

**JEFFREY S. GERONIMO  
CURRICULUM VITAE**

**February 2009**

GERONIMO, JEFFREY S..... Professor  
School of Mathematics  
Georgia Institute of Technology  
Atlanta, Georgia 30332-0160

**PERSONAL DATA:**

Born: February 25, 1949 in Cairo, Egypt  
Citizenship: U.S.A.

**EDUCATIONAL BACKGROUND:**

Ph.D. 1977	The Rockefeller University	Physics
B.S. 1972	S.U.N.Y. at Albany	Physics & Chemistry

**EMPLOYMENT HISTORY:**

Professor, School of Mathematics	1991-present
On leave -University of Madrid Carlos III	2001-02
Fulbright Scholar University of Paris VI	1996-97
Visiting Professor Physique Theorique Centre	1996-97
Associate Professor, School of Mathematics, Georgia Institute of Technology	1986-91
Assistant Professor, School of Math., Georgia Institute of Technology	1983-86
Visiting Asst. Prof., Physique Theorique Centre d'Etudes Nuclearies, Saclay, France	1982-84
Visiting Assistant Professor, School of Mathematics, Georgia Institute of Technology	1979-83
Assistant Professpr, Department of Biophysics, The Rockefeller University	1978-79
Visiting Assistant Professor, School of Mathematics, Georgia Institute of Technology	1977-78

**CURRENT FIELDS OF INTEREST:**

Applied mathematics, scattering theory, orthogonal polynomials, dynamical systems, iterated maps, numerical analysis, wavelets

## REFEREED PUBLICATIONS:

### (a) Already Published

- "Determination of the spectral gap in the Kac model for physical momentum and energy conserving collisions" (with Eric Carlen and Michael Loss) SIAM Journal of Math Anal. 40 (2008) 327-364
- "Varying weights for orthogonal polynomials with monotonically varying recurrence coefficients" (with Walter Van Assche and Alexander Aptekarev) JAT 150 (2007) 214-238
- "Two variable orthogonal polynomials on the bicircle and structured matrices" (with Hugo Woerdeman) SIAM J Matrix Anal. Appl. 29 (2007) 796-825
- "Two Variable polynomials Intersecting zeros and stability" (with H Woerdeman) IEEE Trans Circuits and Systems 53 (2006) 1130-1139
- "Two variable orthogonal polynomials and structured matrices" (with A. Delgado, P. Iliev, and F. Marcellan) SIAM J. Matrix Anal. 28 (2006) 118-147
- "Factorization of multivariate positive Laurent polynomials" (with M-J Lai) JAT 139 (2006) 327-345
- "On extensions of a Theorem of Baxter" (with A. Martinez-Finkelstein) JAT 139 (2006) 214-222
- "The Operator Valued Autoregressive Filter Problem and the Suboptimal Nehari Problem in Two Variables" (with Hugo Weordeman) Integral Equations and Operator Theory 53 (2005) 343-361
- "Asymptotics for Sobolev Orthogonal Polynomials for Exponential Weights"(with D. Lubinsky and P. Marcellan) Const. Appr. 22 (2005) 309-346
- "Algebro-Geometric Solutions of the Baxter-Szego Difference equation" (with F. Gesztesy and H. Holden) CMP 258 (2005) 149-177
- "Positive extensions and Fejer-Riesz factorization for two-variable trigonometric polynomials" (with H. Woerdeman) Annals of Math. 160 (2004) 839-906
- "WKB and Turning Point Theory for Second Order Difference Equations" (with O Bruno, and W. Van Assche) Operators Theory: Advances and Applications. 154 (2004) 101-138
- "A Numerical Algorithm for the 2D Autoregressive Filter Problem" (with H. Woerdeman and G. Castro) IEEE Transactions in Signal Proc. 83 (2003) 1299-1308
- "Certain Two Dimensional Integrals that Appear in Conformal Field Theory" (with H. Navelet) J. Math Physics. 44 (2003) 2293-2319
- "Necessary and Sufficient Condition that the Limit of Stieljes Transforms is a Stieljes Transform" (with T.P Hill) Journ. Approx. Theory 121 (2003) 54-60
- "Squeezable Orthogonal Bases: Accuracy and Smoothness" (with G. Donovan and D. Hardin) SIAM J. Numer. Anal. 40 (2002) 1077-1096

- "Compactly Supported, Piecewise Affine Scaling Functions on Triangulations" (with G. Donovan and D. Hardin) *Const. Approx.* 16 (2000) 201-219
- "Orthogonal Polynomials and the Construction of Piecewise Polynomial Smooth Wavelets" (with G. Donovan and D. Hardin) *SIAM J. Math. Anal.* 30 (1998) 1029-1056
- "An Inverse Problem Associated with Polynomials Orthogonal on the Unit Circle" (with R. Johnson) *Commun. Math Phys.* 193 (1998) 125-150
- "The Inverse Fractal Problem for Polyhulled Disjoint Attractors" (with A. Delui and R. Shonkwiler) *Phil. Trans. R. Soc. Lond A* 355 (1997) 1017-1062
- "Design of Prefilters for Discrete Multiwavelet Transforms" (with X. Xia, D. Hardin and B. Suter) *IEEE Trans. Signal Proc.* 44 (1996) 25-35
- "Construction of orthogonal wavelets using fractal interpolation functions" (with G. Donovan, D. Hardin and P. Massopust) *SIAM J. Math. Anal.* 27 (1996) 1158-1192
- "Interwining multiresolution analysis and the construction of piecewise polynomial wavelets" (with G. Donovan, and D. Hardin) *SIAM J. Math. Anal.* 27 (1996) 1791-1815
- "Rotation Number Associated with Polynomials Orthogonal on the Unit Circle" (with R. Johnson) *JDE* 132 (1996) 140-178
- "Fractal functions and wavelet expansions based on several scaling functions" (with D. Hardin and P. Massopust) *J. Approx. Theory* 78 (1994) 373-401
- "Scattering Theory, Orthogonal Polynomials and Q-series" *SIAM J. Math. Anal.* 25 (1994) 392-419
- "A Difference Equation Arising from the Trigonometric moment Problem having Random Reflection Coefficients - An Operator Theoretic Approach" (with A. Teplyaev) *J. Funct. Anal* 123 (1994) 12-45
- "Strong Asymptotics for Orthogonal Polynomials with Regularly and Slowly Varying Recurrence Coefficients" (with D. Smith and W. Van Assche) *J. Approx. Theory* 72 (1993) 141-158
- "Fractal Interpolation Surfaces with an Application to a Two-Dimensional Multiresolution Analysis" (with D. Hardin), *J. Math Anal. and App.* 176 (1993) 561-586
- "Singularity Spectrum for Recurrent IFS Attractors" (with J. F. King) *Nonlinearity* 6 (1992) 337-348
- "WKB (Louisville-Green) Analysis of Second Order Difference Equations and Applications" (with D. Smith) *J. Approx. Theory* 69 (1992) 269-301
- "Approximating the weight function for orthogonal polynomials on several intervals" (with W. Van Assche) *J. Approx. Theory* 65 (1991) 341-371
- "Dimensions associated with recurrent self-similar sets" (with A. Deliu, D. Hardin and R. Shonkwiler), *Math. Proc. Camb. Phil. Soc.* 110 (1991) 327-336.

- "On Geometric Sequences of Reflection Coefficients" (with D. S. Mazel and M. H. Hayes) IEEE Trans. on Acoustics, Speech, and Signal Processing 38 (1990) 1810-1812
- "Relative Asymptotics for Orthogonal Polynomials with Unbounded Recurrence Coefficients" (with W. Van Assche) J. Approx. Theory 62 (1990) 47-69
- "Capacities of Measures Associated with Iterated Function Systems" (with D. Hardin) Const. Approx. 5 (1989) 89-98
- "Asymptotics for Orthogonal Polynomials with Unbounded Recurrence Coefficients" (with W. Van Assche), Rocky Mountain J. Math. (19) (1989) 39-49
- "Invariant Measures for Markov Processes Arising from Iterated Function Systems with Place Dependent Probabilities" (with M. F. Barnsley, S. Demko, and J. Elton) Ann. Inst. Henri Poincare 24 (1988) 367-394
- "Orthogonal Polynomials on Several Intervals via a Polynomial Mapping" (with W. Van Assche) Trans. Amer. Soc. 308 (1988) 559-581
- "Asymptotics for Orthogonal Polynomials On and Off the Essential Spectrum" (with W. Van Assche) J. Approx. Theory. 55 (1988) 220-231
- "On the Asymptotic Distribution of Eigenvalues of Banded Matrices" (with E. M. Harrell II and W. Van Assche) Const. Approx. 4 (1988) 403-417
- "Function Weighed Measures and Orthogonal Polynomials on Julia Sets" (with D. Bessis and P. Moussa) Const. Approx. 4 (1988) 157-173
- "On the Spectra of Infinite Dimensional Jacobi Matrices" J. Approx. Theory 53 (1988) 251-265
- "Orthogonal Polynomials with Asymptotically Periodic Recurrence Coefficients" (with W. van Assche) J. Approx. Theory 46 (1986) 251-283
- "Almost Periodic Operators Associated with Julia Sets" (with M. F. Barnsley and A. N. Harrington) Comm. Math. Phys. 99 (1985) 303-317
- "Geometry and Combinatorics of Julia Sets of Real Quadratic Maps" (with M. F. Barnsley and A. N. Harrington) J. Stat. Phys. 37 (1984) 51-92
- "Geometry and Combinatorics of Julia Sets of Real Quadratic Maps" (with M. F. Barnsley and A. N. Harrington) J. Stat. Phys. 37 (1984) 51-92
- "Ensembles de Julia et Proprietes de Localisation des Families Iterees D'Entiers Algebriques" (with D. Bessis and P. Moussa) Comptes-Rendus (Paris) 299 (1984) 281-284
- "Mellin Transforms Associated with Julia Sets and Physical Applications" (with D. Bessis and P. Moussa) J. Stat. Phys. 34 (1984) 75-110
- "Geometrical and Electrical Properties of Some Julia Sets" (with M. F. Barnsley and A. N. Harrington) "Classical and Quantum Models and Arithmetic Problems" (ed. D. Chudnovsky and G. Chudnovsky) lecture notes pure and applied mathematics, Decker 92 (1984) 1-68

- "Geometry, Electrostatic Measure, and Orthogonal Polynomials on Julia Sets for Polynomials" (with M. F. Barnsley and A. N. Harrington) *J. of Ergodic Theory and Dynamical Systems* 3 (1983) 509-520
- "Complex Spectral Dimensionality on Fractal Structures" (with D. Bessis and P. Moussa) *J. Physique.-Lett.* 44 (1983) 977-982
- "Some Tree-like Julia Sets and Pade Approximants" (with M. F. Barnsley and A. N. Harrington) *Lett. Math. Phys.* 7 (1983) 279-286
- "Infinite Dimensional Jacobi Matrices Associated with Julia Sets" (with M. F. Barnsley and A. N. Harrington) *Proc. Am. Math. Soc.* 88 (1983) 625-630
- "Necessary and Sufficient Conditions Relating the Coefficients in the Recurrence Formula to the Spectral Function for Orthogonal Polynomials" (with P. G. Nevai) *SIAM J. Math. Anal.* 14 (1983) 622-637
- "On the Invariant Sets of a Family of Quadratic Maps" (with M. F. Barnsley and A. N. Harrington) *Comm. Math. Phys.* 88 (1983) 479-501
- "Orthogonal Polynomials Associated with Invariant Measures on Julia Sets" (with M. F. Barnsley and A. N. Harrington) *Bull. Amer. Math. Soc.* 7 (1982) 381-384
- "Scattering Theory and Matrix Orthogonal Polynomials on the Real Line" *Circuits Systems Signal Process I* (1982) 471-495
- "An Upper Bound on the Number of Eigenvalues of an Infinite Dimensional Jacobi Matrix" *J. Math. Phys.* 23 (1982) 917-921
- "Matrix Orthogonal Polynomials on the Unit Circle" *J. Math. Phys.* 22 (1981) 1359-1365
- "A Relation Between the Coefficients in the Recurrence Formula and the Spectral Function for Orthogonal Polynomials" *Trans. Amer. Math. Soc.* 260 (1980) 65-82
- "Scattering Theory and Polynomials Orthogonal on the Real Line" (with K. M. Case) *Trans. Amer. Math. Soc.* 258 (1980) 467-494
- "Szegő's Theorem on Hankel Determinants" *J. Math. Phys.* 20 (1979) 484-491
- "Scattering Theory and Polynomials Orthogonal on the Unit Circle" (with K. M. Case) *J. Math. Phys.* 20 (1979) 299-320
- "Circadian Rhythm: a Population of Interacting Neurons" (with J. W. Jacklet) *Science* (1971) 74-79
- (b) Accepted for Publication:**
- "On a class of Two variable Bernstein-Szegő measures" (with A. Delgado, P. Iliev, Y. Xu) *Constr Approximation*
- "Bispectrality of Multivariable Racah-Wilson Polynomials" (With Plamen Iliev) *Constr. Approx.*

**(b) Submitted for Publication:**

"On the Markov sequence problem for Jacobi polynomials" (with E. Carlen and M. Loss) Constr. Approx.

**REFEREED CONFERENCE PROCEEDINGS:**

"Two variable deformations of the Chebyshev measure" (with Plamen Iliev) Accepted in Contemporary Math contributed refereed paper

"Asymptotics of q-difference equations"(with S. Garoufalidis) Contemporary Mathematics 410 (2006) 83-114

"Riemann-Hilbert problems for multiple orthogonal polynomials" (with W. Van Assche and A.B.J. Kuijlaars) NATO ASI proceedings Special Functions 2000: Current Perspectives and Future Directions, Tempe, Arizona, 2000

"Polynomial Orthogonal with Respect to Singular Continuous Measures" Orthogonal Polynomials and their applications, Springer Lecture Notes Vol. 132, 9 32-45

"Iterating Random Maps and Applications" Number Theory and Physics Springer Proceedings in Physics, 47, 209-215

"An Application of Coxeter Groups to the Construction of Wavelet Bases in  $R^n$ " (with D. Hardin and P. Massopust), Lecture Notes in Pure and Applied Math. 157 (1993) 157-196

"Polynomials Orthogonal on the Unit Circle with Random Reflection Coefficients" US-USSR Conference on Approximation. Theory, St. Petersburg, Russia, May 1991, Lecture Notes in Math. vol. 1550 Springer-Verlag

**NON-REFEREED PUBLICATIONS:**

"Scattering Theory and Orthogonal Polynomials" doctoral dissertation.

"Squeezable, Orthogonal Bases and Adaptive Least Squares" (with G. Donovan and D. Hardin), Wavelet Applications in Signal and Image Processing, Aldroubi, Laine & Unser, editors, SPIE Conf. Proc., San Diego, 1997

"Construction of Two-Dimensional Multiwavelets on a Triangulation" (with G. Donovan, D. Hardin, and B. Kessler) Wavelet Applications in Signal and Image Processing, Laine & Unser, editors, SPIE Conf. Proc., Denver, Vol 2825, p 98-108, 1996

"Fractal Techniques in Image Compression" Proc. Of the ImageTech Conference, 1996

"C0 Spline Wavelets with arbitrary Approximation Order" (with G. Donovan and D. Hardin), Proc. of SPIE, San Diego, Vol. 7195, p 376 (1995) Ed. Laine, Unser

"Families of Compactly Supported Orthogonal Spline Wavelets" Proc. International Conference on Scientific Computing & Modeling 10/95

"Fractal Functions, Splines, Intertwining Multiresolution Analysis and Wavelets" (with G. Donovan and D. Hardin), Proc. Soc. of Photo-Optical Instrumentation Engineers (SPIE) San Diego Wavelet Applications in Signal and Image Processing II, Vol 2303, 238-256 (1994) Ed. Laine, Unser

## **RESEARCH GRANTS AND CONTRACTS:**

### **(a) Administered:**

N.S.F. Grant DMS-0500641 (with H. Woerdeman) Collaborative Research: Multivariable Moments, Factorizations and other problems in analysis. Summers 04-06

NATO CLG Grant PST 979738 (With A. Aptekarev)

Nato Travel Grant PST EV 978707. (With A Aptekarev) Summer 02

N.S.F Grant DMS-0200219 "Two variable extension and factorization problems with applications to Wavelets", Summers 02-04

N.S.F. Grant DMS-9970613, "Some problems in orthogonal polynomials and wavelets" Summers 99-01

Fulbright Fellowship to France, "The Construction of Spline Multiwavelets in One and Two Dimensions and Applications" Oct-Dec 1996

N.S.F. Grant DMS-9401352, "One and higher dimensional wavelets from fractal interpolation functions" Summers 94-96

N.S.F. French-American Cooperation Travel Grant

Contributing member N.S.F. SCREMS Equipment Grant, P.I. Jack Hale

N.S.F. Grant DMS-9005944, "Orthogonal polynomials" Summers 90-91

N.S.F. Grant DMS-8620079, "Orthogonal polynomials" Summers 1987, 1988

N.S.F. Grant DMS-8401609, "Julia Sets, Orthogonal Polynomials and Almost Periodicity" (with M. F. Barnsley and A. N. Harrington), August 1984

N.S.F. Grant MCS-8203325, "Orthogonal Polynomials, Julia Sets and Invariant Measures" (with A. N. Harrington), Summers 1982 and 1983

N.A.T.O. Postdoctoral Fellowship to study with Professor D. Bessis, Department de Physique Theorique, Centre d'Etudes Nucleaires, Academic Years: 1982, 1983

N.S.F. Grant MCS-8002731, "Scattering Theory and Orthogonal Polynomials" Summers 1980 and 1981

Spanish collaboration grant with Francisco Marcellan and Guillermo Lopez

### **(b) Submitted:**

Problems in one and multivariable orthogonal polynomials

## MEETINGS AND SYMPOSIA:

One-hour plenary talk: Asymptotics for orthogonal polynomials, Workshop on Orthogonal Polynomials in One and Several Variables, Katholick University Leuven, May 2008

Fifty-minute invited talk: The bispectral problem of multivariable Wilson asymptotic and special functions, City University of Hong Hong, May 2008

Thirty-minute invited lecture: On bivariate orthogonal polynomial are the bi-circle, International Workshop on Operator Theory and its Applications, College of William and Mary, July 2008

One-hour plenary talk: Gaspers theorem and teh Kac model, International Workshop on Orthogonal Polynomials and Applications, University of Madrid Spain, September 2008.

Thirty-minute invited lecture: Two variable orthogonal polynomials on the bi-circle, Conference in Honor of Krien in Odessa Ukraine, Apr 9-14 2007

Orthogonal Polynomials in one and several variables and applications, two 1-1/2 hour lectures given in Carmona Spain, Workshop on Orthogonal polynomials and special functions in Signal processing

Stable polynomials, Christoffel-Darboux formulas and applications, 40 min invited lecture at DIRS work shop Trends in Harmonic Analysis, Banff Canada 24 Sept 2007

On a class of two variable Bernstein-Szego measures 55 min invited talk BIRS workshop in Modern approaches in Asymptotics of polynomials, Banff Ca 9 Nov 2007

One-hour Invited seminar at Math Dept University of Madrid Carlos III. May 2006

One-hour Invited talk at Otam2006 conference in Lund Sweden July 2006

Twenty-minute Invited talk at AMS meeting in Notre Dame Spring 2006

One-hour talk at Analysis Seminar, School of Math GT October 2005

One-hour invited talk at International Conference on Difference equations, Special functions and Applications. Munich Germany July 21-29 2005

One-hour invited talk at Conference on Special functions and Applications Irsee, Germany July 18-21 2004

Two-hour Lectures and the Summer School on Orthogonal Polynomials University of Madrid Carlos III July 10-18 2004

One-hour invited talk Spectral theory and Inverse problems for Jacobi, Matrices Snowbird Utah June 10-13 2003

Talk at Integrable systems and analysis seminar at Duke University Oct 30 2003

Talk at Harmonic analysis seminar Michigan State University March 17 2003

Twenty-minute invited talk Approximation Theory Conference at Vanderbilt University Nashville Tn May 7 2003

Two invited lectures: On orthogonal polynomials and applications and A 2 variable extension of the Fejer-Riesz factorization lemma, University of Madrid, Carlos III June 30, 2002

Colloquium Talk: A Turning Point Theory for Difference Equations, Math Dept. University of Almeria Spain, July 04, 2002

One-hour talk: Turning point theory for difference equations, OTAMP 2002 Bedlewo Poland, May 11, 2002

One-hour talk: Turning point theory for difference equations, Workshop On Asymptotics and Special functions, Leuven, May 8, 2002

One-hour talk: Wavelets and fractal functions, Leuven, March 6, 2002

Twenty-minute invited talk: Local orthogonal bases and wavelet, Meeting of Spanish Math Soc. Tenerife, January 2002

Colloquium talk A 2-variable extension of the Fejer-Riesz factorization lemma, Math Dept University of Seville December 5, 2001

Colloquium talk: A 2 variable extension of the Fejer-Riesz factorization lemma, Math Dept University of Madrid CarlosIII October 25, 2001

Invited lecturer: A 2-variable extension of the Fejer-Riesz factorization lemma, IMA, October 4-13, 2001

Twenty-minute invited talk: A 2-variable extension of the Fejer-Riesz factorization lemma, Boston SIAM meeting, August 13, 2001

Colloquium talk: A 2 variable extension of the Fejer-Riesz factorization lemma, Math. Dept., University of Madrid Carlos III, October 25, 2001

Colloquium talk: A 2 variable extension of the Fejer-Riesz factorization lemma, Math. Dept., Univ. of Seville, December 05, 2001

Two seminar talks: A turning point theory for difference equations, Math Dept. University of Madrid Carlos III, November 2-9, 2001

Twenty-minute invited talk: Developments on the two variable Riesz Theorem, AMS conference Birmingham, Al

Three lectures on wavelets, British Telecom Labs, May 12-18 2000

Colloquium: On a class of 2d Autoregressive models with an application to Riesz -Fejer factorization, University of South Carolina, April 2000

Colloquium: On a class of 2D Autoregressive models, TU Berlin, October 1999

Conference on Self-Similar Systems, Dubna, Russia, July 29-August 7, 1998

Forty-minute Invited Talk: Orthogonal Polynomials on the Unit Circle with Random and Quasi-periodic Recurrence Coefficients

Fifty-minute Talk: Construction of Orthogonal Multiwavelets Using Fractal Interpolation Functions

Colloquium: University of Georgia, Orthogonal Polynomials and the Construction of Piecewise Polynomial Wavelets, March 1998

Math Colloquium: Wavelets and Fractal Functions, College of William and Mary, October 1997

Seminar Ecole Polytechnique: Construction of Fractal Multiwavelets with Applications, April 1997

Seminaire Analyse Numerique Lille: Compactly Supported Spline Multi-wavelets, February 1997

Seminaires Du SphT (Physique Theorique), Saclay, France, Ondelettes- Theory, Applications, Construction, January 1997

Dynamical Systems Seminar: Random Orthogonal Polynomials Associated with the Trigonometric Moment Problem, Univ. Amsterdam, December 1996

Seminar: Construction of Fractal and Piecewise Polynomial Multiwavelets, CWI, Amsterdam, December 1996

Seminaire Analyse Numerique Jussieu: "Compactly Supported Spline Multiwavelets, November 1996

One-hour Invited talk: Random Orthogonal Polynomials Associated with the Trigonometric Moment Problem, Workshop on constructive complex analysis, Katholieke University Lueven, November 1996

One-hour Invited talk: Compactly Supported Smooth Spline Wavelets of Arbitrary Approximation Order, Conference on Splines and Wavelets, Montreal, Canada, February 1996

Colloquium: Multiresolution analysis and the construction of piecewise polynomial wavelets, Air Force Inst. of Technology, September 1994

Thirty-minute Invited talk: Orthogonal Polynomials and the Construction of Piecewise Polynomial, Compactly Supported, Orthogonal Wavelets, CMS Winter Meeting 50th Anniversary, Vancouver, Canada

Invited talk: Ergodic Theory and Polynomials Orthogonal on the Unit Circle, SIAM Meeting in San Diego, July 1994

Contributed talk: Fractal Functions, Splines, Intertwining Multi-resolution Analysis and Wavelets, SPIE Meeting in San Diego, July 1994

Colloquium: Orthogonal Wavelets from Fractal Interpolation functions, AT&T Bell Labs, November 1993

Colloquium: Construction of Orthogonal Wavelets using Fractal Interpolation functions, MIT, February 1993

Colloquium: Fractal Interpolation functions and Wavelets, Univ. South Carolina, December 1992

One-hour Invited talk: Polynomials Orthogonal on the Unit Circle with Random Recurrent Coefficients, US-USSR Approximation Theory Conference, LOMI, St. Petersburg, Russia, May 1991

Invited talk: Orthogonal Polynomials for Julia Sets and Limit Periodic Jacobi Matrices, SIAM Summer Conference Minisymposium on Orthogonal Polynomials and Special Functions, Chicago, July 1990

Organizer: SIAM Conference on Dynamical Systems: Minisymposium on Fractals and their Dimensions, May 1990

U.S.-USSR Approximation Theory Conference: Ergodic Theory and Polynomials Orthogonal on the Unit Circle, University of South Florida, April 19-24, 1990

Invited Talk: Relative Asymptotics of Orthogonal Polynomials with Unbounded Recurrence Coefficients, 4th Annual Southeast App. Theory Conference, Auburn University, April 1989

Invited Talk: Iterating Random Maps and Applications, Les Houches Winter School on Number Theory and Physics, March 1989

Contributed talk: On Polynomial Mappings, Conference on Circuits and Systems, Stanford University, September 1987

Contributed talk: On the Asymptotic Distribution of Eigenvalues of Banded Matrices, 2nd Annual Southeast Approximation Conference, University of South Carolina, Columbia, S.C., April 1987

Invited one-hour talk: On Polynomial Orthogonal with Respect to Singular Continuous Measures, 2nd International Symposium on Orthogonal Polynomials and Their Applications, Segovia, Spain, September 1986

Contributed talk: Ergodic Theory and Orthogonal Polynomials, I.C.M. at Berkeley, August 1986

Contributed talk: Asymptotics for Orthogonal Polynomials Whose Recurrence Coefficients are Unbounded Constructive Function Theory - 86 Edmonton, Alberta, July 1986

Contributed talk: Polynomials Orthogonal with Respect to Singular Continuous Measures, C.M.B.S. Meeting at Tempe, Arizona, May 1985

Invited talk: Condensation on Fractal Sets, The Third Army conference on Applied Mathematics and Computing, April 1985

Contributed talk: Condensed Julia sets, with an application to a fractal lattice model Hamiltonian, Winter school at Les Houches on Fractals, February, 1984

Contributed talk: Orthogonal polynomials associated with invariant measures on Julia sets and dynamical systems, 46th Statistical Mechanics Meeting, December 17-18, 1981

Invited talk: Scattering theory and matrix orthogonal polynomials on the real line, Workshop on Rational Approximation for Systems, Leuven, Belgium, August 31-September 1, 1981

Contributed talk: Scattering theory and matrix orthogonal polynomials on the real line, A.M.S. Meeting #783, San Francisco, California, January, 1981

Twenty-minute talk: Relations between the coefficients in the recurrence formula and the spectral function for orthogonal polynomials, A.M.S. Meeting #779, Ann Arbor, Michigan, August, 1980

Twenty-minute invited talk: Scattering theory and orthogonal polynomials, A.M.S. Meeting #753, Columbus, Ohio, March 1978

Approximation Theory on a Snowflake (with Barnsley, Harrington, and Drager), Proceedings of the Conference held at the Math. Research Inst. at Oberwolfach

### **Students Supervised**

#### **Ph.D STUDENTS:**

Antonia Delgado	degree granted 2006	University of Madrid Carlos III
James King	degree granted 1991	
George Donovan	degree granted 1995	NSF Postdoc; Fellow at Princeton

#### **REU students**

Nick Cotton                  summer 2005

#### **AWARDS:**

Best Thesis Advisor, Georgia Tech 1996

#### **MEMBERSHIP IN PROFESSIONAL AND HONOR SOCIETIES:**

American Mathematical Society  
Society for Industrial and Applied Mathematics