

Curriculum Vitae

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Date and place of birth: 13.07.75, Israel

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Academic Degrees

- **1993-** B.Sc., *Cum Laude* in Pure Mathematics, Tel-Aviv University, Israel
- **1997-** M.Sc., *Suma Cum Laude* in Operations Research, School of Mathematical Sciences, Tel-Aviv University, Israel
- **2003-** Ph.D., School of Mathematical Sciences, Tel-Aviv University, Israel

Academic Appointments and Professional Experience

- **2015–** Full Professor, Faculty of Industrial Engineering and Management, Technion—Israel Institute of Technology, Haifa, Israel
- **2010–2015** - Associate Professor, Faculty of Industrial Engineering and Management, Technion—Israel Institute of Technology, Haifa, Israel
- **2005–2010** - Senior Lecturer, Faculty of Industrial Engineering and Management, Technion—Israel Institute of Technology, Haifa, Israel
- **2003–2005** - Postdoctoral Fellow, Minerva Optimization Center, Faculty of Industrial Engineering and Management, Technion—Israel Institute of Technology, Haifa, Israel
- **1999–2003** - Lecturer, The Academic College of Tel Aviv Jaffa, Tel-Aviv, Israel
- **1999–2003** - Teaching Assistant, School of Mathematical Sciences, Tel Aviv University, Tel-Aviv, Israel
- **1993–1999** - Applied Mathematician, Research Officer, IDF.

Research Interests

- Development and analysis of first order methods for large-scale optimization problems
- Nonconvex quadratic optimization: theory, algorithms and applications
- Optimization techniques in numerical linear algebra
- Applications in signal/image processing, communications, energy systems

Teaching Experience

Courses taught in Tel Aviv University and in the Academic College of Tel Aviv Jaffa:

- Introduction to Probability (undergraduate)
- Probability (undergraduate)
- Discrete Mathematics (undergraduate)
- Calculus 1 (undergraduate)
- Topics in Optimization (undergraduate)

Courses taught at the Technion

- Optimization I (graduate)
- Optimization II (graduate)
- Optimization Methods (graduate)
- Deterministic Models in Operations Research (undergraduate)
- Nonlinear Models in Operations Research (joint undergraduate and graduate course)
- Quantitative Methods and Statistics (course taught in the full-time MBA program)

Departmental Activities

- Head of the Operations Research Area (IE&M Faculty 2014–)
- Graduate studies coordinator and head of the graduate studies committee (IE&M Faculty, Technion, 2011–2013).
- Member of the undergraduate studies committee (IE&M Faculty, Technion, 2009–2011).
- Head of the Optimization Laboratory (IE&M Faculty, Technion, 2010, 2014–)

Public Professional Activities

- Associate Editor of *Mathematical Programming*, *Mathematics of Operations Research*, *Journal of Optimization Theory and Applications*, *Optimization Methods and Software*
- Area editor for optimization in *Operations Research*

Membership in Professional Societies

- SIAM—Society of Industrial and Applied Mathematics
- MPS—Mathematical Programming Society

Awards

- **1997:** Nimrod Lapid Award for Excellence in M.Sc Studies
- **1999:** Arie Shenkar Award for Excellence in Ph.D. Studies
- **2000:** Blecher Award for Excellence in Ph.D. Studies
- **2006:** ORSIS Prize for Excellence in Operations Research
- **2009:** Salomon Simon Mani Award for Excellence in Teaching
- **2013:** Henry Taub Research Prize Award
- **2013:** Best Paper Award of the IEEE Signal Processing Society, 2013

Former Graduate Students

- Oz Hershkovitz (M.Sc.), “The Modified Structured Total Least Squares Problem” (graduated 2008).
- Zahar Chikishev (M.Sc.), “A Maximum Likelihood Estimate for the Single Source Localization Problem” (graduated 2008).
- Dror Pan (M.Sc.), “Fitting of Circles” (graduated 2011).
- Alex Spivakovsky (M.Sc.), “Fast Gauss-Seidel Type Methods for Solving the Structured Total Least Squares Problem” (graduated 2011).
- Luba Tetrushvili (Ph.D.), “Methods for Solving Large-Scale Free Material Optimization Problems” (joint supervision with Aharon Ben-Tal, graduated in 2010).
- Roe Sulimarski (M.Sc.), “Optimization Methods for Motion Estimation Problems” (graduated 2012).
- Yaakov Vaisbourd (M.Sc.), “The Chebyshev Center Approach for Image Deblurring Applications” (graduated 2012).
- Ella Pemov (M.Sc.), “Accelerated Block Descent Methods for the SVM Problem” (graduated 2013).
- Nadav Hallak (M.Sc.), “Sparse Index Tracking” (graduated 2014).
- Nofar Winterman (M.Sc.), “Solution of Network Sensor Localization Problems” (graduated 2015).

Current Graduate Students

1. Yaakov Vaisbourd (Ph.D.), “Optimization Methods for Small-Scale Problems” (started October 2012).
2. Nadav Hallak (Ph.D.), “Sparsity Constrained Nonlinear Optimization” (started May 2014).
3. Dror Pan (Ph.D.), “Methods for Solving Nonconvex Quadratic Optimization Problems” (started May 2014).
4. Alex Shtof (Ph.D.), “Optimization Methods for Segmentation Problems in Image Processing” (started October 2014).

Funded Research

- MAGNETON (with Boaz Golany, Uri Rothblum, Aharon Ben-Tal and Elbit), “Route Planning of Multiple Aircrafts”, 2004–2006.
- EUC - 6 programme (with Aharon Ben-Tal), “PLATO-N”, 2006–2009 (400,000 EURO).
- ISF 489/06 (with Marc Teboulle, TAU), “Specially Structured Nonconvex Continuous Optimization Problems: Theory, Algorithms and Application”, 2006–2010 (202,500 NIS per year)
- GIF 1542/2005, Young Scientists Program (with Christian Kanzow), “Total Least Squares Problems: A Convex Optimization Approach”, 2007 (22,500 EURO).
- BSF 2008100 (with Marc Teboulle, Asu Ozdagler, Angelia Nedich), “Gradient-Based Methods in Optimization: Theory, Algorithms and Applications”, 2009–2013 (112,000 dollars).
- ISF 2532012, “Block-Type Methods for Solving Large Scale Convex Optimization Problems” 2012–2016 (170,000 NIS per year).
- Energy Ministry, “Robust Planning of Smart Grid Topology” (with HIT, 345,000 NIS for three years, 2012–2015).
- MAGNETON, “Optimal Scheduling for UAVs”, 2013–2015 (300,000 NIS per year – jointly with Michal Penn and Liron Yedidsion).
- MAGNET, “Optimization Methods for Smart Grids”, 2014–2016 (300,000 NIS per year).
- ISF 1821/16, “Dual-Based Decomposition Methods in Optimization”, 2016-2020 (192,460 NIS per year).

Publications

Theses

- Amir Beck, “Convergence Rate Analysis of Gradient Based Algorithms”, Ph.D. Thesis, Tel-Aviv University (2003).
- Amir Beck, “Global Optimality Conditions for Quadratic Problems with Applications in Graph Theory”, Tel-Aviv University (1997).

Refereed Papers in Professional Journals

1. Amir Beck and Marc Teboulle, “Global Optimality Conditions for Quadratic Optimization Problems with Binary Constraints”, *SIAM J. Optimization*, **11**, no. 1 (2000), 179–188.
2. Amir Beck and Marc Teboulle, “A Probabilistic Result for the Max-Cut Problem on Random Graphs”, *Operations Research Letters*, **27**, no. 5 (2000), 209–214.
3. Amir Beck and Marc Teboulle, “Convergence Rate Analysis and Error Bounds for Projection Algorithms in Convex Feasibility Problems”, *Optimization Methods and Software*, **18**, no. 4 (2003), 377–394.
4. Amir Beck and Marc Teboulle, “Mirror Descent and Nonlinear Projected Subgradient Methods for Convex Optimization”, *Operations Research Letters*, **31**, no. 3 (2003), 167–175.
5. Amir Beck and Marc Teboulle, “A Conditional Gradient Method with Linear Rate of Convergence for Solving Convex Linear Systems”, *Mathematical Methods of Operations Research*, **59**, no. 2 (2004), 235–247.
6. Amir Beck and Aharon Ben-Tal, “A Global Solution for the Structured Total Least Squares Problem with Block Circulant Matrices”, *SIAM J. on Matrix Analysis and Applications*, **27**, no. 1 (2005), 238–255.
7. Amir Beck, Aharon Ben-Tal and Yonina C. Eldar, “Robust Mean-Squared Error Estimation of Multiple Signals in Linear Systems Affected by Model and Noise Uncertainties”, *Mathematical Programming*, Ser. B, **107** (2006), 155–187.
8. Amir Beck, Aharon Ben-Tal and Marc Teboulle, “Finding a Global Optimal Solution for a Quadratically Constrained Fractional Quadratic Problem with Applications to the Regularized Total Least Squares”, *SIAM J. on Matrix Analysis and Applications*, **28**, no. 2 (2006), 425–445.
9. Ami Wiesel, Yonina C. Eldar and Amir Beck, “Maximum Likelihood Estimation in Linear Models with a Gaussian Model Matrix”, *IEEE Signal Processing Letters*, **13**, no. 5 (2006), 292–295.
10. Amir Beck and Marc Teboulle, “A Linearly Convergent Dual-Based Gradient Projection Algorithm for Quadratically Constrained Convex Minimization”, *Mathematics of Operations Research*, **31**, no. 2 (2006), 398–417 (**winner of the ORSIS Prize for Excellence, 2006**).
11. Amir Beck and Aharon Ben-Tal, “On the Solution of the Tikhonov Regularization of the Total Least Squares”, *SIAM J. Optimization*, **17**, no. 1 (2006), 98–118.

12. Amir Beck and Yonina C. Eldar, “Strong Duality in Nonconvex Quadratic Optimization with Two Quadratic Constraints”, *SIAM J. Optimization*, **17**, no. 3 (2006), 844–860.
13. Amir Beck, “Quadratic Matrix Programming”, *SIAM J. Optimization*, **17**, no. 4 (2006), 1224–1238.
14. Amir Beck and Yonina C. Eldar, “Doubly Constrained Robust Capon Beamformer with Ellipsoidal Uncertainty Sets”, *IEEE Transactions on Signal Processing*, **55**, no. 2 (Jan. 2007), 753–758.
15. Amir Beck, “The Matrix-Restricted Total Least Squares Problem”, *Signal Processing*, **87**, no. 10 (2007), 2303–2312.
16. Amir Beck, “On the Convexity of a Class of Quadratic Mappings and its Application to the Problem of Finding the Smallest Ball Enclosing a Given Intersection of Balls”, *Journal of Global Optimization*, **39**, no. 1 (2007), 113–126.
17. Amir Beck and Yonina C. Eldar, “Regularization in Regression with Bounded Noise: A Chebyshev Center Approach”, *SIAM J. on Matrix Analysis and Applications*, **29**, no. 2 (2007), 606–625.
18. Amir Beck, Yonina C. Eldar and Aharon Ben-Tal, “Mean-Squared Error Estimation for Linear Systems with Block Circulant Uncertainty” *SIAM J. on Matrix Analysis and Applications*, **29**, no. 3 (2007), 712–730.
19. Pakize Taylan, Gerhard-Wilhelm Weber and Amir Beck, “New Approaches to Regression by Generalized Additive Models and Continuous Optimization for Modern Applications in Finance, Science and Technology”, *Optimization*, **56**, nos. 5 & 6 (2007), 675–698.
20. Amir Beck, Petre Stoica and Jian Li, “Exact and Approximate Solutions of Source Localization Problems”, *IEEE Transactions on Signal Processing*, **56**, no. 5, (May 2008), 1770–1778. **(Best Paper Award of the IEEE Signal Processing Society, 2013)**.
21. Yonina Eldar, Amir Beck and Marc Teboulle, “A Minimax Chebyshev Estimator for Bounded Error Estimation”, *IEEE Transactions on Signal Processing*, **56**, no. 4, (April 2008), 1388–1397.
22. Amir Beck, Aharon Ben-Tal and Christian Kanzow, “A Fast Method for Finding the Global Solution of the Regularized Structured Total Least Squares Problem for Image Deblurring”, *SIAM Journal on Matrix Analysis and Applications*, **30**, no. 1, (2008), 419–443.
23. Amir Beck, Marc Teboulle and Zahar Chikishev, “Iterative Minimization Schemes for Solving the Single Source Localization Problem”, *SIAM Journal on Optimization*, **19**, no. 3 (2008), 1397–1416.
24. Amir Beck and Marc Teboulle, “A Convex Optimization Approach for Minimizing the Ratio of Indefinite Quadratic Functions over an Ellipsoid” *Mathematical Programming*, **118**, no. 1 (2009), 13–35.
25. Amir Beck, “Convexity Properties Associated with Nonconvex Quadratic Matrix Functions and Applications to Quadratic Programming”, *Journal of Optimization Theory and Applications*, **142**, no. 1 (2009), 1–29.

26. Amir Beck and Marc Teboulle, “A Fast Iterative Shrinkage-Thresholding Algorithm for Linear Inverse Problems”, *SIAM Journal on Imaging Sciences*, **2**, no. 1 (2009), 183–202.
27. Amir Beck and Aharon Ben-Tal, “Duality in Robust Optimization: Primal Worst Equals Dual Best”, *Operations Research Letters*, **37**, no. 1 (2009), 1–9.
28. Amir Beck and Marc Teboulle, “Fast Gradient-Based Algorithms for Constrained Total Variation Image Denoising and Deblurring Problems”, *IEEE Trans. Image Proc.*, **18**, no. 11 (November 2009), 2419–2434.
29. Amir Beck, Aharon Ben-Tal and Luba Tretuashvili, “A Sequential Parametric Convex Approximation Method with Applications to Nonconvex Truss Topology Design Problems”, *Journal of Global Optimization*, **47**, no. 1 (2010), 29–51.
30. Amir Beck and Marc Teboulle, “On Minimizing Quadratically Constrained Ratio of Two Quadratic Functions”, *Journal of Convex Analysis* **17**, nos. 3 & 4 (2010), 789–804.
31. Amir Beck, Aharon Ben-Tal, Nili Guttman-Beck and Luba Tretuashvili, “The CoMirror Algorithm for solving Nonsmooth Constrained Convex Problems”, *Operations Research Letters*, **38**, no. 6 (2010), 493–398.
32. Amir Beck, Yonina C. Eldar , “Structured Total Maximum Likelihood: An Alternative to Structured Total Least-Squares”, *SIAM Journal on Matrix Analysis and Applications*, **31**, no. 5 (2010), 2623–2649.
33. Amir Beck and Dror Pan, “On the Solution of the GPS Localization and Circle Fitting Problems”, *SIAM J. Optimization*, **22**, no. 1 (2011) 108–134.
34. Amir Beck, Aharon Ben-Tal and Luba Tretuashvili, “A Sequential Ascending Parameter Method for Solving Constrained Minimization Problems”, *SIAM J. Optim.*, **12**, no. 1 (2012), 244–260.
35. Amir Beck, Yoel Drori and Marc Teboulle, “A New SDP Relaxation Scheme for a Class of Quadratic Matrix Problems”, *Operations Research Letters*, **40**, no. 4 (2012), 298–302.
36. Amir Beck and Marc Teboulle, “Smoothing and First Order Methods: A Unified Framework”, *SIAM J. Optim.*, **22**, no. 2 (2012), 557–580.
37. Amir Beck and Shoham Sabach, “An Improved Ellipsoid Method for Solving Convex Differentiable Optimization Problems”, *Operations Research Letters*, **40** (2012), 541–545.
38. Amir Beck and Yonina Eldar, “Sparsity Constrained Nonlinear Optimization: Optimality Conditions and Algorithms”, *SIAM J. Optim.*, **23**, no. 3 (2013), 1480–1509.
39. Amir Beck and Luba Tretuashvili, “On The Convergence of Block Coordinate Descent Type Methods”, *SIAM J. Optim.*, **23**, no. 4 (2013) 2037–2060.
40. Amir Beck and Shoham Sabach, “A First Order Method for Finding Minimal Norm-Like Solutions of Convex Optimization Problems”, *Mathematical Programming*, **147** (2014), 25–46.

41. Amir Beck, “The 2-Coordinate Descent Method for Solving Double-Sided Simplex Constrained Minimization Problems”, *Journal of Optimization Theory and Applications*, **162** (2014), 892–919.
42. Yoav Shechtman, Amir Beck and Yonina Eldar, “GESPAR: Efficient Phase Retrieval of Sparse Signals”, *IEEE Transactions on Signal Processing*, **62**, no. 4 (2014), 928–938.
43. Amir Beck and Marc Teboulle, “A Fast Dual Proximal Gradient Algorithm for Convex Minimization and Applications”, *Operations Research Letters*, **42** (2014), 1–6.
44. Amir Beck, Angelia Nedich, Asu Ozdaglar and Marc Teboulle, “Optimal Distributed Gradient Methods for Network Resource Allocation Problems”, *IEEE Transactions on Control of Network Systems*, **1**, no. 1 (2014).
45. Zhao Tan, Yonina Eldar, Amir Beck and Arye Nehorai, “Smoothing and Decomposition for Analysis Sparse Recovery”, *IEEE Transactions on Signal Processing*, **62**, no. 7 (2014), 1762–1774.
46. Amir Beck and Shoham Sabach, “Weiszfeld’s Method: Old and New Results”, *Journal of Optimization Theory and Applications*, **164**, no. 1 (January 2015), 1–40.
47. Amir Beck, “On the Convergence of Alternating Minimization for Convex Programming with Applications to Iteratively Reweighted Least Squares and Decomposition Schemes”, *SIAM J. Optimization*, **25**, no. 1 (2015), 185–209.
48. Amir Beck, Edouard Pauwels and Shoham Sabach, “The Cyclic Block Conditional Gradient Method for Convex Optimization Problems”, *SIAM J. Optimization*, **25**, no. 4 (2015), 2024–2049.
49. Amir Beck, Luba Tetrushvili, Yakov Vaisbourd and Ariel Shemtov, “Rate of Convergence Analysis of Dual-Based Variables Decomposition Methods for Strongly Convex Problems”, *Operations Research Letters*, **44**, no. 1 (2016), 61–66.
50. Amir Beck and Nadav Hallak, “On the Minimization Over Sparse Symmetric Sets: Projections, Optimality Conditions and Algorithms”, *Mathematics of Operations Research*, **41**, no. 1 (2016), 196–223. (**winner of the ORSIS Prize for Excellence, 2015**).
51. Amir Beck and Yakov Vaisbourd, “The Sparse PCA Problem: Optimality Conditions and Algorithms” *Journal of Optimization Theory and Applications*, **170** no. 1 (2016), 119–143.
52. Amir Beck, Shoham Sabach and Marc Teboulle, “An Alternating Semiproximal Method for Nonconvex Regularized Structured Total Least Squares Problems” (2016), *SIAM J. on Matrix Analysis and Applications*, **37**, no. 3 (2016), 1129–1150.
53. Amir Beck and Shimrit Shtern, “Linearly Convergent Away-Step Conditional Gradient for Non-strongly Convex Functions” (2017), accepted for publication in *Mathematical Programming*.
54. Amir Beck, Shoham Sabach and Edouard Pauwels, “Primal and Dual Predicted Decrease Approximation Methods” (2017) accepted for publication in *Mathematical Programming*.

Books and Chapters in Books

55. Amir Beck, *Introduction to Probability—Theory and Exercises* (in Hebrew), BAK Publications, Haifa, 2002.
56. Nili Beck and Amir Beck, *Introduction to Operations Research—Linear Programming* (in Hebrew), BAK Publications, Haifa, 2010.
57. Amir Beck and Marc Teboulle, “Gradient-Based Algorithms with Applications to Signal Recovery Problems”, in *Convex Optimization in Signal Processing and Communications*. Editors: Yonina Eldar and Daniel Palomar. Cambridge University Press, 2009.
58. Amir Beck and Marc Teboulle, “A Linearly Convergent Algorithm for Solving a Class of Nonconvex/Affine Feasibility Problems”, in *Fixed-Point Algorithms for Inverse Problems in Science and Engineering*, Springer Verlag series, Optimization and Its Applications, 2011.
59. Amir Beck, *Introduction to Nonlinear Optimization: Theory, Algorithms and Applications with MATLAB*, SIAM-MOS Publications, 2014.

Conferences

Invited talks

- Invited speaker. “Some New Results on the Total Least Squares Problem”, Oberwolfach Workshop on Optimization and Applications, January 9–15, 2005, Oberwolfach, Germany.
- Invited speaker. “The Regularized Total least Squares Problem: Theoretical Properties and Three Globally Convergent Algorithms”, *4th International Workshop on TLS and Errors-in-Variables Modelling*, August 21–23, 2006, Leuven, Belgium.
- Invited speaker. “A Convex Optimization Approach for Minimizing the Ratio of Indefinite Quadratic Functions over an Ellipsoid”, *21st European Conference on Operational Research (EURO XXI)*, July 2–5, 2006, Reykjavik, Iceland.
- Invited speaker. “Quadratic Matrix Programming”, *Second Mathematical Programming Society International Conference on Continuous Optimization (ICCOPT II & MOPTA 07)*, August 13–16, 2007, McMaster University, Hamilton, Ontario, Canada.
- Invited speaker. “A Fast Iterative Shrinkage Algorithm for Convex Regularized Linear Inverse Problems”, *SIAM Conference on Optimization*, May 9–13, 2008, Boston, USA.
- “Convex Total Least Squares Problems”, *Operations Research Society of Israel Meeting*, May 18–19, 2008, Shfayim, Israel.
- Semi-Plenary speaker. “Fast Gradient-Based Schemes for Total Variation Minimization”, *7th EUROPT Workshop on Advances in Continuous Optimization*, July 3–4, 2009, Remagen, Germany.
- Invited Speaker. “A Fast Proximal Gradient Method for Solving A Class of Nonsmooth Problems”, *BIRS Workshop on Fixed-Point Algorithms for Inverse Problems in Science and Engineering*, November 1–6, 2009, Banff, Canada.
- Invited speaker. “On the Solution of the GPS Localization Problem”, *IPAM Workshop on Applications of Optimization in Science and Engineering*, November 30–December 3, 2010, UCLA, Los Angeles, CA, USA.
- Invited speaker. “Sparsity Constrained Nonlinear Optimization: Optimality Conditions and Algorithms”, *Workshop on Convex Relaxation Methods for Geometric Problems in Scientific Computing*, IPAM, UCLA, February 11–15 2013.
- Semi-plenary speaker in *ICCOPT 2013*, July 27–August 1, 2013, Lisbon, Portugal.
- Invited speaker. “Coordinate Descent Type Methods for Solving Sparsity Constrained Problems”, *SIAM Conference on Optimization 2014*, May 19–22 2014, San Diego, CA, USA.
- Plenary speaker in *NIPS Workshop on Optimization for Machine Learning*, December 12, 2014, Montreal, Canada.
- Invited speaker in the *International BASP Frontiers Workshop 2015*, January 25–30, 2015, Villar-Sur-Ollon, Switzerland.

- Semi-plenary speaker in the *17th British-French-German Conference on Optimization*, June 15–17, 2015, London, United Kingdom.
- Plenary speaker. *Modeling and Optimization: Theory and Applications (MOPTA) 2015*, July 20–22, 2015, Leigh University, USA.
- Invited speaker. *Optimization in Machine Learning, Vision and Image Processing*, October 6–7, 2015, Institut de Mathematiques de Toulouse, France.
- Plenary speaker. *Mathematics and Image Analysis*, January 18–20, 2016, Institut Henri Poincare, Paris, France.
- Invited speaker. “Primal and Dual Predicted Decrease Approximation Methods”, *ICCOPT 2016*, August 8–11, 2016, Tokyo, Japan.
- Invited speaker in the workshop on “Big Data Analysis with Applications” as part of ECM 2017, May 31–Jun 2, 2017, Hong Kong Polytechnic University.
- Invited speaker in the workshop on “Large-Scale and Distributed Optimization”, June 14–16, 2017, Lund Center for Control of Complex Engineering Systems, Lund University, Sweden.

Refereed Papers in Conference Proceedings

1. Yonina C. Eldar and Amir Beck, “Hidden Convexity Based near Maximum-Likelihood CDMA Detection”, *Proceedings of the 39th Annual Conference on Information Sciences and Systems (CISS 2005)*.
2. Amir Beck, Yonina C. Eldar and Aharon Ben-Tal, “MSE Estimation of Multichannel Signals with Model Uncertainties”, *Int. Conf. on Acoustics, Speech and Signal Processing (ICASSP 2005)*, 49–52, March 2005.
3. Yonina C. Eldar and Amir Beck, “Hidden Convexity Based near Maximum-Likelihood CDMA Detection”, *Proceedings of the 6th IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC-2005)*, 61–65.
4. Y.C. Eldar and A. Beck, “A Chebyshev Center Estimator in Regularized Regression with Bounded Noise”, *Asilomar Conference on Signals, Systems, and Computers, Oct. 2006*.
5. Y.C. Eldar and A. Beck, “Minimax Regression with Bounded Noise”, *2006 IEEE 24th Convention of Electrical and Electronics Engineers in Israel*, 74–78.
6. Amir Beck and Marc Teboulle, “A Fast Iterative Shrinkage-Thresholding Algorithm with Application to Wavelet-Based Image Deblurring”, *Int. Conf. on Acoustics, Speech and Signal Processing (ICASSP 2009)*, 693–696, April 2009.
7. Yoav Shechtman, Amir Beck and Yonina C. Eldar, “Efficient Phase Retrieval of Sparse Signals”, *2012 IEEE 27th Convention of Electrical and Electronics Engineers in Israel*.
8. Amir Beck and Yonina C. Eldar, “Sparse Signal Recovery from Nonlinear Measurements”, *ICASSP 2013*.

9. Yoav Shechtman, Amir Beck and Yonina C. Eldar, “GESPAR: Efficient Sparse Phase Retrieval with Applications to Optics”, *Proceedings of the 10th International Conference on Sampling Theory and Applications*, 2013.

Participation in Organizing Conferences

- *Operations Research Society of Israel Meeting*, May 21–22, 2006, Nahariya, Israel, session organizer
- *21st European Conference on Operational Research (EURO XXI)*, July 2–5, 2006, Reykjavik, Iceland, session organizer.
- *Operations Research Society of Israel Meeting*, May 13–14, 2007, Maale Hachamisha, Israel, session organizer.
- German-Israeli Minerva School on Modern Optimization and its Applications in Engineering III, June 4–7, 2007, Kibbutz Ein-Gedy, Israel, organizing committee.
- *22nd European Conference on Operational Research (EURO XXII)*, July 8–11, 2007, Prague, stream organizer.
- *Second Mathematical Programming Society International Conference on Continuous Optimization (ICCOPT II & MOPTA-07)*, August 13–16, 2007, Ontario, Canada, session organizer.
- *Euro Mini Conference: Continuous Optimization and Knowledge-Based Technologies*, May 20–23, 2008, Neringa, Lithuania, organizing committee.
- *Operations Research Society of Israel Meeting*, May 18–19, 2008, Shfayim, Israel, session organizer.
- “*OR for Young*” Meeting, November 28, 2008, Tel-Aviv University, chair of organizing committee.
- *23rd European Conference on Operational Research*, July 5–8, 2009, Bonn, Germany, stream organizer.
- *Operations Research Society of Israel Meeting*, May 30–31, 2010, Israel, organizing committee.
- *21st International Symposium on Mathematical Programming*, August 19–24, 2012, Berlin, Germany, stream organizer (Nonsmooth Optimization).
- *IFORS 2014*, Chair of the stream “Convex Optimization Methods and Applications”, July 13–18, Barcelona, Spain.
- *22nd International Symposium on Mathematical Programming*, cluster Organizer of “Nonsmooth Optimization”, July 12–17, 2015, Pittsburgh, PA, USA.
- Member of the organizing committee of the workshop “Continuous Optimization: Challenges and Applications”, September 5-8, 2016, The Technion, Israel.
- Member of the scientific committee of the focus period devoted to “Large-Scale and Distributed Optimization” in the Linnaeus center LCCC, May 29th to June 30th, 2017, Sweden.

Active Participation in Scientific Meetings

- “Global Optimality Conditions for Quadratic Optimization Problems with Binary Constraints”, *17th International Symposium on Mathematical Programming*, August 7–11, 2000, Atlanta, GA, USA.
- “Global Optimality Conditions for Quadratic Optimization Problems with Binary Constraints”, *Minerva Optimization Center, summer school*, August 22–25, 2000, Technion.
- “The Gradient Error Bound and a Linearly Convergent Algorithm for QCQP”, *Minerva Optimization Center, summer school*, September 22–26, 2003, Thurnau, Germany.
- “Applications of Optimization to Estimation Problems in Signal Processing”, *Operations Research Society of Israel Meeting*, May 16–17, 2004, Ashkelon, Israel.
- “Robust Mean-Squared Error Estimation of Multiple Signals in Linear Systems Affected by Model and Noise Uncertainties”, *First International Conference on Continuous Optimization*, August 2–4, 2004, Troy, USA.
- “New Results on the Total Least Squares Problem”, *2005 SIAM Conference on Optimization*, Stockholm, Sweden, May 15–19, 2005.
- “Regularization of Linear Systems with Bounded Noise: A Chebyshev Center Approach”, *Operations Research Society of Israel Meeting*, May 21–22, 2006, Nahariya, Israel.
- “Quadratic Matrix Programming”, *Workshop on Advances in Continuous Optimization*, June 30–July 1, 2006, Reykjavik, Iceland.
- “On the Solution of the Single Source Localization Problem”, *Operations Research Society of Israel Meeting*, May 13–14, 2007, Maale Hachamisha, Israel, session organizer.
- “Nonconvex Quadratic Optimization” (**tutorial**), *German-Israeli Minerva School on Modern Optimization and its Applications in Engineering III*, June 4–7, 2007, Kibbutz Ein-Gedy, Israel.
- “A Fast Iterative Shrinkage-Thresholding Algorithm with Application to Wavelet-Based Image Deblurring”, *Int. Conf. on Acoustics, Speech and Signal Processing (ICASSP 2009)*, April 19–24, 2009, Taipei, Taiwan.
- “Fast Gradient-Based Schemes for Total Variation Minimization”, *SIAM Conference on Imaging Sciences (SIIMS 2010)*, April 11–14, 2010, Chicago, IL, USA.
- “On the Solution of the GPS Localization and Circle Fitting Problems”, *ORSIS Meeting*, May 29–30, 2011, Akko, Israel.
- “Nonconvex Quadratic Optimization: Theory and Applications”, *Joint Technion-Erasmus Workshop on Optimization Methods Applied to Operations Research and Engineering*, November 20–23, 2011, Kibbutz Ein-Gedy, Israel.
- “On the Solution of the GPS Localization and Circle Fitting Problems”, *SIAM Optimization Meeting*, May 16–19, 2011, Darmstadt, Germany.

- “On the Solution of the GPS Localization and Circle Fitting Problems”, *9th International Conference on Computational Management Science*, April 18–20, 2012, Imperial College, London, UK.
- “The 2-Coordinate Descent Method for Solving Double-Sided Simplex Constrained Minimization Problems”, *ISMP 2012*, April 19–24, 2012, Berlin, Germany.

Professional Activities

- **Reviewer for:** *Mathematical Reviews*, *Mathematical Programming*, *SIAM Journal of Optimization*, *SIAM Journal on Matrix Analysis and Applications*, *Linear Algebra and its Applications*, *Computational Optimization and Applications*, *European Journal of Operations Research*, *Optimization Methods and Software*, *Automatica*, *Optimization Letters*, *Annals of Operations Research*, *ESAIM-Control*, *Optimization and Calculus of Variations*, *Journal of Optimization Theory and Applications*, *Computational Statistics & Data Analysis*, *Automatica*, *IEEE Transactions on Signal Processing*, *IEEE Transactions on Antennas and Propagation*, *Probability in the Engineering and Informational Sciences*, *Asia-Pacific Journal of Operational Research*, *Journal on Machine Learning Research*, *Journal of Global Optimization*, *Journal of Selected Topics in Signal Processing*, *SIAM Journal on Imaging Sciences*, *IEEE Transactions on Vehicular Technology*.