CURRICULUM VITAE

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PERSONAL INFORMATION

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EDUCATION

1974-1977	B.Sc (Magna Cum Laude) Tel-Aviv University.
1977-1980	M.Sc. (Summa Cum Laude) Tel-Aviv University. Title of Master's Thesis "On the interpolation problem in $\mathbb{R}^1$ and $\mathbb{R}^2$". Name of Supervisor: Professor Amnon Jakimovski.
1983-1987	Ph.D. (Summa Cum Laude) Tel-Aviv University. Title of Doctoral Dissertation "Exponential box splines and other types of non-polynomial B-splines". Name of Supervisors: Professor Nira Dyn, Professor Amnon Jakimovski

POSITIONS HELD

1987-1988	Visiting Assistant Professor, Mathematics Department, Texas A&M University
1988-1990	Visiting Assistant Professor, CS Department, University of Wisconsin-Madison
1990-1993	Assistant Professor, CS and Math. Depts., University of Wisconsin-Madison
1993-1998	Associate Professor, CS and Math. Depts., University of Wisconsin-Madison
1998-	Professor, CS and Math. Depts., University of Wisconsin-Madison
1994, Summer	Visiting Associate Professor, Technion, Haifa, Israel
1996, Spring	Visiting Associate Professor, Tel-Aviv University, Tel-Aviv, Israel
1997, Summer	Visiting Senior Research Assoc., National University of Singapore, Singapore
1998, Summer	Visiting Professor, National University of Singapore, Singapore
2002-2003	Visiting Professor, the Industrial Math. Institute, University of S. Carolina
2002-	Visiting Distinguished Professor, National University of Singapore, Singapore

SUPPORTING AGENCIES (last ten years)

National Science Foundation, DMS
06-12, PI

National Institute of Health, National Institute of General Medical Sciences
04-08, PI

University of Wisconsin, Vilas Associate award
04-06, PI

National Science Foundation, ITR award
00-05, PI

National Science Foundation, KDI award
98-03, PI

National Science Foundation, Division of Biological Infrastructure
00-03, co-PI

The United States Army Research Office
98-01, co-PI

OTHER PROFESSIONAL ACTIVITIES (last ten years)

1998- Coordinator, The Wavelet IDR Center (`www.waveletidr.org`)

2000 Organizer, The IDR Post-Doc Marathon, Madison, Wisconsin.

2000 Organizer, An IDR/networking Workshop, Palo Alto, California

2001 Organizer, A joint IDR-IMA Workshop, Minneapolis, Minnesota.

2002 Organizer, An IDR Marathon Workshop, Columbia, South Carolina.

2003 Organizer, Constructive Mathematics: A meeting honoring C. de Boor, Dagstuhl, Germany.

2004 Co-chair, an annual program on *Mathematics and Computation in Imaging Science and Information Processing*, National University of Singapore

07,08 Panelist
Science Foundation Ireland

EDITORIAL WORK

Journal of Approximation Theory, Editor, 96–99; Editor-in-Chief, 00–

Constructive Approximation, Editor, 96–

Applied and Computational Harmonic Analysis, Editor, 99–

SIAM Journal of Math. Analysis, Editor, 99–05

Sampling Theory in Signal and Image Processing, Editor, 05–

Advances in Adaptive Data Analysis, Editor, 07–

Ph.D. STUDENTS

1. Michael J. Johnson, graduated: May 1995.
2. Thomas A. Hogan, graduated: May 1996.
3. Jungho Yoon, graduated: December 1998.
4. Steven Parker, graduated: December 2004.
5. H. Narfi Stefansson, graduated: December 2004.
6. Julia Velikina, graduated: August 2003.
7. Thomas Hangelbroek, graduated: August 2007.
8. Jeff Kline, graduated: August 2010.
9. Youngmi Hur, graduated: June 2006.
10. Sangnam Nam, graduated: August 2008.
11. Yeon Hyang Kim, graduated: May 2008.

LIST OF PUBLICATIONS

Theses

- A. Ron
  On the interpolation problem in $\mathbb{R}^1$ and $\mathbb{R}^2$
  M.Sc. Thesis, Tel-Aviv University 1980.
- A. Ron
  Exponential box splines and other types of non-polynomial B-splines
  Ph.D. Thesis, Tel-Aviv University 1987.

Invited Surveys

1. A. Ron
   Wavelets and their associated operators
   Approximation Theory IX Vol. II, C. K. Chui, L. L. Schumaker, Vanderbilt University Press (1998), 283–317.

2. A. Ron
Introduction to Shift-Invariant Spaces: Linear Independence
Multivariate Approximation and Applications, A. Pinkus, D. Leviatan, N. Dyn, and D. Levin (eds.), Cambridge University Press (Cambridge) (2001), 112–151.

Articles in Journals

3. A. Ron
Exponential box splines
Constructive Approximation **4**(1988), 357–378.

4. N. Dyn, A. Ron
Cardinal translation invariant Tchebycheffian B-splines
Journal of Approximation and Its Applications **6:2**(1990), 1–12.

5. N. Dyn, A. Ron
Periodic exponential box splines on a three directional mesh
Journal of Approximation Theory **56**(1989), 287–296.

6. A. Ron
Linear independence of the translates of an exponential box spline
Rocky Mountain Journal of Mathematics **22**(1992), 331–351.

7. N. Dyn, A. Ron
Recurrence relations for Tchebycheffian B-splines
Journal d'Analyse Mathematique **51**(1988), 118–138.

8. A. Ben-Artzi, A. Ron.
Translates of exponential box splines and their related spaces
Transactions of Amer. Math. Soc. **309**(1988), 683–710.

9. A. Ron
A necessary and sufficient condition for the linear independence of the integer translates of a compactly supported distribution
Constructive Approximation **5**(1989), 297–308.

10. N. Dyn, A. Ron
Local approximation by certain spaces of exponential polynomials, approximation order of exponential box splines and related interpolation problems
Transactions of Amer. Math. Soc. **319**(1990), 381-404.

11. A. Ron
Relations between the support of a compactly supported function and the exponential-polynomials spanned by its integer translates
Constructive Approximation **6**(1990), 139–155.

12. C. K. Chui, A. Ron
On the convolution of a box spline with a compactly supported distribution: linear independence for the integer translates
Canadian Journal of Mathematics **4(1)**(1991), 19–33.

13. C. de Boor, A. Ron
On multivariate polynomial interpolation
Constructive Approximation **6**(1990), 287–302.

14. A. Ron
On the convolution of a box spline with a compactly supported distribution: the exponential-polynomials in the linear span
Journal of Approximation Theory **66(3)** (1991), 266–278.

15. C. de Boor, A. Ron
On ideals of finite codimension and applications to box splines theory
Journal of Mathematical Analysis and its Applications **158** (1991), 168–193.

16. A. Ron
Factorization Theorems for univariate splines on regular grids
Israel Journal of Mathematics **70** (1990), 48–68.

17. C. de Boor, N. Dyn, A. Ron
On two polynomial spaces associated with a box spline
Pacific Journal of Mathematics **147** (1991), 249–267.

18. A. Ben-Artzi, A. Ron
On the integer translates of a compactly supported function: dual bases and linear projectors
SIAM Journal of Mathematical Analysis **21** (1990), 1550–1562.

19. N. Dyn, I.R.H. Jackson, D. Levin, A. Ron
On multivariate approximation by the integer translates of a basis function
Israel Journal of Mathematics **78** (1992), 95–130.

20. C. de Boor, A. Ron
The exponentials in the span of the integer translates of a compactly supported function
Journal of the London Mathematical Society **45** (1992), 519-535.

21. A. Ron
A characterization of the approximation order of multivariate spline spaces
Studia Mathematica **98(1)** (1991), 73–90.

22. C. de Boor, A. Ron
Computational aspects of polynomial interpolation in several variables
Mathematics of Computations **58(198)** (1992), 705–727.

23. C. de Boor, A. Ron
The least solution for the polynomial interpolation problem
Math. Z. **210** (1992), 347–378.

24. A. Ron
Remarks on the linear independence of the integer translates of exponential box splines
Journal of Approximation Theory **71(1)** (1992), 61–66.

25. A. Ron, N. Sivakumar
The approximation order of box splines spaces
Proceedings of Amer. Math. Soc. **117** (1993), 473–482.

26. C. de Boor, A. Ron
Fourier analysis of approximation power of principal shift-invariant spaces
Constructive Approximation **8** (1992), 427–462.

27. C. de Boor, R. DeVore, A. Ron
Approximation from shift-invariant subspaces of $L_2(\mathbb{R}^d)$
Transactions of Amer. Math. Soc. **341** (1994), 787–806

28. C. de Boor, R. DeVore, A. Ron
The structure of finitely generated shift-invariant subspaces of $L_2(\mathbb{R}^d)$
J. Functional Anal. **119** (1994), 37–78.

29. C. de Boor, R. DeVore, A. Ron
On the construction of (pre)wavelets
Constructive Approximation, Special Issue on Wavelets **9** (1993), 123–166.

30. C. de Boor, A. Ron, Z. Shen
On ascertaining inductively the dimension of the joint kernel of certain commuting linear operators
Advances in Applied Mathematics. **17** (1996), 209–250.

31. A. Ron
Negative observations concerning approximations from spaces generated by scattered shifts of functions vanishing at ∞
Journal of Approximation Theory **78** (1994), 364–372.

32. N. Dyn, A. Ron
Multiresolution analysis generated by infinitely differentiable compactly supported functions
Applied and Computational Harmonic Analysis **2**, 15–20 (1995).

33. A. Ron
Approximation orders of and approximation maps from local principal shift-invariant spaces
Journal of Approximation Theory **81(1)** (1995), 38–65.

34. N. Dyn, A. Ron
Radial basis functions approximation: from gridded centers to scattered centers
Proc. London Math. Soc. **71 (3)** (1995), 76–108.

35. A. Ron, X. Sun
Strictly positive definite functions on spheres
Math. Comp. **65 (216)** (1996), 1513–1530.

36. A. Ron, Z. Shen
Frames and stable bases for shift-invariant subspaces of $L_2(\mathbb{R}^d)$
Canadian J. Math. **47** (1995), 1051–1094.

37. A. Ron, Z. Shen
Weyl-Heisenberg frames and Riesz bases in $L_2(\mathbb{R}^d)$
Duke Math. J. **89** (1997), 237–282.

38. A. Ron
Smooth refinable functions provide good approximation orders
SIAM J. Math. Anal. **28** (1997), 731–748.

39. A. Cohen, I. Daubechies, A. Ron
How smooth is the smoothest function in a refinable space (a note)
Applied and Comp. Harmonic Analysis **3** (1996), 87–89.

40. C. de Boor, A. Ron, Z. Shen
On ascertaining inductively the dimension of the joint kernel of certain commuting linear operators II
Advances in Mathematics **123** (1996), 223–242.

41. A. Ron, Z. Shen
Affine systems in $L_2(\mathbb{R}^d)$: the analysis of the analysis operator
Journal of Functional Analysis **148** (1997), 408–447.

42. A. Ron, Z. Shen
Compactly supported tight affine spline frames in $L_2(\mathbb{R}^d)$
Math. Comp. **67**(221) (1998), 191-207.

43. C. de Boor, R. DeVore, A. Ron
Approximation orders of FSI spaces in $L_2(\mathbb{R}^d)$
Constructive Approximation **14** (1998), 631–652.

44. K. Gröchenig, A. Ron
Tight compactly supported wavelet frames of arbitrarily high smoothness
Proc. Amer. Math. Soc. **126** (1998), 1101–1107.

45. A. Ron, Z. Shen
The Sobolev regularity of refinable functions
J. Approx. Theory **106** (2000), 185–225.

46. A. Ron, Z. Shen
Affine systems in $L_2(\mathbb{R}^d)$ II: dual systems.
J. Fourier Analysis and Applications, Special issue on *frames* **3** (1997), 617–637.

47. G. Plonka, A. Ron
A new factorization technique of the matrix mask of univariate refinable functions
Numerische Math. **87** (2001), 555–595

48. C. de Boor, N. Dyn, A. Ron
Interpolation on flats in $\mathbb{R}^d$
J. Approx. Theory **105** (2000), 313–343;

49. A. Ron, Z. Shen, K.-C. Toh
Computing the Sobolev regularity of refinable functions by the Arnoldi Method
SIAM J. Matrix Anal. Applic. **xx** (200x), xxx–xxx;

50. Ingrid Daubechies, Bin Han, Amos Ron, Zuowei Shen
Framelets: MRA-based constructions of wavelet frames
Applied and Computational Harmonic Analysis **14(1)** 2003, 1-46.

51. Amos Ron, Zuowei Shen
The Wavelet Dimension Function is The Trace Function of A Shift-Invariant System
Proc. Amer. Math. Soc., **131 (5)** 2003, 1385–1398.

52. Amos Ron, Zuowei Shen
Generalized shift-invariant systems
Constructive Approximation **22** (2005), 1–45.

53. Olga Holtz, Amos Ron
Approximation orders of shift-invariant subspaces of $W_2^s(\mathbb{R}^d)$
Journal of Approximation Theory **132** (2005), 97–148.

54. Youngmi Hur, Amos Ron
CAPlets: wavelet representations without wavelets
submitted

55. Youngmi Hur, Amos Ron
New constructions of piecewise-constant wavelets
ETNA, Special Volume on Constructive Function Theory **25** (2006), 138–157.

56. Youngmi Hur, Amos Ron
L-CAMP: extremely local high-performance wavelet representations in high spatial dimension
IEEE Transactions on Information Theory **54(5)** (2008), 2196–2209.

57. Yeon Hyang Kim, Amos Ron
Time frequency representations of almost-periodic functions
Constructive Approximation **29** (2009), 303–323.

58. Carl de Boor, Amos Ron
Box splines revisited: convergence and acceleration methods for the subdivision and the cascade algorithms
Journal of Approximation Theory **150** (2008), 1–23.

59. Olga Holtz, Amos Ron
Zonotopal algebra
Advances in Mathematics **227(2)** (2011), 847-894.

60. Ronald DeVore, Amos Ron
Approximation using scattered shifts of a multivariate function
Trans. Amer. Math. Soc. **362(12)** (2010), 6205–6229.

61. Olga Holtz, Amos Ron, Zhiqiang Xu
Hierarchical zonotopal spaces
Trans. Amer. Math. Soc. **364** (2012), 745-766.

62. Thomas Hangelbroek, Amos Ron
Nonlinear Approximation Using Gaussian Kernels function
Journal of Functional Analaysis **259(1)** (2010), 203-219.

63. Nan Li, Amos Ron
External zonotopal algebra
Journal of Algebra and Its Application **xxx** (2014), xxx-xxx.

64. Youngmi Hur, Amos Ron
High-performance very local Riesz wavelet bases of $L_2(\mathbb{R}^d)$
SIAM Journal of Mathematical Analysis **44** (2012), 2237–2265.

Articles outside Mathematics

65. Paul Barford, Jeffrey Kline, David Plonka, Amos Ron
A signal analysis of network traffic anomalies
Proceedings of Internet Measurement Workshop, 2002

66. Eliceiri KW, Thomas C, Rueden C, Stefansson N, Peterson L, Lu FM, Chu V, Ron A, White JG
CAMBIO: Computational algorithms for multidimensional biological image organization.
Developmental Biology **247 (2)**, (2002), xxx-xxx.

67. Stefansson, H.N., Eliceiri, K.W., Thomas, C.F., Ron, A., DeVore, R., Sharpley R., and J.G. White
Wavelet Compression of Three-Dimensional Time-lapse Biological Image Data
Microscopy and Microanalysis **11**, (2005), 9–17.

68. Sommers, J., Barford, P., Ron, A., and Willinger, W.
Phase Plot-based Analysis of Internet Packet Traffic Dynamics

69. Joel Sommers, Paul Barford, Nick Duffield, and Amos Ron
Improving Accuracy in End-to-End Packet Loss Measurement
Proceedings of ACM SIGCOMM 05, Philadelphia, PA., August 2005.

70. Joel Sommers, Paul Barford, Nick Duffield, and Amos Ron
A Geometric Method to Improving Active Packet Loss Measurement
IEEE/ACM Transactions on Networking, **16(2)** (2008), 307–320.

71. J. Sommers, P. Barford, N. Duffield and A. Ron.
Multi-objective Monitoring for SLA Compliance
IEEE INFOCOM (Minisymposium), 2007.

72. Joel Sommers, Paul Barford, Nick Duffield, and Amos Ron
Accurate and efficient SLA compliance monitoring
Proceedings of ACM SIGCOMM 07, Koyoto, Japan, August 2007.

73. Jeffery Kline, Jeffrey Hoch, and Amos Ron
Window Functions with Optimal Sensitivity for Defined Resolution Enhancement

74. Joel Sommers, Paul Barford, Nick Duffield, and Amos Ron
Multiobjective monitoring for SLA compliance
IEEE/ACM Transactions on Networking, **18(2)** (2010), 652–665.

75. Network Performance Anomaly Detection and Localization
Barford, P., Duffield, N., Ron, A., Sommers, J.
IEEE INFOCOM 2009

76. A Geometric Approach to Improving Active Packet Loss Measurement
Sommers, J., Barford, P., Duffield, N., Ron, A.
IEEE/ACM Transactions on Networking, **16(2)** (2008), 307–320.

Other Articles

77. N. Dyn, A. Ron
On multivariate polynomial interpolation
Algorithms for approximation II, J. C. Mason, M. G. Cox eds., Chapman and Hall, London, (1990), 177–184.

78. C. de Boor, A. Ron
The limit at the origin of a smooth function space
Approximation Theory VI, C. K. Chui, L. L. Schumaker and J. D. Ward eds., Academic Press New York, (1989), 93–96.

79. C. de Boor, A. Ron
Polynomial ideals and multivariate splines
Multivariate approximation Theory V, W. Schempp & K. Zeller eds., Birkhäuser, Basel (1990), 31–40.

80. A. Ron
The L_2-Approximation orders of principal shift-invariant spaces generated by a radial basis function
Numerical Methods of Approximation Theory Vol. 9, D. Braess & L.L. Schumaker eds., International Series of Numerical Mathematics Vol. 105, Birkhäuser Verlag, Basel, 1992, 245–268.

81. A. Ron
Characterizations of linear independence and stability of the shifts of a univariate refinable function in terms of its refinement mask
CMS Tech. Rep. 93-3, University of Wisconsin-Madison, Sept. 92.

82. M.D. Buhmann, A. Ron
Radial Basis functions: L_p-approximation orders with scattered centers
Curves and Surfaces II, P.J. Laurent, A. Le Méhauté and L.L. Schumaker, eds., AKPeters, Boston, 1994, 93–112.

83. A. Ron, Z. Shen
Frames and stable bases for subspaces of $L_2(\mathbb{R}^d)$: the duality principle of Weyl-Heisenberg sets
In *Proceedings of the Lanczos International Centenary Conference* Raleigh, NC, 1993. D. Brown, M. Chu, D. Ellison, and R. Plemmons eds., SIAM Pub. (1994), 422–425

84. A. Ron, Z. Shen
Gramian analysis of affine bases and affine frames
In *Proceedings of the Eighth Texas Meeting on Approximation Theory* Charles K. Chui and Larry L. Schumaker eds., World Scientific Publishing.

85. M.D. Buhmann, C.A. Micchelli, A. Ron
Asymptotically Optimal Approximation and Numerical Solutions of Differential Equations
In *Powell Festschrift*, (A. Iserles and M.D. Buhmann, eds), Cambridge University Press, 1997, 59–83.

86. A. Ron, Z. Shen
Construction of Compactly Supported Affine Frames in $L_2(\mathbb{R}^d)$,
In *Advances in Wavelets*, K. S. Lau (ed.), Springer Verlag, 1998, 27–50.