

CURRICULUM VITAE

Nicholas D. Sidiropoulos

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PERSONAL DATA

Date and place of birth: December 25, 1965; Thessaloniki, Greece.

Marital Status: Married, two sons.

U.S. & Greek Citizen.

EDUCATION

Ph.D. in Electrical Engineering, August 1992, University of Maryland, College Park.

M.S. in Electrical Engineering, May 1990, University of Maryland, College Park.

Diploma in Electrical Engineering (top grade in class - 9/10), July 1988, Aristotelian University of Thessaloniki, Greece.

ACADEMIC POSITIONS

Professor, Dept. of Electrical and Computer Engineering & Digital Technology Center, University of Minnesota, Minneapolis, MN, U.S.A., Sep. 2011 – present. Appointed ADC Chair in Digital Technology, Jan. 2015 - Dec. 2019.

Professor, Dept. of Electronic and Computer Engineering, Technical University of Crete, Chania, Crete - Greece, Feb. 2002 – Aug. 2011.

Chairman, Dept. of Electronic and Computer Engineering, Technical University of Crete, Chania, Crete - Greece, Sep. 2005 - Aug. 2007 (Vice-Chair, Sep. 2003 - Aug. 2005).

Associate Director, Telecommunication Systems Institute (TSI), Technical University of Crete, Chania, Crete - Greece, Nov. 2005 – Aug. 2011.

Associate Professor, Dept. of Electrical and Computer Engineering, University of Minnesota, Minneapolis, Jan. 2000 – Feb. 2002.

Assistant Professor, Dept. of Electrical Engineering, University of Virginia, Charlottesville VA, July 1997 – Jan. 2000.

Assistant Research Scientist, Institute for Systems Research, University of Maryland, College Park, MD, January 1996 – July 1997. Also, Adjunct Professor, Dept. of Electrical Engineering, University of Maryland, College Park, MD, January 1995 – June 1997.

Post-Doctoral Research Associate, Institute for Systems Research, University of Maryland, College Park, MD, August 1994 – January 1996.

Lecturer, Hellenic Air Force Academy, October 1992 – October 1993 (September 1992 – June 1994, completed Greek military service requirements).

Fulbright Fellow, September 1988 – September 1992. Also, Research Assistant, Department of Electrical Engineering and Institute for Systems Research, University of Maryland, College Park, MD, June 1989 – September 1992.

CONSULTING

Consultant, Globespan Inc., Red Bank, NJ, 2000 - 2001: Crosstalk cancelation for DSL modems. Consultant, General Dynamics / Advanced Information Systems, Bloomington, MN, 2002: Frequency hopping radio engineering.

INDUSTRY EXPERIENCE

Member of the Technical Staff, Systems Integration Division, G-Systems Ltd., Athens, Greece, October 1993 - June 1994. Design and development (in a Unix/X/Motif/C - based environment) of integrated control and monitoring systems for military-grade wide-area radio communication networks.

ACADEMIC FELLOWSHIPS

- (1) September 1988 – May 1989, Fulbright Fellowship.
- (2) September 1984 – July 1988, from the Greek National Fellowship Foundation.

ACADEMIC AWARDS

- (1) Technical Chamber of Greece Outstanding Student Award (1988).
- (2) University of Maryland College Park IEEE student chapter Fall 1995 teaching award.

RESEARCH HONORS AND AWARDS

- (1) NSF/CAREER Award, 1998.
- (2) IEEE Signal Processing Society 2001 Best Paper Award, for the paper “Parallel Factor Analysis in Sensor Array Processing”, by N.D. Sidiropoulos, R. Bro, and G. Giannakis, published in the IEEE Trans. on Signal Processing, August 2000.
- (3) IEEE Signal Processing Society 2007 Best Paper Award, for the paper “On Downlink Beamforming with Greedy User Selection: Performance Analysis and a Simple New Algorithm”, by G. Dimic, and N.D. Sidiropoulos, published in IEEE Trans. on Signal Processing, Oct. 2005.
- (4) IEEE Signal Processing Society 2011 Best Paper Award, for the paper “Transmit Beamforming for Physical Layer Multicasting”, by N.D. Sidiropoulos, T.N. Davidson, and Z.-Q. Luo, published in IEEE Trans. on Signal Processing, June 2006.
- (5) IEEE SPAWC 2012 Best Student Paper Award to Omar Mehanna, for the paper “Multicast beamforming with antenna selection”, co-authored with N.D. Sidiropoulos, and G. Giannakis.

- (6) IEEE ICASSP 2014 Best Student Paper Award (third prize) to Xiao Fu and John Tranter, for the paper “Blind Spectra Separation and Direction Finding for Cognitive Radio Using Temporal Correlation-domain ESPRIT”, co-authored with N.D. Sidiropoulos, and W.-K. Ma.
- (7) IEEE CAMSAP 2015 Best Student Paper Award (second prize) to Bo Yang for the paper “Joint Factor Analysis and Latent Clustering”, co-authored with Xiao Fu, and N.D. Sidiropoulos.
- (8) Distinguished Lecturer of the IEEE Signal Processing Society for 2008-2009.
- (9) Fellow, IEEE *for contributions to Signal Processing for Communications*, Nov. 2008.
- (10) IEEE Signal Processing Society Meritorious Service Award (2010), “for dedicated service and leadership in the field of signal processing for communications and networking” (presented at the ICASSP Conference, Prague, May 2011).
- (11) 2013 Distinguished Alumni Award, Electrical and Computer Engineering Department, University of Maryland, College Park.
- (12) Fellow, European Association for Signal Processing (EURASIP), *for contributions to tensor decomposition and signal processing for communications*, 2014.
- (13) Appointed ADC Chair in Digital Technology, Jan. 2015 - Dec. 2019.

RESEARCH

Dr. Sidiropoulos’ research interests are in signal processing theory and algorithms, optimization, communications, and factor analysis - with a long-term interest in tensor decomposition and its applications. His current focus is primarily on signal and tensor analytics for learning from big data.

PUBLICATIONS (in reverse chronological order)

Summary: Journal: 120 (112 published / to appear, 8 under review); Patents: 4 (3 granted, 1 pending); Edited Books: 2; Book Chapters: 6; Conference: 159.

Citations: $\sim 10,150$ in Google Scholar; $h = 48$.

Journal papers

- (120) P. Alevizos, X. Fu, **N.D. Sidiropoulos**, Y. Yang, and A. Bletsas, “Limited Feedback Channel Estimation in Massive MIMO with Non-uniform Directional Dictionaries”, *IEEE Trans. on Wireless Communications*, submitted Mar. 21, 2017.
- (119) A. Konar and **N.D. Sidiropoulos**, “First-Order Methods for Fast Feasibility Pursuit of Non-convex QCQPs”, *IEEE Trans. on Signal Processing*, submitted Feb. 20, 2017.
- (118) G. Wang, A.S. Zamzam, G.B. Giannakis, and **N.D. Sidiropoulos**, “Power System State Estimation via Feasible Point Pursuit: Algorithms and Cramer-Rao Bound”, *IEEE Trans. on Power Systems*, submitted Feb. 9, 2017.
- (117) X. Fu, K. Huang, **N.D. Sidiropoulos**, Q. Shi, and M. Hong, “Anchor-Free Correlated Topic Modeling”, *IEEE Trans. on Pattern Analysis and Machine Intelligence*, submitted Nov. 7, 2016.

- (116) X. Fu, K. Huang, M. Hong, **N.D. Sidiropoulos**, and A.M.-C. So, “Scalable and Flexible Multiview MAX-VAR Canonical Correlation Analysis”, *IEEE Trans. on Signal Processing*, submitted Oct. 26, 2016.
- (115) F. Almutairi, **N.D. Sidiropoulos**, and G. Karypis, “Context-Aware Recommendation Based Learning Analytics Using Tensor and Coupled Matrix Factorization”, *IEEE Journal on Selected Topics in Signal Processing*, submitted to special issue on Signal Processing and Machine Learning for Education and Human Learning at Scale, Oct. 14, 2016.
- (114) A.S. Zamzam, **N.D. Sidiropoulos**, and E. Dall’Anese, “Beyond Relaxation and Newton-Raphson: Solving AC OPF for Multi-phase Systems with Renewables”, *IEEE Trans. on Smart Grid*, to appear.
- (113) A. Liavas, G. Kostoulas, G. Lourakis, K. Huang, and **N.D. Sidiropoulos**, “Nesterov - based Alternating Optimization for Nonnegative Tensor Factorization: Algorithm and Parallel Implementations”, *IEEE Trans. on Signal Processing*, submitted June 23, 2016.
- (112) **N.D. Sidiropoulos**, L. De Lathauwer, X. Fu, K. Huang, E.E. Papalexakis, and C. Faloutsos, “Tensor Decomposition for Signal Processing and Machine Learning”, *IEEE Trans. on Signal Processing*, (overview paper), to appear.
- (111) B. Yang, X. Fu, and **N.D. Sidiropoulos**, “Learning From Hidden Traits: Joint Factor Analysis and Latent Clustering”, *IEEE Trans. on Signal Processing*, vol. 65, no. 1, pp. 256–269, Jan. 2017.
- (110) C. Qian, X. Fu, **N.D. Sidiropoulos**, L. Huang, and J. Xie, “Inexact Alternating Optimization for Phase Retrieval in the Presence of Outliers”, *IEEE Trans. on Signal Processing*, submitted Apr. 22, 2016.
- (109) K. Huang, Y. Eldar, and **N.D. Sidiropoulos**, “Phase Retrieval from 1D Fourier Measurements: Convexity, Uniqueness, and Algorithms”, *IEEE Trans. on Signal Processing*, vol. 64, no. 23, pp. 6105–6117, Dec. 2016.
- (108) A. Konar, and **N.D. Sidiropoulos**, “Fast Approximation Algorithms for a class of Nonconvex QCQP problems Using First-Order Methods”, *IEEE Trans. on Signal Processing*, to appear.
- (107) X. Fu, K. Huang, B. Yang, W.-K. Ma, and **N.D. Sidiropoulos**, “Robust Volume Minimization-Based Matrix Factorization for Remote Sensing and Document Clustering”, *IEEE Trans. on Signal Processing*, vol. 64, no. 23, pp. 6254–6268, Dec. 2016.
- (106) E.E. Papalexakis, C. Faloutsos, and **N.D. Sidiropoulos**, “Tensors for Data Mining and Data Fusion: Models, Applications, and Scalable Algorithms”, *ACM Trans. on Intelligent Systems and Technology*, vol. 8, no. 2, article 16, pp. 16:1–16:44, Oct. 2016.
- (105) J. Tranter, **N.D. Sidiropoulos**, X. Fu, and A. Swami, “Fast Unit-modulus Least Squares with Applications in Beamforming and Phase Retrieval”, *IEEE Trans. on Signal Processing*, to appear.
- (104) K. Huang, and **N.D. Sidiropoulos**, “Consensus-ADMM for General Quadratically Constrained Quadratic Programming”, *IEEE Trans. on Signal Processing*, vol. 64, no. 20, pp. 5297–5310, Oct. 2016.

- (103) X. Fu, **N.D. Sidiropoulos**, and W.-K. Ma, “Power Spectra Separation via Structured Matrix Factorization”, *IEEE Trans. on Signal Processing*, vol. 64, no. 17, pp. 4592–4605, Sep. 2016.
- (102) A. Konar, and **N.D. Sidiropoulos**, “Parametric Frugal Sensing for Autoregressive and Autoregressive Moving Average Power Spectra”, *IEEE Trans. on Signal Processing*, vol. 64, no. 20, pp. 5353–5366, Sep. 2016.
- (101) K. Huang, **N.D. Sidiropoulos**, and A.P. Liavas, “A Flexible and Efficient Algorithmic Framework for Constrained Matrix and Tensor Factorization”, *IEEE Trans. on Signal Processing*, vol. 64, no. 19, pp. 5052–5065, Oct. 2016.
- (100) C. Qian, **N.D. Sidiropoulos**, K. Huang, L. Huang, and H.C. So, “Phase Retrieval Using Feasible Point Pursuit: Algorithms and Cramér-Rao Bound”, *IEEE Trans. on Signal Processing*, vol. 64, no. 20, pp. 5282–5296, Oct. 2016.
- (99) C. Qian, L. Huang, **N.D. Sidiropoulos**, and H.C. So, “Enhanced PUMA for Direction-of-arrival Estimation and its Performance Analysis”, *IEEE Trans. on Signal Processing*, vol. 64, no. 16, pp. 4127–4137, Aug. 15, 2016.
- (98) X. Fu, K. Huang, W.-K. Ma, **N.D. Sidiropoulos**, and R. Bro, “Joint Tensor Factorization and Outlying Slab Suppression with Applications”, *IEEE Trans. on Signal Processing*, vol. 63, no. 23, pp. 6315–6328, Dec. 1, 2015.
- (97) C. Qian, H.C. So, L. Huang, **N.D. Sidiropoulos**, and J. Xie, “Unitary PUMA Algorithm for Estimating the Frequency of a Complex Sinusoid in Noise”, *IEEE Trans. on Signal Processing*, vol. 63, no. 20, pp. 5358–5368, Oct. 15, 2015.
- (96) A. Konar, and **N.D. Sidiropoulos**, “Hidden Convexity in QCQP with Toeplitz-Hermitian Quadratics”, *IEEE Signal Processing Letters*, vol. 22, no. 10, pp. 1623–1627, Oct. 2015.
- (95) X. Fu, **N.D. Sidiropoulos**, J. Tranter, and W.-K. Ma, “A Factor Analysis Framework for Power Spectra Separation and Multiple Emitter Localization”, *IEEE Trans. on Signal Processing*, vol. 63, no. 24, pp. 6581–6594, Dec. 15, 2015.
- (94) B. Gopalakrishnan, and **N.D. Sidiropoulos**, “High Performance Adaptive Algorithms for Single-Group Multicast Beamforming”, *IEEE Trans. on Signal Processing*, vol. 63, no. 16, pp. 4373–4384, Aug. 15, 2015.
- (93) A.P. Liavas, and **N.D. Sidiropoulos**, “Parallel Algorithms for Constrained Tensor Factorization via the Alternating Direction Method of Multipliers”, *IEEE Trans. on Signal Processing*, vol. 63, no. 20, pp. 5450–5463, Oct. 15, 2015.
- (92) A. Konar, **N.D. Sidiropoulos**, and O. Mehanna, “Parametric Frugal Sensing of Power Spectra for Moving Average Models”, *IEEE Trans. on Signal Processing*, vol. 63, no. 5, pp. 1073–1085, Mar 1, 2015.
- (91) O. Mehanna, K. Huang, B. Gopalakrishnan, A. Konar, and **N.D. Sidiropoulos**, “Feasible Point Pursuit and Successive Approximation of Non-convex QCQPs”, *IEEE Signal Processing Letters*, vol. 22, no. 7, pp. 804–808, July 2015.
- (90) E.E. Papalexakis, A. Fyshe, **N.D. Sidiropoulos**, P.P. Talukdar, T. Mitchell, C. Faloutsos, “Good-Enough Brain Model: Challenges, Algorithms and Discoveries in Multi-Subject Experiments”, *Big Data*, Dec. 2014 (DOI: 10.1089/big.2014.0044).

- (89) E.E. Papalexakis, T. Mitchell, **N.D. Sidiropoulos**, C. Faloutsos, P.P. Talukdar, B. Murphy, “Turbo-SMT: Parallel Coupled Sparse Matrix-Tensor Factorizations and Applications”, *Statistical Analysis and Data Mining (SAM) journal*, ‘Best of SDM 2014’, June 30, 2016. DOI: 10.1002/sam.11315
- (88) E.E. Papalexakis, C. Faloutsos, and **N.D. Sidiropoulos**, “ParCube: Sparse parallelizable CANDECOMP-PARAFAC tensor decomposition”, *ACM Trans. on Knowledge Discovery from Data*, vol. 10, no. 1, article no. 3, pp. 3:1-3:25, July 2015.
- (87) E. Tsakonas, J. Jalden, **N.D. Sidiropoulos**, and B. Ottersten, “Convergence of the Huber M-Estimate in the Presence of Dense Outliers”, *IEEE Signal Processing Letters*, vol. 21, no. 10, pp. 1211-1214, Oct. 2014.
- (86) X. Fu, W.-K. Ma, K. Huang, and **N.D. Sidiropoulos**, “Blind Separation of Quasi-stationary Sources: Exploiting Convex Geometry in Covariance Domain”, *IEEE Trans. on Signal Processing*, vol. 63, no. 9, pp. 2306–2320, May 1, 2015.
- (85) O. Mehanna, and **N.D. Sidiropoulos**, “Channel Tracking and Transmit Beamforming with Frugal Feedback”, *IEEE Trans. on Signal Processing*, vol. 62, no. 24, pp. 6402–6413, Dec. 2014.
- (84) B. Gopalakrishnan, and **N.D. Sidiropoulos**, “Cognitive Transmit Beamforming from Binary CSIT”, *IEEE Trans. on Wireless Communications*, vol. 14, no. 2, pp. 895–906, Feb. 2015.
- (83) **N.D. Sidiropoulos**, E.E. Papalexakis, and C. Faloutsos, “PARallel RAndomly COM-pressed Cubes: A Scalable Distributed Architecture for Big Tensor Decomposition”, *IEEE Signal Processing Magazine*, Special Issue on Signal Processing for Big Data, pp. 57-70, Sep. 2014.
- (82) O. Mehanna, and **N.D. Sidiropoulos**, “Maximum Likelihood Passive and Active Sensing of Wideband Power Spectra from Few Bits”, *IEEE Trans. on Signal Processing*, vol. 63, no. 6, pp. 1391–1403, Mar 15, 2015.
- (81) **N.D. Sidiropoulos** and E. Tsakonas, “Signal Processing and Optimization Tools for Conference Review and Session Assignment”, *IEEE Signal Processing Magazine*, vol.32, no.3, pp. 141–155, May 2015.
- (80) K. Huang, and **N.D. Sidiropoulos**, “Putting NMF to the Test: A Tutorial Derivation of Pertinent Cramer-Rao Bounds and Performance Benchmarking”, *IEEE Signal Processing Magazine*, Special Issue on Source Separation and Applications, pp. 76-86, May 2014.
- (79) E.E. Papalexakis, U Kang, C. Faloutsos, **N.D. Sidiropoulos**, and A. Harpale, “Large Scale Tensor Decompositions: Algorithmic Developments and Applications”, *IEEE Data Engineering Bulletin*, Special Issue on Social Media and Data Analysis, vol. 36, no. 3, pp. 59–66, Sep. 2013.
- (78) K. Huang, **N.D. Sidiropoulos**, and A. Swami, “Non-negative Matrix Factorization Revisited: New Uniqueness Results and Algorithms”, *IEEE Trans. on Signal Processing*, vol. 62, no. 1, pp. 211–224, Jan. 2014
- (77) D. Angelosante, G.B. Giannakis, and **N.D. Sidiropoulos**, “Sparse Parametric Models for Robust Nonstationary Signal Analysis”, *IEEE Signal Processing Magazine*, Special Issue on Time-Frequency Analysis and Applications, pp. 64–73, Nov. 2013.

- (76) E. Tsakonas, J. Jalden, **N.D. Sidiropoulos**, and B. Ottersten, "Sparse Conjoint Analysis through Maximum Likelihood Estimation", *IEEE Trans. on Signal Processing*, vol. 61, no. 22, pp. 5704–5715, Nov. 2013.
- (75) B. Gopalakrishnan, and **N.D. Sidiropoulos**, "Joint Back-Pressure Power Control and Interference Cancellation in Wireless Multi-Hop Networks", *IEEE Trans. on Wireless Communications*, vol. 12, no. 7, pp. 3484–3495, July 2013.
- (74) **N.D. Sidiropoulos**, and A. Kyrillidis, "Multi-Way Compressed Sensing for Sparse Low-Rank Tensors", *IEEE Signal Processing Letters*, 19(11):757–760, Oct. 2012.
- (73) O. Mehanna, and **N.D. Sidiropoulos**, "Frugal Sensing: Wideband Power Spectrum Sensing from Few Bits", *IEEE Trans. on Signal Processing*, vol. 61, no. 10, pp. 2693–2703, May 2013.
- (72) O. Mehanna, **N.D. Sidiropoulos**, and G.B. Giannakis, "Joint Multicast Beamforming and Antenna Selection", *IEEE Trans. on Signal Processing*, vol. 61, no. 10, pp. 2660–2674, May 2013.
- (71) E.E. Papalexakis, **N.D. Sidiropoulos**, and R. Bro, "From K-means to higher-way co-clustering: multilinear decomposition with sparse latent factors", *IEEE Trans. on Signal Processing*, 61(2):493–506, Jan. 2013.
- (70) R. Bro, E.E. Papalexakis, Evrim Acar, and **N.D. Sidiropoulos**, "Coclustering - a useful tool for chemometrics", *Journal of Chemometrics*, DOI: 10.1002/cem.1424, Jan. 2012.
- (69) E. Matskani, **N.D. Sidiropoulos**, and L. Tassiulas, "Convex Approximation Algorithms for Back-pressure Power Control", *IEEE Trans. on Signal Processing*, 60(4):1957–1970, Apr. 2012.
- (68) I. Mitliagkas, **N.D. Sidiropoulos**, and A. Swami, "Joint Power and Admission Control for Ad-hoc and Cognitive Underlay Networks: Convex Approximation and Distributed Implementation", *IEEE Trans. on Wireless Communications*, 10(12):4110–4121, Dec. 2011.
- (67) D. Nion, **N.D. Sidiropoulos**, "Tensor Algebra and Multi-dimensional Harmonic Retrieval in Signal Processing for MIMO Radar", *IEEE Trans. on Signal Processing*, 58(11):5693–5705, Nov. 2010.
- (66) D. Angelosante, G.B. Giannakis, and **N.D. Sidiropoulos**, "Estimating Multiple Frequency-Hopping Signal Parameters via Sparse Linear Regression", *IEEE Trans. on Signal Processing*, 58(10):5044–5056, Oct. 2010.
- (65) A.B. Gershman, **N.D. Sidiropoulos**, S. Shahbazpanahi, M. Bengtsson, and B. Ottersten, "Convex Optimization-based Beamforming: From Receive to Transmit and Network Designs", *IEEE Signal Processing Magazine*, special issue on Convex Optimization for Signal Processing, pp. 62–75, May 2010.
- (64) A. Abdelkader, A.B. Gershman, and **N.D. Sidiropoulos**, "Multiple-Antenna Multicasting Using Channel Orthogonalization and Local Refinement", *IEEE Trans. on Signal Processing*, 58(7):3922–3927, July 2010.
- (63) D. Nion, **N.D. Sidiropoulos**, "Adaptive Algorithms to Track the PARAFAC Decomposition of a Third-Order Tensor", *IEEE Trans. on Signal Processing*, 57(6):2299–2310, June 2009.

- (62) A. Valyrakis, E. Tsakonas, **N.D. Sidiropoulos**, A. Swami, “Stochastic Modeling and Particle Filtering Algorithms for Tracking a Frequency-Hopped Signal”, *IEEE Trans. on Signal Processing*, 57(8):3108-3118, Aug. 2009.
- (61) V. Ntranos, **N.D. Sidiropoulos**, L. Tassiulas, “On Multicast Beamforming for Minimum Outage”, *IEEE Trans. on Wireless Communications*, 8(6):3172-3181, June 2009.
- (60) D. Nion, K. Mokios, **N.D. Sidiropoulos**, A. Potamianos, “Batch and Adaptive PARAFAC-Based Blind Separation of Convolutional Speech Mixtures”, *IEEE Trans. on Audio, Speech and Language Processing*, 18(6):1193-1207, Aug. 2010.
- (59) E. Matskani, **N.D. Sidiropoulos**, Z.-Q. Luo, L. Tassiulas, “Efficient Batch and Adaptive Approximation Algorithms for Joint Multicast Beamforming and Admission Control”, *IEEE Trans. on Signal Processing*, 57(12):4882-4894, Dec. 2009.
- (58) K.T. Phan, S.A. Vorobyov, **N.D. Sidiropoulos**, and C. Tellambura, “Spectrum Sharing in Wireless Networks via QoS-Aware Secondary Multicast Beamforming”, *IEEE Trans. on Signal Processing*, 57(6):2323-2335, June 2009.
- (57) E. Sayag, A. Leshem, **N.D. Sidiropoulos**, “Finite Word Length Effects on Transmission Rate in Zero Forcing Linear Precoding for Multichannel DSL”, *IEEE Trans. on Signal Processing*, 57(4):1469-1482, Apr. 2009.
- (56) E. Tsakonas, **N.D. Sidiropoulos**, A. Swami, “Optimal Particle Filters for Tracking a Time-Varying Harmonic or Chirp Signal”, *IEEE Trans. on Signal Processing*, 56(10):4598-4610, Oct. 2008.
- (55) E. Matskani, **N.D. Sidiropoulos**, Z.-Q. Luo, L. Tassiulas, “Convex Approximation Techniques for Joint Multiuser Downlink Beamforming and Admission Control”, *IEEE Trans. on Wireless Communications*, 7(7):2682-2693, July 2008.
- (54) A. Ribeiro, **N.D. Sidiropoulos**, G.B. Giannakis, “Optimal Distributed Stochastic Routing Algorithms For Wireless Multihop Networks”, *IEEE Trans. on Wireless Communications*, 7(11):4261-4272, Nov. 2008.
- (53) E. Karipidis, **N.D. Sidiropoulos**, Z.-Q. Luo, “Quality of Service and Max-min-fair Transmit Beamforming to Multiple Co-channel Multicast Groups”, *IEEE Trans. on Signal Processing*, 56(3):1268-1279, Mar. 2008.
- (52) E. Karipidis, **N.D. Sidiropoulos**, Z.-Q. Luo, “Far-field Multicast Beamforming for Uniform Linear Antenna Arrays”, *IEEE Trans. on Signal Processing*, 55(10):4916-4927, Oct. 2007.
- (51) G. Latsoudas, **N.D. Sidiropoulos**, “A Fast and Effective Multidimensional Scaling Approach for Node Localization in Wireless Sensor Networks”, *IEEE Trans. on Signal Processing*, 55(10): 5121 - 5127, Oct. 2007.
- (50) Z.-Q. Luo, **N.D. Sidiropoulos**, P. Tseng, S. Zhang, “Approximation Bounds for Quadratic Optimization with Homogeneous Quadratic Constraints”, *SIAM Journal on Optimization*, 18(1):1-28, Feb. 2007.
- (49) Alejandro Ribeiro, **N.D. Sidiropoulos**, G. B. Giannakis, Yingqun Yu, “Achieving Wireline Random Access Throughput in Wireless Networking via User Cooperation”, *IEEE Trans. on Information Theory*, 53(2):732-758, Feb. 2007.

- (48) A. Stegeman, and **N.D. Sidiropoulos**, “On Kruskal’s uniqueness condition for the Candecomp/Parafac decomposition”, *Linear Algebra and its Applications*, 420:540-552, 2007.
- (47) **N.D. Sidiropoulos**, Z.-Q. Luo, “A Semidefinite Relaxation Approach to MIMO Detection for High-Order QAM Constellations”, *IEEE Signal Processing Letters*, 13(9):525-528, Sep. 2006.
- (46) E. Karipidis, **N.D. Sidiropoulos**, A. Leshem, Li Youming, R. Tarafi, and M. Ouzzif, “Crosstalk Models for Short VDSL2 Lines from Measured 30 MHz Data”, *EURASIP Journal on Applied Signal Processing*, special issue on DSL, 2006, Article ID 85859.
- (45) **N.D. Sidiropoulos**, T.N. Davidson, Z.-Q. Luo, “Transmit Beamforming for Physical Layer Multicasting”, *IEEE Trans. on Signal Processing*, 54(6), Part 1, pp. 2239-2251, June 2006. This paper received the IEEE Signal Processing Society 2011 best paper award.
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- (42) G. Dimic, **N.D. Sidiropoulos**, “On Downlink Beamforming with Greedy User Selection: Performance Analysis and a Simple New Algorithm”, *IEEE Trans. on Signal Processing*, 53(10):3857-3868, Oct. 2005. This paper received the IEEE Signal Processing Society 2007 best paper award.
- (41) X. Liu, **N.D. Sidiropoulos**, and A. Swami, “Joint Hop Timing and Frequency Estimation for Collision Resolution in Frequency-Hopped Networks”, *IEEE Trans. on Wireless Communications*, 4(6):3063-3074, Nov. 2005.
- (40) G. Latsoudas, **N.D. Sidiropoulos**, “A Hybrid Probabilistic Data Association - Sphere Decoding Detector for Multiple-Input Multiple-Output Systems”, *IEEE Signal Processing Letters*, 12(4):309-312, Apr. 2005.
- (39) T. Jiang, and **N.D. Sidiropoulos**, “Blind Identification of Out of Cell Users in DS-CDMA”, *EURASIP Journal on Applied Signal Processing (JASP)*, special issue on Advances in Smart Antennas, 2004(9):1212-1224, Aug. 2004.
- (38) **N.D. Sidiropoulos**, A. Swami, and B. Sadler, “Quasi-ML Period Estimation from Incomplete Timing Data”, *IEEE Trans. on Signal Processing*, 53(2):733-739, Feb. 2005.
- (37) Y. Rong, S.A. Vorobyov, A.B. Gershman, and **N.D. Sidiropoulos**, “Blind Spatial Signature Estimation via Time-Varying User Power Loading and Parallel Factor Analysis”, *IEEE Trans. on Signal Processing*, 53(5):1697-1710, May 2005.
- (36) S.A. Vorobyov, Y. Rong, **N.D. Sidiropoulos**, and A.B. Gershman, “Robust Iterative Fitting of Multilinear Models”, *IEEE Trans. on Signal Processing*, 53(8):2678-2689, Aug. 2005.
- (35) G. Dimic, **N.D. Sidiropoulos**, and R. Zhang, “Signal Processing and Queueing Tools for MAC-PHYS Cross-Layer Design”, *IEEE Signal Processing Magazine*, special

issue on signal processing and queueing aspects of network protocols, p. 40-50, Sept. 2004.

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- (18) **N.D. Sidiropoulos**, “Variable-Rate Optimal Adaptive Scalar Quantization and Image Compression”, in *Proc. 1998 Conference on Information Sciences and Systems (CISS98)*, March 18-20, Princeton, NJ.
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PLENARY & KEYNOTE TALKS

N.D. Sidiropoulos (joint work with N. Kargas) “Completing a joint PMF from projections”, in *Seventh IEEE Int. Workshop on Computational Advances in Multi-sensor Adaptive Processing (CAMSAP 2017)*, Dec. 10-13, Curacao, Dutch Antilles.

N.D. Sidiropoulos (joint work with B. Yang and X. Fu) “Joint Dimensionality Reduction and Latent Clustering for Matrices and Tensors: A Factor Analysis Approach”, in *2016 Shenzhen Workshop on Data Science (SZWDS 2016)*, March 19, 2016, CUHK/Shenzhen.

N.D. Sidiropoulos (joint work with B. Yang and X. Fu) “Joint Dimensionality Reduction and Latent Clustering for Matrices and Tensors: A Factor Analysis Approach”, in *Tensor Decomposition and Applications (TDA) 2016 Workshop*, Leuven, Belgium, Jan. 18-22, 2016.

N.D. Sidiropoulos, “Tensor Decomposition Theory and Algorithms in the Era of Big Data”, Inaugural plenary lecture at EUSIPCO, Sep. 2, 2014, Lisbon, Portugal.

N.D. Sidiropoulos, “Frugal Sensing and Estimation over Wireless Networks”, plenary lecture at ISWCS, Aug. 28, 2014, Barcelona, Spain.

N.D. Sidiropoulos, “Joint Back-pressure Power Control and Interference Cancellation for Wireless Multi-hop Networks”, IEEE GlobalSIP, Network Theory Workshop, Dec. 3, 2013, Austin, Texas.

N.D. Sidiropoulos, “Frugal Sensing: Spectral Analysis from Power Inequalities”, *IEEE SPAWC 2013 Workshop*, June 17, 2013, Darmstadt, Germany.

N.D. Sidiropoulos, “Cross-layer Wireless Networking: Complexity, Approximation, and Opportunities for SP Research”, *IEEE SPAWC 2010 Workshop*, June 20-23, Marrakech, Morocco.

N.D. Sidiropoulos, “Signal Processing Applications of Parallel Factor Analysis”, *Joint CNRS-SIAM Workshop on Tensor Decompositions and Applications*, Aug. 29 - Sep. 2, 2005, Luminy, Marseille, France.

N.D. Sidiropoulos, “Low-Rank Decomposition of Multi-Way Arrays: A Signal Processing Perspective”, *IEEE SAM 2004*, July 18-21, Sitges, Barcelona, Spain.

N.D. Sidiropoulos, “Links Between Multidimensional Low-Rank and Harmonic Decomposition”, *Numerical Multilinear Algebra and its Applications* mini-symposium at *SIAM 50th Anniversary and 2002 Annual Meeting*, Philadelphia, PA, July 8-12, 2002.

TALKS UNDER IEEE SPS DISTINGUISHED LECTURER PROGRAM

N.D. Sidiropoulos, “Multicast beamforming and admission control for UMTS-LTE and 802.16e”, Univ. of Belgrade, Serbia, July 2, 2008; Technical Univ. of Darmstadt, Germany, July 24, 2008; Northwestern University, Chicago, Nov. 7, 2008; Nokia Research Center, Helsinki, Finland, Nov. 12, 2008; University of Hong Kong, Apr. 28, 2009.

N.D. Sidiropoulos, “Analyzing Data ‘Boxes’: Multi-way linear algebra and its applications in signal processing and communications”, University Carlos III, Madrid, Spain, June 13, 2008; Institute Mihailo Pupin (IMP), Belgrade, Serbia, June 30, 2008; University of Minnesota, Minneapolis, Nov. 5, 2008; University of Illinois, Chicago, November 7, 2008; University of Helsinki, Finland, Nov. 11, 2008; Hong Kong University of Science and Technology, Apr. 27, 2009; University of Athens, Greece, Oct. 17, 2009 (part of Greek SP Jam).

COLLOQUIA

N.D. Sidiropoulos, “Tensor Decomposition Theory and Algorithms in the Era of Big Data”, ECE Dept., Yale University, Oct. 9, 2015.

N.D. Sidiropoulos, “Tensor Decomposition Theory and Algorithms in the Era of Big Data”, ECE Dept., NCSU, Dec. 5, 2014.

N.D. Sidiropoulos, “Frugal sensing: Wideband Spectrm Sensing from few bits”, Arizona State University, Sensor Signal and Information Processing Industry Consortium, March 18, 2013.

N.D. Sidiropoulos, “Big Tensor Data, Compressed Sensing, and Preference Measurement”, University of Chicago, Departments of Computer Science, Mathematics, and Statistics, Scientific and Statistical Computing Seminar, February 28, 2013.

N.D. Sidiropoulos, “Parallel Factor Analysis”, invited colloquium at ETH, Zurich, Switzerland, Dec. 9, 2002. This talk was part of the prestigious *Communications, Information Theory, and Signal Processing* seminar at ETH.

N.D. Sidiropoulos, “Parallel Factor Analysis”, invited colloquium at FTW Research Center and the Technical University of Vienna (TUW), Vienna Austria, October 25, 2002.

N.D. Sidiropoulos, “Parallel Factor Analysis”, invited colloquium at University of Duisburg, Germany, June 24-27, 2002.

N.D. Sidiropoulos, “Code-Blind DS/FH Spread-Spectrum Multiuser Detection”, McMaster University, Hamilton, Ontario, Canada, Dept. of ECE Colloquium speaker, Aug. 31, 2001.

N.D. Sidiropoulos, “Code-Blind Spread-Spectrum Multiuser Detection”, University of Florida Gainesville, Dept. of ECE Colloquium speaker, March 27, 2001.

N.D. Sidiropoulos, “PARAFAC Analysis in Communications, Sensor Array Processing, and Networking”, University of Maryland Center for Satellite and Hybrid Communication Networks, Advanced Networks Colloquium Series, Feb. 11, 1999.

CONFERENCE TUTORIALS

(3) **N.D. Sidiropoulos**, L. De Lathauwer, X. Fu, and E.E. Papalexakis, “Tensor Decomposition for Signal Processing and Machine Learning”, *IEEE ICASSP 2017* tutorial, March 5-9, 2017, New Orleans, USA.

(3) **N.D. Sidiropoulos**, and E.E. Papalexakis, “Factoring Big Tensors in the Cloud: A Tutorial on Tensor Decomposition for Big Data Analytics”, *IEEE ICASSP 2014* tutorial, May 4-9, 2014 - Florence, Italy.

(2) **N.D. Sidiropoulos**, “Linear Algebra for Three-way Arrays: A Signal Processing Perspective”, *IEEE ICASSP 2005* tutorial TUT-14, March 19, 2005, Philadelphia, PA, U.S.A.

(1) **N.D. Sidiropoulos**, “Linear Algebra for Three-way Arrays: A Signal Processing Perspective”, *IEEE ISSPIT 2003* tutorial, Dec. 14, 2003, Darmstadt, Germany.

STUDENT ADVISING

Tao Li, Ph.D. (UVA) May 2000, “Blind Signal Separation Using Batch and Adaptive Multilinear Regression”. Member of Technical Staff, Philips Wireless, San Jose, CA, 2000-2006. Senior system architect, ApacWave, Fremont, CA (2007).

Xiangqian Liu, M.Sc. December 1999 (UVA), Ph.D. July 2002 (UMN), “Multidimensional Low Rank and Harmonic Analysis with Applications in Spread Spectrum Communications”. Assistant Professor, University of Louisville, KY (2002); Associate Professor, University of Louisville, KY (2008); Staff Scientist, Broadcom, Atlanta (2009).

Tao Jiang, Ph.D. August 2003 (UMN), “Low-Rank Decomposition of Multi-Way Arrays with Applications in Signal Processing and Wireless Communications”. Post-Doctoral Researcher in Prof. Ottersten’s group at KTH, Sweden, Aug. 2004 - Mar. 2005; Mathematical Analyst, Bear Stearns, London U.K. & Tokyo, Japan, Apr. 2005 - May 2008; June - October 2008, Analyst at JP Morgan, Tokyo; Nov. 2008 - Oct. 2013, Senior Analyst with the Royal Bank of Scotland, Hong Kong; Nov. 2013 -, Senior Analyst with Macquarie, Hong Kong.

Goran Dimic, M.Sc. April 2001 (UMN), Ph.D. May 2004 (UMN), “Capacity-Approaching Schemes for Multiple Access and Multiuser Downlink Transmission in Wireless Networks”. Senior Researcher and Group Leader, Institute Mihailo Pupin, Belgrade, Dec. 2005 -.

Rama Budampati, M.Sc. December 2001 (UMN), “Khatri-Rao Space-Time Codes”. Member of Technical Staff at Honeywell, Minnesota, 2003-.

Georgios Latsoudas, M.Sc. August 2006 (TUC), “Multidimensional Scaling Approach for Node Localization in Wireless Sensor Networks”. Member of Technical Staff, Wind Cellular, Athens-Greece.

Kleanthis Mokios, M.Sc. August 2006 (TUC), “Blind Speech Separation Using PARAFAC Analysis”. Kleanthis is a consultant / developer based in Thessaloniki, Greece.

Evaggelia Matskani, M.Sc. July 2007 (TUC), “Convex Approximation Techniques for Joint Multiuser Downlink Beamforming and Admission Control”.

Alexandros Valyrakis, M.Sc., Oct. 2007 (TUC), “Stochastic Modeling and Particle Filtering for Frequency Hopping”. Officer in the Greek Air Force Corps of Engineers.

Eleftherios Karipidis, Ph.D. Aug. 2008 (TUC), “Transmit Beamforming to Multiple Co-channel Multicast Groups”. Postdoctoral researcher, then Assistant Professor at Linköping University, Sweden (2008-2013). Senior researcher at Ericsson Research, Stockholm, Sweden, (June 2013-).

Dimitrios Evangelinakis, M.Sc. July 2010 (TUC), “Joint Admission and Power Control Using Branch & Bound and Gradual Admissions”. Member of technical staff at Nokia - Siemens R&D Center, Athens, Greece (Sep. 2010 -).

Ioannis Mitliagkas, M.Sc. July 2010 (TUC), “Joint Power and Admission Control for Ad-hoc and Cognitive Underlay Networks: Convex Approximation and Distributed Implementation”. Ioannis earned his Ph.D. at UT Austin, and is now a postdoc at Stanford.

Evangelos Papalexakis, M.Sc. July 2011 (TUC), “Co-clustering as multilinear decomposition with sparse latent factors”. Evangelos earned his Ph.D. in CS at CMU, and is now an assistant professor at UC Riverside.

Evaggelia Matskani, Ph.D. June 2012 (TUC), “Joint Resource Allocation and Routing in Wireless Networks via Convex Approximation Techniques”. Researcher at CERTH, Thessaloniki, Greece (Sep. 2012 -).

Omar Mehanna, Ph.D. May 2014 (UMN), “Frugal Sensing and Estimation over Wireless Networks”. Member of Technical Staff at Qualcomm, Santa Clara (May 2014 -).

Artem Mosesov, M.Sc. June 2014 (UMN), “Adaptive Non-negative Least Squares with Applications to Non-Negative Matrix Factorization”. Engineer at St. Jude Medical (June 2014 -).

Balasubramanian Gopalakrishnan, Ph.D. May 2015 (UMN), “High Performance Adaptive Transmit Beamforming for Wireless Networks using Binary CSIT”. Member of Technical Staff at Qualcomm, San Jose (May 2015 -).

John Tranter, M.Sc. June 2016 (UMN), “Fast Unit-modulus Least Squares with Applications in Beamforming”. Musician, faculty member in Music Department at UMN; and now also full-time Engineer at St. Jude Medical (Nov. 2016 -).

Kejun Huang, Ph.D. Aug. 2016 (UMN), “Constrained Matrix and Tensor Factorizations: Theory, Algorithms, and Applications”. Post-doctoral researcher in Sidiropoulos’ group (9/2016-).

Past undergraduate students whose Diploma thesis was worth a graduate degree: Thimios Tsakonas, currently pursuing Ph.D. at KTH, Sweden; Vassilis Ntranos, currently pursuing Ph.D. at USC.

Current Ph.D. students: Aritra Konar, Bo Yang, Charilaos Kanatsoulis, Ahmed Zamzam, Nikos Kargas, Faisal Almutairi.

Current M.Sc. students: -

Current undergraduate students: Mai Hashad.

Post-Docs: Kejun Huang (Sep. 2016-). Xiao Fu (Oct. 2014-). Niranjay Ravindran (Sep. 2013 - Feb. 2014): Niranjay worked on parallel algorithms for sparse tensor compression and factorization. Dimitri Nion (2007-2008). Dimitri spent a year at TUC, working on adaptive algorithms for PARAFAC decomposition, blind speech separation, and MIMO radar, funded by the French DGA.

Visitors: Cheng Qian (HIT-China); Tianyu Qiu (HKUST-HK); Yunmei Shi (HIT-China); Panos Alevizos (TUC-Greece).

CURRENT & RECENT GRANTS

“Wideband cognitive sensing from a few bits”, NSF ECCS-1231504, PI: N.D. Sidiropoulos. Award Period: 10/1/2012 - 09/30/2015 (NCE till 09/30/2016), Funding level: \$360K.

“Spectral Tweets: A Community Paradigm for Spatio-temporal Cognitive Sensing and Access”, NSF AST-1247885, PI: N.D. Sidiropoulos, co-PIs: G.B. Giannakis, and J.D. Haupt. Award Period: 09/1/2012 - 08/31/2015 (NCE till 08/31/2016), Funding level: \$500K (Sidiropoulos’ part: \$167K).

“BIGDATA: Mid-Scale: DA: Collaborative Research: Big Tensor Mining: Theory, Scalable Algorithms and Applications”, NSF IIS-1247632, PI: N.D. Sidiropoulos, co-PI: G. Karypis. Award Period: 12/1/2012 - 11/30/2016, Funding level: \$867K (Sidiropoulos’ part: \$433.5K). This is a collaborative project with CMU (PI: C. Faloutsos, co-PI: T. Mitchell, NSF IIS-1247489).

“Workshop on Big Data: From Signal Processing to Systems Engineering”, NSF ECCS-1327148, PI: N.D. Sidiropoulos. Award Period: 2/23/2013 - 1/31/2014. Held at Arlington, Virginia, March 21-22, 2013. Funding level: \$50K.

“Student Stipend Program for IEEE SPAWC 2013”, ONR N00014-13-1-0277, PI: N.D. Sidiropoulos. Award Period: 01/01/2013 - 12/31/2013. Funding level: \$10K.

“Supplement for BIGDATA: Mid-Scale: DA: Collaborative Research: Big Tensor Mining: Theory, Scalable Algorithms and Applications”, supplementary funding from NIH (as a subcontract through CMU), PI: N.D. Sidiropoulos, co-PI: G. Karypis. Award Period: 9/1/2013 - 8/31/2014, Funding level: \$50K (Sidiropoulos’ part: \$25K).

“Methods for Learning Analytics”, Digital Technology Center, University of Minnesota, Digital Technology Initiatives (DTI) grant. PI: G. Karypis, co-PI: N.D. Sidiropoulos. Award Period: 9/2014 - 8/2015. Funding level: \$80K. (Sidiropoulos’ part: \approx \$40K).

“BIGDATA: IA: DKA: Collaborative Research: Learning Data Analytics: Providing Actionable Insights to Increase College Student Success”, NSF IIS-1447788, PI: G. Karypis, co-PI: N.D. Sidiropoulos. Award period: 09/01/2014 - 08/31/2018. Funding level: \$1,219,736 (Sidiropoulos’ part \approx \$550,000).

“Factor Analysis for Spectral Reconnaissance and Situational Understanding”, ARO STIR, PI: N.D. Sidiropoulos. Award period: 08/01/2015 - 04/30/2016. Funding level: \$49,916.

“CIF: Small: Feasible Point Pursuit for Non-convex QCQPs: Algorithms and Signal Processing Applications”, NSF CCF-1525194, PI: N.D. Sidiropoulos. Award period: 09/01/2015 - 08/31/2018. Funding level: \$449,468 (includes \$85,626 SUNY-Buffalo sub-award to K. Slavakis).

“Robust and Scalable Volume Minimization-based Matrix Factorization for Sensing and Clustering”, NSF ECCS-1608961, PI: N.D. Sidiropoulos; Co-PI: X. Fu. Award period: 07/01/2016 - 06/30/2019. Funding level: \$359,935.

“Anchor-Free Correlated Topic Modeling: Identifiable Formulations and Scalable Algorithms”, Digital Technology Center, University of Minnesota, Digital Technology Initiatives (DTI) grant. PI: N.D. Sidiropoulos; Co-PI: X. Fu. Award period: 07/01/2016 - 06/30/2017. Funding level: \$60,000.

Huawei Technologies Co. Ltd., Shanghai China and Santa Clara, CA: \$100,000 research gift to support Sidiropoulos’ group research in 5G wireless networks and related areas (Nov. 7, 2016).

TEACHING EXPERIENCE

(1) ENEE 425, *Digital Signal Processing*, Spring 1995, Dept. of Electrical Engineering, University of Maryland, College Park. Student evaluation grade average: 3.49/4.0. Dept. average not available for Spring 1995; Fall 1995 Dept. average is 3.32/4.0.

(2) ENEE 420, *Communication Systems*, Fall 1995, Dept. of Electrical Engineering, University of Maryland, College Park. Student evaluation grade average: 3.81/4.0. Fall 1995 Dept. average is 3.32/4.0.

(3) ENEE 724, *Statistical Signal Processing*, Spring 1996, Dept. of Electrical Engineering, University of Maryland, College Park (advanced graduate level). Student evaluation grade average: 3.84/4.0. Spring 1996 Dept. average is 3.33/4.0.

(4) *A Short Course on DSP*, Fall 1996, Army Research Laboratory, Ft. Monmouth, NJ.

- (5) ENEE 425, *Digital Signal Processing*, Spring 1997, Dept. of Electrical Engineering, University of Maryland, College Park. Student evaluation grade average: 3.56/4.0. Spring 1997 undergraduate Dept. average is 3.37/4.0.
- (6) EE 611, *Probability and Stochastic Processes*, Fall 1997, Dept. of Electrical Engineering, University of Virginia. Student evaluation: two standard deviation units above mean for all 600-level courses after 1984. Instructor rating: 4.649, mean for all 600-level courses: 4.313.
- (7) EE 774, *Advanced Digital Signal Processing* (emphasizing spectral analysis), Spring 1998, Dept. of Electrical Engineering, University of Virginia. Student evaluation: three standard deviation units above mean for all 700-level courses after 1984. Instructor rating: 4.671, mean for all 700-level courses: 4.246.
- (8) EE 323, *Signals and Systems I*, Fall 1998, Dept. of Electrical Engineering, University of Virginia. Student evaluation: one standard deviation unit below mean for all 300-level courses after 1984. Instructor rating: 3.621, mean for all 300-level courses: 3.830
- (9) EE 324, *Signals and Systems II*, Spring 1999, Dept. of Electrical Engineering, University of Virginia. Student evaluation: two standard deviation units above mean for all 300-level courses after 1984. Instructor rating: 4.223, mean for all 300-level courses: 3.844.
- (10) EE 323, *Signals and Systems I*, Fall 1999, Dept. of Electrical Engineering, University of Virginia.
- (11) Recitations for EE 3025, Probability and Stochastic Processes, Spring 2000, Dept. of Electrical and Computer Engineering, University of Minnesota.
- (12) EE5381, Telecommunication Networks, Fall 2000, Dept. of Electrical and Computer Engineering, University of Minnesota, Minneapolis. Instructor rating: 6.3, mean for all 5000-level courses: 5.83.
- (13) EE 3025, Probability and Stochastic Processes, Spring 2001, Dept. of Electrical and Computer Engineering, University of Minnesota. Instructor rating: 5.0, mean for all 3000-level courses: 5.0.
- (14) EE5381, Telecommunication Networks, Fall 2001, Dept. of Electrical and Computer Engineering, University of Minnesota, Minneapolis.
- (15) TEL 601, Probability and Stochastic Processes, Spring 2002, 2003, 2005 (**3 times**), Dept. of ECE, Technical University of Crete.
- (16) TEL 201, Signals and Systems, Fall 2002, 2003 (**2 times**), Dept. of ECE, Technical University of Crete.
- (17) TEL 302, Digital Communications, Spring 2003, 2004 (**2 times**), Dept. of ECE, Technical University of Crete.
- (18) TEL 609, Convex Optimization, Spring 2004, 2008, 2009, 2010, 2011 (**5 times**) Dept. of ECE, Technical University of Crete.
- (19) TEL 301, Telecommunication Systems I, Fall 2004-2009 (**6 times**), Dept. of ECE, Technical University of Crete.
- (20) TEL 502/415, Statistical Signal Processing for Communications, Spring 2005, 2008, 2009, 2010, 2011 (**5 times**) Dept. of ECE, Technical University of Crete.

- (21) TEL 603, Estimation and Detection, Spring 2007, Dept. of ECE, Technical University of Crete.
- (22) EE 3025, Statistical Methods in Electrical and Computer Engineering, Spring 2012, Dept. of Electrical and Computer Engineering, University of Minnesota. Instructor rating: median responses were 6.0 in all six instructor-related questions. Dept. mean of medians ranged from 5.0 to 5.8 for 3000-level courses.
- (23) EE 5501, Digital Communications, Fall 2012, Dept. of Electrical and Computer Engineering, University of Minnesota. Instructor rating: median responses were 5.0 in 4/6 and 6.0 in 2/6 instructor-related questions. Average of means = 5.435/6.0. Dept. mean of medians ranged from 5.2 to 5.9 for 5000-level courses.
- (24) EE 3025, Statistical Methods in Electrical and Computer Engineering, Spring 2013, Dept. of Electrical and Computer Engineering, University of Minnesota. Instructor rating: median responses were 5.0 in 3/6 and 6.0 in 3/6 6.0 instructor-related questions. Average of means = 5.241/6.0.
- (25) EE 5501, Digital Communications, Fall 2013, Dept. of Electrical and Computer Engineering, University of Minnesota. Instructor rating: median responses were 5.0 in 3/6 5.5 in 1/6 and 6.0 in 2/6 instructor-related questions. Average of means = 5.48/6.0. Dept. mean of medians ranged from 5.1 to 5.9 for 5000-level courses.
- (26) CSE 1001, First Year Experience, Fall 2013, College of Science and Engineering, University of Minnesota. Instructor rating: median responses were 5.0 in 1/6 and 6.0 in 5/6 instructor-related questions. Average of means = 5.42/6.0.
- (27) EE 3025, Statistical Methods in Electrical and Computer Engineering, Spring 2014, Dept. of Electrical and Computer Engineering, University of Minnesota. Instructor rating: median responses were 5.0 in 3/6 and 6.0 in 3/6 instructor-related questions. Average of means = 5.35/6.0.
- (28) EE 5501, Digital Communications, Fall 2014, Dept. of Electrical and Computer Engineering, University of Minnesota. Instructor rating: median responses were 6.0 in all 6 instructor-related questions. Average of means = 5.89/6.0.
- (29) CSE 1001, First Year Experience, Fall 2014, College of Science and Engineering, University of Minnesota. Instructor rating: median responses were 5.0 in 3/6 and 6.0 in 3/6 instructor-related questions. Average of means = 5.07/6.0.
- (30) EE 3025, Statistical Methods in Electrical and Computer Engineering, Spring 2015, Dept. of Electrical and Computer Engineering, University of Minnesota. Instructor rating: median responses were 5.0 in 2/5 and 6.0 in 3/5 instructor-related questions. Average of means = 5.59/6.0.

PROFESSIONAL SOCIETIES AND SERVICE

Memberships: Fellow IEEE; Member, Technical Chamber of Greece.

Leadership: Vice President of the IEEE Signal Processing Society, responsible for Membership services (2017-2019). SPS is one of the largest IEEE Societies, with $\approx 17,000$ members. I am responsible for education and continuing education, industry outreach, local chapters throughout the world, seasonal schools, membership development, young professionals, membership benefits and the overall membership experience. I am also a member of the Society's Board of Governors and the Executive Committee.

Associate Editor: IEEE Signal Processing Letters (2000 - 2002); IEEE Trans. Signal Processing (2000 - 2006 & 2012-); IEEE Signal Processing Magazine Editorial Board (2009 -); Elsevier Signal Processing (2009 - 2013). Guest Editor for Special Issue on Convex Optimization in Signal Processing, IEEE Signal Processing Magazine, May 2010.

Area Editor: IEEE Trans. Signal Processing (Jan. 2012 - Dec. 2014).

Chair: Signal Processing for Communications Technical Committee (SPCOM-TC), IEEE Signal Processing Society, 2007 - 2008 (vice-chair, 2005 - 2006).

Technical Committee Memberships: Signal Processing for Communications Technical Committee (SPCOM-TC), IEEE Signal Processing Society (2000 - 2008). Sensor Array and Multichannel processing Technical Committee (SAM-TC), IEEE Signal Processing Society (2004 - 2009). Machine Learning for Signal Processing Technical Committee (MLSP-TC), IEEE Signal Processing Society (2015 -). Big Data Special Interest Group (Big Data SiG), IEEE Signal Processing Society (2014 -).

Technical Program Committee (TPC) Chair: IEEE CAMSAP 2005, Dec. 13-15, 2005, Puerto Vallarta, Mexico.

General co – Chair (with R. Rao, RIT): IEEE CAMSAP 2007, St. Thomas, U.S. Virgin Islands, Dec. 12-14, 2007.

Technical Program Committee (TPC) co – Chair (with B. Sadler, ARL): IEEE SAM 2008, July 21-23, Darmstadt, Germany.

Organizing Committee (Tutorial co – chair & Student paper awards chair): ICASSP 2011, Prague, May 22-27, 2011.

Special sessions chair: DSP 2011, July 6-8, 2011, Corfu - Greece.

Special sessions co – chair: SPAWC 2013, June 16-19, 2013, Darmstadt, Germany.

Chair: NSF/ECCS Workshop on Big Data: From Signal Processing to Systems Engineering, Arlington, VA, March 21-22, 2013.

Organizing Committee (member): ICASSP 2015, Brisbane, Queensland, Australia, April 19-24, 2015.

Organizing Committee (Student paper awards chair): Asilomar Conference on Signals, Systems, and Computers, Nov. 8-11, 2015, Pacific Grove, CA.

General Chair: TRICAP 2006 (cross-disciplinary three-way analysis workshop), Chania, Crete, Greece, June 2006.

Steering Committee Member and Co – Organizer: TRICAP 2003 (cross-disciplinary three-way analysis workshop), June 22-27, Lexington, KY; TRICAP 2009, Vall de Nuria - Spain, June 14-19, 2009.

Reviewer: Regular reviewer for NSF, ARO, IEEE Trans. on: Signal Processing, Information Theory, Communications, Wireless Communications; IEEE Signal Processing Letters, and IEEE Communications Letters.

Technical Program Committee Member: IEEE ICASSP 2000 - 2016; IEEE SPAWC 2003-2012; IEEE SAM 2002, 2004, 2006, 2010, 2012; IEEE ICIP98, Chicago; IEEE ICIP99, Kobe, Japan.

Panel Member: NSF KDI/LIS, NSF SPS/CAREER, NSF/ITR, NSF/COM, NSF/ECCS, Belgian Science Foundation, German Science Foundation, Israeli Science Foundation.

SERVICE TO THE DEPARTMENT

At UVA: Member, Undergraduate, Computing Resources Committees, 1997-98. Member, Long Range Planning, Graduate, Computing Resources, Eminent Speakers Committees, 1998-99. *At UMN:* ECE Colloquium Coordinator, 2000-2001. ECE Communications Seminar Coordinator, 2001-2002. *At TUC:* Vice-Chair, Dept. of ECE, 2003-2005; Chair, Dept. of ECE, 2005-2007; Director, Telecommunications Laboratory, 2003-2011. Member of the Board, Telecommunication Systems Institute, 2003-2011. *At UMN:* WPE committee member (F'11-S'12, F'14-S'15, F'16-S'17). DDF Committee member (S'12, S'13, S'14, S'15). ECE Representative on CSE ad-hoc committee for Data Science M.Sc. program (May-August 2013). Undergraduate advising committee member (F'12, S'13, F'13, S'14). Faculty recruiting committee member (F'13-S'14). Chair of Promotion, Tenure and Awards Committee (F'14-S'15, F'15-S'16); member of Promotion, Tenure and Awards Committee (F'16-S'17).

IEEE – STYLE BIOGRAPHICAL SKETCH

Nicholas Sidiropoulos (*Fellow, IEEE*) received the Diploma in Electrical Engineering from the Aristotelian University of Thessaloniki, Greece, and M.S. and Ph.D. degrees in Electrical Engineering from the University of Maryland - College Park, in 1988, 1990 and 1992, respectively. He has been a Postdoctoral Fellow (1994-1995) and Research Scientist (1996-1997) at the Institute for Systems Research, University of Maryland; Assistant Professor in the Department of Electrical Engineering at the University of Virginia (1997-1999); Associate Professor in the Department of Electrical and Computer Engineering at the University of Minnesota - Minneapolis (2000-2002); Professor in the Department of Electronic and Computer Engineering at the Technical University of Crete, Chania - Crete, Greece (2002-2011); and Professor in the Department of Electrical and Computer Engineering at the University of Minnesota - Minneapolis (2011-), where he currently holds an ADC Chair in digital technology. His research spans topics in signal processing theory and algorithms, optimization, communications, and factor analysis - with a long-term interest in tensor decomposition and its applications. His current focus is primarily on signal and tensor analytics for learning from big data. He received the NSF/CAREER award in 1998, and the IEEE Signal Processing Society (SPS) Best Paper Award in 2001, 2007, and 2011. He served as IEEE SPS Distinguished Lecturer (2008-2009), and as Chair of the IEEE Signal Processing for Communications and Networking Technical Committee (2007-2008). He served as Associate Editor for IEEE Transactions on Signal Processing (2000 - 2006), IEEE Signal Processing Letters (2000 - 2002), Signal Processing (2009 - 2013), on the editorial board of IEEE Signal Processing Magazine (2009-2011), and as Area Editor for IEEE Transactions on Signal Processing (2012-2014). He served as TPC Chair for IEEE CAMSAP 2005 and IEEE SAM 2008, and General Chair for IEEE CAMSAP 2007, and TRICAP 2006. He received the 2010 IEEE Signal Processing Society Meritorious Service Award, and the 2013 Distinguished Alumni Award from the Dept. of ECE, University of Maryland. He was elected Fellow of the European Association for Signal Processing (EURASIP) in 2014.