other experimental sections of College Algebra, 1981-82.
6. Grant from Mathematical Sciences Research Institute, Berkeley, 1/86 to 6/86.
7. Princeton University, Research Stipend, 1988-89.
8. Mittag-Leffler Institute, Swedish Royal Academy, Djursholm, Sweden, supported visitor, one month, 1989.
9. Princeton University, Visiting Professor, 1990-91, supported.
10. National Science Foundation grant, PI, Two-generator Discrete Subgroups of $PSL(2, \mathbf{R})$: the Geometry of Intersecting Axes, PI, 1990-92.
11. University of Warwick, Special Year in Hyperbolic Geometry, supported visitor, four weeks, June-July 1993.
12. Grant from Rutgers University Dialogues Pilot Project program for curriculum reform to revise and teach *Geometry and the Imagination* Course for Rutgers-Newark undergraduates, PI, Spring 1994.
13. National Science Foundation grant, PI, support for research on *Algorithms, Complexity and Discreteness Criteria for $PSL(2, \mathbf{C})$* , AY support, (two years), 1994-97.
14. Institute des Hautes Études Scientifiques, Bures-sur-Yvette, France, supported visitor, two months, 1995.
15. Post-doctoral visitors: Professor Yoshihide Okumura of Kanazawa University, Japan, six weeks, S97, supported by the Japanese government. Moira Chas, University of Barcelona, six weeks, F 97 supported by Spanish government.
16. Rutgers University *Research Council* grant, PI, summer 2002-3.
17. *Sigma Xi Distinguished Lecturer*, 2001-2002 and 2002-2003.

Honors and Awards -continued-

18. National Security Agency grant, *Algorithms, Discreteness Criteria, and Farey Words*, (two year grant), PI, 2003-2005.
19. Rutgers University *Research Council* grant, PI, 2006-7.
20. Visiting Fellow, supported by Yale University Mathematics Department, Fall semester 2006.
21. Rutgers University *Research Council Colloquium* grant, to support 2008 Ahlfors-Bers Colloquium, PI, 2007-8.
22. National Science Foundation grant, PI, Triennial Ahlfors-Bers Colloquium, 2008-2009.

Doctoral Students¹

1. Yicheng Jiang, *Complexity of the Fuchsian Group Discreteness Algorithm*, January 2000, published in *Ann. Acad. Sci. Fenn.* **26** (2001) 375-390; current position: industry.
2. Vidur Malik, *Curves Generated on Surfaces by the Gilman-Maskit Algorithm*, May 2007, Awarded Dissertation fellowship by the Graduate School-Newark for 2006-07; thesis to be published in AMS-CONM, current position: Visiting Assistant Professor, Mathematics Department, University of Cincinnati.
3. Karan Puri, *Factorization of Isometries of Hyperbolic 4-Space and a Discreteness Condition*, May 2009. Awarded Dissertation fellowship by the Graduate School-Newark for 2008-09; tenure track position beginning F 2009: Assistant Professor, Queensborough Community College, CUNY.
4. Andrew Silverio, current student F 2008 - to present.

Doctoral Student Co-Advised with Denis Blackmore of NJIT

5. Chengwen Wang, *On the Periodic Solutions for Asymptotically Nonlinear Hamiltonian Systems*, May 2000, thesis published in *Int. J. of Differential Equations*, 7 (2003), no. 3, 295-309. Current position: Assistant Professor, Essex County College, Newark, NJ.

¹The doctoral program in mathematics at Rutgers-Newark began in 1995. Yicheng Jiang was the first to complete the program.

PUBLICATIONS

Refereed Research Articles

1. Compact Riemann Surfaces with Conformal Involutions, *Proceedings Amer Math Soc* **37** (1973), 105-107.
2. On the Moduli of Compact Riemann Surfaces with a Finite Number of Punctures in *Discontinuous Groups and Riemann Surfaces*, *Annals of Math Studies* **79** (1974), 181-205.
3. On Conjugacy Classes in the Teichmüller Modular Group, *Michigan Math J.* **23** (1976), 53-63.
4. A Matrix Representation for Automorphisms of Riemann Surfaces, *Linear Algebra and its Applications* **17** (1977), 139-147.
5. An Example about Normalizers in Mapping Class Groups, *Proceedings Amer Math Soc* **69** (1978), 138-147.
6. Intersection Matrices for Adapted Bases (with David Patterson) in *Riemann Surfaces and Related Topics*, *Annals of Math. Studies* **97** (1981), 149-166.
7. A Remark about Components of Relative Teichmüller Spaces, *Canadian Math Bulletin* **24** (1981), 245-6.
8. On the Nielsen Type and the Classification of the Mapping Class Group, *Advances in Math* **40** (1981), 68-96.
9. Determining Thurston Classes Using Nielsen Types, *Transactions Amer Math Soc* **272** (1982), 669-675.
10. Structures of Elliptic Irreducible Subgroups of the Mapping Class Group, *Proceedings London Math Soc* **47** (1983), 27-42.
11. On the Existence of Cyclic Surface Kernels for Pairs of Fuchsian Groups (with Robert Gilman), *Journal London Math Soc* **30** (1984), 451-464.
12. A Characterization of Finite Subgroups of the Mapping-class Group, in *Proceedings 1985 Alta Conference*, *Annals of Math Studies* (1987), 433-442.
13. A Geometric Approach to the Hyperbolic Jørgensen Inequality, *Bulletin Amer Math Soc* **16** (1987), 91-92.
14. Inequalities in Discrete Subgroups of $PSL(2, \mathbb{R})$, *Canadian Journal* **XL** (1988), 115-130.
15. On the Existence of Elliptic Elements in Discrete Groups in *Holomorphic Functions and Moduli, II* Springer-Verlag, N.Y. (1988), 23-27.

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PUBLICATIONS -continued-

Refereed Research Articles -continued-

16. A Geometric Approach to Jørgensen's Inequality, *Advances in Math* **85** (1991), 193-197.
17. An Algorithm for Two-generator Discrete Groups (with Bernard Maskit), *Michigan Math J* **38** (1991), 13-32.
18. Recent Developments in Nielsen Theory and Discrete Groups, in *Nielsen Theory and Dynamical Systems*, AMS CONM **152** (1993), 159-176.
19. Two-generator Discrete Subgroups of $PSL(2, \mathbb{R})$, *Memoirs of the AMS* **117**, (1995), volume 561 (200 pages).
20. Algorithms, Complexity and Discreteness Criteria in $PSL(2, \mathbb{C})$, *Journal D'Analyse Mathématique* **73** (1997), 91-114.
21. A Discreteness Condition for Subgroups of $PSL(2, \mathbb{C})$ in *Proceedings of the Bers Colloquium*, AMS CONM **211** (1997), 261-267.
22. Complexity of a Turing Machine Discreteness Algorithm in *The Tradition of Ahlfors and Bers, Proceedings AB98 Colloquium* AMS CONM **256** (2000), 165-171.
23. Kleinian Groups with Real Parameters, (with F.W. Gehring and G.M. Martin), *Communications in Contemporary Math* **3** (2001), 1-23.
24. Alternate Discreteness Tests, in *Birman Conference Proceedings* AMS/IP Studies in Advanced Mathematics **24**, (2001), 41-47.
25. Word Sequence and Intersection Numbers (with Linda Keen) in *Complex Manifolds and Hyperbolic Geometry (Guanajuato 2001)*, AMS CONM **311** (2002), 331-349.
26. The Geometry of Two-Generator Groups: Hyperelliptic Handlebodies (with Linda Keen), *Geometriae Dedicata*, **110** (2005), 159-190.
27. Boundaries for Two-Parabolic Schottky Groups in *Spaces of Kleinian Groups*, London Math Soc Lecture Notes **329**(2005), 283-299.
28. Planar Families of Discrete Groups. (with Linda Keen) in *The Geometry of Riemann Surfaces and Abelian Varieties*, AMS CONM **397** (2006), 79-88.
29. Classical Two-Parabolic T -Schottky Groups (with Peter Waterman), *Journal D'Analyse Mathématiques* XCVIII, (2006), 1-42.
30. Informative Words and Discreteness in *Proc. Rosenbergerfest*, AMS CONM **421**, (2007) 147-155.

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PUBLICATIONS -continued-**Refereed Research Articles** -continued-

31. Canonical Symplectic Representations for Prime Order Conjugacy Classes of the Mapping Class Group, *Journal of Algebra*, **318** (2007), 430-455.
32. The Structure of Two-Parabolic Space: Parabolic Dust and Iteration, *Geometriae Dedicata* **131** (2008), 27-48.
33. Prime Order Automorphisms of Riemann surfaces, in *Proceedings of the International Workshop on Teichmüller Theory and Moduli Problems*, HRI Lecture Notes Series, Ramanujan Mathematical Society, (2009) 21 pages, in press.
34. Cutting Sequences and Palindromes (with Linda Keen) in *Proceedings of the Conference on Geometry and Riemann Surfaces 2007*, Anogia London Math Soc Lecture Note Series, (2009) 24 pages, in press.
35. Discreteness Criteria and the Hyperbolic Geometry of Palindromes, (with Linda Keen), *Journal of Conformal Geometry and Dynamics* **13** (2009), 76-90.

Submitted Article

36. Enumerating Palindromes in Rank Two Free Groups (with Linda Keen), *Journal of Algebra*, submitted (2008), resubmitted with suggested revisions, June 2009, ~18 pages.

Articles in Preparation

1. The Non-Euclidean Euclidean Algorithm.
2. On Yamamoto's Example of a Classical Schottky Group.
3. Equations for Schottky groups (with Peter Waterman).

Book Reviews

40. Review of "Surfaces and Planar Discontinuous Groups" by Zieschang, Vogt and Caldeway, *Lecture Notes in Math.* **835**. Reviewed for *the Bulletin of the Amer Math Soc* **9** (2), (1983), 256-9.
41. Review of Jacob Nielsen's "Collected Mathematical Papers", in *Bulletin of the Amer Math Soc* **21**, (1989) 125-129.

Graduate Textbooks

42. *Complex Analysis in the Spirit of Lipman Bers*, Graduate text (with I. Kra and R. Rodriguez), Springer-Verlag, Graduate Texts in Mathematics Series **245** (2007).

43. *Topics in Complex Analysis and Hyperbolic Geometry*, Graduate text, companion volume to [42], (with I. Kra and R. Rodriguez) under contract to be published by Springer-Verlag, in preparation.

Lecture Notes

44. Lecture Notes for *Fresh Honors Math*, (with W.P. Thurston) Notes written for course in Calculus and Dynamical Systems given at Princeton University, Fall 1990, available upon request, \sim 120 pages.
45. (a) *Geometry and the Imagination*, (with John Conway, Peter Doyle, and W.P. Thurston), University of Minnesota, Geometry Center preprint GCG30, June 1991 (b) *Geometry and the Imagination*, Math 491, Lecture notes revised and adapted for Rutgers-Newark by Gilman, Spring 1994, Spring 1997, Spring 2005, and Spring 2006 (available upon request).
46. *Lecture Notes on Hyperbolic Geometry and Dynamical Systems*, (with Alberto Castro, D.B.A. Epstein, & W.P. Thurston), lecture notes for graduate course, MSRI (1994).
47. MSRI lecture notes from MSRI invited talk on Schottky Groups August 2007 being written up by MSRI "note-taker", to be posted on MSRI web-site; video of talk posted on MSRI web-site.

Other Publications

46. Report on *Geometry and the Imagination*, CBMS Issues in Mathematics Education, **3**, AMS, Providence, Rhode Island, (1993), 131-135.
47. Lipman Bers: A Personal Remembrance, in *Remembering Lipman Bers, Notices of the AMS* **42 (1)**, (1995) 24-25.
48. Report on MSRI 1994 Summer Workshop on Hyperbolic Geometry and Dynamical Systems, (with D.B.A. Epstein and W.P. Thurston), *Notices of the AMS* **42 (12)**, (1995) 1520-1527.

Edited Conference Proceedings

49. Editor (with Xiao-song Lin and W. Menasco), Proceedings 1998 Birman conference, **24**, *Studies in Advanced Math.* AMS & IP (2001).
50. Editor (with Canary, Heinonen, and Masur), *The Legacy Continues: in the Tradition of Ahlfors-Bers, IV*, Proceedings 2005 Ahlfors-Bers Colloquium, AMS CONM, **432** June 2007.
51. Editor (with Bonk, Masur, Minsky and Wolf), *In the Tradition of Ahlfors Bers, V*, AMS CONM, in preparation.

Invited Hour Research Lectures

1. *Mathematics Department Colloquium*, City College, CUNY, S 1977.
2. *Riemann Surface Seminar*, Columbia University, S 1977.
3. *Mathematics Department Colloquium*, Stevens Institute of Technology, F 1977.
4. *The New York Group Theory Seminar*, The Graduate Center, CUNY, F 1977.
5. *Riemann Surface Seminar*, Columbia University, F 1978.
6. *Topology Seminar*, Institute for Advanced Study, Princeton, NJ, S 1980.
7. Workshop on Topology and Kleinian Groups, NSF Summer workshop at Bowdoin College, 1980
8. *The New York Group Theory Seminar*, The Graduate Center, CUNY, S 1981.
9. *Amherst., U. Mass.-Smith joint seminar on Low Dimensional Topology*, S 1981.
10. *Geometric Topology Seminar*, Columbia University, F 1981.
11. *Mathematics Department Colloquium*, University of Michigan, Ann Arbor, F 1982.
12. *Five Colleges Mathematics Colloquium*, Smith College, Northampton, S 1983.
13. *Riemann Surfaces Seminar*, SUNY Stony Brook, S 1984.
14. *Complex Analysis Seminar*, SUNY Stony Brook, S 1985.
15. *MSRI Geometric Function Theory Seminar*, Berkeley, Ca., S 1986.
16. *Complex Analysis Seminar*, CUNY Graduate Center, F 1986.
17. *Complex Analysis Seminar*, SUNY Stony Brook, S 1987.
18. *Nevanlinna Colloquium*, Joensuu, Finland, 1/2 hour talk, 1987.
19. *Workshop on Teichmüller Theory*, Helsinki, 1/2 hour talk, 1987.
20. *Fordham University, Mathematics Department Colloquium*, F 1988.
21. *Geometric Topology Seminar*, Princeton University, F 1988.
22. *American Mathematical Society Conference on Riemann Surfaces and Discrete Groups*, Hour speaker, Arcata, Ca., 1989.
23. *Nevanlinna Colloquium*, 1/2 hour talk, Helsinki, June 1990.
24. *Topology Seminar*, Columbia University, F 1991.

Invited Hour Research Lectures -continued-

25. AMS Summer Conference on *Nielsen Theory and Dynamical Systems*, Hour Speaker, Mount Holyoke, Mass., 1992.
26. *Hyperbolic Geometry Seminar*, University of Warwick, 1993.
27. *Mathematics Department Colloquium*, Brown University, F 1993.
28. *Complex Analysis Seminar*, CUNY Graduate Center, F 1994.
29. *Berniefest Special Session*, 45 minute talk, AMS meeting, Hartford Conn, S 1995.
30. *Topology Seminar*, University of Marseille, F 1995.
31. *London Math Society Conference on Hyperbolic Groups*, Hour speaker, King's College, London, 1995.
32. *Mathematics Department Colloquium*, Northern Illinois University, S 1996.
33. *MSRI-Berkeley Monday Lecturer*, S 1996.
34. *Pi Mu Epsilon Lecture*, Oklahoma University, S 1996.
35. *Colloquium*, NIU, S 1996.
36. *Princeton-Rutgers Group Theory Seminar*, F 1996.
37. *Workshop on Computational and Algorithmic Methods in Three-dimensional Topology*, hour speaker, MSRI, March 1997.
38. *NY Area Complex Analysis Seminar*, May 1997.
39. *Mathematics Department Colloquium*, Florida State University, October, 1998.
40. *Midrasha Mathematicae*, Institute for Advanced Study and Landau Center, Hebrew University of Jerusalem, May 1999.
41. *Conference on Riemann Surfaces*, Einstein Institute, University of Jerusalem, June 1999.
42. *Seminar on Algebra, Geometry and Computation*, University of Auckland, 1999.
43. *Complex Analysis Seminar*, CUNY graduate center, S 2000.
44. *Meeting on Teichmüller Theory*, Guanajuato, Mexico, hour speaker, January 2001.
45. *Complex Analysis Seminar*, SUNY SB, S 2001.
46. *Colloquium*, UNC-Greensboro, S 2002.
47. *Topology and Geometry Seminar*, Kings College, University of London, S 2003.

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Invited Research Lectures *-continued-*

48. Geometry Seminar, Warwick University, S 2003.
49. Topology and Geometry seminar, Durham University, S 2003.
50. *Colloquium*, University of Newcastle, S 2003.
51. New York Group Theory Seminar, CUNY graduate center, F 2003.
52. Iboamericana III conference on Geometry, Salamanca, Spain, June 2004.
53. Conference in honor of Gerhard Rosenberger, Fairfield University, F 2004.
54. Topology Seminar, Rutgers, New Brunswick, S 2005.
55. Workshop on Teichmüller Theory and Moduli Problems, Harish-Chandra Research Institute, Allahabad, India, January 2006.
56. Group Theory Seminar, McGill University, March 2006.
57. Topology and Geometry Seminar, U. Conn, October 2006.
58. Topology and Geometry Seminar, Yale University, November 2006.
59. Colloquium, Wesleyan University, S 2007.
60. Topology and Geometry Seminar, Rutgers-New Brunswick, S 2007.
61. Complex Analysis Seminar, CUNY Graduate Center S 2007.
62. Topology and Geometry Seminar, U. Warwick, June 2007.
63. Teichmüller Theory semester, MSRI, August 2007.
64. Topology and Geometry seminar, U Md, November 2009.
65. Keynote speaker, First Annual DC Area Graduate Student Conference, George Washington University, April 2009.
66. Geometry and Topology Seminar, Cornell University, May 6, 2009
67. CUNY Complex Analysis Seminar, May 15, 2009.
68. (scheduled) Colloquium, Howard University, Fall 2009.

Invited Talks in AMS Special Sessions

1. *Special Session on Kleinian Groups*, Amer. Math. Soc. Meeting, Syracuse, NY, F 1978.
2. *Special Session on Discrete Groups*, AMS Meeting, Philadelphia, S 1980.

3. *Special Session on Low Dimensional Topology*, AMS, Kenosha, Wisconsin, F 1980.
4. *Special Session on Hyperbolic Geometry*, AMS Meeting, Amherst, Mass., F 1981.
5. *Special Session on Quasiconformal Mapping*, AMS Meeting, Austin, Texas, F 1981.
6. *Special Session on Kleinian Groups*, AMS Meeting, Fairfield, Conn., F 1983.
7. *Special Session on Geometric Function Theory*, AMS Meeting, Worcester, Mass., S 1985.
8. *Special Session on Kleinian Groups*, AMS Meeting, Denton, Texas, F 1986.
9. *Special Session on discrete groups and geometric structures in 2, 3 and 4 dimensions*, AMS meeting, Amherst, F 1990.
10. *Special Session on Discrete Groups*, joint LMS and AMS meeting, Cambridge, England, 1992.
11. *Special Session on Hyperbolic Manifolds*, AMS meeting, Dayton, Ohio, F 1992.
12. *Special Session on Discrete Groups*, AMS meeting, DeKalb, S 1993.
13. *Special Session on Geometry of 3-manifolds*, AMS meeting, Boston, Mass. F 1995.
14. *Special Session on Discrete Group Actions*, joint American-Australian Math Soc meetings, Melbourne, July 1999.
15. *Special Session on Symbolic Computation on Kleinian Groups*, AMS meeting, NY, October, 2000.
16. *Special Session on Computation on Algebraic Curves*, AMS annual meeting, New Orleans, January 2001.
17. *Special Session on algorithms and algebraic varieties*, AMS, Baltimore, January 2003.
18. *Special Session on Automorphisms of Surfaces and Curves*, AMS meeting Santa Barbara, April 2005.
19. *Special Session on Kleinian Groups and Hyperbolic Geometry*, AMS meeting, October 2006.
20. *Special Session on Automorphisms of Curves*, AMS meeting Arizona, April 2007

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Invited Talks in AMS Special Sessions -continued-

21. *Special Session on Hyperbolic Geometry*, AMS meeting NYC, March 2008.
22. *Special Session on Computational Algebraic and Analytic Geometry for Low-dimensional Varieties*, AMS meeting, Washington, DC, January 2009.
23. *Special Session on Automorphisms of Riemann Surfaces and Algebraic Varieties*, October 2009 (scheduled).

Selected Popular Lectures

1. Lecture for graduate students, NIU, 1996.
2. *Pi Mu Epsilon Lecture*, Oklahoma University, 1996.
3. Sigma Xi Lecture, UNC Greensboro, 2002
4. Sigma Xi Lecture, NJ Liberty Science Center, 2002
5. Panelist, New York College of Technology, CUNY workshop for women graduate students and post-docs, 2008.

SERVICE**Selected Professional Service**

1. Reviewer for Math. Reviews, 1974 to present.
2. *Referee or Reviewer* for various journals, conference proceedings, and funding agencies including Duke Math. J., Math. Zeitschrift, Proc SB 78, Transactions of the AMS, Proceedings of the AMS, Ergodic Theory and Dynamical Syst., J. Pure and Applied Alg., Gehringfest Proceedings, Bers Colloquium Proceedings, Tohoku Journal, Canadian Journal, Crelle's Journal, NSF mathematics research grant proposals, Journal of the Math. Soc. of Japan, London Math Soc Journals, Revisita Mathematica Iberoamericana, Journal of Conformal Geometry and Dynamics, Marcel Dekker, Topology, Proc AB98, Math Research Letters, Journal Pure and Applied Algebra, Journal D'Analyse Mathematique, Israel Journal of Mathematics, Publicacions Matemàtiques, Conformal Geometry and Dynamics, Algebraic and Geometric Topology, Journal of Differential Geometry, Geometry and Topology, Ann. Acad. Sci. Fenn.
3. *External Reviewer*: Department of Mathematics and Computer Science; Lehman College, CUNY, 1996; Mathematics Department, College of Staten Island, 1996; and Mathematics Instruction SUNY Stony Brook, 1987.
4. NSF Panels for education grant proposals for section on Education Materials and Development, 1991 and for section on Calculus Reform, 1993;

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SERVICE

Selected Professional Service -continued-

5. *Invited course: for graduate and undergraduate students, post-docs, high school teachers and advanced high school students* Geometry and the Imagination, Geometry Center, U of Minnesota (with Conway, Doyle, and Thurston) two weeks, 1991.
6. Invited talk on Mathematics Education Reform, AMS, Special Session, Baltimore, January, 1992.
7. *Invited Course: Graduate* Workshop on Hyperbolic Geometry and Dynamical Systems at Mathematical Sciences Research Institute, Berkeley, Ca (with D.B.A Epstein, P. Doyle and W.P.Thurston), two weeks, summer 1994.
8. Member, Organizing Committee, First Tri-annual *Bers Colloquium* and Member, editorial board, Proceedings of the Inaugural Bers Colloquium, 1995.
9. Organizer, Special Session on Hyperbolic Geometry and Discreteness Criteria, AMS meeting, NYC, April 1996.
10. Member, Organizing Committee *Birmanfest*, conference 1998.
11. Co-organizer, Special Session on Symbolic Computation on Kleinian Groups, AMS meeting, NYC, Fall 2000.
12. Service in American Mathematical Society offices with membership determined by contested national elections.
 - (a) AMS Council, *Member-at-large*, (3 year term), 1986-88;
 - (b) AMS Nominating Committee, *Member* (2 year term), 1988-89; Appointed Chair CY 1988 and CY 1989.
 - (c) AMS Nominating Committee, *Member* (3 year term), 1996-1999.
 - (d) AMS Editorial Boards Committee, *Member* (3 year term), February 1, 2001-January 31, 2004; Chair February 01, 2002-January 31, 2003.
13. Co-organizer, AB05 Workshop on deformations of hyperbolic three-manifolds, Ann Arbor, May, 2005.
14. Member, Organizing Committee, Ahlfors-Bers Colloquium Lectures, 1997-2000 and 2003-2008. Chair of organizing committee, 2006-2008. Colloquium held at Rutgers-Newark in 2008. Approximately 180 mathematicians from more than twelve countries attended.
15. Member, Sigma Xi committee on Distinguished Lectureships, 2003-2004, 2004-2005, and 2005-2006.
16. Member, External Review Panel, University of Helsinki, Fall 2005.
17. Member, NSF panel on Geometric Function Theory, February 2007.

Selected Rutgers Service

1. *Founding Program Director*, College-wide Mathematics Graduation Proficiency Requirement, Faculty of Arts and Science, Newark (FASN), 1980-1982.
2. *Chair*, Department of Mathematics, Faculty of Arts and Science, Newark, 1982-1990. During my tenure as department chair the department was transformed into one with an international reputation for excellence in research and also became the Department of Mathematics and Computer Science.
3. *Founding Chair*, joint Rutgers-Newark Faculty of Arts and Sciences and New Jersey Institute of Technology, (FASN/NJIT), Computer Science Program, 1984.
4. *Chair*, Joint Rutgers-Newark/New Jersey Institute of Technology (RN/NJIT) Committee to design Mathematics PhD program, 1989-90 and ad hoc RN Committee 1987-89.
5. *Member*, Newark Provost's Faculty Advisory Council, 1997-2000 representing the Graduate School Newark and *Elected Member*, Executive Committee 1998-99 and 1999-2000.
6. *Member*, Department Graduate Program Committee, CY 1997 and 1998.
7. *Member*, Department PEC, 2001-2002, 2002-2003, and 2004-2005.
8. *Member*, FASN, Aff. Act. Committee, 2003-04.
9. *Member*, FASN/AAUP Grievance Panel, 2004-2005.
10. *Member*, FASN, A&P Committee, 2001-2004 (3 AY years) and 2005-2006.
11. *Acting Chair*, FASN Math and CS department, six weeks, S 2005.
12. *Internal Seminar Talks* Departmental Seminar on Teichmüller Theory, two talks on *A Road Map to T-space*, S 2006; Internal Seminar for Graduate Students *Algorithms for Discreteness* S 2004.
13. *Member*, Chair's Ad Hoc Committee on Teaching Load Reduction, FASN Mathematics and CS department, S 2007.
14. *Member*, Department Executive Committee, 2007-2008 AY.

Memberships in Professional Societies

American Mathematical Society (AMS); Sigma Xi; Association for Women in Math (AWM); Mathematics Association of America (MAA) and (*past*) Association for Computing Machinery (ACM) and Mathematics Education Reform Network (MER);

Courses taught at Rutgers-Newark

College Algebra, Trigonometry, Precalculus, Calculus I and II, Honors Calculus I and II, Undergraduate Abstract Algebra I and II, Complex Variables (undergraduate and graduate), TA for first experimental Large Lecture Calculus (to back up the lecturer; the department had no TA's at the time), Undergraduate Topology I and II, Undergraduate Mathematics Seminar, Graduate Differential Geometry, Graduate Topics in Complex Variables and Graduate Topics in Geometry.