

January 21, 2018

Curriculum Vitae

Israel Cohen

Department of Electrical Engineering
Technion - Israel Institute of Technology
Haifa 32000, Israel

Tel. 972-4-8294731; Fax. 972-4-8295757

icohen@ee.technion.ac.il

<http://www.ee.technion.ac.il/people/IsraelCohen>

ACADEMIC DEGREES

1998	Ph.D.	Electrical Engineering, Technion – IIT, Haifa, Israel
1993	M.Sc.	Electrical Engineering, Technion – IIT, Haifa, Israel
1990	B.Sc.	Electrical Engineering, Technion – IIT, Haifa, Israel ■ Graduated <i>Summa Cum Laude</i> (Rank in class: 1 st out of 241 students)

ACADEMIC APPOINTMENTS

2013-	Professor, Dept. of Electrical Engineering Technion – IIT, Haifa, Israel
2014-2017	Visiting Professor, School of Marine Science and Technology, Northwestern Polytechnical University, Xi'an, China
2006-2012	Associate Professor, Dept. of Electrical Engineering Technion – IIT, Haifa, Israel
2001-2006	Senior Lecturer, Dept. of Electrical Engineering Technion – IIT, Haifa, Israel
1998-2000	Postdoctoral Research Associate, Dept. of Computer Science, Yale Univ., New Haven, Connecticut

RESEARCH INTERESTS

Statistical signal processing, analysis and modeling of acoustic signals, speech enhancement, noise estimation, microphone arrays, source localization, blind source separation, system identification and adaptive filtering.

TEACHING EXPERIENCE

Introduction to Digital Signal Processing (044198)	Undergraduate	Spring 2004, Winter 2005-6, Winter 2006-7, Winter 2007-8, Winter 2008-9
Spatial Signal Processing (046743)	Graduate & Undergraduate	Spring 2016
Image Processing and Analysis (046200)	Graduate & Undergraduate	Winter 2001-2, Spring 2002, Winter 2002-3, Spring 2003, Winter 2003-4, Winter 2004-5, Spring 2005, Spring 2006, Spring 2007, Spring 2008, Spring 2009, Spring 2010,

		Winter 2010-11, Spring 2011, Winter 2011-12, Winter 2013-14, Winter 2014-15, Winter 2015-16, Winter 2016-17, Winter 2017-18
Image Processing and Analysis (04620083i)	International School of the Technion	Summer 2013, Summer 2014, Summer 2015, Summer 2016, Summer 2017
Digital Speech Processing in Noisy Environments (049035)	Graduate	Spring 2005, Spring 2006, Spring 2007, Spring 2008, Spring 2009, Spring 2010, Spring 2011, Spring 2012, Spring 2013, Spring 2014, Spring 2015, Winter 2015-16
Selected Topics in Signal Processing 1(048831)	Graduate	Spring 2003, Spring 2004
Selected Topics in Signal Processing 2 (048865)	Graduate	Winter 2016-17
Selected Topics in Signal Processing 3 (048939)	Graduate	Winter 2017-18

DEPARTMENTAL ACTIVITIES

2001-2003	Undergraduate studies committee
2001-2004	Consultant for students under discussion
2006-2009	Consultant for exchange students
2005-2009	Consultant for undergraduate students in the field of Signal Processing
2005-2009	Coordinator of graduate courses in the field of Signal Processing
2006-2008	Committee for departmental computerization
2007-2009	Committee for outstanding employees
2001-2004, 2009-2014	Committee for students under discussion
2009-2014	Committee for faculty and students
2007-2014	Committee for acceptance of students
2011-2014	Committee for academic development
2009-2014	Associate Dean for undergraduate student affairs
2014-2016	Graduate studies committee
2014-	Committee for development, resources and finances
2014-	Academic supervisor of the departmental labs and projects

- 2014- Committee for refreshing teaching experiments in departmental labs
- 2014- Chair of the award committee for students projects
- 2014- Chair of the committee for development of teaching labs
- 2017- Chair of the Appeal Court for Students

PUBLIC PROFESSIONAL ACTIVITIES

Editor

- 2004-2005 Guest Editor of a Special Issue of the *EURASIP Journal on Advances in Signal Processing* on Advances in Multi-Microphone Speech Processing (Vol. 2006)
- 2005-2006 Guest Editor of a Special Issue of the *EURASIP Speech Communication Journal* on Speech Enhancement (Vol. 49, Issues 7-8, July-August 2007)
- 2005-2007 Co-Editor of the Multichannel Speech Processing section of the *Springer Handbook of Speech Processing*
- 2004-2007 Associate Editor of the IEEE TRANSACTIONS ON AUDIO, SPEECH AND LANGUAGE PROCESSING (before 2006 the journal title was: IEEE TRANSACTIONS ON SPEECH AND AUDIO PROCESSING)
- 2004-2008 Associate Editor of the IEEE SIGNAL PROCESSING LETTERS

Professional Committees

- 2008 Professional Committee Member of the Israel Science Foundation (ISF)
- 2009 Professional Committee Member of the Israel Science Foundation (ISF)
- 2013-2015 Member of the IEEE Speech and Language Processing Technical Committee (SLTC)
- 2012- Member of the IEEE Audio and Acoustic Signal Processing Technical Committee (AASP TC)

Technical Committees

- 2008 International Program Committee Member, IASTED International Conference on Signal and Image Processing, SIP-2008, Hawaii, USA.
- 2009 International Program Committee Member, IASTED International Conference on Signal and Image Processing, SIP-2009, Hawaii, USA.
- 2010 International Program Committee Member, IASTED International Conference on Signal and Image Processing, SIP-2010, Hawaii, USA.
- 2011 International Technical Committee Member, the first annual "Speech Processing Day," June 22, 2011, Afeka College, Tel Aviv, Israel.
- 2011 International Program Committee Member, IASTED International Conference on Signal and Image Processing and Applications, SIPA-2011, Crete, Greece.
- 2011 Technical Program Committee Member, 3rd Joint Workshop on Hands-free Speech Communication and Microphone Arrays, HSCMA-2011, Edinburgh, Scotland.
- 2011 International Program Committee Member, IASTED International Conference on Signal and Image Processing, SIP-2011, Dallas, USA.

- 2011 International Program Committee Member, IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, WASPAA-2011, New York, USA.
- 2012 International Technical and Steering Committee Member, 13th International Workshop on Acoustic Echo and Noise Control, IWAENC-2012, Aachen, Germany.
- 2012 International Technical Committee Member, the 2012 Speech Processing Conference, Afeka College, Tel Aviv, Israel.
- 2012 International Program Committee Member, IASTED International Conference on Signal and Image Processing, SIP-2011, Honolulu, Hawaii.
- 2013 International Technical Committee Member, the 2013 Speech Processing Conference, Afeka College, Tel Aviv, Israel.
- 2014 International Technical and Steering Committee Member, 14th International Workshop on Acoustic Signal Enhancement, IWAENC-2014, Juan les Pins, French Riviera.
- 2014 International Technical Committee Member, the 2014 Speech Processing Conference, Afeka College, Tel Aviv, Israel.
- 2015 International Technical Committee Member, the 2015 Speech Processing Conference, Afeka College, Tel Aviv, Israel.
- 2016 International Technical and Steering Committee Member, 15th International Workshop on Acoustic Signal Enhancement, IWAENC-2016, Xi'an, China.
- 2017 Technical Program Committee Member, IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, WASPAA-2017, New York, USA.
- 2018 Tutorials Committee Member, Interspeech 2018, Hyderabad, India.
- 2018 Technical Advisory Committee Member, International Conference on Instrumentation, Control and Biomedical Signal Processing - ICICS'18, Coimbatore, TamilNadu, India.
- 2018 Technical Program Committee Member, IEEE Sensor Array and Multichannel Signal Processing Workshop, SAM-2018, Sheffield, United Kingdom.
- 2018 International Technical and Steering Committee Member, 16th International Workshop on Acoustic Signal Enhancement, IWAENC-2018, Tokyo, Japan.

Other

Reviewer for IEEE Transactions on Audio, Speech and Language Processing, IEEE Signal Processing Letters, EURASIP Journal on Applied Signal Processing, EURASIP Signal Processing Journal, and EURASIP Speech Communication Journal.

Reviewer of proposals for the Israel Science Foundation (ISF).

MEMBERSHIP IN PROFESSIONAL SOCIETIES

IEEE Fellow

FELLOWSHIPS, AWARDS AND HONORS

- 1987, 1988, 1989 President of the Technion Honor List
- 1988 I. Kidron award at the Technion - IIT for excellent student at the faculty of electrical engineering
- 1988 The Israeli parliament honor for academic excellence
- 1990 Graduated 1st in class out of 241 students in the faculty of electrical engineering
- 1993 Rafael excellence award for a remarkable individual contribution and outstanding solution
- 1997 Rafael excellence award for outstanding professional analysis of an important project
- 1997 Eliahu I. and Joyce Jury award at the Technion - IIT for outstanding achievement in systems, communication and signal processing
- 1998 Fulbright Israeli post-doctoral award (declined)
- 2002, 2003 Louis and Miriam Benjamin Lectureship - USA
- 2003 Technion award for Excellence in Teaching (top 15%) – course “Image Processing and Analysis”
- 2004 Best student paper award (23rd IEEE Convention of the Electrical and Electronic Engineers in Israel, paper co-authored by Amir Noiboar and Israel Cohen)
- 2005 Technion Excellent Lecturer award (top 5%) – course “Image Processing and Analysis”
- 2006 Best student paper award (10th International Workshop on Acoustic Echo and Noise Control, IWAENC-2006, Paris, France, paper co-authored by Ari Abramson and Israel Cohen)
- 2006 Technion Excellent Lecturer award (top 5%) – course “Image Processing and Analysis”
- 2007 Best student paper finalist (32nd IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2007, Honolulu, Hawaii, paper co-authored by Ari Abramson and Israel Cohen)
- 2007 Technion award for Excellence in Teaching (top 12%) – course “Introduction to Digital Signal Processing”
- 2007 Technion award for Excellence in Teaching (top 12%) – course “Image Processing and Analysis”
- 2008 Technion award for Excellence in Teaching (top 12%) – course “Introduction to Digital Signal Processing”
- 2008 Technion award for Excellence in Teaching (top 12%) – course “Image Processing and Analysis”
- 2009 Technion award for Excellence in Teaching (top 12%) – course “Introduction to Digital Signal Processing”
- 2009 Muriel & David Jacknow award for Excellence in Teaching
- 2009 Technion award for Excellence in Teaching (top 12%) – course “Image Processing and Analysis”

- 2010 Best student paper award (12th International Workshop on Acoustic Echo and Noise Control, IWAENC-2010, Tel-Aviv, Israel. Paper co-authored by S. Markovich Golan, S. Gannot and I. Cohen).
- 2010 Technion award for Excellence in Teaching (top 12%) – course “Image Processing and Analysis”
- 2010 Alexander Goldberg Prize for Excellence in Research
- 2011 Technion award for Excellence in Teaching (top 12%) – course “Image Processing and Analysis” (winter semester)
- 2011 Technion award for Excellence in Teaching (top 12%) – course “Image Processing and Analysis” (spring semester)
- 2012 Best student paper award (27th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2012, Eilat, Israel. Paper co-authored by S. Markovich Golan, S. Gannot and I. Cohen)
- 2014 Technion award for Excellence in Teaching (top 12%) – course “Image Processing and Analysis”
- 2014 The 2014 SPS Signal Processing Letters Best Paper Award, IEEE Signal Processing Society, for the paper: E. A. P. Habets, S. Gannot and I. Cohen, “Late Reverberant Spectral Variance Estimation Based on a Statistical Model,” IEEE Signal Processing Letters, Vol. 16, Issue 9, Sep. 2009, pp. 770-773.
- 2015 Qualcomm Research Award
- 2015 IEEE Fellow, for contributions to the theory and application of speech enhancement
- 2015 Technion award for Excellence in Teaching (top 12%) – course “Image Processing and Analysis”
- 2016 Best student paper award (IEEE International Conference on the Science of Electrical Engineering, ICSEE-2016, Eilat, Israel, Nov. 16-18, 2016. Paper co-authored by Y. Zonis, Y. Buchris and I. Cohen).
- 2017 Norman Seiden Prize for Academic Excellence

GRADUATE STUDENTS

Completed PhD Theses

1. Ari Abramson, Ph.D. (direct track), (2008), “Markov-Switching GARCH Models and Applications to Digital Speech Processing”.
2. Yekutiel Avargel, Ph.D. (direct track), (2008), “System Identification and Adaptive Filtering in the Short-Time Fourier Transform Domain”.
3. Ronen Talmon, Ph.D. (direct track) (2011), “Supervised Speech Processing Based on Geometric Analysis” (Sharon Gannot - Co-supervisor).
4. Shmuel Markovich, Ph.D. (2013), “Distributed Speech Processing for Microphone Networks” (Sharon Gannot - Principal supervisor).

5. Idan Ram, Ph.D. (2014), "Wavelets for Graphs and Their Deployment to Image Processing" (Michael Elad - Co-supervisor).
6. Saman Mousazadeh, Ph.D. (direct track) (2015), "Speech and Audio Processing Based on Harmonic Analysis and Statistical Models".
7. Gal Mishne, Ph.D. (direct track) (2017), "Diffusion Nets and Manifold Learning for High-Dimensional Data Analysis in the Presence of Outliers".

Completed MSc Theses

8. Arnon Goldman, M.Sc. (2004), "Multi-Scale Anomaly Detection in Multi-Dimensional Cluttered Data".
9. Gal Reuven, M.Sc. (2006), "Dual Transfer Function Generalized Sidelobe Canceller and Application to Joint Noise Reduction and Echo Cancellation" (Sharon Gannot - Principal supervisor).
10. Lior Shadhan, M.Sc. (2007), "Detection of Anomalies in Texture Images Using Multi-Resolution Features".
11. Amir Noiboar, M.Sc. (2007), "Anomaly Detection Based on Wavelet Domain GARCH Random Field Modeling".
12. Alon Heimer, M.Sc. (2008), "Multichannel Deconvolution of Sparse Reflectivity Images Using Layered Medium Models".
13. Shmuel Markovich, M.Sc. (2008), "Multichannel Eigenspace Beamforming in a Reverberant Noisy Environment with Multiple Interfering Speech Signals" (Sharon Gannot - Principal supervisor).
14. Maria Zontak, M.Sc. (2008), "Defect Detection in Patterned Wafers Using Anisotropic Kernels".
15. Erez Cohen, M.Sc. (2009), "Wavelet Based Image Restoration Using Cross-Band Operators".
16. Amos Schreiber, M.Sc. (2009), "Adaptive Stereo Acoustic Echo Cancellation in Reverberant Environments".
17. Idan Ram, M.Sc. (2009), "Multichannel Deconvolution of Layered Media Using Markov Chain Monte Carlo methods" (Shalom Raz - Co-supervisor).
18. Yevgeni Litvin, M.Sc. (2010), "Single-Channel Blind Source Separation of Audio Signals" (Dan Chazan - Co-supervisor).
19. Yaakov Buchris, M.Sc. (2010), "A Bayesian approach to coherent wideband array processing" (Miriam Doron - Co-supervisor).
20. Michal Genussov, M.Sc. (2011), "Transcription and classification of audio data by sparse representations and geometric methods".
21. Guy Rapaport, M.Sc. (2011), "Codebook-based Single Channel Blind Source Separation of Audio Signals".
22. Ilana Volfin, M.Sc. (2011), "Dominant Speaker Identification for Multipoint Videoconferencing".

23. Itai Katsir, M.Sc. (2012), "Speech Bandwidth Extension Based on Speech Content and Speaker Information" (David Malah - Principal supervisor).
24. Anna Oyzerman, M.Sc. (2012), "Speech Dereverberation in the Time-Frequency Domain".
25. Evgeny Kupershtein, M.Sc. (2013), "Indoor Localization based on Multipath Fingerprinting" (Mati Wax – Co-supervisor).
26. Mingzi Li, M.Sc. (2013), "Multisensory Speech Enhancement in Noisy Environments Using Bone-Conducted and Air-Conducted Microphones".
27. Eliav Benisty, M.Sc. (2014), "Dereverberation and Noise Suppression of Multichannel Speech Signals" (Jacob Benesty – Co-supervisor).
28. Uri Okun, M.Sc. (2014), "Image Registration by Probabilistic Multi-Assignment Graph Matching" (Yosi Keller - Co-supervisor).
29. David Dov, M.Sc. (2014), "Audio Visual Speech Processing using Diffusion Maps and the Scattering Transform".
30. Reuven Berkun, M.Sc. (2015), "Quality Analysis and Enhancement of Reverberated Speech Using Microphone Arrays" (Jacob Benesty – Co-supervisor).
31. Yaron Doweck, M.Sc. (2015), "Frequency Analysis of Non-Stationary Signals with Harmonic Components" (Alon Amar - Co-supervisor).
32. Nurit Spingarm, M.Sc. (2015), "Speaker Diarization Using GMM Mean Supervector and Advanced Dimensionality Reduction Algorithms".
33. Oren Rosen, M.Sc. (2016), "Design and Analysis of a Constant Beamwidth Beamformer".
34. Deborah Pereg, M.Sc. (2017), "Sparse Seismic Inversion".

PhD Theses in Progress

35. David Dov, Ph.D., "Multimodal Signal Processing on Manifolds" (Ronen Talmon - Co-supervisor).
36. Yaakov Buchris, Ph.D., "Study and Design of Differential Microphone Arrays" (Jacob Benesty - Co-supervisor).
37. Deborah Pereg, Ph.D., "Canonical Correlation Analysis of Speech Signals" (Jacob Benesty - Co-supervisor).

MSc Theses in Progress

38. Daniel Wolff, M.Sc., "Design and Analysis of Robust Concentric Circular Differential Microphone Arrays".
39. Mirel Merabi, M.Sc., "Multichannel Semi-Blind Deconvolution (MSBD) of Seismic Signals".
40. Gilad Avrashi, M.Sc., "Time Varying Carrier Frequency Offset Estimation in Multicarrier Underwater Acoustic Communication" (Alon Amar- Co-supervisor).
41. Aviva Atkins, M.Sc., "Non-Stationary Harmonic Noise Reduction for Single-Channel Speech

Enhancement”.

RESEARCH GRANTS

2005-6, Applied Materials Israel, 144,000 NIS, PI: Israel Cohen, “Anomaly Detection in Three Dimensional Data Based On Gauss Markov Random Field Modeling”.

2005-9, ISF - Israel Science Foundation, 1,040,000 NIS, PI: Israel Cohen, “Statistical Modeling and Multichannel Processing of Speech Signals for Hands-Free Speech Communication Applications”.

2006-7, MAFAAT - Israel Ministry of Defense, 47,000NIS, PI: Israel Cohen, “Blind Speaker separation in Adverse Conditions”.

2006-8, European Community, Sixth Framework Program, 156,000 €, PI: Israel Cohen, MEMORIES project, “Design of an Audio Semantic Indexation System Allowing Information Retrieval for the Access to Archive Content”.

2008, MAFAAT - Israel Ministry of Defense, 47,000NIS, PI: Israel Cohen, “Blind Speaker separation in Adverse Conditions”.

2008-9, MAFAAT - Israel Ministry of Defense, 75,000NIS, PI: Israel Cohen, “Source Localization in Reverberant Noisy Environments”.

2011-15, ISF - Israel Science Foundation, 842,400 NIS, PI: Israel Cohen, “Supervised Speech and Audio Processing Based on Harmonic Analysis and Diffusion Maps”.

2013, Robert H. Hillman Foundation for Global Security - Collaboration Technion and University Northeastern, \$ 45,000, PI: Israel Cohen, “Self-Learning Engine for Anomaly Detection in Crowd Behavior (SLEAD)”.

2015, Qualcomm Research Award, \$ 50,000, PI: Israel Cohen, “Array Processing with Application to Audio and Cellular Networks”.

2016-8, MAFAAT - Israel Ministry of Defense, 200,000NIS, PI: Israel Cohen, “Wideband Underwater Acoustic Differential Sensors Arrays”.

2016-20, ISF - Israel Science Foundation, 1,120,000 NIS, PI: Israel Cohen, “Anomaly and Target Detection with a Geometry-Based Manifold Learning Approach”.

2017-20, ISF-NSFC, Israel Science Foundation and the National Natural Science Foundation of China joint research program, 1,110,000 NIS, PI: Israel Cohen, “Frequency-Invariant Microphone Array Design and Beamforming for Immersive Voice Communication”.

PUBLICATIONS

Theses

1. *Electromagnetic properties of periodic structures in HPM sources*, M.Sc. thesis, Dept. of Electrical Engineering, Technion – IIT, Haifa, Israel, May 1993 (Supervisors: Prof. Amiram Ron, Prof. Haim Cory and Dr. Moti Botton).
2. *Shift-Invariant Adaptive Wavelet Decompositions and Applications*, Ph.D. thesis, Dept. of Electrical Engineering, Technion – IIT, Haifa, Israel, June 1998 (Supervisors: Prof. Shalom Raz and Prof. David Malah).

Refereed papers in professional journals

Published papers

1. I. Cohen, S. Raz and D. Malah, "Orthonormal shift-invariant adaptive local trigonometric decomposition," *Signal Processing*, Vol. 57, No. 1, Feb. 1997, pp. 43-64.
2. I. Cohen, S. Raz and D. Malah, "Orthonormal shift-invariant wavelet packet decomposition and representation," *Signal Processing*, Vol. 57, No. 3, Mar. 1997, pp. 251-270.
3. I. Cohen, S. Raz and D. Malah, "Adaptive suppression of Wigner interference using shift-invariant wavelet packet decompositions," *Signal Processing*, Vol. 73, No. 3, Jan. 1999, pp. 203-223.
4. I. Cohen, S. Raz and D. Malah, "Translation-invariant denoising using the minimum description length criterion," *Signal Processing*, Vol. 75, No. 3, June 1999, pp. 201-223.
5. I. Cohen and B. Berdugo, "Speech Enhancement for Non-Stationary Noise Environments," *Signal Processing*, Vol. 81, No. 11, Nov. 2001, pp. 2403-2418.
6. I. Cohen and B. Berdugo, "Noise Estimation by Minima Controlled Recursive Averaging for Robust Speech Enhancement," *IEEE Signal Processing Letters*, Vol. 9, No. 1, Jan. 2002, pp. 12-15.
7. I. Cohen, "Optimal Speech Enhancement Under Signal Presence Uncertainty Using Log-Spectral Amplitude Estimator," *IEEE Signal Processing Letters*, Vol. 9, No. 4, Apr. 2002, pp. 113-116.
8. I. Cohen and R. R. Coifman, "Local Discontinuity Measures for 3-D Seismic Data," *Geophysics*, Vol. 67, No. 6, Nov.-Dec. 2002, pp. 1933-1945.
9. H. A. Schmitt, J. G. Riddle, T. M. Brucks, R. R. Coifman and I. Cohen, "An Object Detection Strategy for Uncooled Infrared Imagery," *Journal of Modern Optics*, Vol. 50, No. 9, June 2003, pp. 1373-1382.
10. I. Cohen, "Noise Spectrum Estimation in Adverse Environments: Improved Minima Controlled Recursive Averaging," *IEEE Trans. Speech and Audio Processing*, Vol. 11, No. 5, Sep. 2003, pp. 466-475.
11. I. Cohen and B. Berdugo, "Multichannel Signal Detection Based on the Transient Beam-to-Reference Ratio," *IEEE Signal Processing Letters*, Vol. 10, No. 9, Sep. 2003, pp. 259-262.
12. I. Cohen, S. Gannot and B. Berdugo, "An Integrated Real-Time Beamforming and Postfiltering System for Non-Stationary Noise Environments," *Special Issue of the EURASIP Journal on Applied Signal Processing: Signal Processing for Acoustic Communication System*, Vol. 2003, No. 11, Oct. 2003, pp. 1064-1073.

13. I. Cohen, "Analysis of Two-Channel Generalized Sidelobe Canceller (GSC) with Post-Filtering," *IEEE Trans. Speech and Audio Processing*, Vol. 11, No. 6, Nov. 2003, pp. 684-699.
14. I. Cohen, "Multichannel Post-Filtering in Nonstationary Noise Environments," *IEEE Trans. Signal Processing*, Vol. 52, No. 5, May 2004, pp. 1149-1160.
15. A. Goldman and I. Cohen, "Anomaly Detection Based on an Iterative Local Statistics Approach," *Signal Processing*, Vol. 84, No. 7, July 2004, pp. 1225-1229.
16. I. Cohen, "Identification of Speech Source Coupling Between Sensors in Reverberant Noisy Environments," *IEEE Signal Processing Letters*, Vol. 11, No. 7, July 2004, pp. 613-616.
17. I. Cohen, "Relative Transfer Function Identification Using Speech Signals," Special Issue of the *IEEE Trans. Speech and Audio Processing on Multi-channel Signal Processing for Audio and Acoustics Applications*, Vol. 12, No. 5, Sep. 2004, pp. 451-459.
18. I. Cohen, "Speech Enhancement Using a Noncausal *A Priori* SNR Estimator," *IEEE Signal Processing Letters*, Vol. 11, No. 9, Sep. 2004, pp. 725-728.
19. I. Cohen, "Modeling Speech Signals in the Time-Frequency Domain Using GARCH," *Signal Processing*, Vol. 84, No. 12, Dec. 2004, pp. 2453-2459.
20. S. Gannot and I. Cohen, "Speech Enhancement Based on the General Transfer Function GSC and Postfiltering," *IEEE Trans. Speech and Audio Processing*, Vol. 12, No. 6, Nov. 2004, pp. 561-571.
21. A. Goldman and I. Cohen, "Anomaly Subspace Detection Based on a Multi-Scale Markov Random Field Model," *Signal Processing*, Vol. 85, No. 3, Mar. 2005, pp. 463-479.
22. I. Cohen, "Relaxed Statistical Model for Speech Enhancement and *A Priori* SNR Estimation," *IEEE Trans. Speech and Audio Processing*, Vol. 13, No. 5, Sep. 2005, pp. 870-881.
23. I. Cohen, "Speech Enhancement Using Super-Gaussian Speech Models and Noncausal *A Priori* SNR Estimation," *Speech Communication*, Vol. 47, No. 3, Nov. 2005, pp. 336-350.
24. I. Cohen, "Speech Spectral Modeling and Enhancement Based on Autoregressive Conditional Heteroscedasticity Models," *Signal Processing*, Vol. 86, No. 4, Apr. 2006, pp. 698-709.
25. A. Abramson and I. Cohen, "State Smoothing in Markov-Switching Time-Frequency GARCH Models," *IEEE Signal Processing Letters*, Vol. 13, No. 6, June 2006, pp. 377-380.
26. I. Cohen, N. Coult and A. Vassiliou, "Detection and Extraction of Fault Surfaces in 3-D Seismic Data," *Geophysics*, Vol. 71, No. 4, July-August 2006, pp. 21-27.
27. Y. Avargel and I. Cohen, "On Multiplicative Transfer Function Approximation in the Short-Time Fourier Transform Domain," *IEEE Signal Processing Letters*, Vol. 14, No. 5, May 2007, pp. 337-340.
28. Y. Avargel and I. Cohen, "System Identification in the Short-Time Fourier Transform Domain with Crossband Filtering," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 15, No. 4, May 2007, pp. 1305-1319.
29. A. Noiboar and I. Cohen, "Anomaly Detection Based on Wavelet Domain GARCH Random Field Modeling," *IEEE Trans. Geoscience and Remote Sensing*, Vol. 45, No. 5, May 2007, pp. 1361-1373.
30. A. Abramson and I. Cohen, "On the Stationarity of Markov-Switching GARCH Processes," *Econometric Theory*, Vol. 23, No. 3, June 2007, pp. 485-500.

31. A. Abramson and I. Cohen, "Recursive Supervised Estimation of a Markov-Switching GARCH Process in the Short-Time Fourier Transform Domain," *IEEE Trans. Signal Processing*, Vol. 55, No. 7, July 2007, pp. 3227-3238.
32. G. Reuven, S. Gannot and I. Cohen, "Performance Analysis of Dual Source Transfer-Function Generalized Sidelobe Canceller," *Special Issue of Speech Communication on Speech Enhancement*, Vol. 49, Issues 7-8, July-August 2007, pp. 602-622.
33. G. Reuven, S. Gannot and I. Cohen, "Joint Noise Reduction and Acoustic Echo Cancellation using the Transfer-Function Generalized Sidelobe Canceller," *Special Issue of Speech Communication on Speech Enhancement*, Vol. 49, Issues 7-8, July-August 2007, pp. 623-635.
34. A. Abramson and I. Cohen, "Simultaneous Detection and Estimation Approach for Speech Enhancement," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 15, No. 8, November 2007, pp. 2348-2359.
35. L. Shadhan and I. Cohen, "Detection of Anomalies in Texture Images Using Multi-Resolution Random Field Models," *Signal Processing*, Vol. 87, No. 12, December 2007, pp. 3045-3062.
36. H. Ofir, D. Malah and I. Cohen, "Audio Packet Loss Concealment in a combined MDCT-MDST Domain," *IEEE Signal Processing Letters*, Vol. 14, No. 12, December 2007, pp. 1032-1035.
37. Y. Avargel and I. Cohen, "Adaptive System Identification in the Short-Time Fourier Transform Domain Using Cross-Multiplicative Transfer Function Approximation," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 16, No. 1, January 2008, pp. 162-173.
38. G. Reuven, S. Gannot and I. Cohen, "Dual Source Transfer-Function Generalized Sidelobe Canceller," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 16, Issue 4, May 2008, pp. 711-727.
39. A. Heimer and I. Cohen, "Multichannel Blind Seismic Deconvolution Using Dynamic Programming," *Signal Processing*, Vol. 88, Issue 7, July 2008, pp. 1839-1851.
40. E. A. P. Habets, S. Gannot, I. Cohen and P. C. W. Sommen, "Joint Dereverberation and Residual Echo Suppression of Speech Signals in Noisy Environments," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 16, Issue 8, Nov. 2008, pp. 1433-1451.
41. A. Abramson and I. Cohen, "Single-Sensor Audio Source Separation Using Classification and Estimation Approach and GARCH Modeling," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 16, Issue 8, Nov. 2008, pp. 1528-1540.
42. E. A. P. Habets, I. Cohen and S. Gannot, "Generating Non-Stationary Multi-Sensor Signals under a Spatial Coherence Constraint," *Journal of the Acoustical Society of America*, Vol. 124, Issue 5, Nov. 2008, pp. 2911-2917.
43. R. Talmon, I. Cohen and S. Gannot, "Relative Transfer Function Identification Using Convolutional Transfer Function Approximation," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 17, Issue 4, May 2009, pp. 546-555.
44. A. Heimer and I. Cohen, "Multichannel Seismic Deconvolution Using Markov-Bernoulli Random Field Modeling," *IEEE Trans. Geoscience and Remote Sensing*, Vol. 47, Issue 7, July 2009, pp. 2047-2058.
45. M. Zontak and I. Cohen, "Defect Detection in Patterned Wafers Using Multichannel Scanning Electron Microscope," *Signal Processing*, Vol. 89, Issue 8, Aug. 2009, pp. 1511-1520.
46. S. Markovich, S. Gannot and I. Cohen, "Multichannel Eigenspace Beamforming in a

- Reverberant Noisy Environment with Multiple Interfering Speech Signals,” *IEEE Trans. Audio, Speech and Language Processing*, Vol. 17, Issue 6, Aug. 2009, pp. 1071-1086.
47. E. A. P. Habets, S. Gannot and I. Cohen, “Late Reverberant Spectral Variance Estimation Based on a Statistical Model,” *IEEE Signal Processing Letters*, Vol. 16, Issue 9, Sep. 2009, pp. 770-773 (**Best Paper Award**).
 48. R. Talmon, I. Cohen and S. Gannot, “Convolutional Transfer Function Generalized Sidelobe Canceller,” *IEEE Trans. Audio, Speech and Language Processing*, Vol. 17, Issue 7, Sep. 2009, pp. 1420-1434.
 49. Y. Avargel and I. Cohen, “Adaptive Nonlinear System Identification in the Short-Time Fourier Transform Domain,” *IEEE Trans. Signal Processing*, Vol. 57, Issue 10, Oct. 2009, pp. 3891-3904.
 50. E. A. P. Habets, J. Benesty, I. Cohen, S. Gannot and J. Dmochowski, “New Insights into the MVDR Beamformer in Room Acoustics,” *IEEE Trans. Audio, Speech and Language Processing*, Vol. 18, Issue 1, Jan. 2010, pp. 158-170.
 51. Y. Avargel and I. Cohen, “Modeling and Identification of Nonlinear Systems in the Short-Time Fourier Transform Domain,” *IEEE Trans. Signal Processing*, Vol. 58, Issue 1, Jan. 2010, pp. 291-304.
 52. M. Zontak and I. Cohen, “Defect Detection in Patterned Wafers using Anisotropic Kernels,” *Machine Vision and Applications*, Vol. 21, Issue 2, Feb. 2010, pp. 129-141.
 53. I. Ram, I. Cohen and S. Raz, “Multichannel Deconvolution of Seismic Signals Using Statistical MCMC Methods,” *IEEE Trans. Signal Processing*, Vol. 58, Issue 5, May 2010, pp. 2757-2770.
 54. S. Mousazadeh and I. Cohen, “Simultaneous Parameter Estimation and State Smoothing of Complex GARCH Process in the Presence of Additive Noise,” *Signal Processing*, Vol. 90, Issue 11, Nov. 2010, pp. 2947-2953.
 55. Y. Litvin, I. Cohen, and D. Chazan, “Monaural Speech/Music Source Separation Using Discrete Energy Separation Algorithm,” *Signal Processing*, Vol. 90, Issue 12, Dec. 2010, pp. 3147-3163.
 56. Y. Avargel and I. Cohen, “Undermodeling-Error Quantification for Quadratically Nonlinear System Identification in the Short-Time Fourier Transform Domain,” *IEEE Trans. Signal Processing*, Vol. 58, Issue 12, Dec. 2010, pp. 6052-6065.
 57. S. Mousazadeh and I. Cohen, “AR-GARCH in Presence of Noise: Parameter Estimation and its Application to Voice Activity Detection,” *IEEE Trans. Audio, Speech and Language Processing*, Vol. 19, Issue 4, May 2011, pp. 916-926.
 58. R. Talmon, I. Cohen and S. Gannot, “Transient Noise Reduction Using Nonlocal Diffusion Filters,” *IEEE Trans. Audio, Speech and Language Processing*, Vol. 19, Issue 6, Aug. 2011, pp. 1584-1599.
 59. I. Ram, M. Elad and I. Cohen, “Generalized Tree-Based Wavelet Transform,” *IEEE Trans. Signal Processing*, Vol. 59, Issue 9, Sep. 2011, pp. 4199-4209.
 60. Y. Litvin and I. Cohen, “Single-Channel Source Separation of Audio Signals Using Bark Scale Wavelet Packet Decomposition,” *Special Issue of Journal of Signal Processing Systems on Machine Learning for Signal Processing*, Vol. 65, Number 3, Dec. 2011, pp. 339-350.
 61. R. Talmon, D. Kushnir, R. Coifman, I. Cohen and S. Gannot, “Parametrization of Linear Systems Using Diffusion Kernels,” *IEEE Trans. Signal Processing*, Vol. 60, Number 3, March

2012, pp. 1159-1173.

62. S. Markovich Golan, S. Gannot and I. Cohen, "Low-Complexity Addition or Removal of Sensors/Constraints in LCMV Beamformers," *IEEE Trans. Signal Processing*, Vol. 60, Number 3, March 2012, pp. 1205-1214.
63. I. Ram, M. Elad and I. Cohen, "Redundant Wavelets on Graphs and High Dimensional Data Clouds," *IEEE Signal Processing Letters*, Vol. 19, Number 5, May 2012, pp. 291-294.
64. Y. Buchris, I. Cohen, and M. A. Doron, "Bayesian Focusing for Coherent Adaptive Wideband Beamforming," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 20, Number 4, May 2012, pp. 1282-1296.
65. R. Talmon, I. Cohen, S. Gannot and R. R. Coifman, "Supervised Graph-based Processing for Sequential Transient Interference Suppression," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 20, Number 9, November 2012, pp. 2528-2538.
66. R. Talmon, I. Cohen and S. Gannot, "Single-Channel Transient Interference Suppression with Diffusion Maps," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 21, Number 1, January 2013, pp. 132-144.
67. M. Genussov and I. Cohen, "Multiple Fundamental Frequency Estimation Based on Sparse Representations in a Structured Dictionary," *Digital Signal Processing*, Vol. 23, Number 1, January 2013, pp. 390-400.
68. E. Kupershtein, M. Wax and I. Cohen, "Single-Site Emitter Localization via Multipath Fingerprinting," *IEEE Trans. Signal Processing*, Vol. 61, Number 1, January 2013, pp. 10-21.
69. S. Markovich Golan, S. Gannot and I. Cohen, "Distributed Multiple Constraints Generalized Sidelobe Canceler for Fully Connected Wireless Acoustic Sensor Networks," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 21, Number 2, February 2013, pp. 343-356.
70. G. Mishne and I. Cohen, "Multiscale Anomaly Detection Using Diffusion Maps", Special Issue of *IEEE Journal of Selected Topics in Signal Processing on Anomalous Pattern Discovery for Spatial, Temporal, Networked, and High-Dimensional Signals*, Vol. 7, Number 1, February 2013, pp. 111-123.
71. I. Volfin and I. Cohen, "Dominant Speaker Identification for Multipoint Videoconferencing," Special Issue of *Computer Speech and Language on Multisource Environments*, Vol. 27, Number 4, June 2013, pp. 895-910.
72. S. Mousazadeh and I. Cohen, "Voice Activity Detection in Presence of Transient Noise Using Spectral Clustering," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 21, Number 6, June 2013, pp. 1261-1271.
73. R. Talmon, I. Cohen, S. Gannot and R. R. Coifman, "Diffusion Maps for Signal Processing: A Deeper Look at Manifold-Learning Techniques Based on Kernels and Graphs," Special Issue of *IEEE Signal Processing Magazine on Advances in Kernel-based Learning for Signal Processing*, Vol. 30, Number 4, July 2013, pp. 75-86 (**invited review paper**).
74. S. Markovich Golan, S. Gannot and I. Cohen, "Performance of the SDW-MWF with Randomly Located Microphones in a Reverberant Enclosure," *IEEE Trans. Audio, Speech and Language Processing*, Vol. 21, Number 7, July 2013, pp. 1513-1523.
75. I. Ram, M. Elad and I. Cohen, "Image Processing using Smooth Ordering of its Patches," *IEEE Trans. Image Processing*, Vol. 22, Number 7, July 2013, pp. 2764-2774.
76. S. Mousazadeh and I. Cohen, "Two dimensional noncausal AR-ARCH model: stationary

- conditions, parameter estimation and its application to anomaly detection,” *Signal Processing*, Vol. 98, May 2014, pp. 322-336.
77. I. Ram, I. Cohen and M. Elad, “Patch-Ordering-Based Wavelet Frame and Its Use in Inverse Problems,” *IEEE Trans. Image Processing*, Vol. 23, Number 7, July 2014, pp. 2779-2792.
 78. I. Ram, I. Cohen and M. Elad “Facial Image Compression using Patch-Ordering-Based Adaptive Wavelet Transform,” *IEEE Signal Processing Letters*, Vol. 21, Number 10, Oct. 2014, pp. 1270-1274.
 79. S. Mousazadeh and I. Cohen, “Out-of-Sample Extension of Band-Limited Functions on Homogenous Manifolds Using Diffusion Maps,” *Signal Processing*, Vol. 108, March 2015, pp. 521-529.
 80. Y. Doweck, A. Amar, and I. Cohen, “Joint Model Order Selection and Parameter Estimation of Chirps with Harmonic Components,” *IEEE Trans. Signal Processing*, Vol. 63, Number 7, April 2015, pp. 1765-1778.
 81. D. Dov, R. Talmon and I. Cohen, “Audio-Visual Voice Activity Detection Using Diffusion Maps,” *IEEE Trans. Audio, Speech and Language Processing*, Vol. 23, Number 4, April 2015, pp. 732-745.
 82. G. Mishne, R. Talmon and I. Cohen, “Graph-Based Supervised Automatic Target Detection,” *IEEE Trans. Geoscience and Remote Sensing*, Vol. 53, Number 5, May 2015, pp. 2738-2754.
 83. R. Berkun, I. Cohen and J. Benesty, “Combined Beamformers for Robust Broadband Regularized Superdirective Beamforming,” *IEEE Trans. Audio, Speech and Language Processing*, Vol. 23, Number 5, May 2015, pp. 877-886.
 84. S. Mousazadeh and I. Cohen, “Embedding and Function Extension on Directed Graph,” *Signal Processing*, Vol. 111, June 2015, pp. 137-149.
 85. R. Berkun and I. Cohen, “Microphone Array Power Ratio for Quality Assessment of Reverberated Speech,” *Special Issue of EURASIP Journal on Advances in Signal Processing on 'Silencing the Echoes' - Processing of Reverberant Speech*, Vol. 2015, Number 1, June 2015, pp. 1-11.
 86. O. Lindenbaum, A. Yeredor and I. Cohen, “Musical Key Extraction Using Diffusion Maps,” *Signal Processing*, Vol. 117, December 2015, pp. 198-207.
 87. Y. Doweck, A. Amar, and I. Cohen, “Fundamental Initial Frequency and Frequency Rate Estimation of Random Amplitude Harmonic Chirps,” *IEEE Trans. Signal Processing*, Vol. 63, Number 23, December 2015, pp. 6213-6228.
 88. D. Dov, R. Talmon and I. Cohen, “Kernel Method for Voice Activity Detection in the Presence of Transients,” *IEEE Trans. Audio, Speech and Language Processing*, Vol. 24, Number 12, December 2016, pp. 2313-2326.
 89. D. Dov, R. Talmon and I. Cohen, “Kernel-based Sensor Fusion with Application to Audio-Visual Voice Activity Detection,” *IEEE Trans. Signal Processing*, Vol. 64, Number 24, December 2016, pp. 6406-6416.
 90. O. Rosen, I. Cohen and D. Malah, “FIR-Based Symmetrical Acoustic Beamformer with a Constant Beamwidth,” *Signal Processing*, Vol. 130, January 2017, pp. 365-376.
 91. M. Mirel and I. Cohen, “Multichannel Semi-blind Deconvolution of Seismic Signals,” *Signal Processing*, Vol. 135, June 2017, pp. 253-262.

92. D. Pereg and I. Cohen, "Seismic Signal Recovery Based on Earth Q Model," *Signal Processing*, Vol. 137, August 2017, pp. 373-386.
93. D. Dov, R. Talmon and I. Cohen, "Multimodal Kernel Method for Activity Detection of Sound Sources," special issue of *IEEE/ACM Trans. Audio, Speech and Language Processing on Sound Scene and Event Analysis*, Vol. 25, Number 6, June 2017, pp. 1322-1334.
94. D. Pereg, I. Cohen, and A. Vassiliou, "Multichannel Sparse Spike Inversion," *Journal of Geophysics and Engineering*, Vol. 14, Number 5, October 2017, pp. 1290-1299.
95. I. Ariav, D. Dov, and I. Cohen, "A Deep Architecture for Audio-Visual Voice Activity Detection in the Presence of Transients," *Signal Processing*, Vol. 142, January 2018, pp. 69-74.

Accepted papers

96. G. Mishne, R. Talmon, I. Cohen, R. R. Coifman and Y. Kluger, "Data-Driven Tree Transforms and Metrics," to appear in *IEEE Transactions on Signal and Information Processing over Networks*.
97. G. Mishne, U. Shaham, A. Cloninger and I. Cohen, "Diffusion Nets," to appear in *Applied and Computational Harmonic Analysis*.
98. Y. Buchris, I. Cohen and J. Benesty, "Frequency-Domain Design of Asymmetric Circular Differential Microphone Arrays," to appear in *IEEE Trans. Audio, Speech and Language Processing*.
99. D. Dov, R. Talmon and I. Cohen, "Sequential Audio-Visual Correspondence with Alternating Diffusion Maps," to appear in *IEEE Trans. Signal Processing*.

Books

1. J. Benesty, J. Chen, Y. Huang and I. Cohen, *Noise Reduction in Speech Processing*, Springer, 2009 (ISBN: 978-3-642-00295-3).
2. I. Cohen, J. Benesty and S. Gannot (Eds.), *Speech Processing in Modern Communication: Challenges and Perspectives*, Springer, 2010 (ISBN: 978-3-642-11129-7).
3. J. Benesty, J. Chen, and I. Cohen, *Design of Circular Differential Microphone Arrays*, Springer, 2015 (ISBN: 978-3-319-14842-7).
4. J. Benesty, I. Cohen, and J. Chen, *Fundamentals of Signal Enhancement and Array Signal Processing*, Wiley-IEEE Press, 2017 (ISBN: 978-1-119-29312-5).
5. J. Benesty and I. Cohen, *Canonical Correlation Analysis in Speech Enhancement*, Springer, 2018 (ISBN: 978-3-319-67019-5).

Chapters in Handbooks

1. Y. Ephraim and I. Cohen, "Recent Advancements in Speech Enhancement," in Richard C. Dorf (Ed.), *The Electrical Engineering Handbook, Circuits, Signals, and Speech and Image Processing*, Third Edition, CRC Press, Boca Raton, FL, 2006, Ch. 15, Sec. 2, pp. 15-12 – 15-26.
2. S. Gannot and I. Cohen, "Adaptive Beamforming and Postfiltering," in Jacob Benesty, M. Mohan Sondhi and Yiteng (Arden) Huang (Eds.), *Springer Handbook of Speech Processing*, Springer, 2008, Part H, Ch. 47, pp. 945-978.
3. I. Cohen and S. Gannot, "Spectral Enhancement Methods," in Jacob Benesty, M. Mohan

Sondhi and Yiteng (Arden) Huang (Eds.), *Springer Handbook of Speech Processing*, Springer, 2008, Part H, Ch. 44, pp. 873-901.

Book chapters

1. I. Cohen, "From Volatility Modeling of Financial Time-Series to Stochastic Modeling and Enhancement of Speech Signals," in Jacob Benesty, Shoji Makino, and Jingdong Chen (Eds.), *Speech Enhancement*, Springer, Berlin, 2005, Ch. 5, pp. 97-114.
2. E. A. P. Habets, S. Gannot and I. Cohen, "Dereverberation and Residual Echo Suppression in Noisy Environments," in E. Haensler and G. Schmidt (Eds.), *Speech and Audio Processing in Adverse Environments*, Springer, 2008, Ch. 6, pp. 186-228.
3. Y. Avargel and I. Cohen, "Linear System Identification in the Short-Time Fourier Transform Domain," in I. Cohen, J. Benesty and S. Gannot (Eds.), *Speech Processing in Modern Communication: Challenges and Perspectives*, Springer, 2010, Ch. 1, pp. 1-32.
4. R. Talmon, I. Cohen, and S. Gannot, "Identification of the Relative Transfer Function between Sensors in the Short-Time Fourier Transform Domain," in I. Cohen, J. Benesty and S. Gannot (Eds.), *Speech Processing in Modern Communication: Challenges and Perspectives*, Springer, 2010, Ch. 2, pp. 33-48.
5. Y. Avargel and I. Cohen, "Representation and Identification Nonlinear System in the Short-Time Fourier Transform Domain," in I. Cohen, J. Benesty and S. Gannot (Eds.), *Speech Processing in Modern Communication: Challenges and Perspectives*, Springer, 2010, Ch. 3, pp. 49-88.
6. A. Abramson and I. Cohen, "Simultaneous Detection and Estimation Approach for Speech Enhancement and Interference Suppression," in I. Cohen, J. Benesty and S. Gannot (Eds.), *Speech Processing in Modern Communication: Challenges and Perspectives*, Springer, 2010, Ch. 5, pp. 127-150.
7. R. Blouet and I. Cohen, "Codebook Approaches for Single Sensor Speech/Music Separation," in I. Cohen, J. Benesty and S. Gannot (Eds.), *Speech Processing in Modern Communication: Challenges and Perspectives*, Springer, 2010, Ch. 7, pp. 183-198.
8. E. A. P. Habets, J. Benesty, S. Gannot and I. Cohen, "The MVDR Beamformer for Speech Enhancement," in I. Cohen, J. Benesty and S. Gannot (Eds.), *Speech Processing in Modern Communication: Challenges and Perspectives*, Springer, 2010, Ch. 9, pp. 225-254.
9. S. Markovich, S. Gannot and I. Cohen, "Extraction of Desired Speech Signals in Multiple-Speaker Reverberant Noisy Environments," in I. Cohen, J. Benesty and S. Gannot (Eds.), *Speech Processing in Modern Communication: Challenges and Perspectives*, Springer, 2010, Ch. 10, pp. 255-280.
10. R. Martin and I. Cohen, "Single-Channel Speech Presence Probability Estimation and Noise Tracking," in E. Vincent, T. Virtanen, and S. Gannot (Eds.), *Audio Source Separation and Speech Enhancement*, Wiley, 2017, Ch. 6.
11. D. Dov, R. Talmon and I. Cohen, "Alternating Diffusion Maps for Audio-Visual Source Separation," in S. Makino (Ed.), *Audio Source Separation*, Springer, 2018.
12. S. Markovich-Golan, I. Cohen and S. Gannot, "Multimicrophone MMSE-Based Speech Source Separation," in S. Makino (Ed.), *Audio Source Separation*, Springer, 2018.

Refereed papers in conference proceedings

1. I. Cohen, S. Raz and D. Malah, "Shift invariant wavelet packet bases," Proc. of the 20th IEEE Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP-95, Detroit, Michigan, 8-12 May 1995, pp. 1081-1084.
2. I. Cohen, S. Raz and D. Malah, "Shift-invariant adaptive local trigonometric decomposition," Proc. of the 4th European Conference on Speech, Communication and Technology, EUROSPEECH-95, Madrid, Spain, 18-21 September 1995, pp. 247-250.
3. I. Schnitzer, A. Rosenberg, C. Leibovitch, M. Botton, I. Cohen and J. Leopold, "Evolution of spectral power density in grounded cathode relativistic magnetron," Proc. SPIE, Intense Microwave Pulses IV, Vol. 2843, August 1996, pp. 101-109.
4. I. Cohen, S. Raz, D. Malah and I. Schnitzer, "Best-basis algorithm for orthonormal shift-invariant trigonometric decomposition," Proc. of the 7th IEEE Digital Signal Processing Workshop, DSPWS'96, Loen, Norway, 1-4 September 1996, pp. 401-404.
5. I. Cohen, S. Raz and D. Malah, "Eliminating interference terms in the Wigner distribution using extended libraries of bases," Proc. of the 22nd IEEE Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP-97, Munich, Germany, 20-24 April 1997, pp. 2133-2136.
6. I. Cohen, S. Raz and D. Malah, "Time-frequency analysis and noise suppression with shift-invariant wavelet packets," Proc. of the 11th Int. Conf. on High-Power Electromagnetics, EUROEM'98, Tel-Aviv, Israel, 14-19 June 1998, pp. 401-408.
7. I. Cohen, S. Raz and D. Malah, "MDL-based translation-invariant denoising and robust time-frequency representations," Proc. of the 4th IEEE-SP Int. Symposium on Time-Frequency and Time-Scale Analysis, Pittsburgh, Pennsylvania, 6-9 October 1998, pp. 629-632.
8. I. Cohen, S. Raz and D. Malah, "Adaptive time-frequency distributions via the shift-invariant wavelet packet decomposition," Proc. of the 4th IEEE-SP Int. Symposium on Time-Frequency and Time-Scale Analysis, Pittsburgh, Pennsylvania, 6-9 October 1998, pp. 645-648.
9. I. Cohen and B. Berdugo, "Spectral enhancement by tracking speech presence probability in subbands," Proc. IEEE Workshop on Hands Free Speech Communication, HSC'01, Kyoto, Japan, 9-11 April 2001, pp. 95-98.
10. I. Cohen, "On speech enhancement under signal presence uncertainty," Proc. 26th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2001, Salt Lake City, Utah, 7-11 May 2001, pp. 167-170.
11. I. Cohen, "Enhancement of Speech Using Bark-Scaled Wavelet Packet Decomposition," Proc. 7th European Conf. Speech, Communication and Technology, EUROSPEECH-2001, Aalborg, Denmark, 3--7 September 2001, pp. 1933-1936.
12. I. Cohen and B. Berdugo, "Microphone Array Post-Filtering for Non-Stationary Noise Suppression," Proc. 27th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2002, Orlando, Florida, 13-17 May 2002, pp. 901-904.
13. I. Cohen and B. Berdugo, "Speech Enhancement Based on a Microphone Array and Log-Spectral Amplitude Estimation," Proc. 22nd IEEE Convention of the Electrical and Electronic Engineers in Israel, Tel-Aviv, Israel, December 2002, pp. 4-6.
14. S. Gannot and I. Cohen, "Speech Enhancement Based on the General Transfer Function GSC and Postfiltering," Proc. 28th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-

2003, Hong Kong, 6-10 April 2003, pp. I_908 -I_911.

15. I. Cohen and B. Berdugo, "Two-channel Signal Detection and Speech Enhancement Based on the Transient Beam-to-Reference Ratio," Proc. 28th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2003, Hong Kong, 6-10 April 2003, pp. V-233 -236.
16. I. Cohen, S. Gannot and B. Berdugo, "Real-Time TF-GSC in Nonstationary Noise Environments," Proc. 8th Internat. Workshop on Acoustic Echo and Noise Control, IWAENC-2003, Kyoto, Japan, 8-11 September 2003, pp.183-186.
17. I. Cohen, "On the Decision-Directed Estimation Approach of Ephraim and Malah," Proc. 29th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2004, Montreal, Canada, 17-21 May 2004, pp. I-293-296.
18. I. Cohen, A Vassiliou and N Coult, "Seismic Spectrum Broadening," Proc. 17th Australian Society of Exploration Geophysicist Conference and Exhibition, Sydney, Australia, 15-19 August 2004.
19. I. Cohen, A Vassiliou and N Coult, "Automatic 3D Fault Extraction and Fault Surface Separation," Proc. 17th Australian Society of Exploration Geophysicist Conference and Exhibition, Sydney, Australia, 15-19 August 2004.
20. A. Goldman and I. Cohen, "Anomaly Detection Based on an Iterative Local Statistics Approach," Proc. 23rd IEEE Convention of the Electrical and Electronic Engineers in Israel, Tel-Aviv, Israel, 6-7 September 2004, pp. 440-443.
21. A. Goldman and I. Cohen, "Anomaly Subspace Detection Based on a Multi-Scale Markov Random Field Model," Proc. 23rd IEEE Convention of the Electrical and Electronic Engineers in Israel, Tel-Aviv, Israel, 6-7 September 2004, pp. 444-447.
22. A. Noiboar and I. Cohen, "Anomaly Detection in 3-Dimensional Data Based on Gauss Markov Random Field Modeling," Proc. 23rd IEEE Convention of the Electrical and Electronic Engineers in Israel, Tel-Aviv, Israel, 6-7 September 2004, pp. 448-451. (**Best student paper award**).
23. G. Reuven, S. Gannot and I. Cohen, "Joint Acoustic Echo Cancellation and Transfer Function GSC in the Frequency Domain," Proc. 23rd IEEE Convention of the Electrical and Electronic Engineers in Israel, Tel-Aviv, Israel, 6-7 September 2004, pp. 412-415.
24. A. Noiboar and I. Cohen, "Two-Dimensional GARCH Model with Application to Anomaly Detection," Proc. 13th European Signal Processing Conference, EUSIPCO-2005, Antalya, Turkey, 4-8 September 2005, paper no. 1594, pp. 1-4 .
25. G. Reuven, S. Gannot and I. Cohen, "Dual Source Transfer-Function Generalized Sidelobe Canceller," Proc. 9th International Workshop on Acoustic Echo and Noise Control, IWAENC-2005, Eindhoven, Netherlands, 12-15 September 2005, pp. 89-92.
26. I. Cohen, "Supergaussian GARCH Models for Speech Signals," Proc. 9th European Conference on Speech Communication and Technology, INTERSPEECH '2005 - EUROSPEECH, Lisbon, Portugal, 4-8 September 2005, pp. 2053-2056.
27. B. Little, A. Vassiliou, I. Cohen and N. Coult, "Typhoon-Boris Gulf of Mexico Oil Field — A Spectrum Broadening Case Study," Proc. Society of Exploration Geophysicist International Conference, Exposition and 75th Annual Meeting, Houston, Texas, 6-11 November 2005, pp. 825-828.
28. I. Cohen, N. Coult and A. Vassiliou, "Detection and Extraction of Fault Surfaces in 3-D

- Seismic Data,” Proc. Society of Exploration Geophysicist International Conference, Exposition and 75th Annual Meeting, Houston, Texas, 6-11 November 2005, pp. 759-762.
29. A. Abramson and I. Cohen, “Asymptotic Stationarity of Markov-Switching Time-Frequency GARCH Processes,” Proc. 31st IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2006, Toulouse, France, 14-19 May 2006, pp. III-452-455.
 30. E. A. P. Habets, S. Gannot and I. Cohen, “Dual-Microphone Speech Dereverberation in a Noisy Environment,” Proc. 6th IEEE International Symposium on Signal Processing and Information Technology, ISSPIT-2006, Vancouver, Canada, 27-30 August 2006, pp. 651-655.
 31. Y. Avargel and I. Cohen, “Performance Analysis of Cross-Band Adaptation for Subband Acoustic Echo Cancellation,” Proc. 10th International Workshop on Acoustic Echo and Noise Control, IWAENC-2006, Paris, France, 12-14 September 2006, paper no. 8, pp. 1-4.
 32. E. A. P. Habets, I. Cohen and S. Gannot, “MMSE Log-Spectral Amplitude Estimator for Multiple Interferences,” Proc. 10th International Workshop on Acoustic Echo and Noise Control, IWAENC-2006, Paris, France, 12-14 September 2006, paper no. 14, pp. 1-4.
 33. L. Benaroya, R. Blouet, C. Fevotte and I. Cohen, “Single Sensor Source Separation Using Multiple-Window STFT Representation,” Proc. 10th International Workshop on Acoustic Echo and Noise Control, IWAENC-2006, Paris, France, 12-14 September 2006, paper no. 52, pp. 1-4.
 34. A. Abramson and I. Cohen, “Markov-Switching GARCH Model and Application to Speech Enhancement in Subbands,” Proc. 10th International Workshop on Acoustic Echo and Noise Control, IWAENC-2006, Paris, France, 12-14 September 2006, paper no. 7, pp. 1-4. (**Best student paper award**).
 35. L. Shadhan and I. Cohen, “Detection of Anomalies in Textures Based on Multi-Resolution Features,” Proc. 24th IEEE Convention of the Electrical and Electronic Engineers in Israel, Eilat, Israel, 15-17 November 2006, pp. 354-358.
 36. G. Reuven, S. Gannot and I. Cohen, “Multichannel Acoustic Echo Cancellation and Noise Reduction in Reverberant Environments using the Transfer-Function GSC,” Proc. 32nd IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2007, Honolulu, Hawaii, 15-20 April 2007, pp. I-81-84.
 37. A. Abramson and I. Cohen, “Enhancement of Speech Signals Under Multiple Hypotheses Using an Indicator for Transient Noise Presence,” Proc. 32nd IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2007, Honolulu, Hawaii, 15-20 April 2007, pp. IV-553-556. (**Best student paper finalist**).
 38. Y. Avargel and I. Cohen, “Representation and identification of systems in the Wavelet Transform Domain,” Proc. 16th IASTED International Conference on Applied Simulation and Modelling, ASM-2007, Palma de Mallorca, Spain, 29-31 August 2007, pp. 463-468.
 39. A. Heimer, I. Cohen and A. Vassiliou, “Dynamic Programming for Multichannel Blind Seismic Deconvolution,” Proc. Society of Exploration Geophysicist International Conference, Exposition and 77th Annual Meeting, San Antonio, 23-28 September 2007, pp. 1845-1849.
 40. R. Blouet, G. Rapaport, I. Cohen and C. Fevotte “Evaluation of Several Strategies for Single Sensor Speech/Music Separation,” Proc. 33rd IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2008, Las Vegas, Nevada, March 30 – April 4, 2008, pp. 37-40.
 41. Y. Avargel and I. Cohen, “Identification of Linear Systems with Adaptive Control of the Cross-Multiplicative Transfer Function Approximation,” Proc. 33rd IEEE Internat. Conf. Acoust.

Speech Signal Process., ICASSP-2008, Las Vegas, Nevada, March 30 – April 4, 2008, pp. 3789-3792.

42. A. Abramson, E. A. P. Habets, S. Gannot and I. Cohen, “Dual-Microphone Speech Dereverberation Using GARCH Modeling,” Proc. 33rd IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2008, Las Vegas, Nevada, March 30 – April 4, 2008, pp. 4565-4568.
43. I. Ram, E. A. P. Habets, Y. Avargel and I. Cohen, “Multi-Microphone Speech Dereverberation Using Lime and Least Squares Filtering,” Proc. 16th European Signal Processing Conference, EUSIPCO-2008, Lausanne, Switzerland, 25-29 August 2008.
44. Y. Avargel and I. Cohen, “Nonlinear Acoustic Echo Cancellation Based on a Multiplicative Transfer Function Approximation,” Proc. 11th International Workshop on Acoustic Echo and Noise Control, IWAENC-2008, Seattle, Washington, 14-17 September 2008, paper no. 9035, pp. 1-4.
45. E. A. P. Habets, S. Gannot and I. Cohen, “Robust Early Echo Cancellation and Late Echo Suppression in the STFT Domain,” Proc. 11th International Workshop on Acoustic Echo and Noise Control, IWAENC-2008, Seattle, Washington, 14-17 September 2008, paper no. 9034, pp. 1-4.
46. S. Markovich, S. Gannot and I. Cohen, “A Comparison Between Alternative Beamforming Strategies for Interference Cancellation in Noisy and Reverberant Environment,” Proc. 25th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2008, Eilat, Israel, 3-5 December 2008, pp. 203-207.
47. R. Talmon, I. Cohen and S. Gannot, “Identification of the Relative Transfer Function Between Microphones in Reverberant Environments,” Proc. 25th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2008, Eilat, Israel, 3-5 December 2008, pp. 208-212.
48. O. Mebel, Y. Avargel and I. Cohen, “A Fast Geometric Method for Blind Separation of Sparse Sources,” Proc. 25th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2008, Eilat, Israel, 3-5 December 2008, pp. 180-184.
49. Y. Buchris, I. Cohen and M. A. Doron, “Bayesian Focusing Transformation for Coherent Wideband Array Processing,” Proc. 25th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2008, Eilat, Israel, 3-5 December 2008, pp. 479-483.
50. E. Cohen and I. Cohen, “System Identification in the Wavelet Domain with Crossband Filters,” Proc. 25th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2008, Eilat, Israel, 3-5 December 2008, pp. 300-304.
51. E. A. P. Habets, S. Gannot and I. Cohen, “Speech Dereverberation Using Backward Estimation of the Late Reverberant Spectral Variance,” Proc. 25th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2008, Eilat, Israel, 3-5 December 2008, pp. 384-388.
52. E. A. P. Habets, J. Benesty, I. Cohen and S. Gannot, “On a Tradeoff Between Dereverberation and Noise Reduction Using the MVDR Beamformer,” Proc. 34th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2009, Taipei, Taiwan, April 19 –24, 2009, pp. 3741-3744 (**invited paper**).
53. R. Talmon, I. Cohen and S. Gannot, “Multichannel Speech Enhancement Using Convolutional Transfer Function Approximation in Reverberant Environments,” Proc. 34th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2009, Taipei, Taiwan, April 19 –24, 2009, pp. 3885-3888.

54. H. Benesty, Y. Avargel and I. Cohen, "Adaptive System Identification Using Time-Varying Fourier Transform," Proc. 2nd Internat. Conf. Applications of Digital Information and Web Technologies, ICADIWT 2009, London, UK, August 4-6, 2009, pp. 652-657.
55. M. Zontak and I. Cohen, "Kernel-Based Detection of Defects on Semiconductor Wafers," Proc. 9th IEEE International Workshop on Machine Learning for Signal Processing, MLSP-2009, Grenoble, France, September 2-4 2009, pp. 1-6.
56. Y. Litvin and I. Cohen, "Single-Channel Source Separation of Audio Signals Using Bark Scale Wavelet Packet Decomposition," Proc. 9th IEEE International Workshop on Machine Learning for Signal Processing, MLSP-2009, Grenoble, France, September 1-4 2009, pp. 1-4.
57. E. A. P. Habets, J. Benesty, S. Gannot, P. A. Naylor and I. Cohen, "On the Application of the LCMV Beamformer to Speech Enhancement," Proc. 2009 IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, WASPAA-2009, New Paltz, NY, 18-21 October 2009, pp. 141-144.
58. A. Heimer, I. Cohen and A. Vassiliou, "Multichannel seismic modeling and inversion based on Markov-Bernoulli random field," Proc. Society of Exploration Geophysicist International Conference, Exposition and 79th Annual Meeting, Houston, Texas, 25-30 October 2009.
59. T. Michaeli and I. Cohen, "Particle Filtering Based Recovery of Noisy GARCH Processes," Proc. 35th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2010, Dallas, Texas, March 14 –19, 2010, pp. 3954-3957.
60. S. Markovich Golan, S. Gannot and I. Cohen, "Subspace Tracking of Multiple Sources and its Application to Speakers Extraction," Proc. 35th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2010, Dallas, Texas, March 14 –19, 2010, pp. 201-204.
61. R. Talmon, I. Cohen and S. Gannot, "Speech Enhancement in Transient Noise Environment Using Diffusion Filtering," Proc. 35th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2010, Dallas, Texas, March 14 –19, 2010, pp. 4782-4785.
62. Y. Avargel and I. Cohen, "Frequency-Based Detector for Improved Resolvability of Closely-Spaced Exponential Signals," Proc. 35th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2010, Dallas, Texas, March 14 –19, 2010, pp. 2690-2693.
63. M. Genussov and I. Cohen, "Musical Genre Classification of Audio Signals Using Geometric Methods," Proc. 18th European Signal Processing Conference, EUSIPCO-2010, Aalborg, Denmark, 23-27 August 2010, pp. 497-501.
64. Y. Litvin, I. Cohen, and J. Benesty, "Single-Channel Source Separation of Speech and Music Using Short Time Spectral Kurtosis," Proc. 12th International Workshop on Acoustic Echo and Noise Control, IWAENC-2010, Tel-Aviv, Israel, August 30th – September 2nd, 2010.
65. Y. Litvin, I. Cohen, and D. Chazan, "Separation of Speech and Music Sources From a Single-Channel Mixture Using Discrete Energy Separation Algorithm," Proc. 12th International Workshop on Acoustic Echo and Noise Control, IWAENC-2010, Tel-Aviv, Israel, August 30th – September 2nd, 2010.
66. S. Markovich Golan, S. Gannot and I. Cohen, "A Reduced Bandwidth Binaural MVDR Beamformer," Proc. 12th International Workshop on Acoustic Echo and Noise Control, IWAENC-2010, Tel-Aviv, Israel, August 30th – September 2nd, 2010. (**Best student paper award**).
67. M. Genussov, Y. Lavner and I. Cohen, "Classification of Unvoiced Fricative Phonemes using Geometric Methods," Proc. 12th International Workshop on Acoustic Echo and Noise

Control, IWAENC-2010, Tel-Aviv, Israel, August 30th – September 2nd, 2010.

68. Y. Buchris, I. Cohen, and M. A. Doron, "Robust Focusing for Wideband MVDR Beamforming," Proc. 6th IEEE Sensor Array and Multichannel Signal Processing Workshop, SAM-2010, Israel, 4-7 October 2010, pp. 1-4.
69. I. Ram, I. Cohen, S. Raz, and A. Vassiliou, "Seismic Signal Deconvolution Using a Maximum Posterior Mode Algorithm," Proc. Society of Exploration Geophysicist International Conference, Exposition and 80th Annual Meeting, Denver, Colorado, 17-22 October 2010, pp. 3673-3677.
70. S. Mousazadeh and I. Cohen, "Anomaly Detection in Sonar Images Based on Wavelet Domain Noncausal AR-ARCH Random Field Modeling," Proc. 26th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2010, Eilat, Israel, 17-20 November 2010, pp. 306-309.
71. S. Markovich Golan, S. Gannot and I. Cohen, "Performance Analysis of a Randomly Spaced Wireless Microphone Array," Proc. 36th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2011, Prague, Czech Republic, May 22 –27, 2011, pp. 121-124.
72. R. Talmon, I. Cohen and S. Gannot, "Clustering and Suppression of Transient Noise in Speech Signals Using Diffusion Maps," Proc. 36th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2011, Prague, Czech Republic, May 22 –27, 2011, pp. 5084-5087.
73. Y. Avargel and I. Cohen, "Speech Measurements Using a Laser Doppler Vibrometer Sensor: Application to Speech Enhancement," Proc. 3rd Joint Workshop on Hands-free Speech Communication and Microphone Arrays, HSCMA-2011, Edinburgh, Scotland, 30 May–1 June, 2011, pp. 109-114.
74. Y. Michalevsky, R. Talmon and I. Cohen, "Speaker Identification Using Diffusion Maps," Proc. 19th European Signal Processing Conference, EUSIPCO-2011, Barcelona, Spain, August 29- September 2, 2011.
75. I. Katsir, I. Cohen and D. Malah, "Speech Bandwidth Extension Based on Speech Phonetic Content and Speaker Vocal Tract Shape Estimation," Proc. 19th European Signal Processing Conference, EUSIPCO-2011, Barcelona, Spain, August 29- September 2, 2011.
76. R. Talmon, I. Cohen and S. Gannot, "Supervised Source Localization Using Diffusion Kernels," Proc. 2011 IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, WASPAA-2011, New Paltz, NY, 16-19 October 2011, pp. 245-248.
77. S. Markovich Golan, S. Gannot and I. Cohen, "A Sparse Blocking Matrix for Multiple Constraints GSC Beamformer," Proc. 37th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2012, Kyoto, Japan, March 25-30, 2012, pp. 541-544.
78. T. Koren, R. Talmon and I. Cohen, "Supervised System Identification Based on Local PCA Models" Proc. 37th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2012, Kyoto, Japan, March 25-30, 2012, pp. 197-200.
79. S. Markovich Golan, S. Gannot and I. Cohen, "Distributed GSC Beamforming Using the Relative Transfer Function," Proc. 20th European Signal Processing Conference, EUSIPCO-2012, Bucharest, Romania, August 27-31, 2012 (**invited paper**).
80. A. Oyzerman and I. Cohen, "System Identification and Dereverberation of Speech Signals in the Single-Side-Band Transform Domain," Proc. 20th European Signal Processing Conference, EUSIPCO-2012, Bucharest, Romania, August 27-31, 2012.

81. A. Hirschhorn, D. Dov, R. Talmon and I. Cohen, "Transient Interference Suppression in Speech Signals Based on the OM-LSA Algorithm," Proc. 13th International Workshop on Acoustic Echo and Noise Control, IWAENC-2012, Aachen, Germany, Sep. 4-6, 2012.
82. S. Markovich Golan, S. Gannot and I. Cohen, "Blind Sampling Rate Offset Estimation and Compensation in Wireless Acoustic Sensor Networks with Application to Beamforming," Proc. 13th International Workshop on Acoustic Echo and Noise Control, IWAENC-2012, Aachen, Germany, Sep. 4-6, 2012.
83. I. Katsir, D. Malah and I. Cohen, "Evaluation of Speech Bandwidth Extension Algorithm Based on Vocal Tract Shape Estimation," Proc. 13th International Workshop on Acoustic Echo and Noise Control, IWAENC-2012, Aachen, Germany, Sep. 4-6, 2012.
84. I. Volfin and I. Cohen, "Dominant Speaker Identification for Multipoint Videoconferencing," Proc. 27th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2012, Eilat, Israel, 14-17 November 2012 (**invited paper**).
85. V. Evelkin and I. Cohen, "Effect of Latency Time in High Frequencies on Sound Localization," Proc. 27th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2012, Eilat, Israel, 14-17 November 2012.
86. S. Markovich Golan, S. Gannot and I. Cohen, "A Weighted Multichannel Wiener Filter for Multiple Sources Scenarios," Proc. 27th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2012, Eilat, Israel, 14-17 November 2012 (**invited paper, Best student paper award**).
87. S. Mousazadeh and I. Cohen, "ARCH and GARCH Parameter Estimation in Presence of Additive Noise Using Particle Methods," Proc. 38th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2013, Vancouver, Canada, May 26-31, 2013, pp. 6279-6282.
88. I. Ram, M. Elad and I. Cohen, "Image Denoising Using NL-Means Via Smooth Patch Ordering," Proc. 38th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2013, Vancouver, Canada, May 26-31, 2013, pp. 1350-1354.
89. R. Talmon, I. Cohen, S. Gannot and Ronald R. Coifman, "Graph-Based Bayesian Approach for Transient Interference Suppression," Proc. 21st European Signal Processing Conference, EUSIPCO-2013, Marrakech, Morocco, September 9-13, 2013 (**invited paper**).
90. G. Mishne and I. Cohen, "Multiscale Anomaly Detection Using Diffusion Maps and Saliency Score", Proc. 39th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2014, Florence, Italy, May 4-9, 2014.
91. M. Li, I. Cohen and S. Mousazadeh, "Multisensory Speech Enhancement in Noisy Environments Using Bone-Conducted and Air-Conducted Microphones", Proc. 2nd IEEE China Summit and International Conference on Signal and Information Processing, ChinaSIP'14, July 9-13, 2014 (**invited paper**).
92. N. Spingarn, S. Mousazadeh and I. Cohen, "Voice Activity Detection in Transient Noise Environment Using Laplacian Pyramid Algorithm," Proc. 14th International Workshop on Acoustic Signal Enhancement, IWAENC-2014, Antibes – Juan les Pins, French Riviera, Sep. 9–11, 2014.
93. R. Berkun, I. Cohen and J. Benesty, "User Determined Superdirective Beamforming," Proc. 28th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2014, Eilat, Israel, 3-5 December 2014.
94. D. Dov and I. Cohen, "Voice Activity Detection in Presence of Transients Using the Scattering

- Transform,” Proc. 28th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2014, Eilat, Israel, 3-5 December 2014.
95. O. Rosen, S. Mousazadeh and I. Cohen, “Voice Activity Detection in Presence of Transient Noise Using Spectral Clustering and Diffusion Kernels,” Proc. 28th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2014, Eilat, Israel, 3-5 December 2014.
 96. G. Mishne and I. Cohen, “Multi-Channel Wafer Defect Detection Using Diffusion Maps,” Proc. 28th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2014, Eilat, Israel, 3-5 December 2014.
 97. I. Rozenberg, I. Cohen and A. Vassiliou, “Performance Measures for Sparse Spike Inversion vs. Basis Pursuit Inversion,” Proc. 28th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2014, Eilat, Israel, 3-5 December 2014.
 98. Y. Doweck, A. Amar, and I. Cohen, “Parameter Estimation of Harmonic Linear Chirps,” Proc. 23rd European Signal Processing Conference, EUSIPCO-2015, Nice, France, 31st August-4th September, 2015.
 99. J. Abel, M. Kaniewska, C. Guillaumé, W. Tirry, H. Pulakka, I. Katsir, D. Malah, I. Cohen, M. A. T. Turan, E. Erzin, P. Vary, T. Schlien, A. H. Nour-Eldin, P. Kabal, and T. Fingscheidt, “A Subjective Listening Test of Six Different Artificial Bandwidth Extension Approaches in English, Chinese, German, and Korean”, Proc. 41st IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2016, Shanghai, China, March 20-25, 2016.
 100. Y. Buchris, I. Cohen, and J. Benesty, “Analysis and Design of Time-Domain First-Order Circular Differential Microphone Arrays,” Proc. 22nd International Congress on Acoustics, ICA-2016, Buenos Aires, Argentina, Sep. 5-9, 2016 (**invited paper**).
 101. A. Atkins, Y. Ben-Hur, I. Cohen, and J. Benesty, “Robust Superdirective Beamformer With Optimal Regularization,” Proc. 15th International Workshop on Acoustic Signal Enhancement, IWAENC-2016, Xi’an, China, Sep. 14-16, 2016.
 102. R. Berkun, I. Cohen, and J. Benesty, “A Tunable Beamformer for Robust Superdirective Beamforming,” Proc. 15th International Workshop on Acoustic Signal Enhancement, IWAENC-2016, Xi’an, China, Sep. 14-16, 2016.
 103. Y. Buchris, I. Cohen, and J. Benesty, “First-Order Differential Microphone Arrays From a Time-Domain Broadband Perspective,” Proc. 15th International Workshop on Acoustic Signal Enhancement, IWAENC-2016, Xi’an, China, Sep. 14-16, 2016.
 104. D. Wolff, Y. Buchris, and I. Cohen, “A Directionally Constrained Distortionless Multistage LCMV Beamformer,” Proc. 15th International Workshop on Acoustic Signal Enhancement, IWAENC-2016, Xi’an, China, Sep. 14-16, 2016.
 105. A. Atkins and I. Cohen, “Speech Enhancement Using ARCH Model,” Proc. 15th International Workshop on Acoustic Signal Enhancement, IWAENC-2016, Xi’an, China, Sep. 14-16, 2016.
 106. D. Dov, R. Talmon and I. Cohen, “Kernel Method for Speech Source Activity Detection in Multi-Modal Signals,” Proc. IEEE International Conference on the Science of Electrical Engineering, ICSEE-2016, Eilat, Israel, Nov. 16-18, 2016.
 107. O. Shahr, L. Twito, N. Spingarn and I. Cohen, “Speaker Diarization Based on Locally Linear Embedding,” Proc. IEEE International Conference on the Science of Electrical Engineering, ICSEE-2016, Eilat, Israel, Nov. 16-18, 2016.
 108. Y. Zonis, Y. Buchris and I. Cohen, “Estimation of Speaker Individual Spectral Envelope for

- Pitch Tracking Improvement,” Proc. IEEE International Conference on the Science of Electrical Engineering, ICSEE-2016, Eilat, Israel, Nov. 16-18, 2016 (**Best student paper award**).
109. M. Harel, D. Dov, I. Cohen, R. Talmon and R. Meir, “Voiced-Unvoiced-Silence Classification via Hierarchical Dual Geometry Analysis,” Proc. IEEE International Conference on the Science of Electrical Engineering, ICSEE-2016, Eilat, Israel, Nov. 16-18, 2016.
 110. M. Buchbinder, Y. Buchris and I. Cohen, “Adaptive Weighting Parameter in Audio-Visual Voice Activity Detection,” Proc. IEEE International Conference on the Science of Electrical Engineering, ICSEE-2016, Eilat, Israel, Nov. 16-18, 2016.
 111. G. Mishne and I. Cohen, “Iterative Diffusion-Based Anomaly Detection”, Proc. 42nd IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2017, New Orleans, USA, March 5-9, 2017.
 112. G. Avrashi, A. Amar, I. Cohen and M. Stojanovic, “Eigenvalue Decomposition Based Estimators of Carrier Frequency Offset in Multicarrier Underwater Acoustic Communication”, Proc. 42nd IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2017, New Orleans, USA, March 5-9, 2017.
 113. X. Leng, J. Chen, I. Cohen, and J. Benesty, “Study of Widely Linear Multichannel Wiener Filter for Binaural Noise Reduction,” Proc. 25th European Signal Processing Conference, EUSIPCO-2017, Kos island, Greece, August 28 to September 2, 2017.
 114. M. Mirel, I. Cohen, and A. Vassiliou, “Multichannel Semi-blind Sparse Deconvolution of Seismic Signals,” Proc. Society of Exploration Geophysicist International Conference, Exposition and 87th Annual Meeting, Houston, Texas, 24-27 September 2017.
 115. D. Pereg, I. Cohen, and A. Vassiliou, “Sparse Seismic Time-Variant Deconvolution Using Q Attenuation Model,” Proc. Society of Exploration Geophysicist International Conference, Exposition and 87th Annual Meeting, Houston, Texas, 24-27 September 2017.
 116. R. Mulayoff, Y. Buchris and I. Cohen, “Differential Microphone Arrays for the Underwater Acoustic Channel,” Proc. 2017 IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, WASPAA-2017, New Paltz, NY, 15-18 October 2017.
 117. Y. Buchris, I. Cohen and J. Benesty, “Asymmetric Beampatterns with Circular Differential Microphone Arrays,” Proc. 2017 IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, WASPAA-2017, New Paltz, NY, 15-18 October 2017.

Patents

1. I. Cohen, A. Vassiliou and N. Coult, “Method and Apparatus for Seismic Image Processing and Exploration,” US 60/424937, 2002.
2. I. Cohen, A. Vassiliou and N. Coult, “Method and Apparatus for Seismic Feature Extraction,” WO 2004/044615, 2004.

CONFERENCES

Invited talks and tutorials

1. “On a Tradeoff Between Dereverberation and Noise Reduction Using the MVDR Beamformer,” 34th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2009,

- Taipei, Taiwan, April 19 –24, 2009 (invited talk given by my postdoctoral student E. Habets).
2. “GARCH Models and Their Applications to Speech Enhancement and Sea-Mine Detection in Sonar Images,” the First Israeli Signal Processing Workshop, Bar-Ilan University, Israel, January 30, 2011 (invited talk).
 3. “Speech Modeling and Enhancement in Nonstationary Noise Environments,” IASTED International Conference on Signal and Image Processing and Applications, SIPA-2011, Crete, Greece, June 22 –24, 2011 (tutorial given by I. Cohen and S. Gannot).
 4. "Speech Modeling and Enhancement Using Diffusion Maps," 37th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2012, Kyoto, Japan, March 25-30, 2012 (tutorial given by I. Cohen, S. Gannot and R. Talmon).
 5. “Speech Enhancement for Acoustic Communication Using Multiple Microphones and Diffusion Maps” 20th European Signal Processing Conference, EUSIPCO-2012, Bucharest, Romania, August 27-31, 2012 (tutorial given by I. Cohen, S. Gannot, E. Habets and R. Talmon).
 6. “A Weighted Multichannel Wiener Filter for Multiple Sources Scenarios,” 27th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2012, Eilat, Israel, 14-17 November 2012 (invited talk given by my student S. Markovich Golan).
 7. “Dominant Speaker Identification for Multipoint Videoconferencing,” 27th IEEE Convention of Electrical and Electronics Engineers in Israel, IEEEI-2012, Eilat, Israel, 14-17 November 2012 (invited talk given by my student I. Volfin).
 8. “Graph-Based Bayesian Approach for Transient Interference Suppression,” 21st European Signal Processing Conference, EUSIPCO-2013, Marrakech, Morocco, September 9-13, 2013 (invited talk given by S. Gannot).
 9. “Multisensory Speech Enhancement in Noisy Environments Using Bone-Conducted and Air-Conducted Microphones”, 2nd IEEE China Summit and International Conference on Signal and Information Processing, ChinaSIP’14, July 9-13, 2014 (invited talk given by my student M. Li).
 10. “GARCH Models and Their Applications to Speech Enhancement and Sea-Mine Detection in Sonar Images”, The 2015 IEEE International Conference on Signal Processing, Communications and Computing (ICSPCC 2015), Ningbo, Zhejiang, China, September 19-22, 2015 (keynote speaker).
 11. “GARCH Models and Applications to Speech Enhancement and Anomaly Detection”, Winter School on Speech and Audio Processing (WiSSAP 2016), Chennai, India, January 8-11, 2016 (invited speaker).
 12. “Real-time microphone selection in noisy reverberant environments for teleconferencing systems”, IEEE ICASSP-2016 Workshop on Sensor Array and Communications, Xi’an, China, March 28, 2016 (keynote speaker).
 13. “Analysis and Design of Time-Domain First-Order Circular Differential Microphone Arrays,” Proc. 22nd International Congress on Acoustics, ICA-2016, Buenos Aires, Argentina, Sep. 5-9, 2016 (invited talk given by my student Y. Buchris).
 14. “Microphone array power ratio for speech quality assessment in noisy reverberant environments”, 15th International Workshop on Acoustic Signal Enhancement, IWAENC-2016, Xi’an, China, Sep. 14-16, 2016 (keynote speaker).

15. "Multichannel speech enhancement and quality assessment in noisy reverberant environments", International Conference on Innovations in Electrical, Electronics, Instrumentation and Media Technology, ICIEEIMT 2017, Coimbatore, Tamil Nadu, India, February 3-4, 2017 (keynote speaker).
16. "Optimal multichannel signal enhancement in the time domain", 10th Anniversary of IEEE Xi'an Section, Xi'an, China, December 16, 2017 (keynote speaker).

Participation in organizing conferences

- | | |
|------|--|
| 2007 | Organizer and Chair of a Workshop on Speech Enhancement and Multichannel Audio Processing, Technion, Israel, Feb. 22, 2007. |
| 2010 | General Co-Chair of the Organizing Committee, International Workshop on Acoustic Echo and Noise Control, IWAENC, August 30 th – September 2 nd , 2010, Tel-Aviv, Israel. |
| 2014 | Co-Chair of the Organizing Committee, The 4 th Annual International TCE Conference, May 26-27, 2014, Technion, Haifa, Israel. |
| 2016 | Organizing Committee, IEEE International Conference on the Science of Electrical Engineering (ICSEE), Nov. 16 – 18, 2016, Eilat, Israel. |
| 2016 | Co-Chair of the IEEE International Symposium on Speech and Audio Processing, Nov. 17, 2016, Eilat, Israel. |

Conference activities

- | | |
|------|---|
| 2004 | Session Chair, 23 rd IEEE Convention of the Electrical and Electronic Engineers in Israel, Israel |
| 2005 | Speech Technical Committee Associate for ICASSP-2005 |
| 2006 | Session Chair, 31 st IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2006, France |
| 2006 | Speech Technical Committee Associate for ICASSP-2006 |
| 2009 | Session Chair, 34 th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2009, Taiwan |
| 2011 | Session Chair, 1 st Technion Computer Engineering (TCE) Conference, Technion, Haifa, Israel. |
| 2011 | Scientific Review Committee Member, 12 th Annual Conference of the International Speech Communication Association (ISCA), INTERSPEECH 2011, Florence, Italy. |
| 2012 | Session Chair, 13 th International Workshop on Acoustic Echo and Noise Control, IWAENC-2012, Aachen, Germany. |
| 2013 | Session Chair, 38 th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2013, Vancouver, Canada. |
| 2014 | Session Chair, 39 th IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP-2014, Florence, Italy. |
| 2016 | Session Chair, 41 st IEEE Internat. Conf. Acoust. Speech Signal Process., ICASSP- |

2016, Shanghai, China.

2017

Session Chair, IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, WASPAA-2017, New Paltz, NY.