

ACADEMIC CURRICULUM VITAE OF RICHARD A. ZALIK

MAILING ADDRESS: Department of Mathematics, 221 Parker Hall, Auburn University, Auburn, Alabama 36849-5310.

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EDUCATION: Doctor of Science, Technion-Israel Institute of Technology, 1974.  
Licenciante in Mathematics, University of Buenos Aires, 1969.  
Clarkson University, NY, Institute for Retraining in Computer Science, June 1984-July 1985.

LANGUAGES: In order of proficiency: English and Spanish, French and Hebrew, Portuguese, Italian.

PROGRAMMING LANGUAGES: Fortran, Pascal, Basic, C, PDP11 assembly.

OPERATING SYSTEMS: Unix, DOS, VMS, MVS/SPF, Linux, Windows.

SOFTWARE: Access, Excel, HTML, MACSYMA, PowerPoint, Word, MATLAB.

CURRENT FIELDS OF INTEREST: Approximation Theory, Applied Mathematics, Numerical Analysis, Computer Science, Computer-Aided Instruction, Complex and Harmonic Analysis.

HONORS AND AWARDS: NASA/ASEE Faculty Fellowship, June-August 1987 and May-July 1988.  
NASA certificate of recognition and cash prize, 1987.

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS: American Mathematical Society.  
European Mathematical Society.  
Mathematical Association of America.  
Society for Industrial and Applied Mathematics.  
Unión Matemática Argentina.

ACADEMIC APPOINTMENTS: At Auburn University:  
1985– Professor  
1980–1985 Associate Professor  
1981: Tenured  
1980: Appointed member of the Graduate Faculty  
1978–1980: Assistant Professor  
At other institutions:  
1977–1978: Visiting Assistant Professor, Department of Mathematics, University of Rhode Island.  
1974–1978: Lecturer, Department of Mathematics, Ben Gurion University of the Negev, Beersheba, Israel.  
1970–1974: Instructor, Department of Mathematics, Ben Gurion University of the Negev, Beersheba, Israel.  
1969–1970: Research Instructor, Department of Mathematics, Technion–Israel Institute of Technology.  
1964–1965 and 1966–1969: Teaching Assistant, Department of Mathematics, Faculty of Exact and Natural Sciences, University of Buenos Aires.

OTHER APPOINTMENTS: 1974–1977: Mathematics Instructor at the Israeli Air Force Academy.  
1976–1977: Mathematics Instructor at Sde Boker Teachers’ College, Sde Boker, Israel.  
1974–1975: Mathematics teacher at “Har Hanegev” English Language High School, and Regional High School, Sde Boker, Israel.

COURSES TAUGHT: Undergraduate: Algebra and Trigonometry, Finite Mathematics, Business Mathematics, Calculus, Probability, Statistics, Numerical Analysis, Real and Complex Analysis, Linear Algebra, Advanced Linear Algebra, Numerical Linear Algebra, Non–Euclidean Geometry, History of Mathematics, Engineering Mathematics, Elementary Computer Programming, Differential Equations, Computer Algebra in Applied Mathematics.  
Graduate: Approximation Theory, Linear Programming, Applied Mathematics, Special Functions, Complex Analysis, Entire Functions, Asymptotic and Perturbation Methods, Fourier Analysis, Functional Analysis, Wavelets, Čebyšev systems.

COURSE AND PROGRAM DEVELOPMENT: At Sde Boker Teacher’s College: Developed mathematics curricula for teachers. At Auburn University: Developed syllabus for course on Computer Algebra in Applied Mathematics. Developed syllabus for sequence of graduate courses on Asymptotic and Perturbation Methods.

PARTICIPATION IN GRADUATE PROGRAM: Served in 31 advisory committees for the Master’s degree, 51 for the Ph. D. degree and directed six master’s theses, four Master of Applied Mathematics projects, and six doctoral dissertations. Currently supervising one PhD dissertation.

GRADUATE STUDENTS SUPERVISED AS MAJOR PROFESSOR:

(J. Chaubell and A. González through Universidad Nacional de Mar del Plata, Argentina)

Name	Current Position	Title of Dissertation, Thesis, or Project
R.N. Mera (Ph.D. 1986)	Research Scientist, The Scientex Corporation, Arlington, VA.	“Entire functions of order larger than one”
B. N. Ghusayni (Ph.D. 1986 )	Associate Professor, Notre Dame University, Lebanon.	“Entire functions and Fourier Transforms”
T. E. Olson ( M.S. 1988 )	See below on this page.	“An explanation of the effects of squashing in limited angle tomography”
R. Rojas Oviedo ( M.S. 1989 )	Associate Professor and Chair, Department of Mechanical Engineering, Alabama State University, Normal.	“The limiting pressure gradient parameter at the trailing edge of Karman–Trefftz airfoils”
J.Z. Chen ( M.S. 1990 )	(Ph.D. in Computer Science, UConn, 1998). Professor, Software School, Xiamen University, Xiamen, China	“A comparison of the Fast Fourier Transform and the Fast Hartley Transform algorithms”
Bonita Ann Lawrence ( M.S. 1990)	(Ph.D., U. Texas at Arlington, 1994) Assistant Professor of Mathematics, Marshall University.	“Rotordynamics analysis of a bearing tester”
Hwa–Tsu Tsou ( Master of Applied Mathematics 1991)	(Ph.D. in Materials Engineering, Auburn University, 1994).	“On the Shepard interpolatory operator”
T.E. Olson (Ph.D. 1991)	Associate Professor, The University of Florida, Gainesville.	“On the nonexistence of a basis of translates and approximation with wavelets”
L.C. Tsai ( Master of Applied Mathematics 1991 )	( Ph.D. in Mechanical Engineering, Auburn University, 1994.)	“On the Jeffcott equations”
K.A. Gupta ( M.S. 1992 )		“On Schapery’s method for the approximate solution of integrodifferential equations”
B. Lange ( Ph.D. 1992 )	Works for Volkswagen A.G. in Germany.	“On wavelets in $L^2(\mathbb{R}^2)$ and complex planar splines”
J. Chaubell (Licenciate in Mathematics, 1997)	(Ph.D. in Mathematics, Caltech, 2003)	“Stability analysis of a bearing tester”
M.H. Thomas (Master of Applied Mathematics 1998)	TRW Space and Defense Division, Huntsville, Alabama	“Implementation of the frame algorithm”
H.A. De Pasquale (Ph.D. 2000)	Instructor, U. Mar del Plata, Argentina	“Dual Riesz bases and the canonical operator”
A.L. González (Dr. Math. 2000)	Associate Professor, U. Mar del Plata, Argentina	“Density and approximation properties of Markov and weak Markov systems”
A. Broyles (M. A. M., 2003)	Photographic Technologist (Forensic Examiner) FBI, Quantico, VA	”Implementation of the frame algorithm”.
B. Lindmark (M.S. 2011)	Ph.D. student in Electrical Engineering, Auburn University	“ Construction of multivariate orthonormal wavelers”

## LECTURES DELIVERED AT PROFESSIONAL MEETINGS:

Special Session on Approximation of Functions and Integrals, 754<sup>th</sup> meeting of the American Mathematical Society, New York, N.Y., March 1978.

Regional Conference on Approximation Theory. University of Rhode Island, Kingston, R.I., June 1978.

International Conference on Approximation Theory, University of Texas, Austin, Texas, January 1980.

Special Session on Orthogonal Polynomials and other extremal polynomials, 779<sup>th</sup> meeting of the American Mathematical Society, Ann Arbor, Michigan, August 1980.

Conference on Harmonic Analysis in honor of A. Zygmund, University of Chicago, March 1981.

Special Session on Topics in Complex Analysis, 788<sup>th</sup> meeting of the American Mathematical Society, Pittsburgh, Pennsylvania, August 1981.

Symposium on Spectral Methods, I.C.A.S.E., Langley Research Center, Norfolk, VA, August 1982.

Fourth Texas Symposium on Approximation Theory, Texas A & M University, January 1983.

Contributed paper, 816<sup>th</sup> meeting of the American Mathematical Society, Anaheim, CA, January 1985.

Conference on Harmonic Analysis and related topics, Auburn University, November 1985.

Contributed paper, 825<sup>th</sup> meeting of the American Mathematical Society, New Orleans, LA, January 1986.

Fifth Texas Symposium on Approximation Theory, Texas A & M University, January 1986.

Southeast Approximators Conference, University of South Florida, Tampa, April 1986.

Constructive Function Theory Conference, University of Alberta, Edmonton, Canada, July 1986.

Southeast Approximators Conference, University of South Carolina, Columbia, April 1987.

Combined Midwest–Southwest Differential Equations Conference, Vanderbilt University, Nashville, TN, October 1987.

Special Session on Total Positivity and Applications, 94<sup>th</sup> Annual Meeting of the American Mathematical Society. Atlanta, Georgia, January 1988.

Southeast Approximators Conference, Georgia Institute of Technology, Atlanta, GA, April 1988.

Solicited lecture, 12<sup>th</sup> IMACS World Congress on Scientific Computation, Paris, France, July 1988.

Invited speaker, International Congress on Computational Methods and Function Theory. Valparaíso, Chile, March 1989.

Invited lecture, Workshop on Approximation by Harmonic and Subharmonic Functions, University of Vermont, May 1989.

Invited lecture, NSF–CBMS Regional Conference on Scientific Computation, Butler University, Indianapolis, June 1989.

Contributed paper, Annual Meeting of the Society for Industrial and Applied Mathematics, San Diego, CA, July 1989.

Invited Principal Speaker, International Conference on Approximation Theory and Finite Elements, Jabalpur, India, December 1989.

International Congress on Recent Developments in Air and Structure Borne Sound and Vibration, Auburn University, March 1990.

Invited lecture, Annual meeting of the Alabama Academy of Science, Mobile, AL, March 1990.

Special Session on Interaction of Harmonic Analysis, Signal Processing and Computational Mathematics, 98<sup>th</sup> Annual Meeting of the American Mathematical Society, Baltimore, Maryland, January 1992.

Special Session on Approximation Theory: Modern Methods, 872<sup>nd</sup> Meeting of the American Mathematical Society, Tuscaloosa, Alabama, March 1992.

Invited speaker, International Conference on Modern Analysis and Applications, Indian Institute of Technology, New Delhi, December 1992.

Invited speaker, International Conference on Advances in Computational Mathematics, Indira Gandhi National Open University, New Delhi, India, January 1993.

(cont. on next page)

Lectures delivered at professional meetings (cont.)

- Invited lecture, 14<sup>th</sup> IMACS World Congress on Computational and Applied Mathematics, Atlanta, Georgia, July 1994.
- Invited speaker, International Workshop on Total Positivity and Applications, Jaca, Spain, Sept. 1994.
- Special Session on Approximation Theory and Special Functions, 900<sup>th</sup> meeting of the American Mathematical Society, Orlando, Florida, March 1995.
- Special Session on Computational Harmonic Analysis and Approximation Theory, 102<sup>nd</sup> Annual Meeting of the American Mathematical Society, Orlando, Florida, January 1996.
- Special Session on Wavelets, Multiwavelets and Their Applications, 103<sup>d</sup> Annual Meeting of the American Mathematical Society, San Diego, California, January 1997.
- Eighth Southeast Approximation Theory Conference, Athens, Georgia, April 1997.
- Special Session on Harmonic Analysis and Applications, 920<sup>th</sup> meeting of the American Mathematical Society, College Park, Maryland, April 1997.
- Second Workshop on Mathematics Applied to Industry, Mar del Plata, Argentina, August 1997.
- Invited lecture, NSF–CBMS Regional Research Conference on Wavelet Analysis as a Tool for Computational and Harmonic Analysis, University of Central Florida, Orlando, May 1998.
- Invited lecture, Minisymposium on Wavelets and their Applications, Annual Meeting of the Society for Industrial and Applied Mathematics, Atlanta, May 12–15, 1999.
- Special Session on wavelets, Algorithms for Approximation IV, University of Huddersfield, UK, July 2001.
- Workshop on Frames, Wavelets and Operator Theory, Texas A & M University, July 2002.
- Special Session on Wavelets, Frames, and Operator Theory, Annual Meeting of the American Mathematical Society, Baltimore, January 2003.
- International Conference on the Interactions between Wavelets and Splines, University of Georgia, May 2005.
- Special Session on Approximation Theory, 1010<sup>th</sup> meeting of the American Mathematical Society, Johnson City, Tennessee, October 2005.
- Plenary Speaker and member of Program Committee, Workshop on Frames Wavelets and Applications, Kirori Mal College, Delhi University, India 2011.
- LECTURES IN DEPARTMENTAL COLLOQUIA OR SEMINARS:**
- Weizmann Institute of Science, Rehovot, Israel, 1975.
- Technion, Israel Institute of Technology, Haifa, 1975.
- Tel Aviv University, Ramat Aviv, Israel 1976.
- Baylor University, Waco TX, 1983.
- Emory University, Atlanta, GA, 1983.
- Université de Montréal, Canada, 1984, 1991.
- IBM T. J. Watson Research Center, Yorktown Heights, N.Y. 1984.
- University of California at San Diego, 1986.
- Oakland University, Rochester, MI, 1986, 1989.
- University of Vermont, Burlington, VT, 1987, 1991.
- Memphis State University, Memphis, TN, 1987.
- University of Central Florida, Orlando, FL 1988.
- University of Florida, Gainesville, FL 1988.
- Instituto Argentino de Matemática, Buenos Aires, Argentina, 1989, 1993, 2011
- Centro Atómico Bariloche, Argentina, 1989, 1992.
- Universität Duisburg, Germany, 1989, 1992.
- Universität Osnabrück, Germany, 1989, 1992.
- Roorkee University, India, 1989, 1993.
- Lucknow University, India, 1989.

Lectures delivered in departmental colloquia or seminars (cont.)

Aligarh Muslim University, India, 1989, 1992.  
Universidad Nacional de Córdoba, Argentina, 1991, 1992.  
Universidad Nacional del Litoral, Santa Fé, Argentina, 1991.  
Universidad Nacional de San Luis, Argentina, 1992, 1993.  
Universität Bonn, Germany, 1992.  
Universität Erlangen–Nürnberg, Germany, 1992.  
M. R. Engineering College, Jaipur University, India, 1992.  
Delhi University, India, 1993.  
Dartmouth College, Hanover, New Hampshire, 1993, 1994.  
Universidad Nacional del Sur, Bahía Blanca, Argentina, 1993.  
Universidad de Salamanca, Spain, 1994.  
Instituto de Electrónica de Comunicaciones, CSIC, Madrid, Spain, 1994.  
Universidad Nacional de Mar del Plata, Argentina, 1996.  
Universidad Nacional de Buenos Aires, Argentina, 1997, 2011.  
Universidad Nacional del Centro, Argentina, 1997.  
Vanderbilt University, Nashville, TN, 1998.  
Tuskegee University, 1999.  
Sun Yat–sen University, Guangzhou, China, 2005.  
The University of Hong–Kong, 2005.  
City University of Hong–Kong, 2005.  
Universidad Nacional del Comahue, Neuquén, Argentina, 2010.

EXTERNAL SUPPORT:

1975/1977: National Academy of Science of Israel, Basic Research Commission,  
(with D. Westreich and Y. Varol, co–P. I.’s).  
1985/1986: NASA Contract NAS8–36475 (with W. B. Day, P.I.).  
Title: ”Nonlinear Rotordynamics Analysis”.  
1987: NASA/ASEE Summer Faculty Fellowship, Marshall Space Flight Center, \$10,400.  
1988: NASA/ASEE Summer Faculty Fellowship, Marshall Space Flight Center, \$10,400.  
1988: Grant from Cray Research, Inc., \$19,878.  
Title: ”Evaluation Of Reconstruction Techniques In Electron Microscope Tomography.”  
1988: Alabama Supercomputer Network Authority, 100 hours on ASN’s Cray XMP–24.  
1989: NASA Grant NAG8–119, Marshall Space Flight Center, \$64,826.  
Title: ”A Method For The Early Detection Of Instabilities In Nonlinear Rotordynamics.”  
1989: Alabama Supercomputer Network Authority, 125 hours on ASN’s Cray XMP–24.  
1990: Alabama Supercomputer Network Authority, 136 hours on ASN’s Cray XMP–24.  
1992: Government of India, National Board for Higher Mathematics, travel grant.  
1992: National Science Foundation through Alabama EPSCoR, travel grant.  
1993: National Science Foundation, Award N° 9302007, \$7,000 (with D. Zwick, P. D.). Title: ”Algorithms For Constrained Approximation and Optimization.”

MAJOR INTERNAL GRANTS:

1984/1985: \$12,400 to attend the Institute for Retraining in Computer Science, Clarkson University.  
1990: \$14,462 to develop a course on Computer Algebra in Applied Mathematics.

#### EDITING, REVIEWING AND REFEREEING:

Refereed papers for J. Approximation Theory, Proc. American Math. Society, Trans. American Math. Society, J. Math. Analysis and Applications, Ganita, The Journal of Mathematical Sciences (Delhi), J. Numerical Functional Analysis and Optimization, Applied and Comput. Harmonic Analysis, J. Linear Algebra and its Applications, Portugaliae Mathematica, Acta Mathematica Vietnamica, Zeitschrift für Analysis und ihre Anwendungen, Revista de la Unión Matemática Argentina, J. Computational and Applied Mathematics, Mathematica Slovaca and Chaos, Solitons and fractals. Reviewed books for The Benjamin/Cummings Publishing Co., Springer Verlag, Academic Press, and Prentice–Hall. Reviewer for Mathematical Reviews and Zentralblatt für Mathematik. Refereed grant proposals for The Third World Academy of Sciences (Trieste), the International Science Foundation (Washington, DC), NSERC, the U.S. Civilian Research & Development Foundation and National Engineering and Research Council of Canada. Member of editorial board, J. Applied Functional Analysis. Member of editorial board, International J. Mathematics and Computer Science. External Examiner for a Master's thesis at the University of Western Australia, 1992. External Examiner for Ph. D. dissertations submitted to the University of Delhi, India, 1998 and 2011.

#### SERVICE:

At Auburn University:

Department

At various times member or chairman of precalculus committees, faculty search committees, library committee, undergraduate curriculum committee, engineering liaison committee, calculus committee, and graduate studies committee.

Member of executive committee, 1993–1994. Chairman, placement tests committee, 1994–1995. Chairman, calculus course outlines committee, 1995

College:

Member of search committee for Associate Dean for Research, 1990.

Member of committee for the restructuring of the Division of Mathematics, 1991–1992.

University:

Faculty Advisor, Auburn Latin American Society, 1984–1986.

Organizer, Fourth Southeastern Approximators Conference. Auburn, April 1989.

Chairman of program review committee for the Department of Mechanical Engineering, 1989.

Member, University Academic Computing Committee, 1990–1993.

Alternate Member, Alabama Supercomputer Network Users Advisory Board, 1991.

Member of Program Committee, Second Workshop on Neural Networks. Auburn, February 1991. Member, University Senate Academic Standards Committee, 1993–1996, and chairman, 1995–1996.

Other:

Ben Gurion University: Member of departmental undergraduate curriculum committee; chairman of scheduling committee.

Consultant for a Cell Biology Group at Oak Ridge National Laboratories, 1985.

Organizer, Special Session on Total Positivity and Applications, 94<sup>th</sup> Annual Meeting of the American Mathematical Society. Atlanta, Georgia, January 1988 (with J. Henderson).

Organizer, Special Session on Approximation Theory: Modern Methods, 872<sup>nd</sup> Meeting of the American Mathematical Society. Tuscaloosa, Alabama, March 1992 (with C. A. Micchelli).

Organizer, Workshop on Algorithms for Constrained Approximation and Optimization. Stowe, Vermont, May 1993 (with D. Zwick).

Organizer, Special Session on Computational Harmonic Analysis and Approximation Theory, 102<sup>nd</sup> Annual Meeting of the American Mathematical Society. Orlando, Florida, January 1996 (with N. K. Govil).

Member of Scientific Committee, Second Workshop on Mathematics Applied to Industry, Mar del Plata, Argentina, August 1997.

Member of Advisory Council, Centre for Mathematical Sciences, St. Stephen's College, Delhi, India, 2000.

## PUBLICATIONS:

1. Entropy in Metric Spaces (in Spanish). Thesis. University of Buenos Aires, 1968.
2. Tchebycheff Systems in Approximation Theory. Dissertation. Technion–Israel Institute of Technology, 1973.
3. On uniqueness of best approximation, University of the Negev Preprint Series # Math. 54, December 1973.
4. The system of derivatives of a Tchebycheff system, University of the Negev Preprint Series # Math. 56, January 1974.
5. Existence of Tchebycheff extensions, *J. Mathematical Analysis and Applications* 51 (1975), 68–75.
6. Smoothness properties of generalized convex functions, *Proceedings of the American Mathematical Society* 56 (1976), 118–120.
7. Extension of periodic Tchebycheff systems, *J. Mathematical Analysis and Applications* 56 (1976), 373–378.
8. On transforming a Tchebycheff system into a complete Tchebycheff system, *J. Approximation Theory* 20 (1977), 220–222.
9. Integral representation of Tchebycheff systems, *Pacific J. Math.* 68 (1977), 553–568.
10. A characterization of Tchebycheff systems, *J. Approximation Theory* 22 (1978), 356–359.
11. Functions of bounded variation with respect to a Tchebycheff system, *J. Approximation Theory* 23 (1978), 318–323.
12. On Approximation by shifts and a theorem of Wiener, *Transactions of the American Mathematical Society*, 243 (1978), 299–308.
13. Approximation by nonfundamental sequences of translates, *Proceedings of the American Mathematical Society*, 78 (1980), 261–266.
14. On fundamental sequences of translates, *Proceedings of the American Mathematical Society* 79 (1980), 255–259.
15. Weighted Polynomial Approximation on Unbounded Intervals, *J. Approximation Theory* 28 (1980), 113–119.
16. The fundamentality of sequences of translates, in E. W. Cheney (editor), *Approximation Theory III*, Academic Press, New York (1980), 927–932.
17. The Müntz–Szász theorem and the closure of translates, *J. Mathematical Analysis and Applications* 82 (1981), 361–369.
18. Inequalities for weighted polynomials, *J. Approximation Theory* 37 (1983), 137–146.

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19. Some properties of sequences of weighted exponentials, in Chui, Schumaker and Ward (editors), *Approximation Theory IV*, Academic Press, New York (1983), 729–732.
20. Remarks on a paper of Gel'fand and Šilov on Fourier Transforms, *J. Mathematical Analysis and Applications* 102 (1984), 102–112.
21. Some weighted polynomial inequalities, *J. Approximation Theory* 41 (1984), 39–50.
22. Embedding of weak Markov systems, *J. Approximation Theory* 41 (1984), 253–256.
23. Nonlinear Rotordynamics Analysis. Contract NAS8–36475 NASA Marshall Space Flight Center, 1986 (with William B. Day) (reviewed in *NASA Tech Briefs* 12 No. 7 (1988), 75.)
24. Some theorems concerning holomorphic Fourier transforms (with T. Abuabara Saad), *J. Mathematical Analysis and Applications* 126 (1987), 483–493.
25. Embedding a function into a Haar space, *J. Approximation Theory* 55 (1988), 61–64.
26. Rotordynamic Analysis of a Bearing Tester, in *Research Reports–1988 NASA/ASEE Summer Faculty Fellowship Program*, NASA CR–183553.
27. On the nonlinear Jeffcott equations, in *IMACS Transactions on Scientific Computing, 12<sup>th</sup> IMACS World Congress, Paris 1988, Vol. 1* (W. F. Ames et al., eds.), 39–42. J. C. Baltzer, Basel, 1989.
28. On extending the domain of definition of Čebyšev and weak Čebyšev systems (with D. Zwick), *J. Approximation Theory* 57 (1989), 202–210.
29. Integral representation and embedding of weak Markov system, *J. Approximation Theory* 58 (1989), 1–11.
30. A basis of weighted exponentials, *J. Mathematical Analysis and Applications* 141 (1989), 291–301.
31. A new inequality for entire functions, *J. Approximation Theory* 58 (1989), 281–283.
32. Splicing of Markov and weak Markov systems (with T. A. Kilgore), *J. Approximation Theory* 59 (1989), 2–11.
33. The Jeffcott equations in nonlinear rotordynamics, *Quarterly of Applied Mathematics* 47 (1989), 585–599.
34. Determination of stability margins for a simple Jeffcott model, in “*Proceedings of the International Congress on recent developments in air and structure borne sound and vibration*” (M. Crocker, ed.), 881–886, Auburn University, 1990.
35. Extensions of endpoint equivalent and periodic Tchebycheff systems (with T. A. Kilgore), *J. Approximation Theory* 61 (1990), 360–370.

36. A short proof that every weak Tchebycheff system may be transformed into a weak Markov system, *J. Approximation Theory* 64 (1991), 119–121.
37. Integral representation of Markov systems and the existence of adjointed functions for Haar spaces, *J. Approximation Theory* 65 (1991), 22–31.
38. Some properties of Markov systems (with D. Zwick), *J. Approximation Theory* 65 (1991), 32–45.
39. Nondegeneracy and integral representation of weak Markov systems, *J. Approximation Theory* 68 (1992), 25–32.
40. Nonexistence of a Riesz Basis of Translates (with T. E. Olson), in “Approximation Theory” (G. A. Anastassiou, Ed.), 401–408, Marcel Dekker, New York, 1992.
41. The quasi-elastic method of solution for a class of integrodifferential equations (with A. M. Vinogradov), *J. Integral Equations and Applications* 5 (1993), 277–295.
42. Quasiconformality and quasiregularity of Wachspress type rational complex planar splines of degree (3,1) (with H. P. Dikshit and A. Ojha), *Advances in Computational Mathematics* 2 (1994), 235–250.
43. Rational complex planar splines (with H. P. Dikshit and A. Ojha), in “Proceedings of the Conference on Advances in Computational Mathematics: New Delhi, India” (H. P. Dikshit and C. A. Micchelli, Eds.), 235–242, World Scientific, Singapore, 1994.
44. On the stability of frames and Riesz bases (with S. J. Favier), *Appl. Comput. Harm. Analysis* 2 (1995), 160–173.
45. Some remarks on spectral approximation, *Computers Math. Applic.* 30 (1995), 235–241.
46. Review of *Spaces of Approximating Functions with Haar-like Conditions* by Kazuaki Kitahara, *J. Approximation Theory* 82 (1995), 477–478.
47. Čebyšev and Weak Čebyšev systems, in “Total Positivity and its Applications” (M. Gasca and C. A. Micchelli, Eds.), 301–332, Kluwer Academic Publishers, Dordrecht, 1996.
48. Tribute to Oved Shisha (with D. S. Lubinsky) *J. Approximation Theory* 86 (1996), 1–12.
49. Frames and Riesz Bases: A Short Survey (with S. J. Favier), in “Wavelet Theory and Harmonic Analysis in Applied Sciences” (E. M. Fernández-Berdaguer and C. E. D’Atellis, Eds.), 93–114, Birkhäuser, Boston, 1997.
50. Perturbations of the Haar Wavelet (with N. K. Govil), *Proc. Amer. Math. Soc.* 125 (1997), 3363–3370.
51. Frames and Riesz bases (with S. J. Favier), in “Fourier Analysis, Approximation Theory and Applications” (Z. U. Ahmad, N. K. Govil and P. K. Jain, Eds.), 59–76, New Age International, New Delhi, 1997.
52. A Class of Quasi-orthogonal Wavelet Bases, in “Wavelets, Multiwavelets and their Applications” (A. Aldroubi and E. B. Lin, Eds.), 81–94, Contemporary Mathematics, Vol. 216, American Mathematical Society, Providence, RI, 1998.

53. Strictly totally positive systems (with J. M. Carnicer and J. M. Peña), *J. Approximation Theory* 92 (1998), 411–441.
54. Interpolation, the Budan–Fourier theorem, and Descartes’ rule of signs for Markov systems, in “Approximation Theory: In Memory of A.K. Varma”, (N.K. Govil, R.N. Mohapatra, Z. Nashed, A. Sharma and J. Szabados, Eds.), Marcel Dekker, New York, 1998, pp. 499–511.
55. Riesz Bases and Multiresolution Analyses, *Appl. Comput. Harm. Analysis* 7 (1999), 315–331.
56. Density and Approximation Properties of Markov Systems (with A. L. González), *J. Computational Analysis and Applications* 2 (2000), 49–87.
57. On affine Riesz wavelets, in “Algorithms for Approximations IV”, Proceedings of the International Symposium held in 2001. (J. Levesley, I. J. Anderson and J. C. Mason, Eds.). University of Huddersfield, UK, (2002), pp. 362–369 (with A. L. González).
58. Riesz bases, multiresolution analyses, and perturbation (with A. L. González) in “Wavelets, Frames, and Operator Theory” (D. Larson, P. E. T. Jorgensen and C. Heil, Eds.), 163–182 *Contemporary Mathematics*, Vol. 345, American Mathematical Society, Providence, RI, 2004.
59. Density and Approximation Properties of weak Markov Systems (with A. L. González), *J. Computational Analysis and Applications* 6 (2004), 5–18.
60. Representation of Orthonormal Multivariate Wavelets, in “Splines and Wavelets: Athens 2005” (G. Chen and M–J. Lai, Eds.), pp. 507–515, Nashboro Press, Brentwood, TN 2005.
61. On MRA Riesz wavelets, *Proc. American Math. Soc.* 135 (2007), 777–785.
62. Bases of translates and multiresolution analyses, *Applied and Computational Harmonic Analysis* 24 (2008), 41–57. Corrigendum, *Applied and Computational Harmonic Analysis* 29 (2010), 121.
63. Orthonormal wavelet systems and multiresolution analyses, *J. Appl. Functional Analysis* 5 (2010), 31–41.
64. Some Properties of Chebyshev systems, *J. Computational Analysis and Applications* 13 (2011), 20–26.
65. Matrix-valued wavelets and multiresolution analysis (with A. San Antolín), to appear in *J. Appl. Functional Analysis*.
66. The Method of Laplace and Watson’s Lemma, to appear in *J. Concrete and Applicable Math.*
67. A family of nonseparable scaling functions and smooth compactly supported tight framelets (with A. Santantolín), preprint.