**JEFFREY S. GERONIMO**
**CURRICULUM VITAE**
**Feb. 2015**

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

## PERSONAL DATA:

Born:            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 |
| Catadra de Excellencia University of Madrid Carlos III | Spr-Sum 2012 |
| 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**

"A hypergeometric basis for the Alpert multiresolution analysis" (with P. Iliev) Siam J. Math. Anal. 47 (2015) 654-668.

Wavelets centered on  on a knot sequence: piecewise polynomial wavelets on a quasi-crystal lattice  (with B. Atkinson, D. Bruff, and d, Hardin) J. Fourier Anal. And Appl. (electronic) (2015) DOI10.1007/s0041-014-9375-9

A topological separation condition for fractal attractors. (with T. Bedford and S. Borodachov), J. Fractal Geometry 1 (2014) 243-271.

Fejer-Riesz Factorization and the structure of polynomials orthogonal on the bi-circle. (with P. Iliev) J. Eur. Math. Soc. 16 (2014) 1849-1880

"Baxter's difference systems and orthogonal rational functions (with Karl Deckers) Journal of Approx Theory 164 (2012) 1085-1096.

"On Baxter's difference system" (with L. Golinskii) J. Approx. Theory.  163,(2011), 1522-1533.

"Multivariable Askey-Wilson Function and Bispectrality" (with P. Iliev) Ramanajan J. 24, (2011), 273-287

"On the Markov sequence problem for Jacobi polynomials" (with E. Carlen and M. Loss) Adv. Math. 226, (2011), 3426-3466

"Bispectrality of Multivariable Racah-Wilson Polynomials" (With Plamen Iliev) Constr. Approximation 31, (2010), 417-457

"On a class of Two variable Bernstein-Szego measures" (with A Delgado, P, Iliev, Y. Xu) Constr Approx. 30, (2009), 71-91

"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-Gerometric 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 Trignometric 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 Accoustics, 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. Chudnovskyand G. Chudnovsky) lecture notes pure and applied mathematics, Decker 92 (1984) 1-68

"Geometry, Electrostatic Measure, and Orthoqonal 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

"Szego'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 Alpert Multiwavelets" (with F. Marcellan)  Proc. Amer. Math. Soc. (electronic) (2015) (in press)

**(c) Submitted for Publication:**

"Polynomials with no zeros on a face of the bidisk" (with P. Iliev and G. Knese)

"Measures for orthogonal polynomials with unbounded recurrence coefficients" (with S. Aptekarev)

"Bernstein-Szego measures, Banach algebras, and scattering theory" (with P. Iliev)

**REFEREED CONFERENCE PROCEEDINGS:**

"Study of a parameterization of the bivariate trigonometric moment problem" (with Andrew Pangia REU student) submitted

"Parameters associated with bivariate Bernstein-Szego measures on the bi-circle" (with REU student Philip Benge) (invited paper), Complex analysis and Operator Theory 6 (2012), 759-773.

"Orthogonalitty relations for bivariate Bernstein-Szego measures" (with Plamen Iliev and Greg Knese), Contemp Math., 578 (2012) 119-131.

"Two variable defomations or the Chebyshev measure" (with Plamen Iliev), Comtemporary Math 458, (2008), 197-213.

"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:

Simons Collaborative grant 5yrs $35000.

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

Catedra de Excelencia 6 months research stay at University of Madrid, Carlos III

**MEETINGS AND SYMPOSIA: (Past 5 years)**

On a separation condition for fractal attractors New Directions in fractal geometry Australian National University, Canberra Australia Nov 25-29 2014. Invited one hour talk.(local expenses covered)

Fejer-Riesz factorization Lemma. Joint Colloq University of New South Wales and University of Sidney. Nov 21 2014, Sydney Australia. (local expenses covered)

Polynomials with no zeros on a face of the bidisk Constructive functions 2014 Nashville Tenn. May 26-30 2014.

On Jacobi matrices with unbounded recurrence coefficients. Random Matrices and Jacobi Operators Institut Mittag-Leffler May 19-23 2014, Stockholm Sweden, Invited 40 minute talk (local expenses covered)

Matrix Orthogonal polynomials and Bivariate Orthogonal polynomials. Conference of the International Linear Algebra Society (ILAS) Providence RI, June 3-7 2013
30 min invited talk

Multiwavelets and Orthogonal polynomials. International Conference on Approximation Theory and Applications City University of Hong Kong Hong Kong May 20-24 2013. Invited 30min talk.(local expenses covered)

Bivariate orthogonal polynomials and factorization (Invited) (all expenses paid), Workshop on Special functions and Orthogonal polynomials Jan 26-27, 2012, University of Granada, Granada, Spain.

The multidimensional bispectral problem, (Invited)(Local expenses covered), Superintegrability, Exact Solvability and Special functions, Cuernavaca Mexico Feb 20-24 2012.

Factorization of bivariate and Multivariate trigonometric polynomials, Math Depart Colloq, University of Madrid Carlos III, Feb 15, 2012.

Bivariate Orthogonal polynomials on the Bi-circle, Approximation Theory Seminar, Math Dept University of Madrid Carlos III, March 7, 2012 (invited) .

Factorization of positive trigonometric polynomials, Approximation Theory seminar, University of Sevilla, March 29, 2012 (invited) (all expenses paid)

Three lectures on Fejer-Riesz Factorization and the structure of Bivariate polynomials on the bi-circle,

Minicourse, Math Department, University of Granada May 1-3, 2012.

Bivariate Orthogonal polynomials and factorization (invited) (local expenses paid), Workshop on Potential Theory and Applications, Math Department Szeged University, Szeged Hungary May 28-31, 2012.

On Baxter's difference system (invited)(all expenses paid), Approximation Days, Katholieke University Lueven, July 2-3, 2012.

Bivariate real orthogonal polynomials (contributed)(member Scientific committee). Conference on Orthogonal Polynomials and Special functions, University of Madrid Carlos III Aug 29-Sept 2, 2012.

Orthogonal polynomials and Wavelets, Approximation Theory Seminar, Math Dept University of Madrid Carlos III, Oct 18, 2012

Half hour contributed talk: Gasper's Identity and the Markov Sequence Problem, New perspectives in univariate and multivariate orthogonal polynomials, Banff Conference, Banff, Canada October 2010.

Half hour invited talk: Orthogonal Polynomials and Fourier Coefficients for Bivariate Szego-Bernstein Measures. Jaen conference on Approximation Theory, Jaen, Spain, July 2010.

Contracted asymptotics for Hermite and Miexner polynomials: Colloq talk, Math. Dept University of Madrid Carlos III, Madrid, Spain July 2010.

One hour Plenary talk: Bivariate Bernstein-Szego Measures Functions and Operators 2010 conference

Krakov, Poland, June 2010

Contracted asymptotics for orthogonal polynomials with unbounded recurrence coefficients : GT analysis seminar, March 2009, Atlanta, Georgia


**ORGANIZATION OF CONFERENCES:**

Co-organizer of 2015 Banff conference on "Orthogonal and multiple orthogonal polynomials"

On scientific committee of "Constructive functions 2014" In honor of Ed Saff

Co-organizer of minisymposia on Matrices and Orthogonal Polynomials, International Linear Algebra Society, Providence, June 2013

Co-organizer of minisymposia on Multivariate Orthogonal Polynomials, SIAM Summer meeting, San Diego, July 2013

Member of Scientific committee OPFSA 12


**STUDENTS SUPERVISED:**

**Postdocs:**

Antonia Delgado  Spring 2008

Karl Deckers   Spring Summer 2011


**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 |
| Carola Conces | Summer 2008 |
| Philip Benge | Summer 2010 |
| Harold Wong | Summer 2011 |
| Andrew Pangia | Summer 2013 |


**THESIS COMMITTEES:**

Thesis Committee, Junot Cacoq, Defense Oct 15 2012, University of Madrid Carlos III (all expenses paid)

Thesis Reading Committee, Jorge Alberto Borrego Math Dept University of Madrid Carlos III


**HONORS AND AWARDS:**

Catadras de Excellencia, Jan 15 - July 15 2012, Six-month research visit to the Math Dept., University of Madrid Carlos III

Best Thesis Advisor, Georgia Tech 1996


**MEMBERSHIP IN PROFESSIONAL AND HONOR SOCIETIES:**

American Mathematical Society

Society for Industrial and Applied Mathematics

American Association for the Advancement of Science


**SERVICE:**

Elected Vice President SIAM activity group in orthogonal polynomials (2015) three year term

Wrote main letter for (2013) Szego Prize winner   J. Christiansen

Wrote Poyla Prize letter for Barry Simon (2014)

**Editorial Boards:**

Central European Journal of Mathematics.

Journal of  Difference Equations and Applications.