

## PROF. GONZALO MATEOS BUCKSTEIN

University of Rochester  
Department of Electrical and Computer Engineering  
726 Computer Studies Building, Box 270231  
Rochester, NY 14627

Tel: (612) 859-5059 (Mobile)  
Tel: (585)-275-5930 (Office)  
Email: [gmateosb@ece.rochester.edu](mailto:gmateosb@ece.rochester.edu)  
<http://www.ece.rochester.edu/~gmateosb/>

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### RESEARCH INTERESTS

Algorithms, analysis, and application of statistical signal processing tools to the study of networks. Current research focus is on network topology inference, signal representation and inverse problems on graphs; robust, distributed, and online learning from high-dimensional network data; uncertainty quantification; and causal structure identification. Interested in brain connectivity, wireless network monitoring, and information diffusion.

### TEACHING INTERESTS

The artificial intelligence revolution not only offers the opportunity but also calls for our responsibility to reposition the signal processing body of knowledge as one of the core components of programs in data and information sciences. Teaching goal is to increase the visibility of statistical and graph signal processing tools to engineering students and beyond, through the development of new curricula and educational material that is accessible to all.

### EMPLOYMENT

<b>University of Rochester</b> Professor Dept. of Electrical and Computer Engineering Dept. of Computer Science (Secondary Appointment) Goergen Institute for Data Science and Artificial Intelligence (Affiliated Member)	Rochester, New York July 2025 - present
<b>University of Rochester</b> Associate Director for Research Goergen Institute for Data Science and Artificial Intelligence	Rochester, New York April 2023 - present
<b>University of Rochester</b> Associate Professor Asaro Biggar Family Fellow in Data Science Dept. of Electrical and Computer Engineering Dept. of Computer Science (Secondary Appointment) Goergen Institute for Data Science and Artificial Intelligence (Affiliated Member)	Rochester, New York July 2020 - June 2025
<b>University of Rochester</b> Assistant Professor Dept. of Electrical and Computer Engineering Dept. of Computer Science (Secondary Appointment) Goergen Institute for Data Science (Affiliated Member)	Rochester, New York July 2014 - June 2020
<b>Carnegie Mellon University</b> Visiting Scholar - Database Group Computer Science Dept.	Pittsburgh, Pennsylvania June 2013 - May 2014
<b>University of Minnesota</b> Research Associate - SPiNCOM Group Dept. of Electrical and Computer Engineering	Minneapolis, Minnesota June 2012 - May 2014
<b>University of Minnesota</b> Research Assistant - SPiNCOM Group Dept. of Electrical and Computer Engineering	Minneapolis, Minnesota August 2006 - May 2012
<b>ABB S.A.</b> Systems Engineer Automation Technologies Division	Montevideo, Uruguay December 2003 - June 2006
<b>Universidad de la República</b> Research Assistant - Data Networks Group	Montevideo, Uruguay February 2003 - July 2006

Dept. of Electrical Engineering

## EDUCATION

### University of Minnesota

Ph. D. in Electrical Engineering

Minneapolis, Minnesota

May 2012

*Thesis:* “Sparsity Control for Robustness and Social Data Analysis”

*Advisor:* Prof. Georgios B. Giannakis

### University of Minnesota

M. Sc. in Electrical Engineering

Minneapolis, Minnesota

July 2009

*Thesis:* “Distributed Adaptive Estimation and Tracking using Wireless Sensor Networks”

*Advisor:* Prof. Georgios B. Giannakis

### Universidad de la República

B. Sc. in Electrical Engineering

Montevideo, Uruguay

September 2005

*Project:* “Implementing VoIP using SIP: A study based on Asterisk”

*Advisors:* Profs. Gabriel Gómez and Luis Vázquez

## ACADEMIC HONORS AND AWARDS

- Best student paper contest finalist for Ö. D. Kose at the 2023 Asilomar Conference on Signals, Systems, and Computers for the paper “Fairness-aware graph filter design” (co-authored with Ö. D. Kose and Y. Shen).
- Fellow selected by the U.S. National Academies of Science, Engineering, and Medicine to attend the First Connections to Sustain Science in Latin America Symposium.
- 2023 IEEE Signal Processing Society Outstanding Editorial Board Award for work as Senior Area Editor for the IEEE Transactions on Signal Processing.
- Top reviewer for the inaugural Learning on Graphs Conference (LoG 2022).
- 2021 IEEE Signal Processing Society Pierre-Simon Laplace Early Career Technical Achievement Award “for contributions to distributed signal processing over networks.”
- Best student paper contest third place award for Ph. D. student B. Marengo at the 2021 Asilomar Conference on Signals, Systems, and Computers for the paper “Online change point detection for random dot product graphs” (co-authored with B. Marengo, F. Larroca, P. Bermolen and M. Fiori).
- 2020 IEEE Signal Processing Society Young Author Best Paper Award for S. Segarra for the paper “Network topology inference from spectral templates,” published in the IEEE Transactions on Signal and Information Processing over Networks (co-authored with S. Segarra, A. G. Marques and A. Ribeiro).
- 2020-23 Asaro Biggar Family Fellow in Data Science (endowment supports researchers in varied disciplines using data science methods to frame, analyze, and answer the big questions in their fields). The fellowship allows the University of Rochester to honor and encourage outstanding faculty early in their academic careers.
- 2019 IEEE Signal Processing Society Outstanding Editorial Board Award for work as Associate Editor for the IEEE Transactions on Signal Processing.
- Best student paper award for Ph. D. student Y. Li at the 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) for the paper “Identifying structural brain networks from functional connectivity: A network deconvolution approach” (co-authored with Y. Li).
- Best student paper award for Ph. D. student R. Shafipour and A. Khodabakhsh at the 2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) for the paper “Digraph Fourier transform via spectral dispersion minimization” (co-authored with R. Shafipour, A. Khodabakhsh and E. Nikolova).
- 2018 NSF CAREER Award (CISE-CCF-CIF).
- Associate Marshal in the 2018 University of Rochester Doctoral Commencement (honor is awarded to pre-tenure faculty who have served admirably in teaching and mentoring graduate students).
- 2017 IEEE Signal Processing Society Young Author Best Paper Award for M. Mardani for the paper “Subspace learning and imputation for streaming big data matrices and tensors,” published in the IEEE Transactions on Signal Processing (co-authored with M. Mardani and G. B. Giannakis).
- Best student paper award for S. Segarra at the 2016 IEEE Statistical Signal Processing (SSP) Workshop for the paper “Network topology identification from spectral templates” (co-authored with S. Segarra, A. G. Marques and A. Ribeiro).

- University of Minnesota's Best Dissertation Award (Honorable Mention) across all disciplines in the Physical Sciences and Engineering, May 2013. Won nomination as the Best Doctoral Dissertation from the Ph. D. program in Electrical Engineering, 2012.
- Best student paper award at the 2012 IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC) for the paper "Distributed nuclear norm minimization for matrix completion" (co-authored with M. Mardani and G. B. Giannakis).
- Ph. D. Travel Scholarship, Dept. of Electrical and Computer Engineering, University of Minnesota, 2011.
- Best student paper contest finalist at the 2011 IEEE Digital Signal Processing (DSP) Workshop for the paper "Parallelizable algorithms for the selection of grouped variables" (co-authored with J. A. Bazerque and G. B. Giannakis).
- Ranked first among the 59 graduates ( $\sim 200$  entrants) from the Electrical Engineering class of 2005, Universidad de la República.
- Finalist (nominated by the students) for the Outstanding Teaching Assistant Award, School of Engineering, Universidad de la República, 2004.
- Outstanding All-Around Student Award, The British Schools, Uruguay, 1999.
- John Thewlis Prize for Excellence in Mathematics, The British Schools, Uruguay, 1998.

PUBLICATIONS     Journal papers: 57, conference papers: 87, book chapters: 6. Total citations: 6586. H-index: 34. I10-index: 72.

#### Journal papers (working drafts/submitted/revised)

- [J57] S. Rey and **G. Mateos**, "Convex estimation of non-negative weighted DAGs," *IEEE Trans. Signal Process.*, vol. 73, March 2025 (working draft).
- [J56] M. X. Burns, J. Wu, **G. Mateos**, Z. Ignatovic, and M. C. Huang, "An efficient analog-digital framework for network community detection," *Sci. Rep.*, vol. 15, March 2025 (working draft).
- [J55] S. Sihag, **G. Mateos**, and A. Ribeiro, "Disentangling neurodegeneration with brain age gap prediction models: A graph signal processing perspective," *IEEE Signal Process. Mag.*, vol. 43, January 2026 (full paper submitted).
- [J54] S. Sihag, **G. Mateos**, and A. Ribeiro, "CoVariance neural networks: Principal component analysis meets learning with graphs," *IEEE Signal Process. Mag.*, vol. 42, December 2025 (white paper submitted).
- [J53] S. Sihag, **G. Mateos**, and A. Ribeiro, "NeuroVNN: A pre-trained model for characterizing neurodegeneration using covariance neural networks," *IEEE Trans. Med. Imaging*, vol. 43, August 2024 (submitted) [[pdf](#)].
- [J52] S. Rey, H. Ajorlou, and **G. Mateos**, "Directed acyclic graph convolutional networks," *IEEE Trans. Signal Process.*, vol. 72, March 2025 (working draft).
- [J51] S. Pérez Casulo, M. Fiori, F. Larroca, and **G. Mateos**, "LASE: Learned adjacency spectral embeddings," *Trans. Mach. Learn. Res.*, December 2024 (revised) [[pdf](#)] [[code](#)].
- [J50] B. Marenco, P. Bermolen, F. Larroca, M. Fiori, and **G. Mateos**, "Weighted random dot product graphs," *Electron. J. Stat.*, June 2024 (working draft).
- [J49] C. Ye and **G. Mateos**, "SLoG-Net: Algorithm unrolling for source localization on graphs," *IEEE Trans. Signal Inf. Process. Netw.*, vol. 8, December 2024 (submitted) [[pdf](#)] [[code](#)].
- [J48] R. Shafipour, S. Segarra, A. G. Marques, and **G. Mateos**, "Learning directed graphs via graph filter identification," *IEEE Trans. Signal Process.*, vol. 71, August 2023 (working draft).
- [J47] C. Ye and **G. Mateos**, "Online tensor decomposition and imputation for streaming Poisson data," *Signal Processing*, vol. 169, December 2019 (working draft).
- [J46] Y. Li and **G. Mateos**, "A network deconvolution approach to identification of structural brain networks from functional connectivity," *IEEE Trans. Med. Imaging*, vol. 4, September 2019 (working draft).

**Journal papers (published/in press)**

- [J45] M. Wasserman and **G. Mateos**, “Stabilizing the Kumaraswamy distribution,” *Trans. Mach. Learn. Res.*, March 2025 [[pdf](#)] [[code](#)] [[poster](#)] [[video](#)].
- [J44] C. Ye and **G. Mateos**, “Blind deconvolution of graph signals: Robustness to graph perturbations,” *IEEE Signal Process. Lett.*, vol. 32, pp. 1381–1385, March 2025 [[pdf](#)] [[code](#)].
- [J43] C. Ye and **G. Mateos**, “Blind deconvolution on graphs: Exact and stable recovery,” *Signal Processing*, vol. 230, pp. 1–12, May 2025 [[pdf](#)].
- [J42] M. Wasserman and **G. Mateos**, “Graph structure learning with interpretable Bayesian neural networks,” *Trans. Mach. Learn. Res.*, June 2024 [[pdf](#)] [[slides](#)] [[code](#)] [[video](#)].
- [J41] C. Ye, S. S. Saboksayr, W. Shaw, R. O. Coats, S. L. Astill, **G. Mateos**, and I. Delis, “A tensor decomposition reveals ageing-induced differences in muscle and grip-load force couplings during object lifting,” *Sci. Rep.*, vol. 14, pp. 1–13, June 2024 [[pdf](#)].
- [J40] S. Sihag, **G. Mateos**, C. McMillan, and A. Ribeiro, “Transferability of covariance neural networks,” *IEEE J. Sel. Topics Signal Process.*, vol. 18, pp. 199–215, March 2024 [[pdf](#)].
- [J39] Ö. D. Kose, **G. Mateos**, and Y. Shen, “Fairness-aware optimal graph filter design,” *IEEE J. Sel. Topics Signal Process.*, vol. 18, pp. 142–154, March 2024 [[pdf](#)] [[code](#)].
- [J38] M. Fiori, B. Marenco, F. Larroca, P. Bermolen, and **G. Mateos**, “Gradient-based spectral embeddings of random dot product graphs,” *IEEE Trans. Signal Inf. Process. Netw.*, vol. 10, pp. 1–16, January 2024 [[pdf](#)] [[code](#)].
- [J37] Z. Xiao, H. Fang, S. Tomasin, **G. Mateos**, and X. Wang, “Joint sampling and reconstruction of time-varying signals over directed graphs,” *IEEE Trans. Signal Process.*, vol. 71, pp. 2204–2219, May 2023 [[pdf](#)] [[code](#)].
- [J36] M. Wasserman, S. Sihag, **G. Mateos**, and A. Ribeiro, “Learning graph structure from convolutional mixtures,” *Trans. Mach. Learn. Res.*, May 2023 [[pdf](#)] [[code](#)].
- [J35] Y. Li, **G. Mateos**, and Z. Zhang, “Learning to model the relationship between brain structural and functional connectomes,” *IEEE Trans. Signal Inf. Process. Netw.*, vol. 8, pp. 830–843, October 2022 [[pdf](#)][[code](#)].
- [J34] Y. Li and **G. Mateos**, “Networks of international football: Communities, evolution and globalization of the game,” *Appl. Network Sci.*, vol. 7, pp. 1–28, August 2022 [[pdf](#)] [[code](#)].
- [J33] A. Hashemi, R. Shafipour, H. Vikalo, and **G. Mateos**, “Towards accelerated greedy sampling and reconstruction of bandlimited graph signals,” *Signal Processing*, vol. 192, February 2022 [[pdf](#)].
- [J32] B. Marenco, P. Bermolen, M. Fiori, F. Larroca, and **G. Mateos**, “Online change-point detection for weighted and directed random dot product graphs,” *IEEE Trans. Signal Inf. Process. Netw.*, vol. 8, pp. 144–159, February 2022 [[pdf](#)] [[code](#)].
- [J31] S. S. Saboksayr and **G. Mateos**, “Accelerated graph learning from smooth signals,” *IEEE Signal Process. Lett.*, vol. 28, pp. 2192 – 2196, October 2021 [[pdf](#)] [[code](#)].
- [J30] S. S. Saboksayr, **G. Mateos**, and M. Cetin, “Online discriminative graph learning from multi-class smooth signals,” *Signal Processing*, vol. 186, pp. 1–14, April 2021 [[pdf](#)].
- [J29] R. Shafipour, S. Segarra, A. G. Marques, and **G. Mateos**, “Identifying the topology of undirected networks from diffused non-stationary graph signals,” *IEEE Open J. Signal Process.*, vol. 2, pp. 171–189, April 2021 [[pdf](#)] [[code](#)].
- [J28] A. G. Marques, S. Segarra, and **G. Mateos**, “Signal processing on directed graphs,” *IEEE Signal Process. Mag.*, vol. 37, November 2020 [[pdf](#)].
- [J27] R. Shafipour and **G. Mateos**, “Online topology inference from streaming stationary graph signals with partial connectivity information,” *Algorithms*, vol. 13, pp. 1–19, September 2020 [[pdf](#)].
- [J26] F. Gama, A. G. Marques, **G. Mateos**, and A. Ribeiro, “Rethinking sketching as sampling: A graph signal processing approach,” *Signal Processing*, vol. 169, pp. 1–15, December 2019 [[pdf](#)].

- [J25] **G. Mateos**, S. Segarra, A. G. Marques, and A. Ribeiro, “Connecting the dots: Identifying network structure via graph signal processing,” *IEEE Signal Process. Mag.*, vol. 36, pp. 16–43, May 2019 [[pdf](#)].
- [J24] R. Shafipour, A. Khodabakhsh, **G. Mateos**, and E. Nikolova, “A directed graph Fourier transform with spread frequency components,” *IEEE Trans. Signal Process.*, vol. 67, pp. 946–960, February 2019 [[pdf](#)] [[code](#)].
- [J23] R. Shafipour, R. A. Baten, M. K. Hasan, G. Ghoshal, **G. Mateos**, and M. E. Hoque, “Buildup of speaking skills in an online learning community: A network-analytic exploration,” *Palgrave Communications*, vol. 4, June 2018 [[pdf](#)] [[code](#)].
- [J22] S. Segarra, A. G. Marques, **G. Mateos**, and A. Ribeiro, “Network topology inference from spectral templates,” *IEEE Trans. Signal Inf. Process. Netw.*, vol. 3, pp. 467–483, August 2017 (**2020 IEEE Signal Processing Society Young Author Best Paper Award**) [[pdf](#)].
- [J21] S. Segarra, **G. Mateos**, A. G. Marques, and A. Ribeiro, “Blind identification of graph filters,” *IEEE Trans. Signal Process.*, vol. 65, pp. 1146–1159, January 2017 [[pdf](#)].
- [J20] A. Shoari and **G. Mateos**, “On the definition and existence of a minimum variance unbiased estimator for target localization,” *IEEE Signal Process. Lett.*, vol. 23, pp. 964–968, July 2016 [[pdf](#)].
- [J19] A. Shoari, **G. Mateos**, and A. Seyedi, “Analysis of target localization with ideal binary detectors via likelihood function smoothing,” *IEEE Signal Process. Lett.*, vol. 23, pp. 737–741, May 2016 [[pdf](#)].
- [J18] M. Mardani, **G. Mateos**, and G. B. Giannakis, “Subspace learning and imputation for streaming Big Data matrices and tensors,” *IEEE Trans. Signal Process.*, vol. 63, pp. 2663–2677, March 2015 (**2017 IEEE Signal Processing Society Young Author Best Paper Award**) [[pdf](#)].
- [J17] K. Slavakis, S. J. Kim, **G. Mateos**, and G. B. Giannakis, “Stochastic approximation vis-à-vis online learning for Big Data,” *IEEE Signal Process. Mag.*, vol. 31, pp. 124–129, November 2014 [[pdf](#)].
- [J16] K. Slavakis, G. B. Giannakis, and **G. Mateos**, “Modeling and optimization for Big Data analytics,” *IEEE Signal Process. Mag.*, vol. 31, pp. 18–31, September 2014 [[pdf](#)].
- [J15] B. Baingana, **G. Mateos**, and G. B. Giannakis, “Proximal-gradient algorithms for tracking cascades over social networks,” *IEEE J. Sel. Topics Signal Process.*, vol. 8, pp. 563–575, August 2014 [[pdf](#)].
- [J14] **G. Mateos** and G. B. Giannakis, “Load curve data cleansing and imputation via sparsity and low rank,” *IEEE Trans. Smart Grid*, vol. 4, pp. 2347–2355, December 2013 [[pdf](#)].
- [J13] M. Mardani, **G. Mateos**, and G. B. Giannakis, “Decentralized sparsity-regularized rank minimization: Algorithms and applications,” *IEEE Trans. Signal Process.*, vol. 61, pp. 5374–5388, November 2013 [[pdf](#)].
- [J12] J. A. Bazerque, **G. Mateos**, and G. B. Giannakis, “Rank regularization and Bayesian inference for tensor completion and extrapolation,” *IEEE Trans. Signal Process.*, vol. 61, pp. 5689–5703, November 2013 [[pdf](#)].
- [J11] M. Mardani, **G. Mateos**, and G. B. Giannakis, “Recovery of low-rank plus compressed sparse matrices with application to unveiling traffic anomalies,” *IEEE Trans. Inf. Theory*, vol. 59, pp. 5186–5205, August 2013 [[pdf](#)].
- [J10] **G. Mateos** and K. Rajawat, “Dynamic network cartography,” *IEEE Signal Process. Mag.*, vol. 30, pp. 129–143, May 2013 [[pdf](#)].
- [J9] M. Mardani, **G. Mateos**, and G. B. Giannakis, “Dynamic anomalography: Tracking network anomalies via sparsity and low rank,” *IEEE J. Sel. Topics Signal Process.*, vol. 7, pp. 50–66, February 2013 [[pdf](#)].
- [J8] **G. Mateos** and G. B. Giannakis, “Robust PCA as bilinear decomposition with outlier sparsity regularization,” *IEEE Trans. Signal Process.*, vol. 60, pp. 5176–5190, October 2012 [[pdf](#)].
- [J7] **G. Mateos** and G. B. Giannakis, “Distributed recursive least-squares: Stability and performance analysis,” *IEEE Trans. Signal Process.*, vol. 60, pp. 1571–1584, July 2012 [[pdf](#)].
- [J6] **G. Mateos** and G. B. Giannakis, “Robust nonparametric regression via sparsity control with application to load curve data cleansing,” *IEEE Trans. Signal Process.*, vol. 60, pp. 1571–1584, April 2012 [[pdf](#)].
- [J5] J. A. Bazerque, **G. Mateos**, and G. B. Giannakis, “Group-Lasso on splines for spectrum cartography,” *IEEE*

*Trans. Signal Process.*, vol. 59, pp. 4648–4663, October 2011 [pdf].

- [J4] **G. Mateos**, J. A. Bazerque, and G. B. Giannakis, “Distributed sparse linear regression,” *IEEE Trans. Signal Process.*, vol. 58, pp. 5262–5276, October 2010 [pdf].
- [J3] **G. Mateos**, I. D. Schizas, and G. B. Giannakis, “Performance analysis of the consensus-based distributed LMS algorithm,” *EURASIP J. Advances Signal Process.*, vol. 2009, December 2009 [pdf].
- [J2] **G. Mateos**, I. D. Schizas, and G. B. Giannakis, “Distributed recursive least-squares for consensus-based in-network adaptive estimation,” *IEEE Trans. Signal Process.*, vol. 57, pp. 4583 – 4588, November 2009 [pdf].
- [J1] I. D. Schizas, **G. Mateos**, and G. B. Giannakis, “Distributed LMS for consensus-based in-network adaptive processing,” *IEEE Trans. Signal Process.*, vol. 57, pp. 2365–2381, June 2009 [pdf].

#### Conference papers (preprints/submitted)

- [C87] Ö. D. Kose, **G. Mateos**, and Y. Shen, “Unlearning algorithmic biases over graphs,” in *Preprint*, May 2025 (submitted).
- [C86] A. Raghuvanshi, **G. Mateos**, and S. P. Chepuri, “Heterophilic topology inference from data,” in *Proc. Asilomar Conf. on Signals, Systems, Computers*, Pacific Grove, CA, October 26-69, 2025 (submitted).
- [C85] H. Ajorlou, **G. Mateos**, and L. Ruiz, “Dirichlet meets Horvitz and Thompson: Estimating homophily in large graphs via sampling,” in *Proc. Asilomar Conf. on Signals, Systems, Computers*, Pacific Grove, CA, October 26-29, 2025 (submitted).
- [C84] S. Rey and **G. Mateos**, “Non-negative DAG learning from time-series data,” in *Proc. Asilomar Conf. on Signals, Systems, Computers*, Pacific Grove, CA, October 26-69, 2025 (submitted).
- [C83] M. Schmidt, S. Silva, F. Larroca, **G. Mateos**, and P. Musé, “Graph contrastive learning for connectome classification,” in *Proc. Asilomar Conf. on Signals, Systems, Computers*, Pacific Grove, CA, October 26-29, 2025 (submitted) [pdf][code].
- [C82] S. Sihag, J. Scheffel, **G. Mateos**, and A. Ribeiro, “Learning anatomic representations of brain age gap with VNNs in individuals at risk for neurodegeneration,” in *Proc. Int. Conf. on Medical Image Computing and Computer Assisted Intervention*, Daejeon, South Korea, 23-27, 2025 (submitted).
- [C81] S. Sihag, **G. Mateos**, and A. Ribeiro, “Enhancing stratification of neurodegeneration with pre-trained covariance neural networks,” in *Preprint*, January 2025 (submitted).

#### Conference papers (published/to appear)

- [C80] S. Sihag, **G. Mateos**, and A. Ribeiro, “Explainable brain age gap prediction in neurodegenerative conditions using covariance neural networks,” in *Proc. IEEE Int. Symposium on Biomedical Imaging*, Houston, TX, April 14-17, 2025 (to appear) [pdf].
- [C79] S. Rey, S. S. Saboksayr, and **G. Mateos**, “Non-negative weighted DAG structure learning,” in *Proc. Int. Conf. Acoustics, Speech, Signal Process.*, Hyderabad, India, April 6-11, 2025 [pdf] [poster] [code].
- [C78] H. Chahuara and **G. Mateos**, “Online proximal ADMM for graph learning from streaming smooth signals,” in *Proc. Int. Conf. Acoustics, Speech, Signal Process.*, Hyderabad, India, April 6-11, 2025 [pdf] [slides] [code].
- [C77] S. Rey, H. Ajorlou, and **G. Mateos**, “Convolutional learning on directed acyclic graphs,” in *Proc. Asilomar Conf. on Signals, Systems, Computers*, Pacific Grove, CA, October 27-30, 2024 [pdf] [slides] [code].
- [C76] B. Marenco, P. Bermolen, M. Fiori, F. Larroca, and **G. Mateos**, “A random dot product graph model for weighted and directed networks,” in *Proc. Asilomar Conf. on Signals, Systems, Computers*, Pacific Grove, CA, October 27-30, 2024 [pdf] [slides].
- [C75] S. S. Saboksayr, **G. Mateos**, and M. Tepper, “Block successive convex approximation for concomitant linear DAG estimation,” in *Proc. IEEE Sensor Array and Multichannel Signal Process. Workshop*, Corvallis, OR, July 8-11, 2024 [pdf] [slides] [poster].



- [C74] Ö. D. Kose, **G. Mateos**, and Y. Shen, “Filtering as rewiring for bias mitigation on graphs,” in *Proc. IEEE Sensor Array and Multichannel Signal Process. Workshop*, Corvallis, OR, July 8-11, 2024 [[pdf](#)] [[poster](#)].
- [C73] S. S. Saboksayr, **G. Mateos**, and M. Tepper, “CoLiDE: Concomitant linear DAG estimation,” in *Proc. Int. Conf. on Learning Representations*, Vienna, Austria, May 7-11, 2024 [[pdf](#)] [[poster](#)] [[code](#)].
- [C72] S. Sihag, **G. Mateos**, C. McMillan, and A. Ribeiro, “Explainable brain age prediction using covariance neural networks,” in *Proc. Neural Information Processing Systems*, New Orleans, LA, December 11-14, 2023 [[pdf](#)] [[poster](#)] [[code](#)].
- [C71] Ö. D. Kose, Y. Shen, and **G. Mateos**, “Fairness-aware graph filter design,” in *Proc. Asilomar Conf. on Signals, Systems, Computers*, Pacific Grove, CA, October 29-November 1, 2023 (**Best student paper contest finalist**) [[pdf](#)] [[slides](#)] [[poster](#)] [[code](#)].
- [C70] S. S. Saboksayr and **G. Mateos**, “Dual-based online learning of dynamic network topologies,” in *Proc. Int. Conf. Acoustics, Speech, Signal Process.*, Rhodes Island, Greece, June 4-9, 2023 [[pdf](#)] [[slides](#)] [[code](#)].
- [C69] S. Sihag, **G. Mateos**, C. McMillan, and A. Ribeiro, “Predicting brain age using transferable covariance neural networks,” in *Proc. Int. Conf. Acoustics, Speech, Signal Process.*, Rhodes Island, Greece, June 4-9, 2023 [[pdf](#)] [[slides](#)].
- [C68] S. Sihag, **G. Mateos**, C. McMillan, and A. Ribeiro, “Covariance neural networks,” in *Proc. Neural Information Processing Systems*, New Orleans, LA, November 29-December 1, 2022 [[pdf](#)] [[slides](#)] [[code](#)].
- [C67] M. Wasserman and **G. Mateos**, “pyGSL: A Graph Structure Learning Toolkit,” in *Proc. NeurIPS Workshop on New Frontiers in Graph Learning*, December 2, 2022 [[pdf](#)] [[poster](#)] [[code](#)].
- [C66] B. Marenco, F. Larroca, P. Bermolen, M. Fiori, and **G. Mateos**, “Tracking the adjacency spectral embedding for streaming graphs,” in *Proc. Asilomar Conf. on Signals, Systems, Computers*, Pacific Grove, CA, October 30-November 2, 2022 [[pdf](#)] [[slides](#)] [[poster](#)].
- [C65] C. Ye and **G. Mateos**, “Learning to identify sources of network diffusion,” in *Proc. of European Signal Process. Conf.*, Belgrade, Serbia, August 29-September 2, 2022 [[pdf](#)] [[slides](#)].
- [C64] M. Fiori, P. Bermolen, F. Larroca, B. Marenco, and **G. Mateos**, “Algorithmic advances for the adjacency spectral embedding,” in *Proc. of European Signal Process. Conf.*, Belgrade, Serbia, August 29-September 2, 2022 [[pdf](#)] [[slides](#)].
- [C63] Y. Li and **G. Mateos**, “Learning graph-level, distance-preserving representations of brain structure-function coupling,” in *Proc. of European Signal Process. Conf.*, Belgrade, Serbia, August 29-September 2, 2022 [[pdf](#)] [[slides](#)].
- [C62] B. Marenco, F. Larroca, P. Bermolen, M. Fiori, and **G. Mateos**, “Online change-point detection for random dot product graphs,” in *Proc. Asilomar Conf. on Signals, Systems, Computers*, Pacific Grove, CA, November 1-3, 2021 (**Best student paper contest third place award**) [[pdf](#)] [[slides](#)] [[video](#)].
- [C61] S. S. Saboksayr, **G. Mateos**, and M. Cetin, “Fast topology identification from smooth graph signals,” in *Proc. Balkan Conference on Commun. and Networking*, Novi Sad, Serbia, September 20-22, 2021 [[pdf](#)] [[slides](#)] [[video](#)].
- [C60] F. Larroca, P. Bermolen, M. Fiori, and **G. Mateos**, “Change-point detection and localization in weighted and directed random dot product graphs,” in *Proc. of European Signal Process. Conf.*, Dublin, Ireland, August 23-27, 2021 [[pdf](#)] [[slides](#)] [[video](#)].
- [C59] S. S. Saboksayr, **G. Mateos**, and M. Cetin, “Online graph learning under smoothness priors,” in *Proc. of European Signal Process. Conf.*, Dublin, Ireland, August 23-27, 2021 [[pdf](#)] [[slides](#)].
- [C58] Y. Li and **G. Mateos**, “Graph frequency analysis of COVID-19 incidence to identify county-level contagion patterns in the United States,” in *Proc. Int. Conf. Acoustics, Speech, Signal Process.*, Toronto, ON, June 6-11, 2021 [[pdf](#)] [[slides](#)] [[poster](#)] [[video](#)].
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- [C50] C. Ye and **G. Mateos**, “Online tensor decomposition and imputation for count data,” in *Proc. IEEE Data Science Workshop*, Minneapolis, MN, June 2-5, 2019 [[pdf](#)] [[poster](#)].
- [C49] R. Shafipour, A. Hashemi, **G. Mateos**, and H. Vikalo, “Online topology inference from streaming graph signals,” in *Proc. IEEE Data Science Workshop*, Minneapolis, MN, June 2-5, 2019 [[pdf](#)] [[slides](#)].
- [C48] Y. Li and **G. Mateos**, “Identifying structural brain networks from functional connectivity: A network deconvolution approach,” in *Proc. Int. Conf. Acoustics, Speech, Signal Process.*, Brighton, UK, May 12-17, 2019 (**Best student paper award**) [[pdf](#)] [[poster](#)].
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- [C45] R. Shafipour and **G. Mateos**, “Spread and sparse: Learning interpretable transforms for bandlimited signals on directed graphs,” in *Proc. Asilomar Conf. on Signals, Systems, Computers*, Pacific Grove, CA, October 28-31, 2018 [[pdf](#)] [[slides](#)].
- [C44] C. Ye, R. Shafipour, and **G. Mateos**, “Blind identification of invertible graph filters with multiple sparse inputs,” in *Proc. of European Signal Process. Conf.*, Rome, Italy, September 3-7, 2018 [[pdf](#)] [[slides](#)].
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- [C39] R. Magu and **G. Mateos**, “United Nations General Assembly vote similarity networks,” in *Proc. Int. Conf. on Complex Networks and their Applications*, Lyon, France, November 29-30, 2017 [[pdf](#)] [[slides](#)].



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- [C29] S. Segarra, **G. Mateos**, A. G. Marques, and A. Ribeiro, “Blind identification of graph filters with sparse inputs,” in *Proc. IEEE Workshop on Computational Advances in Multi-Sensor Adaptive Process.*, Cancun, Mexico, December 13-16, 2015 [[pdf](#)] [[poster](#)].
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- [C16] M. Mardani, **G. Mateos**, and G. B. Giannakis, “Exact recovery of low-rank plus compressed sparse matrices,” in *Proc. IEEE Workshop on Statistical Signal Process.*, pp. 49–52, Ann Arbor, MI, August 5–8, 2012 [[pdf](#)] [[slides](#)].
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- [C10] **G. Mateos** and G. B. Giannakis, “Robust nonparametric regression by controlling sparsity,” in *Proc. Int. Conf. Acoustics, Speech, Signal Process.*, pp. 3880–3883, Prague, Czech Republic, May 22–27, 2011 [[pdf](#)] [[slides](#)].
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- [C8] **G. Mateos** and G. B. Giannakis, “Sparsity control for robust principal component analysis,” in *Proc. Asilomar Conf. on Signals, Systems, Computers*, pp. 1925–1929, Pacific Grove, CA, November 7–10, 2010 (invited) [[pdf](#)] [[slides](#)].
- [C7] J. A. Bazerque, **G. Mateos**, and G. B. Giannakis, “Distributed Lasso for in-network linear regression,” in *Proc. Int. Conf. Acoustics, Speech, Signal Process.*, pp. 2978–2981, Dallas, TX, March 14–19, 2010 [[pdf](#)] [[slides](#)].
- [C6] H. Zhu, **G. Mateos**, G. B. Giannakis, N. D. Sidiropoulos, and A. Banerjee, “Sparsity-cognizant overlapping co-clustering for behavior inference in social networks,” in *Proc. Int. Conf. Acoustics, Speech, Signal Process.*, pp. 3534–3537, Dallas, TX, March 14–19, 2010 [[pdf](#)] [[slides](#)].

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- [C4] **G. Mateos**, I. D. Schizas, and G. B. Giannakis, “Closed-form MSE performance of the distributed LMS algorithm,” in *Proc. DSP Workshop*, pp. 66–71, Marco Island, FL, January 4–7, 2009 [[pdf](#)] [[slides](#)].
- [C3] I. D. Schizas, **G. Mateos**, and G. B. Giannakis, “Stability analysis of the consensus-based distributed LMS algorithm,” in *Proc. Int. Conf. Acoustics, Speech, Signal Process.*, pp. 3289–3292, Las Vegas, NV, March 30 – April 4, 2008 [[pdf](#)].
- [C2] I. D. Schizas, **G. Mateos**, and G. B. Giannakis, “Consensus-based distributed recursive least-squares estimation in ad hoc wireless sensor networks,” in *Proc. Asilomar Conf. on Signals, Systems, Computers*, pp. 386–390, Pacific Grove, CA, November 4–7, 2007 [[pdf](#)].
- [C1] **G. Mateos**, I. D. Schizas, and G. B. Giannakis, “Consensus-based distributed least-mean square algorithm using wireless ad hoc networks,” in *Proc. Allerton Conf.*, vol. 2, pp. 568–574, Monticello, IL, September 26–28, 2007 [[pdf](#)] [[slides](#)].

### Book chapters

- [B6] Y. Shen, **G. Mateos**, G. B. Giannakis, and A. Swami, “Topology inference and learning over graphs using multi-dimensional data,” in *Handbook of Statistics Volume 55: Multidimensional Signal Processing* (K. V. Mishra, G. R. Arce, and A. S. R. S. Rao, eds.), Amsterdam, Netherlands: Elsevier, 2026 (working draft).
- [B5] **G. Mateos**, S. Segarra, and A. G. Marques, “Inference of graph topology,” in *Cooperative and Graph Signal Processing: Principles and Applications* (P. M. Djurić and C. Richard, eds.), Amsterdam, Netherlands: Elsevier, 2018 [[pdf](#)].
- [B4] M. Mardani, **G. Mateos**, and G. B. Giannakis, “Big data,” in *Cooperative and Graph Signal Processing: Principles and Applications* (P. M. Djurić and C. Richard, eds.), Amsterdam, Netherlands: Elsevier, 2018 [[pdf](#)].
- [B3] **G. Mateos** and G. B. Giannakis, “Robust PCA by controlling sparsity in model residuals,” in *Robust Decomposition in Low Rank and Sparse Matrices and its Applications in Image and Video Processing* (E. Z. T. Bouwmans and N. Aybat, eds.), Boca Raton: CRC Press, 2016 [[pdf](#)].
- [B2] G. B. Giannakis, Q. Ling, **G. Mateos**, I. D. Schizas, and H. Zhu, “Decentralized learning for wireless communications and networking,” in *Splitting Methods in Communication and Imaging, Science and Engineering* (R. Glowinsky, S. Osher, and W. Yin, eds.), New York: Springer, 2016 [[pdf](#)].
- [B1] B. Baingana, P. Traganitis, **G. Mateos**, and G. B. Giannakis, “Big Data analytics for social networks,” in *Graph Analysis for Social Media* (I. Pitas, ed.), Boca Raton: CRC Press, 2015 [[pdf](#)].

### Theses

- [T2] **G. Mateos**, *Sparsity Control for Robustness and Social Data Analysis*. PhD thesis, University of Minnesota, Twin Cities, May 2012 (**University of Minnesota’s Best Dissertation Award honorable mention**) [[pdf](#)] [[slides](#)].
- [T1] **G. Mateos**, “Distributed Adaptive Estimation and Tracking using Ad Hoc Wireless Sensor Networks,” Master’s thesis, University of Minnesota, Twin Cities, July 2009 [[pdf](#)] [[slides](#)].

### Patents

- [P2] G. B. Giannakis, E. Dall’Anese, J. A. Bazerque, H. Zhu, and **G. Mateos**, “Robust parametric power spectral density (PSD) map construction.” US Patent No. 9,363,679, June 2016 [[pdf](#)].
- [P1] G. B. Giannakis, J. A. Bazerque, and **G. Mateos**, “Non-parametric power spectral density (PSD) map construction.” US Patent No. 9,191,831, November 2015 [[pdf](#)].

## FUNDING EXPERIENCE

**Pending and planned proposal submissions**

- PI: “Modeling and Algorithmic Advances for Random Dot Product Graphs: Heterogeneity, Directionality, and Dynamics in Complex Networks,” U.S. Air Force Office of Scientific Research (AFOSR) program on Complex Networks, \$ 214,115, 2025-2027.
- PI: “CIF Small: Concomitant Estimation of Directed Acyclic Graphs,” National Science Foundation (NSF) Computer and Information Science and Engineering: Core Programs, \$ 377,863, 2025-2028.
- Co-PI: “CAIG: AI-Powered Earth Imaging: Unraveling Earth Structure with Explainable AI,” NSF program on Collaborations in Artificial Intelligence and Geosciences (CAIG), PI: Tolulope Olugboji, \$ 689,015, 2025-2028.
- PI: “Towards Fast, Online, and Trustworthy Graph Structure Learning,” NSF program on Communications, Circuits and Sensing Systems (CCSS), \$ 375,795, 2025-2028.
- Senior Personnel: “Theme 3: The STRONG AI Institute,” NSF program on National Artificial Intelligence (AI) Research Institutes, PI: Christopher Kanan, \$ 20,000,000, 2025-2030.

**Active projects**

- Co-PI: “Unsupervised motif detection for richly annotated connectomes,” Goergen Institute for Data Science and Artificial Intelligence Seed Funding Award Program, PI: Gabriella Sterne, \$ 30,000, 2024-2025.
- PI: “Online Proximal-ADMM for Graph Learning from Streaming Smooth Signals,” IEEE Signal Processing Society program on Mentoring Experiences for Underrepresented Young Researchers (ME-UYR), \$ 4,000, 2024.
- PI: “Learning to Localize Sources of Network Diffusion,” Center of Excellence (CoE) in Data Science for Empire State Development program on Collaborative Research, \$ 59,959, 2023-2024.
- Co-PI: “Highly-Efficient All-to-All Coupled Ising Machines,” Defense Advanced Research Projects Agency (DARPA), Microsystems Technology Office (MTO) program on Quantum-Inspired Classical Computing (QuICC), PI: Michael Huang, \$ 1,386,378 (\$ 5,865,058 total including three option phases), 2022-2027.
- Co-PI: “ASCENT: Using Optical Frequency Comb for Ultrafast Nature-Based Computing for Machine Learning Algorithms,” NSF program on Addressing Systems Challenges through Engineering Teams (ASCENT), PI: Michael Huang, \$ 1,499,921, 2022-2026.

**Completed projects**

- Senior Personnel (Informatics Core Leadership): “The University of Rochester Clinical and Translational Science Institute,” National Institutes of Health (NIH): National Center for Advancing Translational Sciences (NCATS) program on Clinical and Translational Science Award (CTSA) hubs, PIs: Martin Zand and Nancy Bennett, \$ 19,107,870, 2020-2024.
- Co-PI: “Ising Boltzmann Substrate for Energy-Based Models,” Goergen Institute for Data Science Seed Funding Award Program, PI: Michael Huang, \$ 20,000, 2022-2023.
- Senior Personnel: “Collaborative Research: HDR TRIPODS: Foundations of Greater Data Science,” NSF program on Harnessing the Data Revolution: Transdisciplinary Research in Principles of Data Science (HDR TRIPODS) Phase I, PI: Mujdat Cetin, \$ 814,165 (\$ 1,500,000 total with Cornell University), 2020-2023.
- PI: “Workshop: Student Travel Support for the 2019 IEEE Data Science Workshop to be Held in Minneapolis, MN June 2-5, 2019,” NSF program on Energy, Power, Control, and Networks (EPCN), \$ 15,000, 2019-2020.
- PI: “Conference Support for the 2019 IEEE Data Science Workshop,” Army Research Office (ARO) program on Intelligent Information Networks, \$ 15,000, 2019.
- PI: “Localizing Sources of Network Diffusion via Graph Signal Processing,” NSF program on Communications, Circuits and Sensing Systems (CCSS), \$ 245,229, 2018-2021.
- PI: “CAREER: Inferring Graph Structure via Spectral Representations of Network Processes,” NSF Faculty Early Career Development Program (CAREER), \$ 407,944, 2018-2023.
- Co-PI: “Epilepsy Diagnosis 360,” Goergen Institute for Data Science Collaborative Pilot Award Program in Health Analytics, \$ 50,000, 2016-2017.
- Co-PI: “Laboratory for Interactional Dynamics: Using Real-Time Avatars to Manipulate Social Cues,” University of Rochester Research Awards, \$ 50,000, 2015-2016.

- Contributed parts of the proposal “Modeling, Monitoring, and Optimization of Cognitive Networks,” NSF program on Communications, Circuits and Sensing Systems (CCSS), PI: Georgios B. Giannakis, \$ 370,567, 2012-2015.
- Drafted sections of the proposal “Sparsity-Aware RF Cartography for Cognitive Networks,” NSF program on Integrative, Hybrid and Complex Systems (IHCS), PI: Georgios B. Giannakis, \$ 391,707, 2010-2013.
- Prepared yearly proposals and quarterly reports for the Army Research Lab Collaborative Technology Alliance (ARL-CTA) program sponsored by the Communications and Networking Consortium, 2007-2009.

## TEACHING EXPERIENCE

**University of Rochester**

Professor, Dept. of Electrical and Computer Engineering

Rochester, New York

July 2020 - present

- *Introduction to Random Processes (ECE 440)*, Fall 2025. Course rating: TBD/5, instructor rating: TBD/5, enrollment: 6.

**University of Rochester**

Associate Professor, Dept. of Electrical and Computer Engineering

Rochester, New York

July 2020 - June 2025

- *Network Science Analytics (ECE 442)*, Spring 2025. Course rating: TBD/5, instructor rating: TBD/5, enrollment: 18.
- *Introduction to Random Processes (ECE 440)*, Fall 2024. Course rating: 4.2/5, instructor rating: 4.4/5, enrollment: 17.
- *Network Science Analytics (ECE 442)*, Spring 2024. Course rating: 4.64/5, instructor rating: 4.73/5, enrollment: 28.
- *Introduction to Random Processes (ECE 440)*, Fall 2023. Course rating: 5/5, instructor rating: 5/5, enrollment: 15.
- *Network Science Analytics (ECE 442)*, Spring 2023. Course rating: 4.57/5, instructor rating: 4.57/5, enrollment: 13.
- *Introduction to Random Processes (ECE 440)*, Fall 2022. Course rating: 5/5, instructor rating: 5/5, enrollment: 6.
- *Network Science Analytics (ECE 442)*, Spring 2022. Course rating: N/A, instructor rating: N/A, enrollment: 3.
- *Introduction to Random Processes (ECE 440)*, Fall 2021. Course rating: 4.88/5, instructor rating: 5/5, enrollment: 11.
- *Network Science Analytics (ECE 442)*, Spring 2021. Course rating: 4.5/5, instructor rating: 4.83/5, enrollment: 17.
- *Introduction to Random Processes (ECE 440)*, Fall 2020. Course rating: 4.55/5, instructor rating: 4.73/5, enrollment: 26.

**University of Rochester**

Assistant Professor, Dept. of Electrical and Computer Engineering

Rochester, New York

July 2014 - June 2020

- *Network Science Analytics (ECE 442)*, Spring 2020. Course rating: 4.57/5, instructor rating: 4.72/5, enrollment: 20.
- *Introduction to Random Processes (ECE 440)*, Fall 2019. Course rating: 4.42/5, instructor rating: 4.58/5, enrollment: 34.
- *Network Science Analytics (ECE 442)*, Spring 2019. Course rating: 4.81/5, instructor rating: 4.94/5, enrollment: 19.
- *Introduction to Random Processes (ECE 440)*, Fall 2018. Course rating: 4.57/5, instructor rating: 4.62/5, enrollment: 58.
- *Network Science Analytics (ECE 442)*, Spring 2018. Course rating: 4.73/5, instructor rating: 4.87/5, enrollment: 20.
- *Introduction to Random Processes (ECE 440)*, Fall 2017. Course rating: 4.72/5, instructor rating: 4.83/5, enrollment: 30.

- *Network Science Analytics (ECE 442)*, Spring 2017. Course rating: 4.81/5, instructor rating: 4.90/5, enrollment: 13.
- *Introduction to Random Processes (ECE 440)*, Fall 2016. Course rating: 4.50/5, instructor rating: 4.70/5, enrollment: 47.
- *Network Science Analytics (ECE 442)*, Spring 2016. Course rating: 4.81/5, instructor rating: 4.90/5, enrollment: 15.
- *Introduction to Random Processes (ECE 440)*, Fall 2015. Course rating: 4.71/5, instructor rating: 4.71/5, enrollment: 24.
- *Network Science Analytics in the Big Data Era (ECE 492)*, Spring 2015. Enrollment: 7.
- *Introduction to Random Processes (ECE 440)*, Fall 2014. Course rating: 4.65/5, instructor rating: 4.71/5, enrollment: 23.

**Universidad Rey Juan Carlos**

Madrid, Spain

Invited Lecturer, Dept. of Signal Theory and Communications

June 2025

- Instructor for *Introduction to Random Processes*, June 23-27, 2025 (~ 15 students).

**Universidad de la República**

Montevideo, Uruguay

Invited Lecturer, Dept. of Mathematics and Statistics

August 2023

- Guest lecturer for *Machine Learning for Graph Data*, August 1, 2023 (~ 20 students).

**Khipu Latin American Meeting in Artificial Intelligence**

Montevideo, Uruguay

Invited Lecturer

March 2023

- Instructor for *Graph Neural Networks II*, March 7, 2023 (~ 250 students).

**IEEE SPS/EURASIP Summer School on Graph-driven Learning**

Banja Luka, Bosnia and Herzegovina

Invited Lecturer

September 2022

- Instructor for *Connecting the Dots: Learning Graphs from Data*, September 8, 2022 (~ 50 students).

**IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)**

Singapore

Short Course Instructor

May 2022

- Instructor for *Signal Processing and Learning from Network Data*, May 24-26, 2022 (~ 15 students).

**Universidad de la República**

Montevideo, Uruguay

Invited Lecturer, Dept. of Mathematics and Statistics

February 2021

- Instructor for *Machine Learning for Graph Data*, February 1-5, 2021 (~ 45 students).

**IEEE SPS/EURASIP Summer School on Network- and Data-driven Learning**

Lecce, Italy

General co-Chair and Lecturer

May 2019

- Instructor for *Statistical Analysis of Network Data*, May 20, 2019 (~ 25 students).

**Universidad de la República**

Montevideo, Uruguay

Invited Lecturer, Dept. of Mathematics and Statistics

June 2016

- Instructor for *Statistical Analysis of Network Data*, June 16-24, 2016 (~ 20 students).

**University of Minnesota**

Twin Cities, Minnesota

Invited Lecturer, Digital Technology Center

June 2015 - July 2015

- Instructor for *Statistical Analysis of Network Data*, June 24-July 15, 2015 (~ 20 students).

**University of Minnesota**

Twin Cities, Minnesota

Research Assistant, Dept. of Electrical and Computer Engineering

August 2006 - December 2012

- Coordinator of *Communications Seminar (EE 8500)*, Fall 2009, 2010 and 2012.
- Guest lecturer for *Adaptive Digital Signal Processing (EE 5542)*, Spring 2007 (~ 20 students).

**Universidad de la República**

Montevideo, Uruguay

Instructor, Dept. of Electrical Engineering

March 2005 - July 2006



- Instructor for *Circuits and Electrical Machines I*, Chemical and Industrial Engineering (~ 200 students).
- Instructor for *Linear Systems II*, Electrical Engineering (~ 100 students).

**Universidad de la República**

Teaching Assistant, Dept. of Electrical Engineering

Montevideo, Uruguay  
February 2003 - July 2006

- Office hours, grading, and recitations for *Linear Systems I and II* (~ 100 students).

## CURRENT DOCTORAL STUDENTS

**Bernardo Marengo**

Ph. D. in Mathematics

Universidad de la República  
December 2020 - October 2025 (expected)

Co-advised with Prof. Paola Bermolen

*Research topic:* “Online Graph Representation Learning for Dynamic Network Data”

- Best student paper contest third place at the 2021 Asilomar Conference on Signals, Systems, and Computers.
- Doctoral fellowship from the Academic Commission for Graduate Studies, Universidad de la República.

**Hamed Ajorlou**

Ph. D. in Electrical Engineering

University of Rochester  
August 2023 - 2028 (expected)*Research topic:* “Learning with Directed Acyclic Graphs”**Seyed Alireza Hosseini**

Ph. D. in Electrical Engineering

University of Rochester  
August 2026 - 2031 (expected)*Research topic:* “TBD”**Erfan Panahi**

Ph. D. in Electrical Engineering

University of Rochester  
August 2026 - 2031 (expected)*Research topic:* “TBD”**Parisa Asghari Tavana**

Ph. D. in Electrical Engineering

University of Rochester  
August 2026 - 2031 (expected)*Research topic:* “TBD”**Martin Schmidt**

Ph. D. in Electrical Engineering

University of Rochester  
August 2026 - 2031 (expected)*Research topic:* “TBD”

## PHD THESES SUPERVISED

**Max Wasserman**

Ph. D. in Computer Science

University of Rochester  
August 2018 - March 2025*Research topic:* “Graph Structure Learning: Neural Network Unrollings and Bayesian Approaches”

- NSF research traineeship in data-enabled science and engineering class of 2018.

**Chang Ye**

Ph. D. in Electrical Engineering

University of Rochester  
January 2017 - January 2025*Research topic:* “Deconvolution and Inverse Problems on Graphs with Applications to Source Localization”

- NSF student travel grant to attend the 2019 IEEE Data Science Workshop.

**Seyed Saman Saboksayr**

Ph. D. in Electrical Engineering

University of Rochester  
August 2018 - October 2024*Research topic:* “Network Topology Inference: Accounting for Directionality, Learning Tasks, and Data Streams”**Yang Li**

Ph. D. in Electrical Engineering

University of Rochester  
January 2017 - June 2022*Research topic:* “Graph Signal Processing for Studying the Relationship between Brain Connectomes”

- Best student paper award at the 2019 IEEE Intl. Conference on Acoustics, Speech and Signal Processing.

**Rasoul Shafipour**

Ph. D. in Electrical Engineering

University of Rochester

August 2015 - March 2020

*Research topic:* “Learning Representations for Signal and Information Processing on Directed Networks”

- University of Rochester’s 2018 Donald M. and Janet C. Barnard Fellowship.
- Best student paper award at the 2018 IEEE Intl. Conference on Acoustics, Speech and Signal Processing.
- NSF student travel grant to attend the 2016 Graph Signal Processing Workshop.

## MS THESES SUPERVISED

**María Sofía Pérez**

M.Sc. in Data Science and Artificial Intelligence

Universidad de la República

July 2022 - May 2024

Co-advised with Profs. Marcelo Fiori and Federico Larroca

*Research topic:* “LASE: Learned Adjacency Spectral Embeddings”

- Best MS thesis award from the Uruguayan National Academy of Engineering.

## PLENARY AND KEYNOTE LECTURES

**Digraph signal processing: Orthonormal transforms and network inference**

- Graph Signal Processing Workshop, University of Minnesota, Minneapolis, MN

June 6, 2019

**Network topology inference from spectral templates**

- EURASIP Statistics, Optimization, and Signal Processing Workshop, Rome, Italy

September 7, 2018

## TUTORIAL LECTURES

**Learning with Covariance Matrices: Foundations and Applications to Network Neuroscience**

- European Signal Processing Conference (EUSIPCO)

September 8, 2025

**Connecting the Dots: Identifying Network Structure of Complex Data via Graph Signal Processing**

- IEEE Statistical Signal Processing Workshop (SSP)

July 12, 2021

- IEEE Workshop on Comp. Advances in Multi-Sensor Adaptive Processing (CAMSAP)

December 15, 2019

- European Signal Processing Conference (EUSIPCO)

September 2, 2019

- Bellairs Workshop on Machine Learning and Signal Processing for Data on Graphs

February 10, 2019

**Graph Signal Processing: Fundamentals and Applications to Diffusion Processes**

- IEEE Global Conference on Signal and Information Processing (GlobalSIP)

December 6, 2016

- IEEE Sensor Array and Multichannel Signal Processing (SAM) Workshop

July 10, 2016

**Signal Processing Tools for Big Network Data Analytics**

- IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC)

July 3, 2016

- Dept. of Electrical Engineering, Universidad de la República, Montevideo, Uruguay

December 13, 2015

- European Signal Processing Conference (EUSIPCO)

August 31, 2015

- IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)

April 19, 2015

**Signal Processing for Big Data**

- European Signal Processing Conference (EUSIPCO)

September 1, 2014

- IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)

May 5, 2014

**Cartography for Cognitive Networks**

- IEEE Global Communications Conference (GLOBECOM)

December 13, 2013

- IEEE International Conference on Communications (ICC)

June 9, 2013

## SELECTED INVITED TALKS AND SEMINARS

**Concomitant linear DAG estimation**

- Indian Institute of Science, Bangalore, India

April 2, 2025

- Dept. of Signal Theory and Communications, Universidad Rey Juan Carlos, Madrid, Spain

March 14, 2025

- Data and Graphs Seminar Series, TU Delft, Delft, The Netherlands March 11, 2025
- Dept. of Mathematics and Statistics, Universidad de la República, Montevideo, Uruguay February 27, 2025
- McGill Bellairs Research Institute, Holetown, Barbados January 14, 2025
- Dept. of Electrical, Computer, and Systems Eng., Rensselaer Polytechnic Institute, Troy, NY October 14, 2024

#### **Learning with graphs**

- Dept. of Electrical and Computer Eng., Univ. of Illinois Chicago, Chicago, IL November 26, 2024
- Data Science and AI Seminar Series, Univ. of Georgia, Athens, GA October 25, 2024
- Dept. of Electrical and Computer Eng., Univ. of Texas at San Antonio, San Antonio, TX February 23, 2024
- HerWILL Cutting Edge Technology Workshop Series February 15, 2024
- Jornadas de Inteligencia Artificial del Litoral, Santa Fe, Argentina October 26, 2023
- Hispanic Heritage Month Research Highlight, Rochester, NY September 29, 2023

#### **Graph neural networks in action**

- Khipu – Latin American Meeting in Artificial Intelligence, Montevideo, Uruguay March 7, 2023

#### **Graph adjacency spectral embeddings: Algorithmic advances and applications**

- McGill Bellairs Research Institute, Holetown, Barbados January 18, 2023
- IEEE SPS Data Science Initiative Webinar Series: Data sciEnc on GrAphS (DEGAS) November 16, 2022

#### **Network streams, embeddings, and topology learning**

- Dept. of Electrical Engineering and Computer Science, Univ. of California Irvine, Irvine, CA August 3, 2022
- Dept. of Signal Theory and Communications, Universidad Rey Juan Carlos, Madrid, Spain May 17, 2022
- McGill Bellairs Research Institute, Holetown, Barbados December 15, 2021
- Dept. of Electrical and Computer Engineering, Rice University, Houston, TX October 27, 2021

#### **Accelerated graph learning from smooth signals**

- Dept. of Mathematics and Statistics, Universidad de la República, Montevideo, Uruguay August 4, 2023
- Graph Signal Processing Workshop, University of Oxford, Oxford, UK June 14, 2023
- HDR-TRIPODS PI Meeting, National Science Foundation, Alexandria, VA December 7, 2021
- Intl. Balkan Conf. on Comms. and Networking, Novi Sad, Serbia September 21, 2021

#### **Online graph learning from streaming signals**

- Dept. of Electrical, Computer, and Systems Eng., Rensselaer Polytechnic Institute, Troy, NY March 10, 2021

#### **Digraph signal processing: Orthonormal transforms and network inference**

- Intl. Conf. on Signal Processing and Comms., Indian Institute of Science, Bangalore, India July 20, 2020
- Dept. of Electrical and Computer Engineering, Stony Brook University, Stony Brook, NY February 18, 2020
- McGill Bellairs Research Institute, Holetown, Barbados February 11, 2019

#### **Graph signal processing: Foundational advances for learning from network data**

- Western New York Image and Signal Processing Workshop, Rochester, NY October 4, 2019
- Open Data Science Conference (ODSC) Europe, London, United Kingdom September 21, 2018

#### **Network topology inference from spectral templates**

- Institute of Advanced Computational Science, Stony Brook University, Stony Brook, NY February 17, 2020
- Dept. of Electrical, Computer and Energy Engineering, University of Colorado, Boulder, CO October 28, 2019
- Gleason College of Engineering, Rochester Institute of Technology, Rochester, NY March 23, 2018
- Electrical Engineering and Computer Science Dept., Syracuse University, Syracuse, NY January 31, 2018
- Dept. of Electrical Engineering, Universidad de la República, Montevideo, Uruguay December 19, 2017
- Dept. of Electrical Engineering, University of Texas at Arlington, Arlington, TX September 29, 2017
- Modeling and Optimization: Theory and Applications, Lehigh University, Bethlehem, PA August 18, 2016

#### **Network topology inference from non-stationary graph signals**

- Graph Signal Processing Workshop, Carnegie Mellon University, Pittsburgh, PA June 2, 2017

#### **Blind identification of graph filters**

- Graph Signal Processing Meeting, McGill Bellairs Research Institute, Holetown, Barbados February 12, 2017
- Graph Signal Processing Workshop, University of Pennsylvania, Philadelphia, PA May 26, 2016
- Gleason College of Engineering, Rochester Institute of Technology, Rochester, NY October 9, 2015
- Information Initiative at Duke, Duke University, Durham, NC August 12, 2015

#### **Sparsity and low rank for social data analytics and networking**

- School of Electrical, Computer and Energy Engineering, Arizona State University, Tempe, AZ April 15, 2014
- Dept. of Computer and Electrical Engineering Florida Atlantic University, Boca Raton, FL March 31, 2014
- Dept. of Electrical and Computer Engineering, University of Rochester, Rochester, NY March 28, 2014
- Electrical Engineering Dept., University of Southern California, Los Angeles, CA March 24, 2014
- Dept. of Electrical and Computer Engineering, University of Pittsburgh, Pittsburgh, PA March 19, 2014
- Dept. of Electrical and Computer Engineering, University of Utah, Salt Lake City, UT March 3, 2014
- Dept. of Electrical and Computer Engineering, University of Iowa, Iowa City, IA February 27, 2014
- Dept. of Electrical and Computer Engineering, University of Virginia, Charlottesville, VA February 24, 2014
- Dept. of Electrical and Computer Engineering, New Jersey Institute of Tech., Newark, NJ February 17, 2014
- Institute for CyberScience, The Pennsylvania State University, University Park, PA May 20, 2013
- Dept. of Electrical and Computer Engineering, Duke University, Durham, NC May 9, 2013
- Dept. of Electrical and Computer Engineering, Johns Hopkins University, Baltimore, MD Feb. 12, 2013

#### **Dynamic structural equation models for tracking cascades over social networks**

- Information Theory and Applications Workshop, San Diego, CA February 12, 2014

#### **Sparsity control for robustness and social data analysis**

- Dept. of Electrical and Systems Engineering, University of Pennsylvania, Philadelphia, PA May 9, 2013
- Dept. of Electrical Engineering, Universidad de la República, Montevideo, Uruguay December 23, 2011

#### **Spline-based spectrum cartography for cognitive radios**

- Digital Technology Center, University of Minnesota, Minneapolis, MN December 18, 2009

### **MENTORING AND INCLUSION EFFORTS**

- Invited speaker at the Cutting Edge Technology Workshop Series organized by HerWILL, 2024.
- Member of the Diversity, Equity, and Inclusion (DEI) Committee, Dept. of Electrical and Computer Engineering, University of Rochester, 2022-2024.
- Mentor for the IEEE Signal Processing Society's Mentoring Experiences for Underrepresented Young Researchers (ME-UYR) program, 2023.
- Invited speaker at the celebration of Hispanic Heritage Month organized by the DEI Committee, Dept. of Electrical and Computer Engineering, University of Rochester, 2023.
- Invited speaker at Khipu – Latin American Meeting in Artificial Intelligence, 2023.
- Mentor at the NSF Research Experience for Undergraduates (REU) Site: Imaging in Medicine and Biology for Underrepresented Minorities, 2022-2024.
- Mentor for the Future GRADS MentorSHPE program, 2022 and 2023.
- Mentor at the virtual Khipu Mentoring Event, 2021.
- Moderator of the Hispanic Heritage Month Panel organized by the DEI Committee, Dept. of Electrical and Computer Engineering, University of Rochester, 2021.
- Inaugural faculty advisor for the University of Rochester's Society for Advancing Chicanos/Hispanics & Native Americans in Science (SACNAS) Chapter, 2020-2023.
- Judge for the Engineering Science Symposium Poster Competition, 2019 Society of Hispanic Professional Engineers (SHPE) National Convention.
- Reviewer for the 2019 Great Minds in STEM (GMiS) Research Poster Competition.
- Reviewer of applications submitted to Khipu – Latin American Meeting in Artificial Intelligence, 2019.

### **PANELS AND COMMUNITY OUTREACH TALKS**

- *NSF Graduate Research Fellowship Program Panel* organized by Arts, Sciences and Engineering, University of Rochester, Rochester, NY, September 19, 2024.
- *NSF Graduate Research Fellowship Program Panel* organized by Arts, Sciences and Engineering, University of Rochester, Rochester, NY, September 14, 2023.

- *NSF Graduate Research Fellowship Program Panel* organized by Arts, Sciences and Engineering, University of Rochester, Rochester, NY, September 16, 2022.
- *Hispanic Heritage Month Panel* organized by the Diversity, Equity, and Inclusion Committee of the Dept. of Electrical and Computer Engineering, University of Rochester, Rochester, NY, September 28, 2021.
- *NSF Graduate Research Fellowship Program Panel* organized by Arts, Sciences and Engineering, University of Rochester, Rochester, NY, September 15, 2021.
- *NSF Graduate Research Fellowship Program Panel* organized by Arts, Sciences and Engineering, University of Rochester, Rochester, NY, September 18, 2020.
- *Hajim NSF CAREER Bootcamp* organized by the Hajim School of Engineering and Applied Sciences, University of Rochester, Rochester, NY, June 7, 2018.
- *Discussions on Hispanic and Latino Culture*, organized by the Spencerport High School, Spencerport, NY, December 7, 2017.
- *Careers in STEM*, organized by the Hispanic Heritage Committee of Rochester, Rochester, NY, October 21, 2016.
- *New Faculty Orientation and Welcome* organized by Arts, Sciences and Engineering, University of Rochester, Rochester, NY, August 20, 2015.
- *Career Transitioning into Academia* organized by the Postdoctoral Association, University of Rochester, Rochester, NY, February 19, 2015.

## PROFESSIONAL AFFILIATIONS AND SERVICES

- NSF panelist in 2017-2020 and 2022-2025 (CISE, ENG, MPS, GRFP and SBIR).
- Reviewer of proposals submitted to the Air Force Office of Scientific Research (AFOSR).
- Reviewer of proposals submitted to European funding agencies such as the Fund for Scientific Research (F.R.S.-FNRS), the French National Research Agency (ANR), the Swiss National Science Foundation (SNSF), the German Research Foundation (DFG), and the Dutch Research Council (NWO).
- Reviewer of nominations submitted to the Canada Research Chairs program.
- Elected member of the IEEE Signal Processing Theory and Methods Technical Committee since January 2016. Re-elected for a second term in December 2018. Chair of the Publications subcommittee.
- Elected member of the IEEE Sensor Array and Multichannel Technical Committee since January 2016. Re-elected for a second term in December 2018.
- Affiliate member of the IEEE Signal Processing Society Big Data Special Interest Group, June 2015-2017.
- Reviewer for IEEE Transactions on Signal Processing, IEEE Journal of Selected Topics in Signal Processing, IEEE Signal Processing Magazine, IEEE Open Journal of Signal Processing, IEEE Signal Processing Letters, IEEE Transactions on Signal and Information Processing over Networks, Elsevier Signal Processing, EURASIP Journal on Advances in Signal Processing, IEEE Transactions on Wireless Communications, IEEE Transactions on Vehicular Technologies, IEEE Transactions on Image Processing, IEEE Transactions on Medical Imaging, ACM/IEEE Transactions on Networking, IEEE Transactions on Network Science and Engineering, IEEE Transactions on Automatic Control, IEEE Transactions on Control of Network Systems, IEEE Transactions on Aerospace and Electronic Systems, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Information Theory, Entropy, Journal of Applied and Computational Topology, Applied Network Science, Neural Networks, Proceedings of the Royal Society A, Scientific Reports, and PLOS ONE.
- Regular reviewer of conference papers submitted to ICASSP, GlobalSIP, EUSIPCO, ISIT, ICC, GLOBECOM, LoG, and Workshops technically sponsored by the IEEE Signal Processing Society.
- Reviewer of book proposals submitted to the Cambridge University Press, CRC Press, and Springer Nature.
- Faculty advisor for the University of Rochester's Society for Advancing Chicanos/Hispanics & Native Americans in Science (SACNAS) Chapter since July 2020.
- Mentor for the IEEE Signal Processing Society's Micro Mentoring Experience (MiME) program since 2025.
- Judge for the Engineering Science Symposium Poster Competition, 2019 Society of Hispanic Professional Engineers (SHPE) National Convention.
- Reviewer for the 2019 Great Minds in STEM (GMiS) Research Poster Competition.
- Elected member of the Uruguayan National System of Researchers since November 2010.

- EURASIP member since 2014.
- IEEE Signal Processing Society and IEEE Communications Society member.
- IEEE Senior member since April 2017.
- ACM member since June 2023.
- University of Minnesota Alumni Association (UMAA) member.

## EDITORIAL BOARD DUTIES

### IEEE Transactions on Signal Processing

- Deputy Editor-in-Chief 2024 -
- Senior Area Editor 2020 - 2024
- Recipient of the IEEE Signal Processing Society Outstanding Editorial Board Award 2023
- Associate Editor 2015 - 2019
- Recipient of the IEEE Signal Processing Society Outstanding Editorial Board Award 2019

### IEEE Transactions on Signal and Information Processing over Networks

- Associate Editor 2018 - 2022
- Lead Guest Editor for the special issue *Network Topology Inference* 2019

### IEEE Signal Processing Repository (SigPort)

- Editorial Board member 2018 - 2020

### EURASIP Journal on Advances in Signal Processing

- Associate Editor 2012 - 2018
- Best Paper Award Committee member 2018, 2019
- Guest Editor for the special issue *Signal Processing over Higher Order Networks* 2021
- Guest Editor for the special issue *Optimization, Learning, and Adaptation over Networks* 2018
- Lead Guest Editor for the special issue *Signal Processing for Big Data* 2016

### EURASIP Journal on Information Security

- Guest Editor for the special issue *Signal Processing for Network Forensics and Security* 2017

## TECHNICAL PROGRAM COMMITTEE MEMBERSHIPS

- 2024 IEEE Sensor Array and Multichannel Signal Processing Workshop, Corvallis, OR.
- 2023 IEEE Workshop on Computational Advances in Multi-Sensor Adaptive Processing, Los Sueños, Costa Rica.
- 2022 ACM Graph Neural Networking Workshop, Rome, Italy.
- 2021 IEEE Statistical Signal Processing Workshop, Rio de Janeiro, Brazil.
- 2020 European Signal Processing Conference, Amsterdam, The Netherlands.
- 2020 IEEE Sensor Array and Multichannel Signal Processing Workshop, Hangzhou, China.
- 2019 IEEE Workshop on Computational Advances in Multi-Sensor Adaptive Processing, Guadeloupe, West Indies.
- 2019 IEEE Global Conference on Signal and Information Processing, Ottawa, Canada.
- 2019 European Signal Processing Conference, A Coruña, Spain.
- 2019 IEEE Data Science Workshop, Minneapolis, MN.
- 2018 European Signal Processing Conference “Signal Processing for Big Data” Track Chair, Rome, Italy.
- 2018 IEEE Sensor Array and Multichannel Signal Processing Workshop, Sheffield, United Kingdom.
- 2018 IEEE Statistical Signal Processing Workshop, Freiburg, Germany.
- 2017 IEEE Workshop on Computational Advances in Multi-Sensor Adaptive Processing, Curaçao, Dutch Antilles.
- 2016 IEEE Sensor Array and Multichannel Signal Processing Workshop, Rio de Janeiro, Brazil.
- 2016 IEEE Statistical Signal Processing Workshop, Palma de Mallorca, Spain.



- 2015 International Joint Conference on Artificial Intelligence, Buenos Aires, Argentina.
- 2015 Iberoamerican Congress on Pattern Recognition, Montevideo, Uruguay.

## ORGANIZATION OF TECHNICAL EVENTS, SEASONAL SCHOOLS AND SPECIAL SESSIONS

### Asilomar Conference on Signals, Systems, and Computers

- General Chair 2028
- Technical Program Chair 2025
- Technical Area Chair for the Networks and Graphs track 2024
- Technical Area Chair for the Networks track 2022
- Organizer of the special session *Learning with Brain Connectomes* 2021
- Organizer of the special session *Graph Signal Processing* 2018
- Organizer of the special session *Sketching and Optimizing for Big Data* 2016
- Organizer of the special session *Signal Processing for Smart Grids* 2014

### Data-driven Signal Processing, NextG Communications, and Networking Workshop

- Technical co-Chair 2024

### IEEE Sensor Array and Multichannel (SAM) Signal Processing Workshop

- Member of the Student Paper Award committee 2024
- Organizer of the special session *Learning and Optimization on Graphs* 2024

### IEEE SPS/EURASIP Summer School on Learning for Communications and Signal Processing

- Chair of the Best Student Presentation Award committee 2022

### IEEE Statistical Signal Processing (SSP) Workshop

- Organizer of the special session *Learning from Network Data* 2021
- IEEE Signal Processing Society Liaison 2021

### Graph Signal Processing (GSP) Workshop

- Plenary Speakers Chair 2024
- Member of the organizing committee 2023
- Technical Program co-Chair 2020

### IEEE Data Science Workshop (DSW)

- Finance Chair 2019

### IEEE SPS/EURASIP Summer School on Network- and Data-driven Learning

- General co-Chair and Lecturer 2019

### IEEE Global Conference on Signal and Information Processing (GlobalSIP)

- General Chair of the *Symposium on Graph Signal Processing* 2018, 2019
- Technical Program Chair of the *Symposium on Graph Signal Processing* 2017
- Technical Program Chair of the *Symposium on Signal and Information Processing over Networks* 2016

### IEEE Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)

- General co-Chair 2025
- Member of the Student Paper Award committee 2019, 2023
- Chair of the Student Paper Award committee 2019
- Organizer of the special session *Information Processing for Big Data Analytics* 2017

### IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)

- Organizer of the special session *Social Nets: Learning and Optimization* 2014

## UNIVERSITY SERVICE

### Department of Electrical and Computer Engineering, University of Rochester

- Director of Graduate Studies 2020 - present
- Diversity, Equity, and Inclusion Committee member 2022 - 2024

• Undergraduate advisor for the Electrical and Computer Engineering class of 2026	2022 - present
• Faculty Search Committee chair	2023
• Graduate Admissions Committee member	2014 - 2020
• Faculty Search Committee member	2016, 2017, 2024
• Undergraduate advisor for the Electrical and Computer Engineering class of 2020	2016 - 2020
• M. Sc. in Electrical Engineering student advisor	2016 - present
• Dept. of Electrical and Computer Engineering Colloquia Series coordinator	2016 - 2020
• M. Sc. in Electrical Engineering Plan B Exam Committee member	2015 - present
<b>Goergen Institute for Data Science and Artificial Intelligence, University of Rochester</b>	
• Associate Director for Research	2023 - present
• Faculty Search Committee chair	2022
• Faculty Search Committee member	2021
• Reviewer of proposals submitted to the annual seed funding competition	2021-2024
• M. Sc. in Data Science student advisor	2017 - present
• M. Sc. in Data Science Admissions Committee member	2017, 2019 - present
<b>University Council on Graduate Education, University of Rochester</b>	
• Representative from Electrical and Computer Engineering	2020 - present
<b>Hajim School of Engineering and Applied Sciences, University of Rochester</b>	
• AI+X and X+AI Masters Degree Options Committee co-chair	2024 - present
<b>Arts, Sciences, and Engineering Faculty Council, University of Rochester</b>	
• Promotion and Tenure Guidelines Review Committee member	2023 - present
<b>University Research Awards, University of Rochester</b>	
• Reviewer of proposals submitted to the annual seed funding competition	2021 - 2022
<b>Del Monte Institute for Neuroscience, University of Rochester</b>	
• Reviewer of proposals submitted to the annual pilot project competition	2019
<b>Undergraduate Research Exposition, University of Rochester</b>	
• Judge for the Engineering Area	April 2017

## SELECTED THESIS COMMITTEE MEMBERSHIPS

<b>Bishwadeep Das</b>	TU Delft
Ph. D. in Electrical Engineering	March 2025
<i>Thesis:</i> “Signal Processing over Dynamic Graphs”	
<i>Advisor:</i> Prof. Elvin Isufi	
<b>Andrei Buciulea Vlas</b>	Universidad Rey Juan Carlos
Ph. D. in Multimedia and Communications	June 2024
<i>Thesis:</i> “Robust Graph Topology Inference”	
<i>Advisor:</i> Prof. Antonio G. Marques	
<b>José Vinícius de Miranda Cardoso</b>	The Hong Kong University of Science and Technology
Ph. D. in Electronic and Computer Engineering	May 2023
<i>Thesis:</i> “Unraveling the Connections: Learning Undirected Graphs in Financial Markets”	
<i>Advisor:</i> Prof. Daniel Palomar	
<b>Raiyan Baten</b>	University of Rochester
Ph. D. in Electrical Engineering	August 2022
<i>Thesis:</i> “Understanding, Modeling, and Elevating Creative Performances in Self-organizing Social Networks”	
<i>Advisor:</i> Prof. Ehsan Hoque	
<b>Li Ding</b>	University of Rochester
Ph. D. in Electrical Engineering	December 2021
<i>Thesis:</i> “Symbiotic Registration and Deep Learning for Retinal Image Analysis”	
<i>Advisor:</i> Prof. Gaurav Sharma	

- Hanlin Tang** University of Rochester  
Ph. D. in Computer Science July 2021  
*Thesis:* “Communication Efficient Machine Learning Algorithms towards Large Scale Parallel Training”  
*Advisor:* Prof. Ji Liu
- Carlos Rodríguez** University of Rochester  
Ph. D. in Electrical Engineering July 2021  
*Thesis:* “Gamut and Color Control for Multiprimary Displays: Theory and Applications”  
*Advisor:* Prof. Gaurav Sharma
- Surendra Hazarie** University of Rochester  
Ph. D. in Physics June 2021  
*Thesis:* “Human Mobility in Physical and Virtual Environments: Understanding How We Choose to Move”  
*Advisor:* Prof. Gourab Ghoshal
- Jiani Liu** Delft University of Technology  
Ph. D. June 2021  
*Thesis:* “Graph Filter Designs and Implementations”  
*Advisor:* Prof. Geert Leus
- Shupeng Gui** University of Rochester  
Ph. D. in Computer Science June 2021  
*Thesis:* “Neural Embedding: Compact, Robust, and Non-Euclidean Solutions”  
*Advisor:* Prof. Ji Liu
- Fabiana Richter** University of Rochester  
Ph. D. in Geosciences December 2020  
*Thesis:* “Interplay between Tectonics and Climate on the Tibetan Plateau Margins during the Late Cenozoic”  
*Advisors:* Prof. Carmala Garzione
- Richard Lange** University of Rochester  
Ph. D. in Brain and Cognitive Science/Computer Science August 2020  
*Thesis:* “Signatures of Approximate Bayesian Inference in Early Visual Perception”  
*Advisors:* Profs. Ralf Haefner and Henry Kautz
- Utku Demir** University of Rochester  
Ph. D. in Electrical Engineering August 2020  
*Thesis:* “Automatic Creation and Maintenance of Dynamic WiFi Direct Networks”  
*Advisor:* Prof. Wendi Heinzelman
- Aaron Michalko** University of Rochester  
Ph. D. in Optics August 2020  
*Thesis:* “Advances in Optical Surface Metrology by Phase and Prescription Retrieval”  
*Advisor:* Prof. James Fienup
- Yuchuan Zhuang** University of Rochester  
Ph. D. in Electrical Engineering August 2020  
*Thesis:* “Integration of Structural and Functional Connectivity of Brain, and Clinical Applications”  
*Advisor:* Prof. Jianhui Zhong
- Haichuan Yang** University of Rochester  
Ph. D. in Computer Science July 2020  
*Thesis:* “Sparse Learning for Model Optimization”  
*Advisor:* Prof. Ji Liu
- Nadir Adam** University of Rochester  
Ph. D. in Electrical Engineering July 2020  
*Thesis:* “Performance Analysis and Optimization of Infrastructure, Aerial and Multi-Hop Ad-Hoc Networks”  
*Advisor:* Prof. Wendi Heinzelman
- Fernando Gama** University of Pennsylvania  
Ph. D. in Electrical and Systems Engineering June 2020  
*Thesis:* “Graph Neural Networks”

*Advisor:* Prof. Alejandro Ribeiro

**Fernando Zvietcovich**

Ph. D. in Electrical Engineering

University of Rochester

December 2019

*Thesis:* “Dynamic Optical Coherence Elastography”

*Advisors:* Profs. Kevin Parker and Jannick Rolland

**Scott Paine**

Ph. D. in Optics

University of Rochester

August 2019

*Thesis:* “Expanding the Capture Range of Image-Based Wavefront Sensing Problems”

*Advisor:* Prof. James Fienup

**Xiangru Lian**

Ph. D. in Computer Science

University of Rochester

August 2019

*Thesis:* “Large Scale Optimization for Deep Learning”

*Advisor:* Prof. Ji Liu

**Nicolas Riquelme**

Ph. D. in Economics

University of Rochester

May 2019

*Thesis:* “Essays on Mechanism Design and Multiple Privately Informed Principals”

*Advisors:* Profs. Paulo Barelli and Srihari Govindan

**Adora M. D’Souza**

Ph. D. in Electrical Engineering

University of Rochester

March 2019

*Thesis:* “Directed Network Recovery from Large Systems with Applications in Functional MRI”

*Advisor:* Prof. Axel Wismüller

**Iftekhar Tanveer**

Ph. D. in Electrical Engineering

University of Rochester

October 2018

*Thesis:* “Behavioral Prediction using Data-Scientific Approaches: A Case Study on Public Speaking”

*Advisor:* Prof. Ehsan Hoque

**Quanzeng You**

Ph. D. in Computer Science

University of Rochester

August 2017

*Thesis:* “Sentiment and Emotion Analysis for Visual and Multimedia Content: Methodologies and Applications”

*Advisor:* Prof. Jiebo Luo

**Swetha George**

Ph. D. in Electrical Engineering

University of Rochester

May 2017

*Thesis:* “Sub-Wavelength Imaging Methodology for Medical Ultrasound Applications”

*Advisor:* Prof. Zeljko Ignjatovic

**Colin Funai**

Ph. D. in Electrical Engineering

University of Rochester

April 2017

*Thesis:* “Enabling and Optimizing Resource Constrained Ad-Hoc Mobile Clouds”

*Advisor:* Prof. Wendi Heinzelman

**Arian Shoari**

Ph. D. in Electrical Engineering

University of Rochester

October 2016

*Thesis:* “Localization of Non-Cooperative Target with Distributed Binary Observations”

*Advisors:* Profs. Alireza Seyedi and Mark Bocko

**Jonathan Downing**

M. Sc. in Electrical Engineering

University of Rochester

October 2016

*Thesis:* “Joint Source Separation and Dereverberation of Single-Channel Drum Kit Recordings”

*Advisor:* Prof. Zhiyao Duan

**Walter Checefsky**

M. Sc. in Electrical Engineering

University of Rochester

February 2016

*Thesis:* “Detecting Clinically Isolated Syndrome (CIS) Using Brain Networks”

*Advisor:* Prof. Axel Wismüller

**Marcelo Fiori**

Universidad de la República

Ph. D. in Electrical Engineering

May 2015

*Thesis:* “Graph Inference and Graph Matching Problems: Theory and Algorithms”

*Advisors:* Profs. Guillermo Sapiro and Pablo Musé

**Chantel Gaudet**

University of Rochester

M. Sc. in Chemical Engineering

April 2015

*Thesis:* “Characterizing and Scaling Stochastic Network Dynamics”

*Advisor:* Prof. Eldred H. Chimowitz

## PERSONAL

- Date of birth: April 14th, 1982.
- Citizenship: United States and Uruguay.
- Languages: Fluent in Spanish and English, conversational in Portuguese.
- Sports: Member of the Uruguayan national junior tennis team, competing in more than 15 international tournaments held all over South America in 1996-2000.
- Other interests: International travel, music, professional sports.