Özgür Yılmaz

Professor of Mathematics, University of British Columbia

Director, Pacific Institute for the Mathematical Sciences (PIMS)

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EDUCATION

Ph.D., Applied and Computational Mathematics, Princeton University 2001

Dissertation: Mathematical Properties of Coarse Quantization Schemes in Signal Analysis with New Applications
Advisor: Ingrid Daubechies

B.S., Mathematics, Boğaziçi University, Istanbul 1997

B.S., Electrical and Electronics Engineering, Boğaziçi University, Istanbul 1997

ACADEMIC APPOINTMENTS

Director, CNRS–PIMS International Research Laboratory (IRL #3069)	2023–present
Director, Pacific Institute for the Mathematical Sciences (PIMS)	2022–present
Professor, Department of Mathematics, University of British Columbia	2014–present
Interim Deputy Director, Pacific Institute for the Mathematical Sciences (PIMS)	2021–2022
Deputy Director, Banff International Research Station (BIRS)	2019–2020
Associate Head for Research, Department of Mathematics, University of British Columbia	2018–2019
Associate Professor, Department of Mathematics, University of British Columbia	2009–2014
Assistant Professor, Department of Mathematics, University of British Columbia	2004–2009
Avron Douglis Lecturer, Department of Mathematics, University of Maryland, College Park	2002–2004
Postdoctoral Researcher, Program in Applied and Computational Mathematics, Princeton University	2001–2002

OTHER AFFILIATIONS

- FRA MATH-AMERICAS (MATHAM), CNRS
- Pacific Rim Initiative for Sustainable Marine Systems (PRISMS)
- Data Science Institute, University of British Columbia
- Institute of Applied Mathematics, University of British Columbia
- Institute for Computing, Information and Cognitive Systems (ICICS), University of British Columbia
- Centre for Artificial Intelligence Decision-making and Action (CAIDA), University of British Columbia

RESEARCH INTERESTS

Harmonic analysis, sampling theory, compressed sensing, quantization and analog-to-digital conversion, inverse problems, and mathematical foundations of AI and machine learning.

INSTITUTIONAL LEADERSHIP (PIMS)

As Director of the Pacific Institute for the Mathematical Sciences since July 2022, I lead one of Canada's national mathematical sciences institutes, spanning nine member universities in Western Canada and the University of Washington. My directorship has focused on strengthening PIMS's international role, renewing and expanding major funding partnerships, advancing national mathematical infrastructure, and positioning the mathematical sciences as central to AI, ocean science, data science, and interdisciplinary research.

Institutional Renewal and Major Funding

- Secured and stewarded more than $7M CAD-equivalent in institutional funding for PIMS through NSERC, the Simons Foundation, CNRS, and national infrastructure partnerships.
- Led the NSERC Discovery Institutes Support Grant application for PIMS ($1,153,748/year for five years, $5.77M total, 2022–2027).
- Secured two Simons Foundation Targeted Grants for PIMS, totalling approximately $1.33M USD ($576,000 USD for 2022–2025 and $750,000 USD for 2026–2028).
- Led the successful third renewal of the PIMS–CNRS International Research Laboratory partnership, securing a five-year agreement with CNRS (2024).

International Partnerships and Scientific Diplomacy

- Played a leading role in the creation of MATHAM, the first CNRS federation of mathematical sciences laboratories in the Americas, connecting all six CNRS mathematics IRLs across Canada, Chile, Mexico, Uruguay, and Brazil (inaugurated April 2025, Santiago).
- Launched new international cross-disciplinary initiatives, including the Canada–France–Chile Ocean Research Connections Workshop (February 2026), and helped develop the forthcoming MATHAM Conference on Mathematical Foundations of AI (December 2026).

National Infrastructure and Research Platforms

- Principal Investigator on Syzygy, an AI-enabled national interactive computing platform (Digital Research Alliance of Canada, 2026–2029), providing Jupyter-based infrastructure for teaching and research across Canadian universities.

Scientific Programming, Training, and Outreach

- Oversees a broad scientific portfolio of approximately 100 events annually, including flagship research programs, Collaborative Research Groups, postdoctoral fellowships, education and outreach initiatives, and EDI and Indigenous engagement programming.

GRANTS AND FUNDING

Active and Recent Research Grants

- CIHR Project Grant Priority Announcement, “Harnessing artificial intelligence to investigate sex and gender differences in diabetic retinopathy.” PI: I. Oruc; Co-PI: O. Yilmaz (with N. Gupta, E. Navajas, G. Ozturan). $100,000, 2025–2026.
- NSERC Discovery Grant, “Mathematical problems in analysis, processing, and use of deep neural networks in signal processing.” PI: O. Yilmaz. $185,000, 2023–2028.
- UBC/PIMS Director’s Research Grant, “Mathematics of Information and Data.” PI: O. Yilmaz. $285,000 total, 2022–2031.
- UBC Health Innovation Funding Investment (HIFI) Award, “Automated detection of Alzheimer’s Disease from retinal fundus images using deep learning.” PI: I. Oruc; Co-PI: O. Yilmaz. $25,000, 2022–2023.
- UBC Centre for Brain Health Kickstart Grant. PI: I. Oruc; Co-PI: O. Yilmaz. $30,000, 2021–2022.
- UBC Data Science Institute Grant, “A deep learning approach to analyzing retinal imaging for medical diagnosis and prediction.” PI: I. Oruc; Co-PI: O. Yilmaz. $40,000, 2020–2021.

Active and Recent Institutional Grants Secured as PI for PIMS

- Simons Foundation Targeted Grant for PIMS. PI: O. Yilmaz (with K. Bauer, D. Needell). $250,000 USD/year for 3 years ($750,000 USD total), 2026–2028.
- Digital Research Alliance of Canada, “Syzygy: An AI-enabled National Interactive Computing Platform.” PI: O. Yilmaz. In-kind ($13,409/year), 2026–2029.
- NSERC Discovery Institutes Support Grant for PIMS. PI: O. Yilmaz (with B. Marcus, W. Sun, A. Quas, K. Bauer, T. Hillen, N. Ng, C. Soteros, A. Herman, S. Portet). $1,153,748/year for 5 years ($5,768,740 total), 2022–2027.

- Simons Foundation Targeted Grant for PIMS. PI: O. Yilmaz (with J. Athreya). $192,000 USD/year for 3 years ($576,000 USD total), 2022–2025.

Prior Research Grants

- PIMS Collaborative Research Group, “High Dimensional Data Analysis.” PI: O. Yilmaz (with B. Adcock, A. Aravkin, R. Donaldson, M. Friedlander, Y. Plan). $200,000, 2018–2021.
- NSERC Discovery Grant, “Compressed sensing and related areas: bridging theory with practice.” PI: O. Yilmaz. $222,000, 2017–2023.
- UBC Data Science Institute, “From heuristics to guarantees: the mathematical foundations of algorithms for data science.” PIs: O. Yilmaz, M. Friedlander. $40,000, 2020–2022.
- MITACS Accelerate Grant. PI: O. Yilmaz. $15,000, 2016.
- NSERC Discovery Accelerator Supplement, “Quantization, Frames, and Compressed Sensing.” PI: O. Yilmaz. $120,000, 2012–2015.
- NSERC Discovery Grant, “Quantization, Frames, and Compressed Sensing.” PI: O. Yilmaz. $55,000, 2011–2017.
- NSERC CRD Grant, “DNOISE II: Dynamic nonlinear optimization for imaging in seismic exploration.” PI: F. Herrmann; Co-PIs: O. Yilmaz, M. Friedlander. Yilmaz share approx. $500,000, 2010–2016.
- PIMS Collaborative Research Group on Applied and Computational Harmonic Analysis (with three other leaders). $180,000, 2011–2013.
- NSERC CRD Grant, “DNOISE.” PI: F. Herrmann; Co-PIs: O. Yilmaz, M. Friedlander. Yilmaz share approx. $120,000, 2006–2010.
- NSERC Discovery Grant, “Approximation theory of quantization of redundant expansions.” PI: O. Yilmaz. $80,000, 2005–2011.

PUBLICATIONS

Notes: *Authors are listed in alphabetical order unless contribution dictates otherwise. Citation counts via Google Scholar; full list available on request.*

Books (edited)

- M. Hirn, S. Li, K. Okoudjou, S. Saliani, and O. Yilmaz (Eds.), Excursions in Harmonic Analysis, Vol. VI – In Honor of John Benedetto’s 80th Birthday, Birkhäuser Basel, 2021.

Book Chapters

- A. Dunkel, A. Powell, A. Spaeth, and O. Yilmaz. “Quantization, finite frames, and error diffusion.” In K. Okoudjou (Ed.), Finite Frame Theory: A Complete Introduction to Overcompleteness, AMS Proceedings of Symposia in Applied Mathematics, Vol. 73, pp. 143–174, 2016.
- E. Chou, S. Gunturk, F. Krahmer, R. Saab, and O. Yilmaz. “Noise-shaping Quantization Methods for Frame-based and Compressive Sampling Systems.” In G. Pfander (Ed.), Sampling Theory, A Renaissance, pp. 157–184, Birkhäuser, 2015.
- A. Powell, R. Saab, and O. Yilmaz. “Quantization and Finite Frames.” In P. Casazza and G. Kutyniok (Eds.), Finite Frames: Theory and Applications, pp. 267–302, Birkhäuser, 2012.

Refereed Journal Articles

- Y. Plan, M. Scott, X. Sheng, and O. Yilmaz. “Denoising guarantees for optimized sampling schemes in compressed sensing.” SIAM Journal on Mathematics of Data Science. Accepted, 2026.
- P. Delavari, G. Ozturan, E. Navajas, O. Yilmaz, and I. Oruc. “AI-assisted identification of sex-specific patterns in diabetic retinopathy using retinal fundus images.” PLoS One 20(8): e0327305, 2025.
- P. Delavari, G. Ozturan, O. Yilmaz, and I. Oruc. “Artificial intelligence, explainability, and the scientific method: A proof-of-concept study on novel retinal biomarker discovery.” PNAS Nexus 2(9): 1–14, 2023.
- O. Lopez and O. Yilmaz. “Embracing off-the-grid samples.” Sampling Theory, Signal Processing, and Data Analysis 21, 26, 1–35, 2023.

- A. Berk, G. Ozturan, P. Delavari, D. Maberley, O. Yilmaz, and I. Oruc. “Learning from few examples: Classifying sex from retinal images via deep learning.” PLoS One 18(8): e0289211, 2023.
- A. Berk, S. Brugiapaglia, B. Joshi, Y. Plan, M. Scott, and O. Yilmaz. “A coherence parameter characterizing generative compressed sensing with Fourier measurements.” IEEE Journal on Selected Areas in Information Theory 3(3): 502–512, 2022.
- A. Berk, Y. Plan, and O. Yilmaz. “On the best choice of LASSO program given data parameters.” IEEE Transactions on Information Theory 68(4): 2573–2603, 2022.
- M. Friedlander, H. Jeong, Y. Plan, and O. Yilmaz. “NBIHT: An efficient algorithm for 1-bit compressed sensing with optimal error decay rate.” IEEE Transactions on Information Theory 68(2): 1157–1177, 2022.
- H. Jeong, X. Li, Y. Plan, and O. Yilmaz. “Sub-Gaussian matrices on sets: Optimal tail dependence and applications.” Communications on Pure and Applied Mathematics 75(8): 1713–1754, 2022.
- K. Melnykova and O. Yilmaz. “Memoryless scalar quantization for random frames.” Sampling Theory, Signal Processing, and Data Analysis 19, Article 12, 2021.
- A. Berk, Y. Plan, and O. Yilmaz. “Sensitivity of ℓ_1 minimization to parameter choice.” Information and Inference 10(2): 397–453, 2021.
- N. Ghadermarzy, Y. Plan, and O. Yilmaz. “Learning tensors from partial binary measurements.” IEEE Transactions on Signal Processing 67(1): 29–40, 2019.
- N. Ghadermarzy, Y. Plan, and O. Yilmaz. “Near-optimal sample complexity for convex tensor completion.” Information and Inference 8(3): 577–619, 2019.
- R. Saab, R. Wang, and O. Yilmaz. “From compressed sensing to compressed bit-streams: practical encoders, tractable decoders.” IEEE Transactions on Information Theory 64(9): 6098–6114, 2018.
- R. Saab, R. Wang, and O. Yilmaz. “Quantization of compressive samples with stable and robust recovery.” Applied and Computational Harmonic Analysis 44(1): 123–143, 2018.
- O. Lopez, R. Kumar, O. Yilmaz, and F. Herrmann. “Off-the-grid low rank matrix recovery and seismic data reconstruction.” IEEE Journal of Selected Topics in Signal Processing 10(4): 658–671, 2016.
- N. Ghadermarzy, H. Mansour, and O. Yilmaz. “Recovery of compressively sampled signals using partial support information via non-convex optimization.” Sampling Theory in Signal and Image Processing 13(3): 249–270, 2014.
- F. Krahmer, R. Saab, and O. Yilmaz. “Sigma-Delta quantization of sub-Gaussian frame expansions and its application to compressed sensing.” Information and Inference 3(1): 40–58, 2014.
- H. Mansour, F. Herrmann, and O. Yilmaz. “Improved wavefield reconstruction from randomized sampling via weighted one-norm minimization.” Geophysics 78(5): V193–V206, 2013.
- S. Gunturk, M. Lammers, A. Powell, R. Saab, and O. Yilmaz. “Sobolev duals for random frames and sigma-delta quantization of compressed sensing measurements.” Foundations of Computational Mathematics 13(1): 1–36, 2013.
- Y. Wang, O. Yilmaz, and Z. Zhou. “Phase aliasing correction for robust blind source separation using DUET.” Applied and Computational Harmonic Analysis 35(2): 341–349, 2013.
- F. Herrmann, M. Friedlander, and O. Yilmaz. “Fighting the curse of dimensionality: compressive sensing in exploration seismology.” IEEE Signal Processing Magazine 29(3): 88–100, 2012.
- M. Friedlander, H. Mansour, R. Saab, and O. Yilmaz. “Recovery of compressively sampled signals using partial support information.” IEEE Transactions on Information Theory 58(2): 1122–1134, 2012.
- A. M. Powell, J. Tanner, Y. Wang, and O. Yilmaz. “Coarse quantization for random interleaved sampling of bandlimited signals.” ESAIM: Mathematical Modelling and Numerical Analysis 46(3): 605–618, 2012.
- I. Daubechies, S. Gunturk, Y. Wang, and O. Yilmaz. “The golden ratio encoder.” IEEE Transactions on Information Theory 56(10): 5097–5110, 2010.
- R. Saab and O. Yilmaz. “Sparse approximations via non-convex optimization – instance optimality.” Applied and Computational Harmonic Analysis 29(1): 20–48, 2010.
- J. Blum, M. Lammers, A. Powell, and O. Yilmaz. “Sobolev duals for frames and sigma-delta quantization.” Journal of Fourier Analysis and Applications 16(3): 365–381, 2010.

- M. Lammers, A. Powell, and O. Yilmaz. “Alternative dual frames for digital-to-analog conversion in sigma-delta quantization.” Advances in Computational Mathematics 32(1): 73–102, 2010.
- E. van den Berg, M. P. Friedlander, G. Hennenfent, F. Herrmann, R. Saab, and O. Yilmaz. “SPARCO: A toolbox for testing sparse reconstruction algorithms.” ACM Transactions on Mathematical Software 35(4): 1–16, 2009.
- D. Wang, R. Saab, O. Yilmaz, and F. J. Herrmann. “Bayesian wavefield separation by transform-domain sparsity promotion.” Geophysics 73(5): 1–6, 2008.
- R. Saab, O. Yilmaz, M. McKeown, and R. Abugharbieh. “Underdetermined anechoic blind source separation via ℓ_q-basis-pursuit.” IEEE Transactions on Signal Processing 55(8): 4004–4017, 2007.
- I. Daubechies and O. Yilmaz. “Robust and practical analog-to-digital conversion with exponential precision.” IEEE Transactions on Information Theory 52(8): 3533–3545, 2006.
- J. Benedetto, A. Powell, and O. Yilmaz. “Sigma-Delta quantization and finite frames.” IEEE Transactions on Information Theory 52(5): 1990–2005, 2006.
- J. Benedetto, A. Powell, and O. Yilmaz. “Second-order Sigma-Delta quantization of finite frame expansions.” Applied and Computational Harmonic Analysis 20(1): 126–148, 2006.
- O. Yilmaz. “On coarse quantization of tight Gabor frame expansions.” International Journal of Wavelets, Multiresolution and Information Processing 3(2): 283–299, 2005.
- O. Yilmaz and S. Rickard. “Blind separation of speech mixtures via time-frequency masking.” IEEE Transactions on Signal Processing 52(7): 1830–1847, 2004.
- O. Yilmaz. “Coarse quantization of highly redundant time-frequency representations of square-integrable functions.” Applied and Computational Harmonic Analysis 14(2): 107–132, 2003.
- O. Yilmaz. “Stability analysis for several sigma-delta methods of coarse quantization of bandlimited functions.” Constructive Approximation 18(4): 599–623, 2002.

Selected Refereed Conference Proceedings

- B. Joshi, X. Li, Y. Plan, and O. Yilmaz. “PLUGIn: A simple algorithm for inverting generative models with recovery guarantees.” Advances in Neural Information Processing Systems (NeurIPS), 2021. Spotlight (acceptance rate < 3%).
- A. Berk, S. Brugiapaglia, Y. Plan, M. Scott, X. Sheng, and O. Yilmaz. “Model-adapted Fourier sampling for generative compressed sensing.” NeurIPS 2023 Workshop on Deep Learning and Inverse Problems, 2023.
- G. Ozturan, S. Wang, O. Yilmaz, and I. Oruc. “Domain adaptation for automated retinal image segmentation using deep learning.” Investigative Ophthalmology & Visual Science 65(7): 5666, 2024.
- I. Oruc, P. Delavari, G. Ozturan, and O. Yilmaz. “Explainable diagnosis based on retinal fundus images using deep learning.” Proceedings of ARVO 2023, IOVS 64(8): 259.
- A. Ahmadieh and O. Yilmaz. “On one-stage recovery for Sigma-Delta-quantized compressed sensing.” Proceedings of SampTA, 2019.
- H. Jeong, X. Li, Y. Plan, and O. Yilmaz. “Non-Gaussian random matrices on sets: Optimal tail dependence and applications.” Proceedings of SampTA, 2019.
- R. Saab, R. Wang, and O. Yilmaz. “Near-optimal compression for compressed sensing.” Data Compression Conference, 2015.
- F. Krahmer, R. Saab, and O. Yilmaz. “Sigma-Delta quantization of sub-Gaussian compressed sensing measurements.” Proceedings of SampTA, 2013.
- S. Gunturk, M. Lammers, A. Powell, R. Saab, and O. Yilmaz. “Sigma-Delta quantization for compressed sensing.” Proceedings of SampTA, 2011.
- R. Saab, R. Chartrand, and O. Yilmaz. “Stable sparse approximation via nonconvex optimization.” Proceedings of ICASSP, 2008.
- S. Rickard and O. Yilmaz. “On the W-disjoint orthogonality of speech.” Proceedings of ICASSP, 2002.
- A. Jourjine, S. Rickard, and O. Yilmaz. “Blind separation of disjoint orthogonal signals: Demixing N sources from two mixtures.” Proceedings of ICASSP, 2000.

Submitted

- Y. Plan, M. Scott, and O. Yilmaz. “Partially deterministic sampling for compressed sensing with denoising guarantees.” Submitted to Information and Inference, March 2026.
- I. Oruc and O. Yilmaz. “Choosing a segmentation fusion rule: A configuration-conditional guide for low-data settings.” Submitted, May 2026.

Other Writing

- O. Yilmaz, D. Needell, and K. Bauer. “How can Canada become a global AI powerhouse? By investing in mathematics.” The Conversation, December 2025.

Patents

- A. Jourjine, S. Rickard, and O. Yilmaz. US Patent #6,430,528, “Method and apparatus for demixing of degenerate mixtures,” August 6, 2002.

Software

- E. van den Berg, M. P. Friedlander, G. Hennenfent, F. Herrmann, R. Saab, and O. Yilmaz. SPARCO: A toolbox for testing sparse reconstruction algorithms. http://www.cs.ubc.ca/labs/scl/sparco/

SELECTED INVITED AND PLENARY LECTURES

- Plenary lecture, “Generative compressed sensing: coherence, sampling, and denoising.” 9th International Conference on Computational Harmonic Analysis, Nashville, TN, May 2026.
- Invited participant, AIM Workshop on “Fairness and foundations in machine learning,” American Institute of Mathematics, Palo Alto, CA, 2026.
- Invited lecture, “Mathematics and Ocean Science.” Canada-France-Chile Ocean Research Connections Workshop, PIMS and Bamfield Marine Sciences Centre, February 2026.
- Invited lecture, 5th Biennial Meeting of the Pacific Northwest Section of SIAM, October 2025.
- Invited lecture, “Generative Models and Structured Sampling for Compressed Sensing.” International Congress: Celebrating 25 Years of CMM, Santiago, Chile, April 2025.
- Colloquium, University of Alberta Department of Mathematics, March 2025.
- Invited lecture, “Generative compressed sensing with Fourier measurements.” CMS Winter Meeting, Session on Mathematics for Machine Learning, Richmond, BC, December 2024.
- Invited lecture, “Approximation theory of quantization: a personal account.” Rhodes Information Initiative at Duke, September 2024.
- Invited lecture, “Generative compressed sensing with Fourier measurements.” International Conference on Applied Mathematics, Hong Kong, May 2024.
- Plenary lecture, Workshop on Computational Harmonic Analysis and Linear Algebra, Fields Institute, Toronto, May 2022.
- Invited lecture, “PLUGIn: a simple algorithm to invert generative neural networks.” One World MINDS Seminar, April 2022.
- Invited lecture, “On one-stage recovery for Sigma-Delta-quantized compressed sensing.” SampTA, Bordeaux, France, July 2019.
- Keynote speaker, BIRS 5-Day Workshop on the Intersection of Information Theory and Signal Processing, Banff, October 2018.
- Invited lecture, “Near-optimal sample complexity for convex tensor completion.” International Conference on Applied Mathematics, Hong Kong, June 2018.
- Invited lecture, 7th International Conference on Computational Harmonic Analysis, Nashville, TN, May 2018.
- Invited lecture, IWOTA 2016, Minisymposium on Applied Harmonic Analysis, Frame Theory and Operator Theory, St. Louis, July 2016.

- Invited lecture, February Fourier Talks (FFT), College Park, MD, February 2016.
- Invited lecture, SPIE Wavelets and Sparsity XVI, San Diego, August 2015.
- Invited lecture, ICERM, Brown University, November 2014.
- Invited lecture, SIAM Annual Meeting, Minisymposium on Mathematics of Information and Low Dimensional Models, Chicago, May 2014.
- Invited lecture, DARPA Mathematics Summit, Lake Tahoe, NV, February 2012.
- Invited lecture, Workshop on Sparsity and Computation, Hausdorff Center for Mathematics, Bonn, June 2010.
- Invited lecture, AIM Workshop on "Frames for the finite world: Sampling, coding and quantization," Palo Alto, August 2008.
- Invited lecture, Erwin Schrödinger Institute, Special Semester on Modern Methods of Time-Frequency Analysis, Vienna, June 2005.

CONFERENCE AND WORKSHOP ORGANIZATION

- Member, Scientific Committee, MATHAM Conference on Mathematical Foundations of Artificial Intelligence, Santiago, Chile, December 2026.
- Co-organizer, Canada-France-Chile Ocean Research Connections Workshop, PIMS and Bamfield Marine Sciences Centre, February 2026.
- Member, Scientific Committee and Local Organization Committee, Pacific Rim Mathematical Association Congress (PRIMA), December 2022.
- Co-organizer, Learning Theory Workshop, Foundations of Computational Mathematics (FoCM 2020). Cancelled due to COVID-19.
- Member, Local Organizing Committee, Foundations of Computational Mathematics (FoCM 2020).
- Session co-organizer, Special Session on Mathematical Analysis in Data Science, Joint Mathematics Meetings (JMM), Denver, January 2020.
- Organizer, PIMS Workshop and Summer School on Mathematical Foundations of Data Science (with B. Adcock, M. Friedlander, Y. Plan), July–August 2018.
- Organizer, Daubechies 64: Time, frequency, and everything that follows (with S. Gunturk and B. Cornellis), June 2018.
- Organizer, AMS Fall Eastern Section Meeting, Special Session on Sampling Theory (with J. Benedetto and J.-P. Gabardo), October 2014.
- Organizer, BIRS 5-Day Workshop on Sparse Representations, Numerical Linear Algebra, and Optimization (with G. Kutyniok, M. Saunders, S. Wright), October 2014.
- Organizer, BIRS Workshop on Recent Progress on Applied and Computational Harmonic Analysis (with E. Braverman and B. Han), August–September 2013.
- Organizer, SAMPTA 2013, Special Session on Sampling and Quantization (with H. Boche and S. Gunturk), July 2013.
- Organizer, BIRS 5-Day Workshop on Sparse and Low Rank Approximation (with G. Kutyniok, H. Rauhut, J. Tropp), March 2011.
- Organizer, CMS Winter Meeting 2010, Special Session on Compressed Sensing (with M. Friedlander and F. Herrmann), December 2010.
- Organizer, SampTA 2009, Special Session on Sampling and Quantization, May 2009.
- Organizer, AIM Workshop on "Frames for the finite world: Sampling, coding and quantization" (with S. Gunturk, G. Pfander, H. Rauhut), August 2008.
- Organizer, BIRS 5-Day Workshop on Coarsely Quantized Redundant Representations of Signals (with S. Gunturk, A. Powell, N. Thao), March 2006.

EDITORIAL AND PROFESSIONAL SERVICE

Editorial Boards

Associate Editor, Applied and Computational Harmonic Analysis	2017–present
Associate Editor, Sampling Theory, Signal Processing, and Data Analysis	2020–present
Associate Editor, Mathematics, Computation and Geometry of Data	2019–present
Associate Editor, IEEE Transactions on Signal Processing	2014–2019

Boards and Scholarly Committees

Member, Governance Committee, Banff International Research Station	2026–present
Chair, BIRS Deputy Director Search Committee	2025–2026
Member, Board of Directors, Canadian Mathematical Society	2023–present
Member, Board of Directors, Banff International Research Station	2023–present
Member, External Review Committee, Mathematisches Forschungsinstitut Oberwolfach	2023
Member, CMS Doctoral Prize Committee	2020–2021
Member, Scientific Advisory Board and Program Committee, BIRS	2019–2020

External Examiner

- Simon Fraser University (2023); Courant Institute, NYU (2016, 2013); University of Victoria (2014); University College Dublin (2011).

Referee Service

- Applied and Computational Harmonic Analysis; IEEE Transactions on Information Theory; IEEE Transactions on Signal Processing; Foundations of Computational Mathematics; Constructive Approximation; SIAM Journal on Applied Mathematics; SIAM Journal on Mathematical Analysis; Journal of Fourier Analysis and Applications; IEEE Transactions on Image Processing; IEEE Transactions on Circuits and Systems; Advances in Applied Mathematics; EURASIP Journal on Applied Signal Processing; among others.

Professional Societies

- Canadian Mathematical Society (CMS); Canadian Applied and Industrial Mathematics Society (CAIMS); American Mathematical Society (AMS); Institute of Electrical and Electronics Engineers (IEEE).

MENTORSHIP AND TRAINING

Postdoctoral Fellows Supervised

Tomasz Szczepanski (with D. Needell and Y. Plan)	August 2026 (incoming)
Gulcenur Ozturan (with I. Oruc) — now Comprehensive and Neuro-Ophthalmologist, UBC	2022–2025
Babhru Joshi (with M. Friedlander, Y. Plan) — now Research Scientist, Anduril Industries	2019–2022
Halyun Jeong (with M. Friedlander, Y. Plan) — now Assistant Professor, SUNY Albany	2017–2021
Rongrong Wang (with F. Herrmann) — now Associate Professor, Michigan State University	2013–2017
Enrico Au-Yeung — now Associate Professor, DePaul University	2011–2014
Hassan Mansour (with M. Friedlander) — now Senior Principal Research Scientist, MERL	2010–2013
Rayan Saab — now Professor, UC San Diego (Banting Postdoctoral Fellow)	2010–2011

Ph.D. Students Supervised

Matthew Scott (with Y. Plan) — in progress	2023–
Aaron Berk (with Y. Plan) — then PDF, McGill; now Deep Render	2015–2021
Xiaowei Li (with Y. Plan)	2015–2024
Navid Ghadermarzy (with Y. Plan) — now Applied Scientist, Amazon	2013–2018
Oscar Lopez — now Assistant Professor, Florida Atlantic University	2013–2019

Kateryna Melnykova — now Data Engineer, Alloy.ai	2012–2021
Arman Ahmadieh — now Instructor and Assistant Dean, Columbia College, Vancouver	2012–2019
Rayan Saab (with R. Ward) — now Professor, UC San Diego	2006–2010

M.Sc. Students Supervised

- Xia (Summer) Sheng (with Y. Plan), 2022–2025; Matthew Scott (with Y. Plan), 2021–2023; Xiaowei Li, 2013–2015; Brock Hargraves, 2011–2014; Navid Ghadermarzy, 2011–2013; Ulas Ayaz (now Senior ML Engineer, Google), 2007–2009; Evgeniy Lebed (with F. Herrmann), 2006–2008.

Awards Won by Trainees (selected)

- Rayan Saab: Banting Postdoctoral Fellowship (2011–2013); NSERC Postdoctoral Fellowship (2011, declined); UBC University Graduate Fellowship; Pacific Century Graduate Scholarship.
- Aaron Berk: NSERC Canada Graduate Fellowship – Doctoral (CGS-D); NSERC PGS-D; UBC Four Year Fellowship; Margaret L. Adamson Award, UBC Ophthalmology, 2019.
- Halyun Jeong: PIMS Postdoctoral Fellowship (2018–20); UBC Data Science Institute Postdoctoral Fellowship (2017–18).
- Babhru Joshi: PIMS Postdoctoral Fellowship (2019–21).
- Enrico Au-Yeung: PIMS Postdoctoral Fellowship (2011–13); UBC Mathematics Teaching Award (2013).

TEACHING

Have taught undergraduate and graduate courses across mathematics at UBC since 2004, including:

- Math 555: Compressed Sensing (graduate; designed by O.Y.)
- Math 605D / 605F: Topics in Applied Mathematics (graduate)
- Math 420/507: Real Analysis (advanced undergraduate / graduate)
- Math 264: Vector Calculus for EE (co-designed with Electrical Engineering)
- Math 320 / 321: Real Variables / Complex Variables
- Math 300 / 307: Complex Variables / Applied Linear Algebra
- Math 263 / 265 / 267 / 152 / 105 / 100 / 120: Service courses in calculus, linear algebra, and differential equations.

Previously taught at the University of Maryland (2002–2004): Introduction to Number Theory; Applied Probability and Statistics. Multiple recognition letters from the UBC Dean of Science for course evaluations and teaching during emergencies (e.g., 2020 Term 1, took over a multi-section course mid-term).