CURRICULUM VITAE

Dr. Toledano-Kitai Dvora

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ID. no.: 022884506
Date of birth: January 29, 1967
Place of birth: Haifa, Israel
Marital status: Married with 2 children.

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1. Academic Education

Ph.D. 2000: *Mathematics*, Haifa University; Direct course for Ph.D.
Dissertation: "On Some Extremal Problems in Interpolation Theory".
B.A. 1992: *Mathematics and Teaching*, Haifa University- Graduated with honours.

2. Academic Employment

2010-Present Senior Lecturer, Department of Software Engineering, Braude College, Karmiel, Israel.

2023-2024 Vice Head, Department of Software Engineering, Braude College, Karmiel, Israel.

2018-2023 Head, Department of Software Engineering, Braude College, Karmiel, Israel.

2012- 2017 Head, Teaching and Learning Center, Braude College, Karmiel, Israel.

2008–2010 Lecturer, Department of Software Engineering, Braude College, Karmiel, Israel.

2003-2008 Adjunct Lecturer, Department of Software Engineering, and the Department of Mathematics, Braude College, Karmiel, Israel.

1998-2007 Adjunct Lecturer, Department of Computer Science and the Department of Economics, Haifa University, Haifa, Israel.

2004-2005 Lecturer, Department of Mathematics and Computer Science, The College of Sakhnin for Teacher Education, Sakhnin, Israel.

1992-1998 Teaching Assistant, Department of Mathematics, Haifa University, Haifa, Israel.

1992-1998 Research Assistant, School of Education, Haifa University, Haifa, Israel. Member in a development team in "Visualizing Mathematics" project. (A computer-oriented inquiry curriculum in mathematics for high school students.

3. Teaching Experience

A. BRAUDE COLLEGE:

Undergraduate Courses:

- Calculus 1
- Advanced Calculus 1 extended (By scale up method, new development)
- Numerical Analysis for Software Engineering
- Numerical Analysis for Mechanical Engineering
- Numerical Analysis for Applied Mathematics (extended course)
- Ordinary Differential Equations
- Advanced Mathematics (topics included: Ordinary Differential Equations, Partial Differential Equations, Infinite and Power Series, Fourier Series, Laplace, and Fourier Transforms)
- Complex Dynamical Systems (by scale up method, new development)
- Discrete Mathematics 2.
- Series, Fourier Transforms and Differential Equations.
- Algebraic Structures 1
- Algebraic Structures 2

Graduate Courses:

- Advanced Numerical Analysis
- Approximation Theory

B. OTHER UNIVERSITIES OR COLLEGES

Haifa University:

Undergraduate courses

- Calculus 1
- Advanced Calculus 1
- Advanced Calculus 2
- Advanced Linear Algebra 1
- Advanced Linear Algebra 2
- Numerical Analysis for Computer Science
- Topics in Math (includes topics in advanced calculus & topics in modern algebra)

- Ordinary Differential Equations (T.A)
- Advanced Calculus 3 (T.A)

The College of Sakhnin for Teacher Education:

Undergraduate courses

- Calculus 1
- Numerical Analysis

4. Academic and professional awards and grants

Research Grants:

Czech Israeli Cooperative Scientific Research grant, Project: Intelligent Testing and Analysis of Concurrent Software. With: Soffer, A., Ur, S. and Volkovich, Z., February 2013.

Other Grants:

Erasmus+ grant within **KA2 –**Cooperation for innovation and the exchange of good practices –Capacity Building in the field of Higher Education. **IN2IT (Internationalization by Innovative Technologies),** October 2015-October 2018.

Awards:

2018	One of the top 50 inspirational lecturers of 2018 through an initiative of the National Student Union.
2016	Excellence Prize, Braude College
2015	Excellence Prize, Braude College
2014	Excellence Prize, Braude College
2013	Excellence Prize, Braude College
2012	Excellence Prize, Braude College
2011	Excellence Prize, Braude College
2011	Special Contribution Prize, Braude College
2010	Excellence Prize, Braude College
2010	Scholarship for reducing teaching load, Braude College
2009	Excellence of Teaching, Braude College
2007	Excellence of Teaching, Braude College
2006	Award for Excellence in Teaching, University of Haifa
2005	Excellence of Teaching, Braude College
2003	Excellence of Teaching, Braude College
1994	The Dorothy Bernstein scholarship in mathematics, University of Haifa
1992-2002	Award for Excellence in Teaching, University of Haifa

5. Academic and Administrative Activities

- 2025,- Member, College-Wide AI Steering Committee.
- 2025-, Academic Advisor for Course Recognition and Credit Transfer.
- 2025-, Academic Advisor for Reserve Duty Students.
- 2024-, Departmental Academic Advisor – Excellence Program.
- 2023-2025, First year students' Academic Advisor

- 2024, Member of the CS curriculum committee.
- 2023-2024, Member of A College Committee for Problem Solving in the "Iron Swords" War.
- 2023-2024, Member of the departmental SE curriculum committee.
- 2021-2025, Member of the Control Committee of lecturer excellence process
- 2018-2023, Member of the Braude Academic Council.
- 2018-2023, Chairman of the departmental SE curriculum committee.
- 2019-2023, Member of the Steering Committee of the Center for Engineering Education and Entrepreneurship.
- 2021, Member of the organizing committee of the college Engineering Education Conference.
- 2021, Member of the College committee for defining the tenure procedure.
- 2020, Co-Editor, Special Issue: "Machine Learning and Pattern Recognition" Mathematics, MPDI.
- 2020, Judge at XR Hakaton, March 2020, Braude College.
- 2019-2020, Chairman of the committee for academic status and termination of study.
- 2018-2020, Chairman of the departmental team for the revision in the SE curriculum.
- 2017, Member of the college committee for professional development of department heads.
- 2017, Chairman of the committee for defining departmental procedures and criteria for handling students in an improper academic situation.
- 2016-2019, Coordinator & Development of the international online course "Essential skills for academic and professional excellence in a global context", within Erasmus+, IN2IT Project.
- 2016-2017, Member of the college committee for the implementation of the recommendations for improving student satisfaction.
- 2016-2017, Member of the subcommittee of the committee for academic affairs to define a compensation procedure for PBL courses.
- 2016-2017, Member of the departmental committee for submission of the updated master's program in Computer Science with a thesis.
- 2016, Co-chair of the national organizing committee of a professional workshop: Challenges of Faculty Development in the 21st Century, February 2017 (5th – 10th). Ireland.
- 2016, Member of the committee of the national forum of Teaching and Learning Centres.
- 2015-2019, Coordinator of IN2IT Project within Erasmus+, Braude College.
- 2015, Developing an international workshop: "Internationalization of Engineering Curricula: Braude College", the workshop was conducted at Sapir College in November 2015.
- 2015, Member of the Organizing Committee, “on Academic Internationalization”, March 11, 2015, Tel Aviv University’s Green House.

- 2014, Member of the national sub-forum of the committee for examining the quality of teaching.
- 2014, Developing an international workshop: OBC Case Study: How to promote ownership of faculty?", Braude College.
- 2013-2016, Coordinator of the Tempus Iris Project, Braude College.
- 2012-2017, Member of the National Forum of Teaching and Learning Centers.
- 2012-2017, Chairman of the Steering Committee, the Teaching & Learning Center.
- 2013-2015, Chairman of the ABET Learning Outcomes Committee, the Teaching & Learning Center.
- 2013-2014, Chairman of the 'Pioneer team" Committee, the Teaching & Learning Center.
- 2013-2015, Chairman of the Committee for determining the pedagogical practice procedure for supporting lecturers with low scores in student survey.
- 2013-2014, Member of the College Students-Lecturer thinking forum.
- 2014-2015, Member of the committee for formulating the update lecturer evaluation form.
- 2013-2015, Member of the Steering Committee for implementing the College Strategy.
- 2013-2017, Member of the Academic Affairs Committee.
- 2013-2016, Member of the Preparatory Academic Affairs subcommittee.
- 2013-2016, Member of the Research Committee, the Teaching & Learning Center.
- 2008-2015, Member of the Committee of advancing and promoting student learning, the Teaching & Learning Center.
- 2012-2017, Member of the Committee of advancing and promoting lecturer teaching, the Teaching & Learning Center.
- 2012-2013, Participation in advanced "Coaching" course, Braude College, Israel.
- 2013, Co-Editor, Research Booklet of Braude College: 2009-2013.
- 2011, Editor, Research Booklet of Braude College: 2009-2011.
- 2011-2012, Co-Coordinator of the self-evaluation process at the Department of Software Engineering & Information systems.
- 2011-2012, Chair of research subcommittee for Reducing Teaching Load, Braude College.
- 2011, Member of the Organizing Committee, "Workshop on Patents and Software Engineering" collocated with the 7^{th} Haifa Verification Conference HVC2011, December 4, 2011, Braude College, Israel.
- 2011, Member, departmental lecturer peer-support team.
- 2010-2011, Chair of the Organizing Committee, the 7^{th} Braude College Interdisciplinary Research Conference, September 19-20, 2011, Pastoral Kfar Blum Hotel, Upper Galilee, Israel.
- 2012, Member of the Program Committee, "Text Mining 2012", the 10^{th} workshop on text mining 12^{th} SIAM International Conference on Data Mining., April 28, 2012, Disney's Paradise, Pier Hotel, Anaheim, CA, USA.

- 2011, Member of the Program Committee, "Text Mining 2011", the 9th workshop on text mining 11th SIAM International Conference on Data Mining., April 30, 2011, Hilton Phoenix, Mesa, Arizona, USA.
- 2010, Developing of a new course" Numerical Analysis for Applied Mathematics" (Extended course)
- 2010-2018, Member of the curriculum committee of the B. Sc. Program in the Department of Software Engineering.
- 2010-Present, Member of the faculty admission committee in the Department of Software Engineering.
- 2010-2012, Member of the curriculum committee of the M. Sc. Program in the Department of Software Engineering.
- 2010, Chair session at "Workshop on Algorithmic Techniques for Data Mining", June 17, 2010, Braude College, Israel.
- 2009-2010, Member of the organizing committee, "Workshop on Algorithmic Techniques for Data Mining", June 17, 2010, Braude College, Israel.
- 2010-2012, Chairman of the Committee of advancing and promoting student learning, The Teaching & Learning Center.
- 2010-2011, Participation in "Coaching" course, Braude College, Israel.
- 2009-2011, Scientific Coordinator in the developing of a mutual project with Deloitte Company.
- 2010, Developing of a new course:" Numerical Analysis in English".
- 2009-2011, Academic Advisor for First year students in the Software Engineering Department.
- 2009-2012, Academic Advisor for preparatory semester in the Software Engineering Department.
- 2009-2010, Development of a preparatory semester in the Software Engineering Department.
- 2009-2010, Member in the committee of "Initiatives for Promoting Learning in Higher Education conference", Braude College.
- 2009-2011, Member of the college research committee, Braude College.
- 2009-2011, Member of research subcommittee for Reducing Teaching Load, Braude College.
- 2008-2010, Member of the development team of the M. Sc. Program in the Department of Software Engineering.
- 2008-2012, Chair, research committee, Department of Software Engineering
- 2008-2018, Scientific secretary of the Data Mining Group, Department of Software Engineering.
- 2010-2012, Chairman of the Committee of advancing and promoting student learning, The Teaching & Learning Center.
- 2008-2009, Member of the Committee of advancing and promoting student learning, The Teaching & Learning Center.
- 2010-2012, Member of the Steering Committee, the Teaching & Learning Center.
- 2008- Present, Member the Lecturers' peer-evaluation team, The Center for Teaching & Learning.

- Participation in the Workshop on Distance learning of MEDA ETE 2008, Italy
- Participation in the course for Distance learning trainers of MEDA ETE 2007, Israel
- Developing of a new active learning environment for Calculus 1 extended (Lectures planes by active approach, website, Theory book, Exercises with full solutions, Practical lessons planes by active approach and full solutions for assistants, new sets for homework in "WebAssign")
- Developing of the new active learning environment for Complex Dynamical Systems (Lectures planes by active approach, website, Lectures, Exercises with full solutions, Practical lessons planes by active approach and full solutions for assistants)
- Participation in workshops on Distance learning at Braude College 2006-2008

6. List of Publications

6.1 Ph.D. Thesis:

D. Toledano Kitai, "On Some Extremal Problems in Interpolation Theory", 2000.

6.2 Referred Papers:

1. R. Avros, S. Keshet, D. Toledano-Kitai, E. Vexler, Z. Volkovich, Detecting Pseudo Manipulated Citations in Scientific Literature through Perturbations of the Citation Graph, Mathematics MPDI, 11(18) 3820, Special Issue Theory and Applications of Randomized Machine Learning, September 2023. https://doi.org/10.3390/math11183820.

2. *V. M Kirzhner, D. Toledano-Kitai, Z. Volkovich*, Evaluating the number of different genomes in a metagenome by means of the compositional spectra approach, November 2020, PLOS ONE, DOI: 10.1371/journal.pone.0237205

3. *D. Toledano-Kitai, R. Avros and Z. Volkovich*, A Model Selection Method for Heavy-tailed Clustering. ASMDA2015 2nd Book "Stochastic & Data Analysis Methods & Applications in Statistics and Demography" (J. R. Bozeman, T. Oliveria and C. H. Skiadas Ed.), Chapter 9, p. 463-471, November 2016.

4. *R. Avros, D. Toledano-Kitai, Z. Frenkel and Z. Volkovich,* An Iterative Projective Clustering Method, Procedia Computer Science, 60, 122-130,2015.

5. *D. Toledano-Kitai, R. Avros, Z. Volkovich, G.-W. Weber, and O. Yahalom*, Cluster Validation: A Binomial Noised Model, Journal of Intelligent & Fuzzy Systems; Special Issue: Recent Advances in Intelligent & Fuzzy Systems, 24:417–427, 2013.

6. *Z. Volkovich, D. Toledano Kitai and G.-W. Weber,* Self-Learning *k*-means Clustering: A Global Optimization Approach, *Journal of Global Optimization* (JOGO), 56 (2), 219-232, 2013.

7. *Z. Volkovich, Z. Barzily, G.-W. Weber, D. Toledano-Kitai and R. Avros*, An application of the Minimal Spanning Trees Approach to Cluster Stability Problem, *Central European Journal of Operation Research*, 20(1), 119-139, 2012.
8. *Z. Volkovich, Z. Barzily, G.-W. Weber, D. Toledano-Kitai and R. Avros*, Resampling Approach for Cluster Model Selection, *Machine Learning*, 85 (1-2), 209-248, 2011.
9. *Z. Volkovich, Z. Barzily, R. Avros and D. Toledano-Kitai*, On Application of a Probabilistic *K-N*earest *N*eighbours Model for Cluster Validation Problem, *Communications in Statistic*, 40, 2997-3010, 2011.
10. *D. Toledano-Kitai, R. Avros and Z. Volkovich,* A Fractal Dimension Standpoint to the Cluster Validation Problem, *International Journal of Pure and Applied Mathematics,* 20 (2), 187-202, 2011.
11. *Z. Volkovich, D. Toledano-Kitai and R. Avros*, On analytical properties of generalized convolutions, *Banach Canter Publications, Institute of Mathematics, Polish Academy of Sciences Warszawa*, (invited paper), 90, 243-274, 2010.
12. *Z. Volkovich, Z. Barzily, D. Toledano-Kitai and R. Avros*, The Hotelling's metric as a cluster stability measure, *Computer Modelling & New Technologies*, 14 (4), 65-72, 2010.
13. *D. Toledano, L. Brutman and I. Gopengauz*, On the Integral of the Lebesgue Function Induced by Interpolation at the Chebyshev Nodes, *Acta Mathematica Hungarica* 90 ,1-2,11-28, 2001.
14. *D. Toledano and L. Brutman*, An Extremal Problem of Erdos in Interpolation Theory, *Computers & Mathematics with Applications* 34 ,12, 37-47,1997.

6.3 Submitted for Publication

6.4 Conference Proceedings (Refereed)

15. D. *Toledano-Kitai, Y. Azeraf, I. Kraus, Z. Volkovich*, Assessment of citation suitability via an ant colony-inspired algorithm. In Proceedings of the 29th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems (KES 2025), Procedia Computer Science, pages 525-533, Osaka, Japan, 10-12 September 2025. https://doi.org/10.1016/j.procs.2025.09.171
16. D. *Toledano-Kitai, R. Avros, I. Lev, B. Fridman, Z. Volkovich*, Appraisal of Citation Reliability Using a Gan-Based Approach. In Proceedings of the 14th International Conference on Data Science, Technology and Applications (DATA 2025), pages 778-785Bilbao, Spain, 10-12 July 2025. DOI: 10.5220/0013586500003967
17. *R. Avros, D. Toledano-Kitai, Z. Volkovich*, Citation Steadiness Analysis with GraphSAGE Approach. In Proceedings of the 14th International Conference on Data Science, Technology and Applications (DATA 2025), Bilbao, Spain, 10-12 July 2025. DOI: 10.5220/0013455600003967.
18. *R. Avros, S. Keshet, D. Toledano-Kitai, E. Vexler, Z. Volkovich*, Detecting Manipulated Citations through Disturbed Node2Vec Embedding, 25th International Symposium on Symbolic and Numeric Algorithms for Scientific

Computing-SYNASC 2023, IEEE Explore. DOI: 10.1109/SYNASC61333.2023.00047, May 2024.

19. O. Dagan, V. Holzmann, D. Toledano-Kitai, Using Innovative Technology in an Essential Skills Online-International Course, 7th International Conference the Story of Innovation in Teacher Education, MOFET Institute, Tel-Aviv, Israel, June 2019.
20. *R. Avros, D. Toledano-Kitai, Z. Frenkel and Z. Volkovich,* An Iterative Projective Clustering Method, Knowledge-Based and Intelligent Information & Engineering Systems 19th Annual Conference, KES-2015, Singapore, September 2015.
21. *D. Toledano-Kitai, R. Avros and Z. Volkovich*, A Model Selection Method for Heavy-tailed Clustering, Accepted to 16th conference of ASMDA international society (ASMDA2015), p. 1005-1013, Piraeus, Greece, 30th June – 4th July 2015.
22. *D. Toledano-Kitai and Z. Volkovich*, On stable states of the GMM clustering, Proceedings, 3rd SMTDA2014 (Stochastic Modelling Techniques and Data Analysis) International Conference (SMTDA 2014), Lisbon, Portugal, 11 - 14 June 2014.
23. *R. Avros, A. Soffer, D. Toledano-Kitai and Z. Volkovich*, Cluster Model Selection using Minimum Cost Spanning Trees, Proceedings, 15-th Applied Stochastic Models and Data Analysis (ASMDA2013) International Conference p. 61-69, Mataró (Barcelona), Spain 25 - 28 June 2013.
24. *Z. Volkovich, D. Toledano-Kitai and R. Avros*, Distance Learning for Cluster Validation, Stochastic Modelling Techniques and Data Analysis International Conference (SMTDA 2012), p. 173-185, Chania Crete Greece, 5 - 8 June 2012**.**
25. *Z. Volkovich, D. Toledano-Kitai and R. Avros*, On Energy Based Cluster Stability Criterion, Stochastic Modelling Techniques and Data Analysis International Conference (SMTDA 2010), p. 819-826, Chania Crete Greece, 8 - 11 June 2010**.**
26. *Z. Volkovich, Z. Barzily, D. Toledano-Kitai and R. Avros*, Probability metrics standpoint on the cluster stability problem, International Symposium on Stochastic Models in Reliability Engineering, Life Science and Operations Management, Beer Sheva, Israel, February 8-11, 2010.
27. *Z. Volkovich, Z. Barzily, R. Avros and D. Toledano-Kitai,* On application of the *K* nearest neighbour's approach for cluster validation, The XIII International Conference **(**ASMDA 2009), Vilnius, 2009.
28. *Z. Volkovich, Z. Barzily, G.-W. Weber and D. Toledano-Kitai*, Cluster Stability Estimation Based on a Minimal Spanning Trees Approach, The Second Global Conference on Power and Optimization (PCO2009), Bali, Indonesia, 2009.

6.5 Books & Chapters in Books

29. O. Granichin, Z. Volkovich and D. Toledano-Kitai, Randomized Algorithms in Automatic Control and Data Mining, intelligent systems reference library 67, Springer, 2014.

6.5 Conference Abstracts

1. *D. Toledano-Kitai, R. Avros, Z. Barzily, Z. Volkovich*, Fractal dimension cluster validation criteria, The 24th European Conference on Operational Research, Lisbon, 2010.
2. *Z. Volkovich, Z. Barzily, R. Avros and D. Toledano-Kitai, K-N*earest *N*eighbours' stochastic models in the cluster stability problem, The 23rd European Conference on Operational Research, Bonn, 2009.

6.6 Preprints

1. R. Avros, S. Keshet, D. Toledano-Kitai, E. Vexler, Z. Volkovich, Detecting Pseudo Manipulated Citations in Scientific Literature through Perturbations of the Citation Graph. Preprints 2023, 2023070777. https://doi.org/10.20944/preprints202307.0777.v1
2. V. M. Kirzhner, D. Toledano-Kitai, Z. Volkovich, Evaluating the Number of Different Genomes in a Metagenome by Means of the Compositional Spectra Approach, bioRxiv, DO - 10.1101/2020.07.23.217364, SP - 2020.07.23.217364, 2018.
3. *Z. Volkovich, D. Toledano-Kitai and G.-W. Weber,* Self-Learning K-Means Clustering: A Global Optimization Approach, *Institute of Applied Mathematics, Middle East Technical University*, Ankara, Turkey, 2011.
4. *D. Toledano-Kitai*, *R. Avros*, *Z. Volkovich*, *G.-W.Weber* and *O. Yahalom*, Cluster Validation: A Binomial Noised Model*, Institute of Applied Mathematics, Middle East Technical University*, Ankara, Turkey, 2010.
5. *Z. Volkovich, Z. Barzily, G. -W. Weber, D. Toledano-Kitai and R. Avros*, Resampling Approach for Cluster Model Selection, *Institute of Applied Mathematics, Middle East Technical University*, Ankara, Turkey, 2010.
6. *Z. Volkovich, Z. Barzily, G. –W. Weber, D. Toledano-Kitai and R. Avros*, A Minimal Spanning Trees Approach to Cluster Stability Problem, *Institute of Applied Mathematics, Middle East Technical University*, Ankara, Turkey, 2009.
7. *Z. Volkovich, Z. Barzily, G. –W. Weber and D. Toledano-Kitai*, Cluster Stability Estimation Based on a Minimal Spanning Trees Approach, *Institute of Applied Mathematics, Middle East Technical University*, Ankara, Turkey, 2008

6.7 Textbooks

1. *D. Toledano-Kitai, F. Jacobson and D. Shoikhet,* Differential Calculus in One Variable, Magness Press, 2008.