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GENERAL INFORMATION

RESEARCH INTERESTS

Graph Signal Processing - Data Science for Networks - Stochastic Network Optimization - Reinforcement Learning - Machine Learning over Graphs - Geometric Deep Learning

EDUCATION

Ph. D. in Telecommunications Eng. *2007*
Carlos III University of Madrid, Spain
Thesis: Power-Efficient Wireless Communications based on Quantized CSI
Advisors: G. B. Giannakis (Univ. of Minnesota), F. J. Ramos (Carlos III Univ.)

M. Sc. in Telecommunications Eng. *2004*
Carlos III University of Madrid, Spain

B. Sc. in Telecommunications Eng. *2003*
Carlos III University of Madrid, Spain

ACADEMIC CAREER

Full-time positions

King Juan Carlos University *Fuenlabrada, Madrid, Spain*
Professor *September, 2020 - present*
Dept. of Signal Theory

King Juan Carlos University *Fuenlabrada, Madrid, Spain*
Associate Professor *June, 2012 - September, 2020*
Dept. of Signal Theory

King Juan Carlos University *Fuenlabrada, Madrid, Spain*
Assistant Professor *September, 2007 - June, 2012*
Dept. of Signal Theory

Visiting Positions

Shanghai Tech University *Shanghai, China*
Visiting Faculty *2019*
School of Information Sciences and Technology.

University of Pennsylvania *Philadelphia, PA, USA*
Visiting Research Faculty *2015-2018*
Dept. of Electrical and Systems Eng.

University of Minnesota *Minneapolis, MN, USA*
Visiting Research Faculty *2008, 2009, 2012, 2015, 2016*
Digital Technology Center

University of Minnesota *Minneapolis, MN, USA*
Visiting Researcher *2005-2007*
Dept. of Electrical and Computer Eng.

HONORS AND AWARDS

Best 1997-2002 Telecommunications Eng. Student award (graduated with highest honors).

Best 2007-08 Ph. D. Thesis award (graduated with highest honors).

Best (student) paper awards: IEEE SP Society YA 2020, IEEE SAM 2016, IEEE SSP 2016, Asilomar 2015. Finalist: IEEE ICASSP 2007, Asilomar 2019.

2020 European Association for Signal Processing (EURASIP) Early Career Society Award - "For contributions in network resource allocation and graph signal processing" (The recipient has to be under 40)

RESEARCH

Brief overview

The core of my research work is the application of signal processing, machine learning and non-linear optimization to networks and graphs. Nowadays, I have a growing interest in understating the relationship between data science, graph theory and network analytics. Development of machine learning and signal processing algorithms tailored to graphs and networks will have a great impact on both the understanding of contemporary irregular datasets as well as the modeling, monitoring and control of complex engineering systems such as power networks and smart grids, vehicular networks, or the Internet of things.

I have written more than one hundred journal and conference papers, which, in the last 3 years, have gotten more than one thousand citations.

PUBLICATIONS

Journal papers

1. S. Rey, R. Heckel, S. Segarra, and A. G. Marques " Untrained graph neural network architectures for denoising signals with irregular supports", IEEE Trans. Neural Networks and Learning Systems. (submitted).
2. M. Navarro, Y. Wang, A. G. Marques, C. Uhler, and S. Segarra "Joint Inference of Multiple Graphs from Matrix Polynomials",J. Machine Learning Research, arXiv:2010.08120. (submitted).
3. S. Martinez-Aguero, A. G. Marques, I. Mora-Jimenez, J. Alvarez-Rodriguez, and C. Soguero-Ruiz " Data and Network Analytics for COVID-19 ICU Patients: A Case Study for a Spanish Hospital", IEEE J. of Biomedical and Health Informatics. (submitted).
4. F. J. Iglesias, S. Segarra, and A. G. Marques "Demixing and Deconvolution of Graph Signals", IEEE Trans. Signal Process. (submitted).
5. A. Lopez-Gay et al "Sociodemographic determinants of neighborhood variations in COVID-19 incidence: The case of Barcelona", J. of Epidemiology and Community Health (submitted)
6. D. Ramirez, A. G. Marques, and S. Segarra, "Graph-signal Reconstruction and Blind Deconvolution for Structured Inputs", Signal Processing (Special Issue on Processing and Learning over Graphs), Elsevier. (submitted).
7. A. G. Marques, C. Figuera, E. Morgado, and J. Ramos "Underlay Cognitive Radios with Ergodic Capacity Guarantees for Primary Users", IEEE Trans. on Wireless Commun., (submitted).
8. G. Leus, S. Segarra, A. Ribeiro, and A. G. Marques, "The Dual Graph Shift Operator: Identifying the Support of the Frequency Domain", J. of Fourier Analysis and Applications, Apr. 2021. DOI: 10.1007/s00041-021-09850-1.
9. R. Shafipour, S. Segarra, A. G. Marques, and G. Mateos "Identifying the Topology of Undirected Networks from Diffused Non-stationary Graph Signals", IEEE J. Signal Process., vol. 2, pp. 171-189, Mar. 21.
10. V. N. Ioannidis, A. G. Marques, and G. B. Giannakis"Tensor-Graph Convolutional Networks: Multi-relational and Robust Learning", IEEE Trans. Signal Process., vol. 68, pp. 6535-6546, Oct. 2020.
11. A. G. Marques, N. Kiyavash, J. M. F. Moura, D. Van De Ville, and R. Willett "Graph Signal Processing: Foundations and Emerging Directions (Editorial)", IEEE Signal Process. Mag. vol. 37, Nov. 2020.
12. A. G. Marques, S. Segarra, and G. Mateos "Signal Processing over Directed Graphs", IEEE Signal Process. Mag., vol. 37, Nov. 2020.
13. Y. Zhu, F. J. Iglesias, A. G. Marques, and S. Segarra "Estimating Network Processes via Blind Identification of Multiple Graph Filters", IEEE Trans. Signal Process., vol. 68, pp. 3049 - 3063, May 2020.
14. F. Gama, A. G. Marques, G. Mateos, and A. Ribeiro, "Rethinking Sketching as Sampling: A Graph Signal Processing Approach", Signal Processing, Elsevier, vol. 169, 107404, 2020.
15. L. Ruiz, F. Gama, A. G. Marques, and A. Ribeiro, "Invariance-Preserving Localized Activation Functions for Graph Neural Networks", IEEE Trans. Signal Process., IEEE Trans. Signal Process., vol. 68, pp. 127-141, Jan. 2020.
16. A. Sadeghi, F. Sheikholeslami, A. G. Marques, and G. B. Giannakis "Reinforcement Learning for Adaptive Caching with Dynamic Storage Pricing", IEEE J. Sel. Areas Commun., vol. 37, no. 10, pp. 2267-2281, Oct. 2019.

17. S. Rey-Escudero, F. J. Iglesias, C. Cabrera, and A. G. Marques, "Sampling and Reconstruction of Diffused Sparse Graph Signals from Successive Local Aggregations", IEEE Signal Process. Letters, vol. 26, no. 8, pp 1142-1146, Aug. 2019.

18. 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, no 3, pp. 16-43, May 2019.

19. F. Gama, A. G. Marques, G. Leus, and A. Ribeiro, "Convolutional Neural Networks Architectures for Signals Supported on Graphs", IEEE Trans. Signal Process., vol. 67, no. 4, pp. 1034 - 1049, Feb. 2019.

20. W. Huang, A. G. Marques, and A. Ribeiro "Rating Prediction via Graph Signal Processing", IEEE Trans. Signal Process., vol. 66, no. 19, pp. 5066 - 5081, Oct. 2018.

21. L. M. Lopez-Ramos, V. Kekatos, A. G. Marques, and G. B. Giannakis, "Two-Timescale Stochastic Dispatch of Smart Distribution Grids", IEEE Trans. Smart Grids., vol. 9, no. 5, pp. 4282 - 4292, Sep. 2018.

22. F. J. Iglesias-Garcia, P. K. Mandal, M. Bocquel, and A. G. Marques, "Riemann-Langevin Particle Filtering in Track-Before-Detect", IEEE Signal Process. Letters, vol. 25, no. 7, pp. 1039 - 1043, Jul. 2018.

23. R. Gordillo-Orquera et al. "Convex Programming and Bootstrap Sensitivity for Optimized Electricity Bill in Healthcare Buildings under a Time-of-use Pricing Scheme", Energies 2018, 11(6), 1454.

24. R. Gordillo-Orquera et al. "Analyzing and Forecasting the Electric Load Consumption in Healthcare Buildings", Energies 2018, 11(3), 493.

25. A. G. Marques, S. Segarra, G. Leus, and A. Ribeiro, "Stationary Graph Processes and Spectral Estimation", IEEE Trans. Signal Process., vol. 65, no. 22, pp. 5911-5926, Nov. 2017.

26. S. Segarra, A. G. Marques, G. Mateos, and A. Ribeiro, "Network Topology Inference from Spectral Templates", IEEE Trans. Signal Inf. Process. Netw., vol. 3, no. 3, pp. 467 - 483, Sept. 2017.

27. S. Segarra, A. G. Marques, and A. Ribeiro, "Optimal Graph-Filter Design and Applications to Distributed Linear Network Operators", IEEE Trans. Signal Process., vol. 65, no. 15, pp. 4117 - 4131, Aug. 2017.

28. T. Chen, A. G. Marques, and G. B. Giannakis, "DGLB: Distributed Stochastic Geographical Load Balancing with Incentive Payment", IEEE Trans. Parallel Distri. Syst., vol. 28, no. 7, pp. 1866 - 1880, July 2017.

29. S. Segarra, G. Mateos, A. G. Marques, and A. Ribeiro, "Blind Identification of Graph Filters", IEEE Trans. Signal Process., vol. 65, no. 5, pp. 1146 - 1159, Mar. 2017.

30. S. Segarra, A. G. Marques, G. Leus, and A. Ribeiro, "Reconstruction of Graph Signals through Percolation from Seeding Nodes", IEEE Trans. Signal Process., vol. 64, no. 16, pp. 4363 - 4378, Aug. 2016.

31. A. G. Marques, S. Segarra, G. Leus, and A. Ribeiro, "Sampling of Graph Signals with Successive Local Aggregations", IEEE Trans. Signal Process., vol. 64, no. 7, pp. 1832 - 1843, Apr. 2016.

32. J. Fernandez-Bes, J. Cid-Sueiro, and A. G. Marques, "Battery-Aware Selective Communications in Energy-Harvesting Sensor Networks: A Sequential Decision Approach", IEEE J. Sel. Areas in Commun., vol. 33, no. 8., pp. 1717-1729 , Aug. 2015.

33. L. M. Lopez-Ramos, A. G. Marques, and J. Ramos, "Jointly Optimal Sensing and Resource Allocation for Multiuser Interweave Cognitive Radios", IEEE Trans. on Wireless Commun., vol. 13, no. 11, pp. 5954-5967, Nov. 2014.

34. A. G. Marques, E. Dall'Annese, and G. B. Giannakis, "Cross-Layer Optimization and Receiver Localization for Cognitive Networks Using Interference Tweets", IEEE J. Sel. Areas in Commun., vol. 32, no. 3, pp. 641-653, Mar. 2014.

35. J. Requena-Carrion, F. Beltran-Molina, and A. G. Marques, "Relating the Spectrum of Cardiac Signals to the Spatiotemporal Dynamics of Cardiac Sources", Biomedical Signal Process. and Control (Elseviewer), vol. 8, no. 6, pp. 935-944, Nov. 2013.

36. A. G. Marques, C. Figuera, C. Rey-Moreno, and J. Simo-Reigadas, "Optimal Cross-Layer Schemes for Relay Networks with Short-Term and Long-Term Constraints", IEEE Trans. on Wireless Commun., vol. 12, no. 1, pp. 333-345, Jan. 2013.

37. A. G. Marques, G. B. Giannakis, L. M. Lopez-Ramos, and J. Ramos, "Resource Allocation for Interweave and Underlay CRs under Probability-of-Interference Constraints", IEEE J. Sel. Areas in Commun., vol. 30, no. 10, pp. 1922-1933, Nov. 2012.

38. A. G. Marques, L. M. Lopez-Ramos, G. B. Giannakis, J. Ramos, and A. Caamano, "Optimal Cross-Layer Resource Allocation in Cellular Networks Using Channel and Queue State Information", IEEE Trans. on Vehic. Tech., vol. 61, no. 6, pp. 2789-2807, Jul. 2012.

39. A. G. Marques, G. B. Giannakis, and J. Ramos, "Optimizing Orthogonal Multiple Access based on Quantized Channel State Information", IEEE Trans. on Signal Processing, vol. 59, no. 10, pp. 5023 - 5038, Oct. 2011.
40. R. Arroyo-Valles, A. G. Marques, and J. Cid-Sueiro, "Optimal Selective Forwarding for Energy Saving in Wireless Sensor Networks", IEEE Trans. on Wireless Commun., vol. 10, no. 1, pp. 164 - 175, Jan. 2011.
41. A. G. Marques, A. B. Rodriguez-Gonzalez, J. L. Rojo-Alvarez, J. Requena-Carrion, and J. Ramos, "Optimizing Average Performance of OFDM Systems Using Limited-Rate Feedback", IEEE Trans. on Wireless on Commun., vol. 9, no. 10, pp. 3130 - 3143, Oct. 2010.
42. N. Gatsis, A. G. Marques, and G. B. Giannakis, "Power Control for Cooperative Dynamic Spectrum Access Networks with Diverse QoS Constraints", IEEE Trans. on Commun., vol. 58, no. 3, pp. 933-944, Mar. 2010.
43. R. Arroyo-Valles, A. G. Marques, and J. Cid-Sueiro, "Optimal Selective Transmission under Energy Constraints in Sensor Networks", IEEE Trans. on Mobile Computing, vol. 8, no. 11, pp. 1524-1538, Nov. 2009.
44. A. G. Marques, X. Wang, and G. B. Giannakis, "Dynamic Resource Management for Cognitive Radios using Limited-Rate Feedback", IEEE Trans. on Signal Processing, vol. 57, no. 9, pp. 3651-3666, Sep. 2009.
45. A. G. Marques, X. Wang, and G. B. Giannakis, "Minimizing Transmit-Power for Coherent Communications in Wireless Sensor Networks with Finite-Rate Feedback", IEEE Trans. on Signal Processing, vol. 56, no. 8, pp. 4446-4457, Sep. 2008.
46. X. Wang, A. G. Marques, and G. B. Giannakis, "Power-Efficient Resource Allocation and Quantization for TDMA Using Adaptive Transmission and Limited-Rate Feedback", IEEE Trans. on Signal Processing vol. 56, no. 8, pp. 4470-4485, Sep. 2008.
47. A. G. Marques, G. B. Giannakis, F. F. Digham, and F. J. Ramos, "Power Efficient Wireless OFDMA using Limited-Rate Feedback", IEEE Trans. on Wireless Commun., vol. 7, no. 2, pp. 685-696, Feb. 2008.
48. X. Wang, G. B. Giannakis, and A. G. Marques, "A Unified Approach to QoS-Guaranteed Scheduling for Channel-Adaptive Wireless Networks", Proceedings of the IEEE, vol. 95, no. 12, pp. 2410-2431, Dec. 2007.
49. A. G. Marques, F. F. Digham, and G. B. Giannakis, "Optimizing Power Efficiency of OFDM Using Quantized Channel State Information", IEEE J. Sel. Areas in Commun., vol. 24, no. 8, pp.1581 - 1592, Aug. 2006.

Conference papers

1. S. Rozada, V. Tenorio, and A. G. Marques, "Low-rank state-action value-function approximation ", Proc. of European Signal Process. Conf., Dublin, Ireland, 2021. (submitted).
2. S. Rey and A. G. Marques, "Robust graph-filter identification with graph denoising regularization ", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Toronto, Canada, June 6-11, 2021.
3. S. Martinez-Aguero, I. Mora-Jimenez, J. Alvarez-Rodriguez, A. G. Marques, and C. Soguero-Ruiz, "Applying LSTM Networks to Predict Multi-drug Resistance Using Binary Multivariate Clinical Sequences", Proc. 9th European Starting AI Researcher Symposium 2020, co-located with 24th European Conference on Artificial Intelligence (ECAI 2020), Santiago Compostela, Spain, Aug. 29-30, 2020.
4. S. Rey, V. Temprano, S. Rozada, L. Martino, and A. G. Marques, "Overparametrized Deep Encoder-Decoder Architectures for Inputs and Outputs Defined over Graphs", Proc. of European Signal Process. Conf., Amsterdam, The Netherlands, Aug. 24-28, 2020.
5. A. Madapu, S. Segarra, S. P. Chepuri, and A. Marques, "Generative Adversarial Networks for Graph Data Imputation from Signed Observations ", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Barcelona, Spain, May 4-8, 2020.
6. V. N. Ioannidis, A. G. Marques, and G. B. Giannakis "Graph Neural Networks for Predicting Protein Functions", Proc. of IEEE Intl. Wrksp. on Computational Advances in Multi-Sensor Adaptive Processing, Guadeloupe, West Indies - France, Dec. 15-18, 2019.
7. S. Rey, A. G. Marques, and S. Segarra "Generative Graph Neural Networks", Proc. of IEEE Intl. Wrksp. on Computational Advances in Multi-Sensor Adaptive Processing, Guadeloupe, West Indies - France, Dec. 15-18, 2019.
8. F. Gama, A. G. Marques, G. Leus, and A. Ribeiro "Convolutional Graph Neural Networks ", Proc. of 53rd Asilomar Conf. on Signals, Systems, and Computers, Pacific Grove, CA, Nov. 3-6, 2019.
9. S. Rey, V. Temprano, L. Martino, and A. G. Marques, "Graph Neural Network Architectures for Graph Output Signals", Proc. of 53rd Asilomar Conf. on Signals, Systems, and Computers, Pacific Grove, CA, Nov. 3-6, 2019.

10. A. Buciulea, et al., "Network reconstruction from graph-stationary signals with hidden variables", Proc. of 53rd Asilomar Conf. on Signals, Systems, and Computers, Pacific Grove, CA, Nov. 3-6, 2019.
11. V. N. Ioannidis, A. G. Marques, and G. B. Giannakis, " A Recurrent Graph Neural Network for Multi-Relational Data ", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Brighton, UK, May 12-17, 2019.
12. F. Gama, A. G. Marques, A. Ribeiro, and G. Leus, " Aggregation Graph Neural Networks ", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Brighton, UK, May 12-17, 2019.
13. L. Ruiz, F. Gama, A. G. Marques, and A. Ribeiro, "Median activation functions for graph neural networks", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Brighton, UK, May 12-17, 2019.
14. A. Sadeghi, A. G. Marques, and G. B. Giannakis, "Distributed Network Caching via Dynamic Programming ", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Brighton, UK, May 12-17, 2019.
15. Y. Zhi, F. J. Iglesias, A. G. Marques, and S. Segarra, "Estimation of Network Processes via Blind Graph Multi-Filter Identification", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Brighton, UK, May 12-17, 2019.
16. E. Lagunas, A. G. Marques, S. Chatzinotas, and B. Ottersten, "Graph Similarity Based on Laplacian Matrix Matching", Proc. of European Signal Process. Conf., Rome, Italy, Aug. 27 - 31, 2018.
17. F. Gama, A. G. Marques, G. Leus, and A. Ribeiro "MIMO Filters for Convolutional Neural Networks on Graph Signals", Proc. of IEEE Signal Process. Advances Wireless Comms. Wrksp., Kalamata, Greece, June 27-30, 2018.
18. S. Segarra, A. G. Marques, S. Rey-Escudero, and M. Goyal "Network Topology Inference from Input-Output Diffusion Pairs", Proc. of IEEE Statistical Signal Process. Wrksp., Freiburg, Germany, June 10-13, 2018.
19. R. Shafipour, S. Segarra, A. G. Marques, and G. Mateos "Topology Inference of Directed Networks via Graph Filter Identification", Proc. of IEEE Data Science Wrksp., Lausanne, Switzerland, June 4-6, 2018.
20. F. Gama, G. Leus, A. G. Marques, and A. Ribeiro "Convolutional Neural Networks via Node-varying Graph Filters", Proc. of IEEE Data Science Wrksp., Lausanne, Switzerland, June 4-6, 2018.
21. A. Sadeghi, F. Sheikholeslami, A. G. Marques, and G. B. Giannakis "Reinforcement Learning for 5G Caching with Dynamic Cost", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Calgary, Canada, April 15-20, 2018.
22. S. P. Chepuri, M. Coutino, A. G. Marques, and G. Leus "Distributed Analytical Graph Identification", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Calgary, Canada, April 15-20, 2018.
23. W. Huang, A. G. Marques, and A. Ribeiro "Matrix Completion as Graph Bandlimited Reconstruction", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Calgary, Canada, April 15-20, 2018.
24. R. Shafipour, S. Segarra, A. G. Marques, and G. Mateos"Identifying Undirected Network Structure via Semidefinite Relaxation", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Calgary, Canada, April 15-20, 2018.
25. F. J. Iglesias, S. Segarra, S. Rey-Escudero, A. G. Marques, and D. Ramirez "Demixing and Blind Deconvolution of Graph-diffused Sparse Signals", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Calgary, Canada, April 15-20, 2018.
26. S. Segarra, A. G. Marques, G. Arce, and A. Ribeiro, "Optimal Design of Median Graph Filters", Proc. of IEEE Intl. Wrksp. on Computational Advances in Multi-Sensor Adaptive Processing, Curacao, Dutch Antilles, Dec. 10-13, 2017 (invited).
27. S. Segarra, Y. Wang, C. Uhler, and A. G. Marques, "Joint Inference of Networks from Stationary Graph Signals", Proc. of 51st Asilomar Conf. on Signals, Systems, and Computers, Pacific Grove, CA, Nov. 5-8, 2017 (invited).
28. R. Garcia-Carretero et al. "L1 Penalized Cox Regression to Characterize Cardiovascular Events in Hypertensive Patients", Proc. of Computing in Cardiology 2017, Rennes, France Sept. 24-27, 2017.
29. A. G. Marques et al. "Modeling Cardiovascular Condition Evolution in Hypertensive Population Using Graph Signal Processing", Proc. of Computing in Cardiology 2017, Rennes, France Sept. 24-27, 2017.
30. W. Huang, A. G. Marques, and A. Ribeiro, " Collaborative Filtering via Graph Signal Processing", Proc. of European Signal Process. Conf., Kos, Greece, Aug. 28 - Sept. 1, 2017.
31. R. Shafipour, S. Segarra, A. G. Marques, and G. Mateos "Network Topology Inference from Non-Stationary Graph Signals", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., New Orleans, USA, March 5-9, 2017.

32. D. Ramirez, A. G. Marques, and S. Segarra "Graph-Signal Reconstruction and Blind Deconvolution for Diffused Sparse Inputs", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., New Orleans, USA, March 5-9, 2017.
33. S. Segarra, A. G. Marques, G. Leus, and A. Ribeiro, "Stationary Graph Processes: Parametric Power Spectral Estimation", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., New Orleans, USA, March 5-9, 2017.
34. S. Segarra, A. G. Marques, G. Mateos, and A. Ribeiro, "Robust Network Topology Inference", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., New Orleans, USA, March 5-9, 2017 (invited).
35. F. Gama, A. G. Marques, G. Mateos, and A. Ribeiro, "Rethinking Sketching as Sampling: Efficient Approximate Solution to Linear Inverse Problems", Proc. of IEEE of Global Conf. on Signal and Info. Process., Washington DC, Dec. 7-9, 2016.
36. S. Segarra, A. G. Marques, G. Arce, and A. Ribeiro, "Center-weighted Median Graph Filters", Proc. of IEEE of Global Conf. on Signal and Info. Process., Washington DC, Dec. 7-9, 2016.
37. F. Gama, A. G. Marques, G. Mateos, and A. Ribeiro, "Rethinking Sketching as Sampling: Linear Transforms of Graph Signals", Proc. of 50th Asilomar Conf. on Signals, Systems, and Computers, Pacific Grove, CA, Nov. 6-9, 2016.
38. S. Segarra, A. G. Marques, G. Mateos, and A. Ribeiro, "Network Topology Identification from Imperfect Spectral Templates", Proc. of 50th Asilomar Conf. on Signals, Systems, and Computers, Pacific Grove, CA, Nov. 6-9, 2016.
39. T. Chen, A. G. Marques, and G. B. Giannakis, "Space-Time Scheduling For Green Data Center Networks", Proc. of 50th Asilomar Conf. on Signals, Systems, and Computers, Pacific Grove, CA, Nov. 6-9, 2016 (invited).
40. A. G. Marques, G. Mateos, and Y. Eldar, " SIGIBE: Solving Random Bilinear Equations via Gradient Descent with Spectral Initialization", Proc. of European Signal Process. Conf., Budapest, Hungary, Aug. 29 - Sep. 2, 2016.
41. S. Segarra, A. G. Marques, G. Leus, and A. Ribeiro, "Stationary Graph Processes: Nonparametric Power Spectral Estimation ", Proc. of IEEE Sensor Array and Multichannel Signal Process. Wrksp., Rio de Janeiro, Brazil, July 10-13, 2016 (invited).
42. S. Segarra, A. G. Marques, G. Mateos, and A. Ribeiro, "Network Topology Identification from Spectral Templates", Proc. of IEEE Intl. Wrksp. on Statistical Signal Process., Palma de Mallorca, Spain, June 26-29, 2016.
43. S. Segarra, A. G. Marques, G. Mateos, and A. Ribeiro, "Blind Identification of Graph Filters with Multiple Sparse Inputs", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Shanghai, China, March 20-25, 2016.
44. S. Segarra, A. G. Marques, G. Leus, and A. Ribeiro, "Space-Shift Sampling of Graph Signals", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Shanghai, China, March 20-25, 2016.
45. S. Segarra, A. G. Marques, and A. Ribeiro, "Linear Network Operators Using Node-Variant Graph Filters", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Shanghai, China, March 20-25, 2016.
46. S. Segarra, G. Mateos, A. G. Marques, and A. Ribeiro, "Blind Identification of Graph Filters with Sparse Inputs", Proc. of IEEE Intl. Wrksp. on Computational Advances in Multi-Sensor Adaptive Processing, Cancun, Mexico, Dec. 13-16, 2015.
47. S. Segarra, A. G. Marques, G. Leus and A. Ribeiro, "Aggregation Sampling of Graph Signals in the Presence of Noise", Proc. of IEEE Intl. Wrksp. on Computational Advances in Multi-Sensor Adaptive Processing, Cancun, Mexico, Dec. 13-16, 2015 (invited).
48. L. M. Lopez-Ramos, V. Kekatos, A. G. Marques, and G. B. Giannakis, "Microgrid Dispatch and Price of Reliability Using Stochastic Approximation", Proc. of IEEE of Global Conf. on Signal and Info. Process., Orlando, FL, Dec. 14-16, 2015.
49. S. Segarra, A. G. Marques, G. Leus, and A. Ribeiro, "Reconstruction of Graph Signals: Percolation from a Single Seeding Node", Proc. of IEEE of Global Conf. on Signal and Info. Process., Orlando, FL, Dec. 14-16, 2015.
50. S. Segarra, A. G. Marques, G. Leus, and A. Ribeiro, "Sampling of Graph Signals: Successive Local Aggregations at a Single Node", Proc. of 49th Asilomar Conf. on Signals, Systems, and Computers, Pacific Grove, CA, Nov. 8-11, 2015.

51. S. Segarra, G. Mateos, A. G. Marques, and A. Ribeiro, "Blind Identification of Graph Filters with Sparse Inputs", Proc. of Workshop on Information in Networks, New York City, NY, Oct. 2-3, 2015 .

52. S. Segarra, A. G. Marques, and A. Ribeiro, "Distributed Implementation of Network Linear Operators using Graph Filters", Proc. of 53rd Allerton Conf. on Commun. Control and Computing, Univ. of Illinois at U-C, Monticello, IL, Sept. 30- Oct. 2, 2015 (invited).

53. S. Segarra, A. G. Marques, G. Leus, and A. Ribeiro, "Interpolation of Graph Signals Using Shift-Invariant Graph Filters", Proc. of European Signal Process. Conf., Nice, France, Aug. 31-Sep. 4, 2015.

54. A. G. Marques, S. Molinero and G. B. Giannakis, "Underlay Multi-Hop Cognitive Networks with Orthogonal Access", Proc. of IEEE CORAL 2015 at IEEE Intl. Symp. World of Wireless, Mobile and Multimedia Networks, Boston, USA, June. 14- 17, 2015.

55. A. G. Marques, L. Cadarso, E. Morgado and C. Figuera, "A Decomposition Method for Optimal User Assignment in Cellular Networks with Orthogonal Transmissions", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Brisbane, Australia, April 19-24.

56. N. Gatsis and A. G. Marques, "A Stochastic Approximation Approach to Load Shedding in Power Networks", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Florence, Italy, May 4-9, 2014.

57. L. M. Lopez-Ramos, A. G. Marques, and J. Ramos, "Joint Sensing and Resource Allocation for Underlay Cognitive Radios", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Florence, Italy, May 4-9, 2014.

58. C. Gandarillas, C. Martín-Engeños, H. López Pombo, and A. G. Marques, "Dynamic Transmit-Power Control for WiFi Access Points Based on Wireless Link Occupancy ", Proc. of IEEE Wireless and Commun. and Networking Conf., Istambul, Turkey, Apr. 6-9, 2014.

59. E. Dall'Annese, A. G. Marques, and G. B. Giannakis, "Primary Receiver Localization Using Sparsity and Interference Tweets", Proc. of Intl. Wrksp. on Computational Advances in Multi-Sensor Adaptive Processing, Saint Martin, Dec. 15- 18, 2013.

60. J. Fernandez-Bes, A. G. Marques, and J. Cid-Sueiro, "Battery-Aware Selective Communications in Energy-Harvesting Sensor Networks: Optimal Solution and Stochastic Dual Approximation", Proc. of 10th Intl. Symposium on Wireless Commun. Systems, Ilmenau, Germany, Aug. 27- 30, 2013.

61. E. Dall'Annese, A. G. Marques, and G. B. Giannakis, "Hierarchical Spectrum Sharing Using Interference Tweets", Proc. of IEEE Wrksp. on Signal Process. Advances in Wireless Commun., Darmstadt, Germany, June. 16- 19, 2013.

62. L. M. Lopez-Ramos, A. G. Marques, and J. Ramos, "Soft-Decision Sequential Sensing for Optimization of Interweave Cognitive Radio Networks", Proc. of IEEE Wrksp. on Signal Process. Advances in Wireless Commun., Darmstadt, Germany, June. 16- 19, 2013.

63. A. G. Marques, E. Dall'Annese, and G. B. Giannakis, "Joint Resource Allocation and Primary User Localization in Underlay Cognitive Radios", Proc. of IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Vancouver, Canada, May. 26- 31, 2013.

64. A. G. Marques, J. Ramos, C. Figuera, and E. Morgado, "Underlay Cognitive Radios with Finite Transmission Modes and Capacity Guarantees for Primary Users," Proc. of 46th Asilomar Conf. on Signals, Systems, and Computers, Pacific Grove, CA, Nov. 4-7, 2012.

65. A. G. Marques, L. M. Lopez-Ramos, and J. Ramos, "Cognitive Radios with Ergodic Capacity Guarantees for Primary Users", Proc. of Intl. Conf. on Cognitive Radio Oriented Wireless Networks, Stockholm, Sweden, Jun. 18-20, 2012.

66. L. M. Lopez-Ramos, A. G. Marques, and J. Ramos, "Jointly Optimal Sensing and Resource Allocation for Multiuser Interweave Cognitive Radios", Proc. of Intl. Conf. on Cognitive Radio Oriented Wireless Networks, Stockholm, Sweden, Jun. 18-20, 2012.

67. A. G. Marques, L. M. Lopez-Ramos, G. B. Giannakis, and J. Ramos, "Adaptive Underlay Cognitive Radios with Imperfect CSI and Probabilistic Interference Constraints", IEEE Proc. of Intl. Wrksp. on Computational Advances in Multi-Sensor Adaptive Processing, San Juan, Puerto Rico, Dec. 13- 16, 2011.

68. A. G. Marques, G. B. Giannakis, L. M. Lopez-Ramos, and J. Ramos, "Stochastic Resource Allocation for Cognitive Radio Networks based on Imperfect State Information", IEEE Proc. of Intl. Conf. on Acoustics, Speech and Signal Processing, Prague, Czech Rep., May. 22- 27, 2011.

69. L. M. Lopez-Ramos, A. G. Marques, J. Ramos, and A. Caamaño, "Cross-Layer Resource Allocation for Downlink Access Using Instantaneous Fading and Queue Length Information"', IEEE Proc. MCECN at Global Communications Conf., Miami, FL, Dec. 6-10, 2010.

70. A. B. Rodriguez-Gonzalez, L. M. Lopez-Ramos, A. G. Marques, J. Ramos, and A. Caamano, "Robust Worst-Case Design for Optimizing Average Performance in OFDM using Quantized CSI'", IEEE Proc. MCECN at Global Communications Conf., Miami, FL, Dec. 6-10, 2010.
71. A. G. Marques and G. B. Giannakis, "Adaptive Cross-Layer Resource Allocation for Wireless Orthogonal-Access Networks", Proc. of European Wireless Conf., Lucca, Italy, Apr. 12-15, 2010 (invited).
72. A. G. Marques, G. B. Giannakis, and F. J. Ramos, "Stochastic Cross-Layer Resource Allocation for Wireless Networks Using Orthogonal Access: Optimality and Delay Analysis", IEEE Proc. of Intl. Conf. on Acoustics, Speech and Signal Processing, Dallas, TX, Mar. 14-19, 2010.
73. J. Requena-Carrion, A. B. Rodriguez-Gonzalez, A. G. Marques, and D. Gutierrez-Perez, "WIP: Implantation of a Collaborative Student-Centered Learning Environment in a Wireless Technology Course ", IEEE Proc. of Frontiers in Education, San Antonio, TX, Oct. 18-21, 2009.
74. A. G. Marques, G. B. Giannakis, and F. J. Ramos, "Stochastic Resource Allocation for Orthogonal Access Based on Quantized CSI: Optimality, Convergence and Delay Analysis", IEEE Proc. of Intl. Conf. on Acoustics, Speech and Signal Processing, Taipei, Taiwan, Apr. 19-24, 2009.
75. A. G. Marques, G. B. Giannakis, and F. J. Ramos, "Optimum Scheduling for Orthogonal Multiple Access over Fading Channels using Quantized Channel State Information", IEEE Proc. of Wrksp. on Signal Processing Advances in Wireless Communications, Recife, Brasil, Jul. 4-6, 2008.
76. R. Arroyo-Valles, A. G. Marques, and J. Cid-Sueiro, "Energy-efficient Selective Forwarding for Sensor Networks", IEEE Proc. of Wrksp. on Energy in Wireless Sensor Networks, in conjunction with DCOSS'08, Santorini, Greece, Jun. 14, 2008.
77. A. G. Marques, X. Wang, and G. B. Giannakis, "Optimal stochastic dual resource allocation for cognitive radios based on quantized CSI", IEEE Proc. of Intl. Conf. on Acoustics, Speech and Signal Processing, Las Vegas, NV, Mar. 30 - Apr. 4, 2008.
78. N. Gatsis, A. G. Marques, and G. B. Giannakis, "Utility-based power control for peer-to-peer cognitive radio networks with heterogeneous QoS constraints", IEEE Proc. of Intl. Conf. on Acoustics, Speech and Signal Processing, Las Vegas, NV, Mar. 30 - Apr. 4, 2008.
79. R. Arroyo-Valles, A. G. Marques, and J. Cid-Sueiro, "Energy-aware Geographic Forwarding of Prioritized Messages in Wireless Sensor Networks", IEEE Proc. of 4th Intl. Conf. on Mobile Ad-hoc and Sensor Systems, Pisa, Italy, Oct. 8-11, 2007.
80. A. G. Marques, X. Wang, and G. B. Giannakis "Distributed Resource Allocation for Cognitive Radios based on Limited-Rate Feedback", IEEE Proc. of XV European Signal Processing Conf., Poznan, Poland, Sep. 3-7, 2007 (invited).
81. A. G. Marques, F. F. Digham, G. B. Giannakis, and F. J. Ramos, "Reduced-Complexity Power-Efficient Wireless OFDMA using an Equally Probable CSI Quantizer", IEEE Proc. of Intl. Conf. on Communications, Glasgow, Scotland, Jun. 24-28, 2007.
82. A. G. Marques, X. Wang, and G. B. Giannakis, "Optimizing Energy Efficient of TDMA with Finite Rate Feedback", IEEE Proc. of Intl. Conf. on Acoustics, Honolulu, HI, Apr. 15-20, 2007.
83. A. G. Marques, X. Wang, and G. B. Giannakis, "Minimizing Transmit-Power for Coherent Communications in Wireless Sensor Networks using Quantized Channel State Information", IEEE Proc. of Intl. Conf. on Acoustics, Honolulu, HI, Apr. 15-20, 2007.
84. A. G. Marques, G. B. Giannakis, F. F. Digham, and F. J. Ramos, "Minimizing Power in Wireless OFDMA with Limited Rate Feedback", IEEE Proc. of Wireless and Communications and Networking Conf., Hong Kong, Hong Kong, Mar. 11-15, 2007.
85. A. G. Marques, X. Wang, and G. B. Giannakis, "Energy Efficient MIMO Systems Using Adaptive Modulation and Coding," Proc. of 40th Asilomar Conf. on Signals, Systems, and Computers, Pacific Grove, CA, (invited), October 29-November 1, 2006.
86. A. G. Marques, X. Wang, and G. B. Giannakis, "Energy-Efficient TDMA with Quantized Channel State Information", Proc. of MILCOM Conf., Washington, DC, Oct. 23-25, 2006.
87. R. Arroyo-Valles, A. G. Marques, J.J. Vinagre, and J. Cid-Sueiro, "A Bayesian Decision Model for Intelligent Routing in Sensor Networks", 3rd International Symposium on Wireless Communication Systems, Valencia, Spain, Sep. 5-8 2006.
88. A. G. Marques, F. F. Digham, and G. B. Giannakis, "Power-Efficient OFDM via Quantized Channel State Information", IEEE Proc. of Intl. Conf. on Communications, Istanbul, Turkey, Jun. 11-15, 2006.
89. A. G. Marques, F. F. Digham, and G. B. Giannakis, "Power-Efficient OFDM with Reduced Complexity and Feedback Overhead", IEEE Proc. of Intl. Conf. on Acoustics, Speech and Signal Processing, Toulouse, France, May 16-20, 2006

Patents

1. W. Huang, A. G. Marques, and A. Ribeiro "METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR PREDICTING RATINGS USING GRAPH FILTERS" Application number US Patent Office: 16/115177 (granted, March 2021).

Books

1. A. G. Marques, G. Leus, and A. Ribeiro "Graph Signal Processing", Cambridge University Press, UK, 2019 (in preparation, expected publication Dec. 2021).

Book chapters

1. G. Mateos, S. Segarra, and A. G. Marques, "Inference of Graph Topology", in "Cooperative and Graph Signal Processing: Principles and Applications", P. Djuric and C. Richard, Editors, Elsevier, UK, 2018 (ISBN 978-012-813-677-5).
2. S. Segarra, S. Chepuri, A. G. Marques, and G. Leus, "Statistical Graph Signal Processing: Stationarity and Spectral Estimation", in "Cooperative and Graph Signal Processing: Principles and Applications", P. Djuric and C. Richard, Editors, Elsevier, UK, 2018 (ISBN 978-012-813-677-5).
3. A. G. Marques, N. Gatsis, and G. B. Giannakis, "Optimal Cross-Layer Design of Wireless Multihop Networks", in "Cross-Layer Designs in WLAN Systems", N. Zorba, C. Skianis, and C. Verikoukis, Editors, Troubador Publishing, Leicester, UK, 2011 (ISBN 978-184-876-227-5).
4. R. Arroyo-Valles, A. G. Marques, and J. Cid-Sueiro, "Energy-Aware Selective Communications on Sensor Networks", in "Emerging Communications for Wireless Sensor Networks", A. Foerster and A. Foerster, Editors, In-Tech, Rijeka, Croatia, 2010 (ISBN 978-953-307-082-7).

RESEARCH FUNDING

Public Funding: Co-PI/PI of the following projects: Wireless Technologies for Isolated Rural Communities in Developing Countries based on Cellular 3G Fentocell Deployments (FP7, 2013-2015), Distributed Processing for Wireless Sensor Networks: Energy Efficiency and Health Monitoring (2010-2012), Multimedia Distributed Processing (2007-2009), Customizable Interactions with Resources on Ami-Enabled Mobile Dynamic Environments (2008-2010), Ad-Hoc Heterogeneous Wireless Networks with Cooperative Diversity: A Cross-Layer Approach (2006-2009), Source Localization of Cardiac Arrhythmia (2010-2012), Robust Optimization and Monitoring of Dynamic Networks (2014-2018), Signal and Information Processing over Irregular Biomedical Data (2017-2019); Signal Processing and Data Science over Graphs (2020-2022); average funding 30,000 euros per project and year.

Private Funding: Co-PI of more than 20 R&D projects with ICT companies (aggregate funding more than 1,500,000 euros).

TEACHING

Brief overview

I believe that analyzing and adapting the methodologies and techniques used in the classroom is instrumental to be an effective teacher. For that reason, I participate in different research-oriented education projects, wrote a couple of papers on the topic of Education and Engineering, and served as TPC member of the IEEE Frontiers in Education Conference.

Regarding my teaching history, I have taught several courses for undergraduate and graduate Electrical Engineering students, mostly focused on the areas of Signal Processing and Communications. I have also taught short (Summer) courses for graduate Computer Science students. My average rating for undergraduate courses is 3.1/4 and for graduate courses is 3.5/4. I have also taught graduated courses as an invited visiting professor at the ShanghaiTech University (full course), the Technical University of Delft (part of the course) and Rice University (part of the course).

UNDERGRADUATE COURSES

Signals and Systems II (F07, F08, F09, F10, F11, F12, F13, F14, F15, F16, F17, F18, F19, F20).

Signal Processing for Communications (S08, S09, S10, S11, S12, S13, F14, F15, F16, F17, F18, F19, F20).

Fundamentals of Digital Communications (S08, S09, F15, F16, F17).

Laboratory of Digital Communications (S12, S13).

GRADUATE COURSES

Optimization of Wireless Networks (F14, F15, F16, F17, F18, F19, F20).

Cross Layer Optimization of Wireless Networks (F08, F09, F10, F11, F12, F13).

Wireless Communications (F07, F08).

SEMINARS/INVITED TALKS

University of California Irvine (UCI), Graph Neural Network Architectures (February 2020).

Information Theory and Applications Workshop (invited), Encoding and Decoding Architectures for Graph Signals (February 2020).

Rice University, Graph Neural Network Architectures for Graph Signals (November 2019).

Rensselaer Polytechnic Institute (RPI), Graph Convolutional Neural Network Architectures (November 2019).

IEEE/EURASIP Summer School on Networks (invited), Deep Learning Architectures for Graph Signals (May 2019).

Fudan University, Convolutional Neural Network Architectures for Graph Signals (April 2019).

Shanghai Tech. University, Convolutional Neural Network Architectures for Graph Signals (April 2019).

Shanghai Jiao Tong University, Convolutional Neural Network Architectures for Graph Signals (April 2019).

Hong Kong University of Science and Technology, Convolutional Neural Network Architectures for Graph Signals (March 2019).

Information Theory and Applications Workshop (invited), Convolutional Neural Network Architectures for Graph Signals (February 2019).

University of Luxembourg, Convolutional Neural Network Architectures for Graph Signals (January 2019).

IEEE Globalsip 2018 (invited), Convolutional Neural Network Architectures for Graph Signals (November 2018).

KTH Stockholm, Network Topology Inference via Graph Filter Identification (November 2018).

University of Minnesota, Convolutional Neural Network Architectures for Graph Signals (August 2018).

Jiangnan University, Convolutional Neural Network Architectures for Graph Signals (July 2018).

Zheijang University, Network Topology Inference via Graph Filter Identification (July 2018).

Fudan University, Convolutional Neural Network Architectures for Graph Signals (July 2018).

ShanghaiTech Workshop on Information, Learning and Decision (invited), Network Topology Inference via Graph Filter Identification (June 2018).

Tonji University, Convolutional Neural Networks for Graph Signals (June 2018).

Collaborative Filtering via Graph Signal Processing, Graph Signal Processing Workshop (invited), Lausanne, Switzerland, June 2018.

Carnegie Mellon University, Network Topology Inference via Graph Filter Identification (April 2018).

Information Theory and Applications Workshop (invited), Network Topology Inference via Graph Filter Identification (February 2018).

University of Luxembourg, Applications of Graph Signal Processing (February 2018).

University of Luxembourg, An Introduction to Graph Signal Processing (February 2018).

Delft University of Technology, Network Topology Inference via Graph Filter Identification (July 2017).

Workshop on Signal Processing, Information Theory and Communications - Vigo, Spain, Network Topology Inference via Graph Signal Processing (July 2017).

University of Illinois UC, Stationary Graph Processes and Applications to Network Topology Inference (May 2017).

Graph Signal Processing Workshop (invited), Joint Inference of Multiple Networks Using Stationary Signals (May 2017).

Stationary Graph Processes and Applications to Network Topology Inference, Bellairs Workshop on Graph Signal Processing (invited), Holetown, Barbados (February 2017).

Carlos III University of Madrid, Stationary Graph Processes and Applications to Network Topology Inference (October 2016).

University of Minnesota, Stationary Graph Processes and Applications to Network Topology Inference (August 2016).

University of Rochester, Stationary Graph Processes and Applications to Network Topology Inference (August 2016).

Delft University of Technology, An Overview of Graph Signal Processing (June 2016).

Graph Signal Processing Workshop (keynote), Graph Signal Processing in Distributed Network Processing (May 2016)

Shanghai Jiao Tong University, An Introduction to Graph Signal Processing (March 2016).

University of Science and Technology of China, Sampling and Interpolation of Bandlimited Graph Signals (March 2016).

University of Minnesota, Distributed Linear Operators using Graph Filters (October 2015).

University of Minnesota - Digital Tech. Center, Signal Processing for Graphs (July 2015).

University of Texas, Optimization and Monitoring of Smart Networks (April 2015).

IMDEA Networks - Research Institute of Madrid, Optimization and Monitoring of Smart Networks (October 2013).

University of Minnesota, Adaptive Cognitive Radios with Long-term Guarantees for Primary Users (October 2012).

Carlos III University of Madrid, Cross Layer Design for Wireless Networks (May 2011).

Florida Atlantic University, Adaptive Cross-Layer Resource Allocation for Multihop Wireless Orthogonal-Access Networks (December 2010).

University of Minnesota, Social Networks (August 2010).

Telecommunications Technology Center of Catalunya, Adaptive Cross-Layer Resource Allocation for Multihop Wireless Orthogonal-Access Networks (May 2010).

European Wireless Conference, Adaptive Cross-Layer Resource Allocation for Wireless Orthogonal-Access Networks (April 2010).

University of Minnesota, Resource Allocation in Cognitive Radios (August 2008).

Asilomar Conference on Signals, Systems and Computers, Energy Efficient MISO using Adaptive Modulation and Coding (November 2006).

University of Minnesota, Energy Efficient Resource Allocation Based on Quantized CSI (September 2006).

TUTORIALS

Signal Processing over Graphs (5 hours), 2018 University of Luxembourg

Fundamentals and Applications of Graph Signal Processing (3 hours), 2017 IEEE Intl. Conf. on Acoustics, Speech and Signal Process.

Graph Signal Processing: Fundamentals and Applications to Diffusion Processes (3 hours), 2016 IEEE Global Signal and Info. Process. Conf.

Fundamentals and Applications of Graph Signal Processing (3 hours), 2016 IEEE European Signal Process. Conf.

Fundamentals and Applications of Graph Signal Processing (3 hours), 2016 IEEE Sensor Array and Multichannel Signal Process.

An Overview of Graph Signal Processing and Applications to Distributed Networking (4 hours), 2015 University of Minnesota.

Cognitive Radios: State of the Art, Challenges and Research Opportunities (3 hours), 2009 University of Minnesota.

SERVICE

Brief overview

Regarding research-related service, I served as TPC of several conferences and as reviewer of different journals and conferences (mostly associated with IEEE), being the general and/or technical chair in four of them. I am serving/served as an Associate Editor of: the IEEE Signal Processing Letters, the Springer Eurasip Journal on Advances in Signal Processing and the IEEE Signal Processing Magazine. I am also a member of the IEEE Signal Process. Theory and Methods Technical Committee and of the IEEE Big Data Technical Committee.

Regarding academic (and institutional) service, I have participated in different University committees (Department, School and University level). I have also served as external evaluator for the Spanish National Agency of Education. Currently, I am the President's deputy for excellence and strategic policies.

PROFESSIONAL AFFILIATION

IEEE (Senior Member).

EURASIP.

ELLIS (Spain).

REVIEWER

Journals - *IEEE Transactions on Signal Processing, IEEE Transactions on Signal and Information Processing over Networks, IEEE Transactions on Neural Networks and Learning Systems, IEEE Transactions on Cybernetics, IEEE Transactions on Vehicular Technology, IEEE Journal on Selected Areas in Communications, Pattern Recognition, Network Neuroscience, IEEE Journal on Selected Topics in Signal Processing, IEEE Transactions on Mobile Computing, Proceedings of the IEEE, IEEE Signal Processing Magazine, IEEE Transactions on Wireless Communications, IEEE Transactions on Communications, IEEE Transactions on Smart Grids, IEEE Communication Letters, IEEE Wireless Communications Letters, IEEE Signal Processing Letters, EURASIP Advances on Signal Processing, Signal Processing (EURASIP/Elseviewer).*

Conferences (only main conferences are listed) - *NeurIPS; EUSIPCO; Complex Systems; Asilomar; IEEE INFOCOM, ICC, PIRC, ICASSP, WCNC, GLOBECOM, SPAWC, VTC, ISIT, GLOBALSIP, CAMSAP, SSP, SAM.*

Funding agencies - *Spanish National Science Foundation, French National Science Foundation, Swiss National Science Foundation, Dutch National Science Foundation, Israel Science Foundation, Canadian Natural Sciences and Engineering Research Council.*

TPC/OC MEMBER

OC/TPC Graph Signal Processing Workshop (General Chair 2020, General Co-Chair 2019).

OC/TPC IEEE Data Science Workshop - General Co-Chair (2019).

OC/TPC IEEE CAMSAP - Technical Co-Chair (2019).

OC/TPC Eusipco (Area Chair 2018, Publications Chair 2020).

OC/TPC IEEE SPAWC (Publications Chair 2020).

OC/TPC IEEE Globalsip (2016, 2017).

OC/TPC Asilomar (Networks Track Chair 2021, 2017).

OC/TPC IEEE PIMRC (2017).

TPC Complex Networks (2017, 2018, 2019, 2020).

TPC IEEE SAM (2016, 2020).

TPC IEEE SSP (2016, 2018).

OC/TPC IEEE VTC-Spring (2016).

TPC IEEE CAMSAP (2015, 2017).

TPC IEEE SSP (2018).

TPC IEEE Globalsip (2014, 2016).

TPC IEEE GLOBECOM (2013, 2014).

TPC IEEE GreenCOMM (2013).

TPC IEEE FIE (2012, 2013).

TPC IEEE PIMRC (2010, 2013, 2014).

TPC IEEE VTC-Spring (2010).

TPC Software Defined Radio Conference (2009-2014).

OC/TPC Telecom I+D (2007,2008).

OC of several Summer Schools (2007-present).

OTHER SERVICES

Member of the Editorial Board of IEEE Signal Processing Letters (2014-2019) and EURASIP Advances on Signal Processing (2015-present).

IEEE Branch Counselor (2010-present).

Member of the University Senate (2010-2014, 2017-2018).

Member of several committees at Departament/School/University level. Chairman of the Undergraduate Committee for Electrical Eng. (2008-2009). Chairman of the Committee for the B. Sc. Degree on Multimedia Eng. (2010-2017), Deputy of the President of the University for Strategic Policies (2017-present).

Guest Editor of the Special Issue on "EURASIP Advances on Signal Processing" for the EURASIP Advances on Signal Processing.

Leading Guest Editor of the Special Issue on "Graph Signal Processing: Foundations and Emerging Directions" for the IEEE Signal Processing Magazine.