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ALEKSANDAR DOGANDŽIĆ

Research interests

Statistical signal processing, sensor array and multichannel signal processing

Education

2001 Ph.D., Electrical Engineering and Computer Science (EECS), University of Illinois at Chicago (UIC)
1997 M.S., EECS, UIC
1995 Dipl. Ing., Electrical Engineering, University of Belgrade, Yugoslavia

Appointments held

2007–present Associate Professor, Electrical and Computer Engineering (ECpE), Iowa State University (ISU), Ames
2001–2007 Assistant Professor, ECpE, ISU, Ames
2001 Lecturer, EECS, UIC
1996, 98–00 Research Assistant, EECS, UIC
1995–1996 Teaching Assistant, EECS, UIC

Honors & awards

2018 Certificate of Merit for Outstanding Editorial Service, IEEE Signal Processing Society (SPS)
2006-2012 CAREER Award from the US National Science Foundation (NSF)
2006-2007 Litton Assistant Professor in Electrical and Computer Engineering, ISU, Ames
2006 IEEE Senior Member
2004 IEEE Signal Processing Magazine Best Paper Award
2003 IEEE Signal Processing Society Young Author Best Paper Award
2001 Outstanding Thesis in the Division of Engineering, Mathematics, and Physical Sciences, University of Illinois at Chicago
1996 Distinguished Electrical Engineering M.S. Student Award by the Chicago Chapter of the IEEE Communications Society
1995 *Summa cum laude*, School of Electrical Engineering, University of Belgrade, Yugoslavia

Publications

Journal articles

[27] R. Gu and A. Dogandžić, "Projected Nesterov's proximal-gradient algorithm for sparse signal recovery," *IEEE Trans. Signal Process.*, vol. 65, no. 13, pp. 3510–3525, 2017.

[26] R. Gu and A. Dogandžić, "Blind X-ray CT image reconstruction from polychromatic Poisson measurements," *IEEE Trans. Comput. Imag*, vol. 2, no. 2, pp. 150–165, 2016.

[25] Z. Song and A. Dogandžić, "A max-product EM algorithm for reconstructing Markov-tree sparse signals from compressive samples," *IEEE Trans. Signal Process.*, vol. 61, no. 23, pp. 5917–5931, 2013.

[24] K. Qiu and A. Dogandžić, "Sparse signal reconstruction from quantized noisy measurements via GEM hard thresholding," *IEEE Trans. Signal Process.*, vol. 60, pp. 2628–2634, May 2012.

[23] K. Qiu and A. Dogandžić, "Sparse signal reconstruction via ECME hard thresholding," *IEEE Trans. Signal Process.*, vol. 60, pp. 4551–4569, Sep. 2012.

[22] K. Qiu and A. Dogandžić, "Variance-component based sparse signal reconstruction and model selection," *IEEE Trans. Signal Process.*, vol. 58, pp. 2935–2952, Jun. 2010.

[21] A. Dogandžić and K. Qiu, "Decentralized random-field estimation for sensor networks using quantized spatially correlated data and fusion-center feedback," *IEEE Trans. Signal Process.*, vol. 56, pp. 6069–6085, Dec. 2008.

[20] E. Serpedin, H. Li, A. Dogandžić, H. Dai, and P. Cotae, "Distributed signal processing techniques for wireless sensor networks," *EURASIP J. Adv. Signal Process.*, 2008.

[19] A. Dogandžić and B. Zhang, "Bayesian complex amplitude estimation and adaptive matched filter detection in low-rank interference," *IEEE Trans. Signal Process.*, vol. 55, pp. 1176–1182, Mar. 2007.

[18] A. Dogandžić and B. Zhang, "Bayesian NDE defect signal analysis," *IEEE Trans. Signal Process.*, vol. 55, pp. 372–378, Jan. 2007.

[17] W. Mo, Z. Wang, and A. Dogandžić, "EM-based iterative receiver for coded MIMO systems in unknown spatially correlated noise," *Wirel. Commun. Mob. Comput.*, vol. 7, pp. 81–89, Jan. 2007.

[16] A. Dogandžić and B. Zhang, "Distributed estimation and detection for sensor networks using hidden Markov random field models," *IEEE Trans. Signal Process.*, vol. 54, pp. 3200–3215, Aug. 2006.

[15] D. Gutiérrez, A. Nehorai, and A. Dogandžić, "Performance analysis of reduced-rank beamformers for estimating dipole source signals using EEG/MEG," *IEEE Trans. Biomed. Eng*, vol. 53, pp. 840–844, May 2006.

[14] J. Wang, A. Dogandžić, and A. Nehorai, "Maximum likelihood estimation of compound-Gaussian clutter and target parameters," *IEEE Trans. Signal Process.*, vol. 54, pp. 3884–3898, Oct. 2006.

[13] A. Dogandžić, J. Riba, G. Seco, and A. Swindlehurst, "Positioning and navigation with applications to communications," *IEEE Signal Process. Mag.*, vol. 22, no. 4, 10–11, Jul. 2005.

[12] A. Dogandžić and J. Jin, "Estimating statistical properties of MIMO fading channels," *IEEE Trans. Signal Process.*, vol. 53, no. 8, pp. 3065–3080, Aug. 2005.

[11] A. Dogandžić and P. Xiang, "Estimating statistical properties of eddy-current signals from steam generator tubes," *IEEE Trans. Signal Process.*, vol. 53, pp. 3342–3348, Aug. 2005.

[10] A. Dogandžić and B. Zhang, "Dynamic shadow-power estimation for wireless communications," *IEEE Trans. Signal Process.*, vol. 53, pp. 2942–2948, Aug. 2005.

[9] A. Dogandžić and B. Zhang, "Estimating Jakes' Doppler power spectrum parameters using the whittle approximation," *IEEE Trans. Signal Process.*, vol. 53, pp. 987–1005, Mar. 2005.

[8] A. Dogandžić and J. Jin, "Maximum likelihood estimation of statistical properties of composite gamma-lognormal fading channels," *IEEE Trans. Signal Process.*, vol. 52, pp. 2940–2945, Oct. 2004.

[7] A. Dogandžić, W. Mo, and Z. Wang, "Semi-blind SIMO flat-fading channel estimation in unknown spatially correlated noise using the EM algorithm," *IEEE Trans. Signal Process.*, vol. 52, pp. 1791–1797, Jun. 2004.

[6] A. Dogandžić, "Chernoff bounds on pairwise error probabilities of space-time codes," *IEEE Trans. Inf. Theory*, vol. 49, pp. 1327–1336, May 2003.

[5] A. Dogandžić and A. Nehorai, "Generalized multivariate analysis of variance: A unified framework for signal processing in correlated noise," *IEEE Signal Process. Mag.*, vol. 20, pp. 39–54, Sep. 2003.

[4] A. Dogandžić and A. Nehorai, "Finite-length MIMO equalization using canonical correlation analysis," *IEEE Trans. Signal Process.*, vol. 50, no. 4, pp. 984–989, 2002.

[3] A. Dogandžić and A. Nehorai, "Space-time fading channel estimation and symbol detection in unknown spatially correlated noise," *IEEE Trans. Signal Process.*, vol. 50, no. 3, pp. 457–474, 2002.

[2] A. Dogandžić and A. Nehorai, "Cramér-Rao bounds for estimating range, velocity, and direction with an active array," *IEEE Trans. Signal Process.*, vol. 49, no. 6, pp. 1122–1137, 2001.

[1] A. Dogandžić and A. Nehorai, "Estimating evoked dipole responses in unknown spatially correlated noise with EEG/MEG arrays," *IEEE Trans. Signal Process.*, vol. 48, no. 1, pp. 13–25, 2000.

Electronic publications

[1] R. Gu and A. Dogandžić. (Feb. 2017). Upper-bounding the regularization constant for convex sparse signal reconstruction. arXiv: 1702.07930 [stat.CO].

Book chapter

[1] A. Dogandžić and A. Nehorai, "EEG/MEG spatio-temporal dipole source estimation and sensor array design," *High-Resolution and Robust Signal Processing*, Y. Hua, A. B. Gershman, and Q. Cheng, Eds., New York: Marcel Dekker, 2003, pp. 393–442.

Conference papers

[54] R. Gu and A. Dogandžić, "Blind beam-hardening correction from Poisson measurements," *Rev. Prog. Quant. Nondestr. Eval.*, D. E. Chimenti and L. J. Bond, Eds., ser. AIP Conf. Proc. Vol. 35 1706, Melville, NY, 2016, 110010.

[53] R. Gu and A. Dogandžić, "Blind polychromatic X-ray CT reconstruction from Poisson measurements," *Proc. IEEE Int. Conf. Acoust., Speech, Signal Process.*, Shanghai, China, Mar. 2016, pp. 898–902.

[52] S. Song, Y. Li, and A. Dogandžić, "Atomic library optimization for sparse pulse ultrasonic signal decomposition and reconstruction," *Rev. Prog. Quant. Nondestr. Eval.*, ser. AIP Conf. Proc. Vol. 35 1706, Melville, NY, 2016, 180008.

[51] R. Gu and A. Dogandžić, "Polychromatic sparse image reconstruction and mass attenuation spectrum estimation via B-spline basis function expansion," *Rev. Prog. Quant. Nondestr. Eval.*, D. E. Chimenti and L. J. Bond, Eds., ser. AIP Conf. Proc. Vol. 34 1650, Melville, NY, 2015, pp. 1707–1716.

[50] R. Gu and A. Dogandžić, "Projected Nesterov's proximal-gradient signal recovery from compressive Poisson measurements," *Proc. Asilomar Conf. Signals, Syst. Comput.*, Pacific Grove, CA, Nov. 2015, pp. 1490–1495.

[49] R. Gu and A. Dogandžić, "A fast proximal gradient algorithm for reconstructing nonnegative signals with sparse transform coefficients," *Proc. Asilomar Conf. Signals, Syst. Comput.*, Pacific Grove, CA, Nov. 2014, pp. 1662–1667.

[48] R. Gu and A. Dogandžić, "Sparse signal reconstruction from polychromatic X-ray CT measurements via mass attenuation discretization," *Rev. Prog. Quant. Nondestr. Eval.*, D. O. Thompson, D. E. Chimenti, and L. J. Bond, Eds., ser. AIP Conf. Proc. Vol. 33 1581, Melville, NY, 2014, pp. 1848–1855.

[47] R. Gu and A. Dogandžić, "Beam hardening correction via mass attenuation discretization," *Proc. IEEE Int. Conf. Acoust., Speech, Signal Process.*, Vancouver, Canada, May 2013, pp. 1085–1089.

[46] R. Gu and A. Dogandžić, "Sparse X-ray CT image reconstruction and blind beam hardening correction via mass attenuation discretization," *Proc. IEEE Int. Workshop Comput. Advances Multi-Sensor Adaptive Process.*, Saint Martin, French West Indies, Dec. 2013, pp. 244–247.

[45] A. Dogandžić, R. Gu, and K. Qiu, "Algorithms for sparse X-ray CT image reconstruction of objects with known contour," *Rev. Prog. Quant. Nondestr. Eval.*, D. O. Thompson and D. E. Chimenti, Eds., ser. AIP Conf. Proc. Vol. 31, Melville, NY, 2012, 597–604.

[44] Z. Song and A. Dogandžić, "A Bayesian max-product EM algorithm for reconstructing structured sparse signals," *Proc. Conf. Inform. Sci. Syst.*, Princeton, NJ, Mar. 2012, pp. 1–6.

[43] Z. Song and A. Dogandžić, "Image reconstruction from compressive samples via a max-product EM algorithm," *Applications of Digital Image Processing XXXV*, A. G. Tescher, Ed., ser. Proc. SPIE Optics & Photonics, vol. 8499, San Diego, CA: SPIE, Aug. 2012, 849907.

[42] A. Dogandžić, R. Gu, and K. Qiu, "Mask iterative hard thresholding algorithms for sparse image reconstruction of objects with known contour," *Proc. Asilomar Conf. Signals, Syst. Comput.*, Pacific Grove, CA, Nov. 2011, pp. 2111–2116.

[41] K. Qiu and A. Dogandžić, "A GEM hard thresholding method for reconstructing sparse signals from quantized noisy measurements," *Proc. IEEE Int. Workshop Comput. Advances Multi-Sensor Adaptive Process.*, San Juan, PR, Dec. 2011, pp. 349–352.

[40] K. Qiu and A. Dogandžić, "Nonnegative signal reconstruction from compressive samples via a difference map ECME algorithm," *Proc. IEEE Workshop Stat. Signal Process.*, Nice, France, Jun. 2011, pp. 561–564.

[39] K. Qiu and A. Dogandžić, "Sparse X-ray CT image reconstruction using ECME hard thresholding methods," *Rev. Prog. Quant. Nondestr. Eval.*, D. O. Thompson and D. E. Chimenti, Eds., ser. AIP Conf. Proc. Vol. 30, Melville, NY, 2011, pp. 469–476.

[38] A. Dogandžić and K. Qiu, "Automatic hard thresholding for sparse signal reconstruction from NDE measurements," *Rev. Prog. Quant. Nondestr. Eval.*, D. O. Thompson and D. E. Chimenti, Eds., ser. AIP Conf. Proc. Vol. 29, Melville, NY, 2010, pp. 806–813.

[37] K. Qiu and A. Dogandžić, "Double overrelaxation thresholding methods for sparse signal reconstruction," *Proc. Conf. Inform. Sci. Syst.*, Princeton, NJ, Mar. 2010.

[36] K. Qiu and A. Dogandžić, "ECME hard thresholding methods for image reconstruction from compressive samples," *Applications of Digital Image Processing XXXIII*, A. G. Tescher, Ed., ser. Proc. SPIE Optics & Photonics, vol. 7798, San Diego, CA: SPIE, Aug. 2010, 779813.

[35] A. Dogandžić and K. Qiu, "ExCoV: Expansion-compression variance-component based sparse-signal reconstruction from noisy measurements," *Proc. Conf. Inform. Sci. Syst.*, Baltimore, MD, Mar. 2009, pp. 186–191.

[34] A. Dogandžić and K. Qiu, "Estimating a random field in sensor networks using quantized spatially correlated data," *Proc. Asilomar Conf. Signals, Syst. Comput.*, Pacific Grove, CA, Nov. 2008, pp. 1943–1947.

[33] A. Dogandžić and B. Zhang, "Markov chain Monte Carlo defect identification in NDE images," *Rev. Prog. Quant. Nondestr. Eval.*, D. O. Thompson and D. E. Chimenti, Eds., ser. AIP Conf. Proc. Vol. 26, Melville, NY, 2007, pp. 709–716.

[32] A. Dogandžić and B. Zhang, "Nonparametric probability density estimation for sensor networks using quantized measurements," *Proc. Conf. Inform. Sci. Syst.*, Baltimore, MD, Mar. 2007, pp. 759–764.

[31] A. Dogandžić and B. Zhang, "Bayesian defect signal analysis," *Rev. Prog. Quant. Nondestr. Eval.*, D. O. Thompson and D. E. Chimenti, Eds., ser. AIP Conf. Proc. Vol. 25, Melville, NY, 2006, pp. 617–624.

[30] A. Dogandžić and B. Zhang, "Complex signal amplitude estimation and adaptive detection in unknown low-rank interference," *Proc. Asilomar Conf. Signals, Syst. Comput.*, Pacific Grove, CA, Nov. 2006, pp. 2232–2236.

[29] A. Dogandžić, N. Eua-Anant, and B. Zhang, "Defect detection using hidden Markov random fields," *Rev. Prog. Quant. Nondestr. Eval.*, D. O. Thompson and D. E. Chimenti, Eds., ser. AIP Conf. Proc. Vol. 24, Melville, NY, 2005, pp. 704–711.

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[27] A. Dogandžić and B. Zhang, "Distributed signal processing for sensor networks using hidden Markov random fields," *Proc. Conf. Inform. Sci. Syst.*, Baltimore, MD, Mar. 2005.

[26] A. Dogandžić and B. Zhang, "Event-region estimation for sensor networks under the Poisson regime," *Proc. Asilomar Conf. Signals, Syst. Comput.*, Pacific Grove, CA, Nov. 2005, pp. 1571–1575.

[25] A. Dogandžić and B. Zhang, "Parametric signal estimation using sensor networks in the presence of node localization errors," *Proc. Asilomar Conf. Signals, Syst. Comput.*, Pacific Grove, CA, Nov. 2005, pp. 951–955.

[24] J. Wang, A. Dogandžić, and A. Nehorai, "Cramér-Rao bounds for compound-Gaussian clutter and target parameters," *Proc. IEEE Int. Conf. Acoust., Speech, Signal Process.*, Philadelphia, PA, Mar. 2005, pp. 1101–1104.

[23] A. Dogandžić, A. Nehorai, and J. Wang, "Maximum likelihood estimation of compound-Gaussian clutter and target parameters," *Proc. 12th Annu. Workshop Adaptive Sensor Array Processing*, Lexington, MA, Mar. 2004.

[22] A. Dogandžić and P. P. Amran, "Signal-strength based localization in wireless fading channels," *Proc. Asilomar Conf. Signals, Syst. Comput.*, Pacific Grove, CA, Nov. 2004, pp. 2160–2164.

[21] A. Dogandžić and N. Eua-Anant, "Defect detection in correlated noise," *Rev. Prog. Quant. Nondestr. Eval.*, D. O. Thompson and D. E. Chimenti, Eds., ser. AIP Conf. Proc. Vol. 23, Melville, NY, 2004, pp. 628–635.

[20] A. Dogandžić and P. Xiang, "A statistical model for eddy-current defect signals from steam generator tubes," *Rev. Prog. Quant. Nondestr. Eval.*, D. O. Thompson and D. E. Chimenti, Eds., ser. AIP Conf. Proc. Vol. 23, Melville, NY, 2004, pp. 605–612.

[19] A. Dogandžić and B. Zhang, "Dynamic power estimation and prediction in composite fading-shadowing channels," *Proc. IEEE Int. Conf. Acoust., Speech, Signal Process.*, Montréal, Canada, May 2004, pp. 1013–1016.

[18] D. Gutiérrez, A. Nehorai, and A. Dogandžić, "MEG source estimation in the presence of low-rank interference using cross-spectral metrics," *Proc. Int. Conf. IEEE Eng. Med. Biol. Soc.*, San Francisco, CA, Sep. 2004, pp. 990–993.

[17] J. R. Bowler, W. Zhang, and A. Dogandžić, "Application of optimization methods to crack profile inversion using eddy currents," *Rev. Prog. Quant. Nondestr. Eval.*, D. O. Thompson and D. E. Chimenti, Eds., ser. AIP Conf. Proc. Vol. 22, Melville, NY, 2003, pp. 742–749.

[16] A. Dogandžić and J. Jin, "Estimating statistical properties of composite gamma-lognormal fading channels," *Proc. Globecom Conf.*, San Francisco, CA, Dec. 2003, pp. 2406–2410.

[15] A. Dogandžić, W. Mo, and Z. Wang, "Maximum likelihood semi-blind channel and noise estimation using the EM algorithm," *Proc. Conf. Inform. Sci. Syst.*, Baltimore, MD, Mar. 2003.

[14] A. Dogandžić and B. Zhang, "Maximum likelihood estimation of Jakes' Doppler power spectrum parameters for SIMO channels using the Whittle approximation," *Proc. IEEE Workshop Stat. Signal Process.*, St. Louis, MO, Sep. 2003, pp. 85–88.

[13] W. Mo, Z. Wang, and A. Dogandžić, "Iterative channel estimation and decoding for coded MIMO system in unknown spatially correlated noise," *Proc. Allerton Conf. Commun., Contr., Comput.*, Monticello, IL, Sep. 2003, pp. 324–333.

[12] A. Dogandžić, "Chernoff bounds on pairwise error probabilities of space-time codes," *Proc. IEEE Sensor Array Multichannel Signal Process. Workshop*, Rosslyn, VA, Aug. 2002, pp. 437–441.

[11] A. Dogandžić, "Minimum variance beamforming in low-rank interference," *Proc. Asilomar Conf. Signals, Syst. Comput.*, Pacific Grove, CA, Nov. 2002, pp. 1293–1297.

[10] A. Dogandžić and J. Jin, "Estimating statistical properties of MIMO Ricean fading channels," *Proc. IEEE Sensor Array Multichannel Signal Process. Workshop*, Rosslyn, VA, Aug. 2002, pp. 149–153.

[9] A. Dogandžić and A. Nehorai, "Finite-length MIMO adaptive equalization using canonical correlations," *Proc. IEEE Int. Conf. Acoust., Speech, Signal Process.*, Salt Lake City, UT, May 2001, pp. 2149–2152.

[8] A. Dogandžić and A. Nehorai, "Cramér-Rao bounds for estimating range, velocity, and direction with a sensor array," *Proc. IEEE Sensor Array Multichannel Signal Process. Workshop*, Cambridge, MA, Mar. 2000, pp. 370–374.

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[4] A. Dogandžić and A. Nehorai, "Localization of evoked electric sources and design of EEG/MEG sensor arrays," *Proc. IEEE Signal Process. Workshop Stat. Signal Array Process.*, Portland, OR, Sep. 1998, pp. 228–231.

[3] A. Nehorai and A. Dogandžić, "Estimation of propagating dipole sources by EEG/MEG sensor arrays," *Proc. Asilomar Conf. Signals, Syst. Comput.*, Pacific Grove, CA, Nov. 1998, pp. 304–308.

[2] A. Dogandžić and A. Nehorai, "Estimating evoked dipole responses by MEG/EEG for unknown noise covariance," *Proc. Int. Conf. IEEE Eng. Med. Biol. Soc.*, Chicago, IL, Oct. 1997, pp. 1224–1227.

[1] A. Dogandžić and A. Nehorai, "Detecting a dipole source by MEG/EEG and generalized likelihood ratio tests," *Proc. Asilomar Conf. Signals, Syst. Comput.*, Pacific Grove, CA, Nov. 1996, pp. 1196–1200.

Graduate students

1. Renliang Gu, Ph.D., August 2010–May 2017, "Convex-set–constrained sparse signal recovery: Theory and applications," now with Google, Mountain View, CA;
2. Zhao Song, M.S., Aug. 2010–2012;
3. Kun Qiu, Ph.D., August 2006–May 2011, "Expectation maximization hard thresholding methods for sparse signal reconstruction", now a Data Scientist at Accenture, San Diego, CA;
4. Glaucio G. de Oliveira, M.S., (Degang Chen, co-adviser), off-campus, 2007–2011, with Cummins Power Generation, Minneapolis, MN;
5. Lizandro D. Solano-Quinde, M.S., Aug. 2004–2006, Professor at Univ. Cuenca, Ecuador.
6. Benhong Zhang, Ph.D., August 2002–June 2006, "Spatial signal processing in wireless sensor networks", now a Senior Vice President, Senior Quantitative Analyst at Bank of America, Charlotte, NC;
7. Jinghua Jin, August 2001–April 2006, Ph.D., (Yao Ma, co-adviser), "Diversity receiver design and channel statistic estimation in fading channels", now with GE Healthcare, Waukesha, WI;
8. Ping Xiang, Ph.D., 2002–June 2005, "Automatic multi-frequency rotating-probe eddy-current data analysis", granted July 2005, now with with TeraRecon Inc, Boston, MA.
9. Nawanat Eua-Anant, M.S., 2001–2004, now with Electricity Generating Authority, Khon Kaen, Thailand.
10. Prihamdhani P. Amran, M.S., 2002–2004;
11. Carlos J. Chávez, M.S., 2001–2003, with Rockwell Collins, Cedar Rapids, IA.

Service to the profession

Editorship

- 2015–2019, Senior Area Editor for *IEEE Transactions on Signal Processing*;
- 2014–2019, Associate Editor for *IEEE Transactions on Signal and Information Processing over Networks*;
- Associate Editor for *IEEE Signal Processing Letters*, 2008–2013.
- Associate Editor for *IEEE Transactions on Signal Processing*, 2006–2010.
- Associate Editor for *International Journal of Navigation and Observation*, 2006–2018.
- 2018–present, Associate Editor for *Journal of Electrical and Computer Engineering*;
- Guest Editor for *IEEE Signal Processing Magazine*, Special Issue on Signal Processing for Positioning and Navigation with Applications to Communications, July 2005, with J. Riba, G. Seco, and A. L. Swindlehurst.
- Guest Editor for *EURASIP* Journal on Applied Signal Processing, Special Issue on Distributed Signal Processing Techniques for Wireless Sensor Networks, 2008, with E. Serpedin, H. Li, H. Dai, and P. Cotae.

Conferences

- Tutorials co-chair, European Signal Processing Conference (EUSIPCO), A Coruña, Spain, Sept. 2019;
- Technical co-chair, The Ninth IEEE Sensor Array and Multichannel (SAM) Signal Processing Workshop, Rio de Janeiro, Brazil, Jul. 2016.
- Technical co-chair, The Eighth IEEE SAM Signal Processing Workshop, A Coruña, Spain, Jun. 2014.
- General co-chair, The Fifth IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP), Saint Martin, French West Indies, Dec. 2013.
- General co-chair, The Fourth IEEE CAMSAP Workshop, San Juan, PR, Dec. 2011.
- Area Chair for Signal Processing Theory and Methods, 2015 EUSIPCO, Nice, France.
- Area Chair for the 2016 IEEE Statistical Signal Processing (SSP) Workshop, Palma de Mallorca, Spain.
- Technical program committees
  - 2007–present, IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), through IEEE SAM and Signal Processing Theory and Methods (SPTM) technical committees;
  - The 2020 Wireless Communications and Networking Conference (WCNC), Seoul, Korea;

– The 2019 CAMSAP, French Antilles;
– The 2019 Global Conference on Signal and Information Processing (GlobalSIP), Ottawa, Canada;
– The 2019 IEEE Global Communications Conference (GLOBECOM), Cognitive Radio and All-Enabled Networks Symposium;
– The 2019 IEEE Data Science Workshop, Minneapolis, MN
– The Tenth IEEE GCC Conference and Exhibition, Kuwait, Apr. 2019;
– The 2019 WCNC, Marrakech, Morocco;
– The 2019 IEEE International Conference on Communications (ICC), Shanghai, China;
– The 2018 GlobalSIP, Anaheim, CA;
– The 2018 IEEE GLOBECOM, Abu Dhabi, United Arab Emirates;
– The 2018 IEEE SAM Signal Processing Workshop, Sheffield, UK;
– The 2018 IEEE SSP Workshop, Freiburg, Germany;
– The 2018 EUSIPCO, Rome, Italy;
– The 2018 IEEE ICC, Wireless Communications Symposium, Kansas City, MO;
– The 2018 WCNC, Barcelona, Spain;
– The 2017 CAMSAP, Curaçao, Dutch Antilles;
– The 2017 GlobalSIP, Montréal, Canada;
– The 2017 EUSIPCO, Kos Island, Greece;
– The 2017 WCNC, San Francisco, CA;
– The 2016 EUSIPCO, Budapest, Hungary;
– The 2016 WCNC, Doha, Qatar;
– The 2015 IEEE ICC, Wireless Communications Symposium, London, UK;
– The 2015 Information Technology Society (ITG) International Workshop on Smart Antennas (WSA), Ilmenau, Germany;
– The 2015 WCNC, New Orleans, LA;
– The 2014 IEEE GLOBECOM, Signal Processing for Communications Symposium, Austin, TX;
– The 2014 EUSIPCO, Lisbon, Portugal;
– The 2014 IEEE WCNC, Istanbul, Turkey, Apr. 2014.
– The Tenth International Symposium on Wireless Communication Systems (ISWCS), Ilmenau, Germany, Aug. 2013,
– The 2013 IEEE WCNC, Shanghai, China, Apr. 2013.
– The 2012 EUSIPCO,
– The IEEE SSP Workshop, Ann Arbor, MI, Aug. 2012,
– The Seventh IEEE SAM Signal Processing Workshop, Hoboken, NJ, Jun. 2012,
– The Fourth IEEE CAMSAP Workshop, San Juan, PR, Dec. 2011,

  - The 73rd IEEE Vehicular Technology Conference (VTC) Spring, Budapest, Hungary, May 2011,
  - The Sixth IEEE SAM Signal Processing Workshop, Kibbutz Ma'ale Hahamisha, Israel, Oct. 2010,
  - The Seventh ISWCS, York, United Kingdom, Sept. 2010,
  - The 71st IEEE VTC Spring, Taipei, Taiwan, Apr. 2010,
  - The 69th IEEE VTC Spring, Barcelona, Spain, Apr. 2009,
  - The Fifth IEEE SAM Signal Processing Workshop, Darmstadt, Germany, Jul. 2008,
  - The 2008 IEEE Radar Conference, Rome, Italy,
  - The 66th IEEE VTC Fall, Baltimore MD, Oct. 2007,
  - The 2006 EUSIPCO.

- Session chair
  - Emerging SAM Applications, *IEEE ICASSP*, Shanghai, China, March 2016;
  - Processing of Electro-Physiological Signals, *IEEE ICASSP*, Shanghai, China, March 2016;
  - Biomedical Signal Reconstruction, Processing, and Analysis, *IEEE ICASSP*, Shanghai, China, March 2016;
  - Sparsity in Signal Processing, *49th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, Nov. 2015;
  - Signal Processing and New Techniques, *42nd Annu. Review Progress Quantitative Nondestructive Evaluation*, Minneapolis, MN, Jul. 2015;
  - Compressed Sensing I, *48th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, Nov. 2014;
  - Signal Processing, *40th Annu. Review Progress Quantitative Nondestructive Evaluation*, Baltimore, MD, Jul. 2013;
  - Signal and System Modeling and Estimation II, IEEE ICASSP, Kyoto, Japan, March 2012,
  - Sensor Networks and Distributed Estimation, IEEE ICASSP, Kyoto, Japan, March 2012,
  - Compressive Imaging and Detection, 45th Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, Nov. 2011,
  - Detection and Estimation Theory II, IEEE SSP Workshop, Nice, France, June 2011,
  - Sensor Networks II: Distributed Estimation, IEEE ICASSP, Dallas, TX, March 2010,
  - Inversion, Reconstruction, and Characterization, 36th Annu. Review Progress Quantitative Nondestructive Evaluation (QNDE), Kingston, RI, Jul. 2009,
  - Sensor Array Processing, ICASSP, Honolulu, HI, April 2007,
  - Flaw Imaging and Characterization, 33rd QNDE, Portland, OR, Aug. 2006,
  - Image and Signal Analysis, 32nd QNDE, Bowdoin College, Brunswick, ME, Aug. 2005.

- Session organizer and chair
  - Low Rank Matrix Approximation, The Sixth IEEE SAM Signal Processing Workshop, Kibbutz Ma'ale Hahamisha, Israel, Oct. 2010,
  - Detection and Estimation, 41st Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, Nov. 2007.

Professional committees & panels

- Member of the SAM Technical Committee of the IEEE Signal Processing Society, 2007–2013, where I served as
  - Chair of the Nominations and Elections Subcommittee of the SAM Technical Committee, 2011–2012,
  - Chair of the Detection and Estimation Theory (DET) subcommittee of of the SAM Technical Committee, 2012.
- Member of the SPTM Technical Committee of the IEEE Signal Processing Society, 2011–2016.
- Panel reviewer for the NSF, Computer & Information Science & Engineering (CISE), 2006, 2007, 2009, 2010, 2013, 2015, 2016, and 2017.

Recent invited talks

1. "Projected Nesterov's proximal-gradient algorithm for sparse signal recovery," National University of La Plata, Argentina, Nov. 2016.
2. "Blind beam-hardening correction from Poisson measurements," Center for Research and Advanced Studies (CINVESTAV), Monterrey, Mexico, Aug. 2016.
3. "Projected Nesterov's proximal-gradient algorithm for sparse signal recovery," Telecommunications for Space and Aeronautics (TéSA) Lab, Toulouse, France, May 2016.
4. "Blind beam-hardening correction from Poisson measurements," Department of Instrument Science and Engineering, Jiangsu University, Zhenjiang, China, Mar. 2016.
5. "Projected Nesterov's proximal-gradient algorithm and sparse tomographic signal reconstruction," School of Telecommunications Engineering, Xidian University, Xi'an, China, Mar. 2016.
6. "Projected Nesterov's proximal-gradient signal recovery from compressive Poisson measurements," Department of Electrical and Systems Engineering, Washington University in St. Louis, Dec. 2015;
7. "Blind beam-hardening correction from Poisson measurements," Department of Electrical and Systems Engineering, Washington University in St. Louis, Aug. 2015;
8. "A max-product EM algorithm for reconstructing Markov-tree sparse signals from compressive samples," Technische Universität Ilmenau, Germany, Jun. 2013;
9. "A max-product EM algorithm for reconstructing Markov-tree sparse signals from compressive samples," MINES ParisTech, Fontainebleau, France, Jun. 2013;

10. "A max-product EM algorithm for reconstructing Markov-tree sparse signals from compressive samples," Department of Electronics, University of York, UK, Jun. 2013;

11. "Image reconstruction from compressive samples via a max-product EM algorithm," Department of Electrical and Systems Engineering, Washington University in St. Louis, Aug. 2012;

12. "ECME thresholding methods for sparse signal reconstruction," Dipartimento di Ingegneria Biomedica Elettronica e delle Telecomunicazioni, Università Federico II, Napoli, Italy, May 2012;

13. "Sparse X-ray CT image reconstruction using ECME hard thresholding methods," Department of Electrical Engineering and Computer Science, Polytechnic University of Puerto Rico, Mar. 2011;

14. "ECME thresholding methods for sparse signal reconstruction," Departament de Telecomunicació i Enginyeria de Sistemes, Universitat Autònoma de Barcelona, Spain, June 2010;

15. "ECME thresholding methods for sparse signal reconstruction," Laboratoire Fizeau, Université de Nice Sophia-Antipolis, France, May 2010;

16. "ECME thresholding methods for sparse signal reconstruction," Department of Electrical and Systems Engineering, Washington University in St. Louis, May 2010.

17. ExCoV: Expansion-compression variance-component based sparse-signal reconstruction from noisy measurements," Department of Electrical and Computer Engineering, George Washington University, Washington, DC, Mar. 2009.

Last updated: August 12, 2019