

Curriculum Vitae

Guy Cohen

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Personal Data

Date of birth: April 12, 1971.

Place of birth: Beer Sheva, Israel.

Regular military service: 1989-1992.

Marital status: Married +1.

Education

1993-1996: B.Sc. in Electrical and Computer Engineering at Ben-Gurion University.

1997-2000: M.Sc. in Electrical and Computer Engineering, summa cum laude, Ben-Gurion University. Advisor: J.M. Francos - Electrical Engineering. Title of Thesis: Parameter estimation of random fields.

2000-2003: Ph.D. in Electrical and Computer Engineering, summa cum laude, Ben-Gurion University. Advisors: J.M. Francos - Electrical Engineering, M. Lin - Mathematics. Title of Thesis: Parameter estimation of random fields.

Positions

2003-2004: Postdoctoral Research Fellow, Department of mathematics, Ben-Gurion University, under the supervision of Paul Fuhrmann and Michael Lin.

2004-2005: Postdoctoral Research Fellow, The Erwin Schrödinger International Institute for Mathematical Physics, Vienna, under the supervision of Klaus Schmidt.

2005-2006: Postdoctoral Research Fellow, Edmund Landau Center, The Hebrew University of Jerusalem, under the supervision of Benjamin Weiss.

2006-2007: Lecturer, department of Electrical and Computer Engineering, Ben-Gurion University.

2007-present: Senior lecturer, department of Electrical and Computer Engineering, Ben-Gurion University.

Teaching Experience

1997- 2003: Teaching assistant and instructor, Electrical and Computer Engineering department. Basic Lab. 1, 2, and 3.

2006- 2008: Teaching the course 'Introduction to electrical engineering 1'.

2008- 2009: Teaching the course 'Statistical signal processing'.

Awards and Prizes

1. Israel's Higher Education Budget and Planning Committee fellowship for outstanding Ph.D students, 1999-2003.
2. Friedman Prize for Mathematical Ph.D. research, April 2003.
3. Pratt scholarship for young outstanding researchers, 2006-2001.

Grants

- Joseph Francos (P.I.) and Guy Cohen (P.I.), "Estimation and Registration of Object Deformations," in "4th Generation of Imaging Machines (IMG4) MAGNET Consortium," Israeli Ministry of Industry and Trade, 2005-2010, IS 700,000 per year.

Students

2006-2008: S.Z. Kovalsky, Estimation of Joint Radiometric and Geometric Image Deformations, Ben-Gurion University, M.Sc., summa cum laude, 2008. (Joint supervision with J.M. Francos). This research was awarded the Wolf Foundation prize and the Israeli Knesset award.

Professional activities

- Reviewer for: Proc. AMS, Studia Mathematica, Contemporary Math., and Mathematische Zeitschrift.
- Papers reviewer for the Mathematical Reviews.
- Evaluating of a Ph.D., University of Rennes 1, France. Advisors: Jean-Pierre Conze and Stephane Le Borgne.

Refereed papers – Published and Accepted

- [1] G. Cohen and J. M. Francos, Linear Least Squares Estimation of Regression Models for Two-Dimensional Random Fields, *Journal of Multivariate Analysis*, vol. 82, no. 2 (2002), 431-444.
- [2] G. Cohen and J. M. Francos, Least Squares Estimation of 2-D Sinusoids in Colored Noise: Asymptotic Analysis, *IEEE Trans. On Information Theory*, vol. 48, no. 8 (2002), 2243-2252.
- [3] G. Cohen and J. M. Francos, Spectral Representation and Asymptotic Properties of Certain Deterministic Fields with Innovation Components, *Probability Theory and Related Fields*, vol. 127, no. 2 (2003), 277-304.
- [4] G. Cohen and M. Lin, Laws of Large Numbers with Rates and the One-sided Ergodic Hilbert Transform, *Illinois J. of Math.*, vol. 47, no. 4 (2003), 997-1031.
- [5] G. Cohen, R.L. Jones, and M. Lin, On Strong Laws of Large Numbers with Rates, *Contemp. Math.* 356 (2004), 101-126.
- [6] G. Cohen, M. Lin, and A. Tempelman, Consistency of the LSE in Linear Regression with Stationary Noise, *Colloquium Math.* 100 (2004), 29-71.

- [7] G. Cohen and M. Lin, Extensions of the Menchoff-Rademacher theorem with applications to ergodic theory, *Israel J. Math.* 148, (2005), 41-86.
- [8] G. Cohen and C. Cuny, On Billard's theorem for random Fourier series, *Bull. Pol. Acad. Sci. Math.* 53 (2005), 39-53.
- [9] G. Cohen and C. Cuny, On random almost periodic trigonometric polynomials and applications to ergodic theory, *Annals of Probability* 34, No. 1, (2006), 39-79.
- [10] G. Cohen and C. Cuny, On random almost periodic series and random ergodic theory, *Ergodic Th. & Dynam. Sys.* 26 (2006), 683-709.
- [11] G. Cohen and V. Losert, On Hartman almost periodic functions, *Studia Mathematica* 173 (2006), 81-101.
- [12] G. Cohen, On random Fourier-Stieltjes transforms, *Contemp. Math.* 430 (2007), 73-88.
- [13] G. Cohen, Iterates of a product of conditional expectation operators, *J. Func. Anal.* 242 (2007), 658-668.
- [14] G. Cohen, On the Komlós-Révész estimation problem for random variables without variances, *Acta Sci. Math. (Szeged)* 74 (2008), 703-713.
- [15] G. Cohen and M. Lin, Almost sure convergence of weighted sums of independent random variables, *Contemp. Math.* 485, AMS (2009), 13-43.
- [16] G. Cohen, C. Cuny, and M. Lin, The one-sided ergodic Hilbert transform in Banach spaces, *Studia Math.* 196 (2010), 251-263.
- [17] S. Z. Kovalsky, G. Cohen, R. Hagege, and J. M. Francos, Decoupled Linear Estimation of Affine Geometric Deformations and Non-Linear Intensity Transformations of Images, to appear in *IEEE Transactions on Pattern Analysis and Machine Intelligence*.

Chapters in books

- [1] G. Cohen and M. Lin, The one-sided ergodic Hilbert transform of normal contractions, in *Characteristic Functions, Scattering Functions and Transfer Functions* Birkhäuser, Basel 2009, 77-98.

Submitted

- [1] S.Z. Kovalsky, G. Cohen, and J.M. Francos, Strongly Consistent Estimation of the Sample Distribution of Noisy Continuous-Parameter Fields, in revision, *IEEE trans. on Information Theory*.

In preparation

- [1] S. Z. Kovalsky, R. Hagege, G. Cohen, and J. M. Francos, Estimation of joint geometric and radiometric image deformations in the presence of noise.
- [2] S. Z. Kovalsky, R. Hagege, G. Cohen, and J. M. Francos, Canonical representation of images invariant to affine geometric transformations and nonlinear radiometric mappings.

Presentation of papers at workshops

- [1] G. Cohen and J. M. Francos, Asymptotic Analysis of the Least Squares Estimate of 2-D Exponentials in Colored Noise, *Proc. of the 10th IEEE workshop on statistical signal processing and array processing*, Pocono Manor, PA USA (2000), 396-399.
- [2] S.Z. Kovalsky, G. Cohen, and J.M. Francos, Registration of Joint Geometric and Radiometric Image Deformations in the Presence of Noise, *Statistical Signal Processing*, (2007), 561-565.

Invited talks in conferences and seminars

- Consistency of the LSE in Linear Regression with Stationary Noise. February 2003, Workshop on Ergodic Theory. University of North Carolina, Chapel Hill, organizer I. Assani.
- On uniform convergence of random Fourier series. December 2003, Dynamics seminar, Hebrew University, organizer G. Levin.
- Extensions of the Menchoff-Rademacher theorem with applications to ergodic theory. December 2003, Horowitz seminar in Probability, Ergodic Theory, and Dynamical Systems. Tel Aviv University, organizer J. Aaronson.
- Extensions of the Menchoff-Rademacher theorem with applications to ergodic theory. November 2004, ESI Junior Research Fellows Seminar, organizer K. Schmidt.
- On random almost periodic trigonometric polynomials and applications to ergodic theory. January 2005, ESI Junior Research Fellows Seminar, organizer K. Schmidt.
- On random Fourier-Stieltjes coefficients. April 2005, Institut de Recherche Mathématique Avancée de Strasbourg, organizer M. Weber.
- On weighted ergodic theory and some applications to random Fourier Series and linear regression models. April 2005, Ben-Gurion University, organizer B. Rafaely.
- Extensions of the Menchoff-Rademacher theorem with applications to ergodic theory. May 2005, Haifa University, organizer Y. Ginosar.
- Extensions of the Menchoff-Rademacher theorem with applications to ergodic theory. May 2005, Technical University, Vienna, organizer M. Deistler.
- On Billard's theorem for random Fourier series. May 2005, ESI Junior Research Fellows Seminar, organizer K. Schmidt.
- On random Fourier-Stieltjes coefficients. July 2005, ESI Junior Research Fellows Seminar, organizer K. Schmidt
- On random Fourier-Stieltjes coefficients. December 2005, Dynamics Seminar, organizer B. Weiss
- On weighted strong laws of large numbers. December 2005, Probability seminar, Ben-Gurion University, organizer M. Lin
- On random Fourier-Stieltjes transforms. February 2006, Workshop on Ergodic Theory. University of North Carolina, Chapel Hill, organizer I. Assani.

- Iterates of a product of conditional expectation operators. November 2006, Probability seminar, Ben-Gurion University, Organizer M. Lin
- Iterates of a product of conditional expectation operators. November 2006, Dynamics seminar, Hebrew University, organizer B. Weiss
- Generalization of von-Neumann's notion of spectral sets with an application in ergodic theory. January 2007, Operator and System Theory seminar, Ben-Gurion University, Organizer V. Vinikov
- Iterates of a product of conditional expectation operators. January 2007, Probability and Stochastic Processes seminar, Technion, organizer E. Mayer-Wolf.
- Iterates of a product of conditional expectation operators. February 2007, Workshop on Ergodic Theory. University of North Carolina, Chapel Hill, organizer I. Assani.
- On the Komlós–Révész estimation problem for random variables without variances. October 2007, Probability seminar, Ben-Gurion University, organizer M. Lin
- On the Komlós–Révész estimation problem for random variables without variances. February 2008, Workshop on Ergodic Theory. University of North Carolina, Chapel Hill, organizer I. Assani.
- The one-sided ergodic Hilbert transform of normal contractions. March 2008, Operator and System Theory seminar, Ben-Gurion University, Organizer D. Alpay
- The one-sided ergodic Hilbert transform of normal contractions. December 2008, Ergodic theory seminar, University of Rennes 1, France, organizer Jean-Pierre Conze.
- The one-sided ergodic Hilbert transform in Banach spaces. February 2009, Workshop on Ergodic Theory. University of North Carolina, Chapel Hill, organizer I. Assani.