

Dr. Nicolò Michelusi
Last update: November 20, 2022

School of Electrical, Computer and Energy Engineering
Arizona State University

PUBLICATIONS

SUMMARY:

Peer-reviewed Journal Publications:	28
Invited Journal Publications:	3
Journal Manuscripts Submitted:	4
Peer-reviewed Conference Papers:	44
Invited Presentations (Conference/Workshop):	23

Legend:

- **Bold Font**: ASU or Purdue Ph.D. student mentored by Dr. Michelusi
- Underline: ASU or Purdue Master's student mentored by Dr. Michelusi
- (∞): Visiting scholar hosted by Dr. Michelusi
- \sim : Presenting author

Peer-reviewed Journal Publications (J):

Year 2022

- J-1) **B. Keshavamurthy**, N. Michelusi, "Learning-Based Spectrum Sensing and Access in Cognitive Radios via Approximate POMDPs," in *IEEE Transactions on Cognitive Communications and Networking*, vol. 8, no. 2, pp. 514-528, June 2022, doi: 10.1109/TCCN.2021.3129802
- J-2) N. Michelusi, G. Scutari, **C.S. Lee**, "Finite-Bit Quantization For Distributed Algorithms With Linear Convergence", in *IEEE Transactions on Information Theory*, vol. 68, no. 11, pp. 7254-7280, Nov. 2022, doi: 10.1109/TIT.2022.3176253.
- J-3) S. Hosseinalipour, S. S. Azam, C. G. Brinton, N. Michelusi, V. Aggarwal, D. J. Love, and H. Dai, "Multi-Stage Hybrid Federated Learning Over Large-Scale D2D-Enabled Fog Networks," in *IEEE/ACM Transactions on Networking*, vol. 30, no. 4, pp. 1569-1584, Aug. 2022, doi: 10.1109/TNET.2022.3143495.
- J-4) **M. Hussain**, N. Michelusi, "Learning and Adaptation for Millimeter-Wave Beam Tracking and Training: a Dual Timescale Variational Framework", in *IEEE Journal on Selected Areas in Communications*, vol. 40, no. 1, pp. 37-53, Jan. 2022, doi: 10.1109/JSAC.2021.3126086

Year 2021

- J-5) **F.P.C. Lin**, S Hosseinalipour, S.S. Azam, C. G. Brinton, N. Michelusi, "Semi-Decentralized Federated Learning with Cooperative D2D Local Model Aggregations," in *IEEE Journal on Selected Areas in Communications*, vol. 39, no. 12, pp. 3851-3869, Dec. 2021, doi: 10.1109/JSAC.2021.3118344
- J-6) **C.S. Lee**, N. Michelusi, G. Scutari, "Finite Rate Distributed Weight-Balancing and Average Consensus Over Digraphs," in *IEEE Transactions on Automatic Control*, vol. 66, no. 10, pp. 4530-4545, Oct. 2021, doi: 10.1109/TAC.2020.3030871
- J-7) **T.H. Chou**, N. Michelusi, D. J. Love, J. V. Krogmeier, "Fast Position-Aided MIMO Beam Training via Noisy Tensor Completion," in *IEEE Journal of Selected Topics in Signal Processing*, vol. 15, no. 3, pp. 774-788, April 2021, doi: 10.1109/JSTSP.2021.3063837

Year 2020

- J-8) **M. Hussain**, (∞)M. Scalabrin, M. Rossi, N. Michelusi, "Mobility and Blockage-aware Communications in Millimeter-Wave Vehicular Networks," *IEEE Transactions on Vehicular Technology*, vol. 69, no. 11, pp. 13072-13086, Nov. 2020, doi: 10.1109/TVT.2020.3020898

Year 2019

- J-9) **M. Booth**, V. Suresh, N. Michelusi, D. Love, "Multi-Armed Bandit Beam Alignment and Tracking for Mobile Millimeter Wave Communications," *IEEE Communications Letters*, vol. 23, no. 7, pp. 1244-1248, July 2019, doi: 10.1109/LCOMM.2019.2919016

- J-10) Y. Zhang, C. R. Anderson, N. Michelusi, D. J. Love, K.R. Baker, and J. V. Krogmeier, "Propagation Modeling Through Foliage in a Coniferous Forest at 28 GHz," in *IEEE Wireless Communications Letters*, vol. 8, no. 3, pp. 901-904, June 2019, doi: 10.1109/LWC.2019.2899299
- J-11) N. Michelusi, M. Nokleby, U. Mitra, R. Calderbank, "Multi-Scale Spectrum Sensing in Dense Multi-Cell Cognitive Networks," in *IEEE Transactions on Communications*, vol. 67, no. 4, pp. 2673-2688, April 2019, doi: 10.1109/TCOMM.2018.2886020
- J-12) **M. Hussain**, N. Michelusi, "Energy-Efficient Interactive Beam Alignment for Millimeter-Wave Networks," in *IEEE Transactions on Wireless Communications*, vol. 18, no. 2, pp. 838-851, Feb. 2019, doi: 10.1109/TWC.2018.2885041

Year 2018

- J-13) N. Michelusi, "Optimal Spectrum Sharing with ARQ based Legacy Users via Chain Decoding", *IEEE Transactions on Wireless Communications*, vol. 17, no. 9, pp. 6122-6134, Sept. 2018, doi: 10.1109/TWC.2018.2854611
- J-14) J. Zhang, U. Mitra, H. Kuan-Wen, N. Michelusi, "Support Recovery from Noisy Random Measurements via Weighted ℓ_1 Minimization", *IEEE Transactions on Signal Processing*, vol. 66, no. 17, pp. 4527-4540, Sept. 2018, doi: 10.1109/TSP.2018.2838553

Year 2016

- J-15) N. Michelusi, P. Popovski, M. Zorzi, "Optimal Cognitive Access and Packet Selection Under a Primary ARQ Process via Chain Decoding", *IEEE Transactions on Information Theory*, vol. 62, no. 12, pp. 7324-7357, Dec. 2016, doi: 10.1109/TIT.2016.2615182
- J-16) D. Del Testa, N. Michelusi, M. Zorzi, "Optimal transmission policies for two-user Energy Harvesting Device networks with limited state-of-charge knowledge", *IEEE Transactions on Wireless Communications*, vol. 15, no. 2, pp. 1393-1405, Feb. 2016, doi: 10.1109/TWC.2015.2489642

Year 2015

- J-17) N. Michelusi, M. Zorzi, "Optimal Adaptive Random Multiaccess in Energy Harvesting Wireless Sensor Networks", *IEEE Transactions on Communications*, vol. 63, no. 4, pp. 1355-1372, April 2015, doi: 10.1109/TCOMM.2015.2402662
- J-18) N. Michelusi, U. Mitra, "Capacity of electron-based communication over bacterial cables: the full-CSI case", *IEEE Transactions on Molecular, Biological and Multi-Scale Communications*, vol. 1, no. 1, pp. 62-75, March 2015
- J-19) N. Michelusi, U. Mitra, "Cross-Layer Design of Distributed Sensing-Estimation With Quality Feedback, Part I: Optimal Schemes", *IEEE Transactions on Signal Processing*, vol. 63, no. 5, pp. 1228-1243, March 2015, doi: 10.1109/TSP.2014.2388438
- J-20) N. Michelusi, U. Mitra, "Cross-Layer Design of Distributed Sensing-Estimation With Quality Feedback, Part II: Myopic schemes", *IEEE Transactions on Signal Processing*, vol. 63, no. 5, pp. 1244-1258, March 2015, doi: 10.1109/TSP.2014.2388440

Year 2014

- J-21) N. Michelusi, S. Pirbadian, M.Y. El-Naggar, U. Mitra, "A Stochastic Model for Electron Transfer in Bacterial Cables", *IEEE Journal on Selected Areas in Communications*, vol. 32, no. 12, pp. 2402-2416, Dec. 2014, doi: 10.1109/JSAC.2014.2367666
- J-22) N. Michelusi, L. Badia, M. Zorzi, "Optimal transmission policies for Energy Harvesting Devices with Limited State-of-Charge Knowledge", *IEEE Transactions on Communications*, vol. 62, no. 11, pp. 3969-3982, Nov. 2014, doi: 10.1109/TCOMM.2014.2359009
- J-23) D. Gunduz, K. Stamatiou, N. Michelusi, M. Zorzi, "Designing Intelligent Energy Harvesting Communication Systems", *IEEE Communications Magazine*, vol. 52, no. 1, pp. 210-216, January 2014, doi: 10.1109/MCOM.2014.6710085

Year 2013

- J-24) N. Michelusi, L. Badia, R. Carli, L. Corradini, M. Zorzi, "Energy Management Policies for Harvesting-based Wireless Sensor Devices with Battery Degradation", *IEEE Transactions on Communications*, vol. 61, no. 12, pp. 4934-4947, December 2013, doi: 10.1109/TCOMM.2013.111113.130022
- J-25) N. Michelusi, P. Popovski, O. Simeone, M. Levorato, M. Zorzi, "Cognitive Access Policies under a Primary ARQ process via Forward-Backward Interference Cancellation", *IEEE Journal on Selected Areas in Communications*, vol. 31, no. 11, pp. 2374-2386, Nov. 2013, doi: 10.1109/JSAC.2013.131112
- J-26) N. Michelusi, K. Stamatiou, M. Zorzi, "Transmission policies for energy harvesting sensors with time-correlated energy supply", *IEEE Transactions on Communications*, vol. 61, no. 7, pp. 2988-3001, July 2013, doi: 10.1109/TCOMM.2013.052013.120565

Year 2012

- J-27) N. Michelusi, U. Mitra, A.F. Molisch, M. Zorzi, "UWB Sparse/Diffuse Channels, Part I: Channel Models and Bayesian Estimators", *IEEE Transactions on Signal Processing*, vol. 60, no. 10, pp. 5307-5319, Oct. 2012, doi: 10.1109/TSP.2012.2205681
- J-28) N. Michelusi, U. Mitra, A.F. Molisch, M. Zorzi, "UWB Sparse/Diffuse Channels, Part II: Estimator Analysis and Practical Channels", *IEEE Transactions on Signal Processing*, vol. 60, no. 10, pp. 5320-5333, Oct. 2012, doi: 10.1109/TSP.2012.2205682

Invited Journal Publications (IJ):

- IJ-1) Y. Zhang, S. Jyoti, C. R. Anderson, N. Michelusi, D. J. Love, A. Sprintson, J. V. Krogmeier, "Improving millimeter-wave channel models for suburban environments with site-specific geometric features," *Applied Computational Electromagnetics Society Journal*, vol. 34, No. 2, Feb. 2019, p. 375-378; available at https://aces-society.org/includes/downloadpaper.php?of=ACES_Journal_February_2019_Paper_46&nf=19-2-46
- IJ-2) N. Michelusi, J. Boedicker, M.Y. El-Naggar, U. Mitra, "Queuing models for abstracting interactions in Bacterial communities", *IEEE Journal on Selected Areas in Communications*, vol. 34, no. 3, pp. 584-599, March 2016, doi: 10.1109/JSAC.2016.2525558

Before tenure-track Assistant Professor position

- IJ-3) N. Michelusi, U. Mitra, "Cross-layer estimation and control for Cognitive Radio: Exploiting Sparse Network Dynamics", *IEEE Transactions on Cognitive Communications and Networking*, vol. 1, no. 1, pp. 128-145, March 2015, doi: 10.1109/TCCN.2015.2503287

Journal Manuscripts Submitted (JS):

- JS-1) S. Hosseinalipour, S. Wang, N. Michelusi, V. Aggarwal, C. G. Brinton, D. J. Love, and M. Chang, "Parallel Successive Learning for Dynamic Distributed Model Training over Heterogeneous Wireless Networks," *submitted to the IEEE/ACM Transactions on Networking (Major revision)*
- JS-2) **B. Keshavamurthy, M. Bliss**, N. Michelusi, "MAESTRO-X: Distributed Orchestration of Rotary-Wing UAV Relay Swarms", *submitted to the IEEE Transactions on Cognitive Communications and Networking (Major revision)*
- JS-3) **T.H. Chou**, N. Michelusi, D. J. Love, J. V. Krogmeier, "Compressed Training for Dual-Wideband Time-Varying Sub-Terahertz Massive MIMO", *submitted to the IEEE Transactions on Communications in August 2022 (Major revision)*
- JS-4) N. Michelusi, "Non-coherent over-the-air decentralized stochastic gradient descent," *submitted to the IEEE Transactions on Signal Processing in November 2022*

Journal Manuscripts in Preparation (P):

- P-1) **F.P.C. Lin**, S. Hosseinalipour, C. G. Brinton, N. Michelusi, "Delay-Aware Federated Learning: Intelligent Aggregation in Large-scale Wireless Edge Networks," *to be submitted to the IEEE Journal on Selected Areas in Communications, tentative submission date: December 2022*

Peer-reviewed Conference Papers (C):

Year 2022

- N. Michelusi, "Decentralized Federated Learning via Non-Coherent Over-the-Air Consensus," submitted to IEEE ICC 2023;
 - **B. Keshavamurthy**, Y. Zhang, C. R. Anderson, N. Michelusi, D. J. Love, J. V. Krogmeier, "Propagation Measurements and Analyses at 28 GHz via an Autonomous Beam-Steering Platform," submitted to IEEE ICC 2023;
 - C-1) ~**B. Keshavamurthy**, N. Michelusi, "Multiscale Adaptive Scheduling and Path-Planning for Power-Constrained UAV-Relays via SMDPs," *56th Asilomar conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, 2022 (accepted, to appear);
 - C-2) ~D. Nickel, **F.P.C. Lin**, S. Hosseinalipour, N. Michelusi and C. G. Brinton, "Resource-Efficient and Delay-Aware Federated Learning Design under Edge Heterogeneity," *IEEE International Conference on Communications Workshops (ICC Workshops)*, 2022, pp. 43-48, doi: 10.1109/ICCWorkshops53468.2022.9814610.
 - C-3) ~**B. Keshavamurthy**, Y. Zhang, C. R. Anderson, N. Michelusi, J. V. Krogmeier and D. J. Love, "A Robotic Antenna Alignment and Tracking System for Millimeter Wave Propagation Modeling," *United States National Committee of URSI National Radio Science Meeting (USNC-URSI NRSM)*, 2022, pp. 145-146, doi: 10.23919/USNC-URSINRSM57467.2022.9881448.
- Year 2021
- C-4) ~**M. Hussain**, N. Michelusi, "Adaptive Beam Alignment in Mm-Wave Networks: A Deep Variational Autoencoder Architecture," *IEEE Global Communications Conference (GLOBECOM)*, 2021, pp. 1-6, doi: 10.1109/GLOBECOM46510.2021.9685969
 - C-5) ~**F.P.C. Lin**, S. Hosseinalipour, S.S. Azam, C. G. Brinton, N. Michelusi, "Federated Learning Beyond the Star: Local D2D Model Consensus with Global Cluster Sampling," *IEEE GLOBECOM 2021*, pp. 1-6, doi: 10.1109/GLOBECOM46510.2021.9685456
 - C-6) ~**T.H. Chou**, N. Michelusi, D. J. Love, J. V. Krogmeier, "Wideband Millimeter-Wave Massive MIMO Channel Training via Compressed Sensing," *IEEE GLOBECOM 2021*, pp. 1-6, doi: 10.1109/GLOBECOM46510.2021.9685901
 - C-7) ~**B. Keshavamurthy**, N. Michelusi, "Learning-based Cognitive Radio Access via Randomized Point-Based Approximate POMDPs", *IEEE International Conference on Communications*, 2021, pp. 1-6, doi: 10.1109/ICC42927.2021.9500752
- Year 2020
- C-8) ~**F.P.C. Lin**, C. G. Brinton, N. Michelusi, "Federated Learning with Communication Delay in Edge Networks," *IEEE GLOBECOM 2020*, pp. 1-6, doi: 10.1109/GLOBECOM42002.2020.9322592
 - C-9) ~**M. Hussain**, (∞)M. Scalabrin, M. Rossi, N. Michelusi, "Adaptive Millimeter-Wave Communications Exploiting Mobility and Blockage Dynamics", *ICC 2020, Dublin, Ireland, 2020*, pp. 1-6
 - C-10) ~**M. Bliss**, N. Michelusi, "Power-Constrained Trajectory Optimization for Wireless UAV Relays with Random Requests", *ICC 2020, Dublin, Ireland, 2020*, pp. 1-6
 - C-11) ~**T.H. Chou**, N. Michelusi, D. J. Love, J. V. Krogmeier, "Millimeter Wave Beam Recommendation via Tensor Completion", *ICC 2020, Dublin, Ireland, 2020*, pp. 1-6
- Year 2019
- C-12) ~**M. Bliss**, N. Michelusi, "Trajectory Optimization for Rotary-Wing UAVs in Wireless Networks with Random Requests", *IEEE GLOBECOM, Waikoloa, HI, USA, 2019*, pp. 1-6
 - C-13) ~**M. Hussain**, N. Michelusi, "Second-best Beam-Alignment via Bayesian Multi-Armed Bandits", *IEEE GLOBECOM, Waikoloa, HI, USA, 2019*, pp. 1-6
- Year 2018
- C-14) ~**M. Hussain**, N. Michelusi, "Coded Energy-Efficient Beam-Alignment for Millimeter-Wave Networks", *56th Annual Allerton Conference on Communication, Control, and Computing*, Monticello, IL, USA, 2018, pp. 407-412
 - C-15) ~(∞)M. Scalabrin, N. Michelusi, M. Rossi, "Beam Training and Data Transmission Optimization in Millimeter-Wave Vehicular Networks", *IEEE GLOBECOM 2018*

- C-16) **M. Hussain**, ~N. Michelusi, "Optimal Interactive Energy Efficient Beam-Alignment for Millimeter-Wave Networks", *52nd Asilomar conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, 2018, pp. 577-581
- C-17) ~**C.S. Lee**, N. Michelusi, G. Scutari, "Distributed Quantized Weight-Balancing and Average Consensus Over Digraphs", *IEEE CDC 2018*
- C-18) ~Y. Zhang, D. J. Love, N. Michelusi, J. V. Krogmeier, S. Jyoti, A. Sprintson, C. Anderson, "Improving Millimeter-Wave Channel Models for Suburban Environments with Site-Specific Geometric Features," *International Applied Computational Electromagnetics Society Symposium*, Denver, CO, 2018, pp. 1-2
- C-19) ~N. Michelusi, **M. Hussain**, "Optimal Beam Sweeping and Communication in Mobile Millimeter-Wave Networks," *IEEE ICC 2018*, Kansas City, MO, USA, 2018, pp. 1-6
- C-20) ~Y. Zhang, S.J. Behera, C. Anderson, D. J. Love, N. Michelusi, A. Sprintson, J. V. Krogmeier, "28-GHz Channel Measurements and Modeling for Suburban Environments", *IEEE ICC 2018*, Kansas City, MO, USA, 2018, pp. 1-6

Year 2017

- C-21) **M. Hussain**, D.J. Love, ~N. Michelusi, "Neyman-Pearson Codebook Design for Beam Alignment in Millimeter-Wave Networks", *ACM mmNets 2017 (Mobicom)*, Oct. 2017, USA
- C-22) ~N. Michelusi, M. Nokleby, U. Mitra, R. Calderbank, "Multi-scale Spectrum Sensing in Mm-Wave Cognitive Networks", *51st Asilomar conference on Signals, Systems and Computers*, Nov. 2017, USA
- C-23) **M. Hussain**, ~N. Michelusi, "Energy Efficient Beam Alignment in Millimeter Wave Networks", *51st Asilomar conference on Signals, Systems and Computers*, Nov. 2017, USA
- C-24) ~N. Michelusi, M. Levorato, "Energy-Based Adaptive Multiple Access in LoRaWAN IoT Systems with Energy Harvesting", *IEEE International Symposium on Information Theory (ISIT), 2017*
- C-25) ~N. Michelusi, "Optimal Secondary Access Policies in ARQ based Primary Systems via Chain Decoding", *IEEE International Symposium on Information Theory (ISIT), 2017*
- C-26) ~N. Michelusi, M. Nokleby, U. Mitra, Robert Calderbank, "Multi-scale Spectrum Sensing in Small-Cell mm-Wave Cognitive Wireless Networks", *IEEE ICC 2017*

Year 2016

- C-27) ~J. Zhang, U. Mitra, K.W. Huang, N. Michelusi, "Support Recovery from Noisy Random Measurements via Weighted L1 Minimization", *IEEE International Symposium on Information Theory (ISIT), 2016*

Year 2015

- C-28) ~N. Michelusi, Matthew Nokleby, U. Mitra, Robert Calderbank, "Dynamic Spectrum Estimation with Minimal Overhead via Multiscale Information Exchange", *IEEE GLOBECOM, 2015*
- C-29) ~N. Michelusi, U. Mitra, "Capacity of bacterial cables via Electron-transfer under full-CSI", *IEEE International Symposium on Information Theory (ISIT), 2015*
- C-30) ~N. Michelusi, U. Mitra, "Capacity of electron-based communication over bacterial cables: the full-CSI case with binary inputs", *IEEE International Conference on Communications (ICC), 2015*

Year 2014

- C-31) ~N. Michelusi, U. Mitra, "A Cross-Layer Framework for Joint Control and Distributed Sensing in Agile Wireless Networks", *IEEE International Symposium on Information Theory (ISIT), June 2014*
- C-32) ~N. Michelusi, U. Mitra, "Adaptive Distributed Compressed Sensing for Dynamic High-Dimensional Hypothesis testing", *ICASSP 2014, May 2014*
- C-33) ~N. Michelusi, S. Pirbadian, M.Y. El-Naggar, U. Mitra, "A model for electron transfer and cell energetics in bacterial cables", *IEEE CISS 2014, March 2014*

Year 2013

- C-34) ~N. Michelusi, U. Mitra, "Distributed estimation in sensor networks with quality feedback: A general framework", *IEEE GlobalSIP Symposium on New Sensing and Statistical Inference Methods, Dec. 2013*

- C-35) ~N. Michelusi, U. Mitra, "Fusion Center Feedback for Quasi-Decentralized Estimation in Sensor Networks", *51th Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, Sept. 2013, Monticello, USA
- C-36) ~D. Del Testa, N. Michelusi, M. Zorzi, "On Optimal Transmission Policies for Energy Harvesting Devices: the case of two users", *10th International Symposium on Wireless Communication Systems (ISWCS)*, 27-30 Aug. 2013, Ilmenau, Germany
- C-37) N. Michelusi, ~M. Zorzi, "Optimal Random Multiaccess in Energy Harvesting Wireless Sensor Networks", *IEEE ICC Workshops 2013*
- C-38) N. Michelusi, L. Badia, R. Carli, L. Corradini, ~M. Zorzi, "Impact of Battery Degradation on Optimal Management Policies of Harvesting-Based Wireless Sensor Devices", *Proceedings of IEEE INFOCOM*, pp. 590-594, 14-19 April 2013

Year 2012

- C-39) ~N. Michelusi, K. Stamatiou, M. Zorzi, "Performance Analysis of Energy Harvesting Sensors with Time-Correlated Energy Supply", *50th Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, 1-5 October 2012, Monticello, USA
- C-40) N. Michelusi, L. Badia, R. Carli, K. Stamatiou, ~M. Zorzi, "Correlated Energy Generation and Imperfect State-of-Charge Knowledge in Energy Harvesting Devices", *8th International Wireless Communications and Mobile Computing Conference (IWCMC)*, 27-31 August 2012, Cyprus
- C-41) N. Michelusi, K. Stamatiou, L. Badia, ~M. Zorzi, "Operation Policies for Energy Harvesting Devices with Imperfect State-of-Charge Knowledge", *1st IEEE International Workshop on Energy Harvesting for Communications*, 10-15 June 2012, Ottawa, Canada

Year 2011

- C-42) N. Michelusi, P. Popovski, M. Levorato, O. Simeone, ~M. Zorzi, "Cognitive transmissions under a primary ARQ process via backward interference cancellation", *49th Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, pp.727-735, 28-30 Sept. 2011, Monticello, USA
- C-43) N. Michelusi, ~B. Tomasi, U. Mitra, J. Preisig, M. Zorzi, "An evaluation of the hybrid sparse/diffuse algorithm for underwater acoustic channel estimation", *OCEANS 2011*, pp.1-10, 19-22 Sept. 2011, Hawaii, USA
- C-44) ~N. Michelusi, U. Mitra, M. Zorzi, "Hybrid sparse/diffuse UWB channel estimation", *IEEE 12th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pp.201-205, 26-29 June 2011, San Francisco, USA

Invited Presentations (Conference/Workshop) (IP):

- IP-1) ~N. Michelusi, "Learning and Adaptation for Millimeter-Wave Beam Tracking and Training: a Dual Timescale Variational Framework," Information Theory and Applications (ITA) Workshop, May 2022, San Diego, USA (presentation only)
- IP-2) ~N. Michelusi, "Energy Efficient Adaptive Beam Alignment & Beam Design for 5G Mm-wave Networks," Information Theory and Applications (ITA) Workshop, Feb. 2020, San Diego, USA (presentation only)
- IP-3) ~N. Michelusi, "Robust Energy-Efficient Beam-Alignment through Error Correction Coding," Information Theory and Applications (ITA) Workshop, Feb. 2019, San Diego, USA (presentation only)
- IP-4) **C.S. Lee**, ~N. Michelusi, G. Scutari, "Finite Rate Quantized Distributed Optimization with Geometric Convergence", *52nd Asilomar conference on Signals, Systems and Computers*, Nov. 2018, USA (presentation and paper in Asilomar conference proceedings, pp. 1876-1880, doi: 10.1109/ACSSC.2018.8645345).
- IP-5) **R. Hassan**, ~N. Michelusi, "Multi-user beam alignment for millimeter-wave networks", Information Theory and Applications (ITA) Workshop, Feb. 2018, San Diego, USA (presentation and paper in ITA workshop proceedings, pp. 1-7, doi: 10.1109/ITA.2018.8503247).

- IP-6) **C.S. Lee**, ~N. Michelusi, G. Scutari, “Topology-Agnostic Average Consensus in Sensor Networks with Limited Data Rate“, *51st Asilomar conference on Signals, Systems and Computers*, Nov. 2017, USA (presentation and paper in Asilomar conference proceedings, pp. 553-557, doi: 10.1109/ACSSC.2017.8335401).
- IP-7) ~N. Michelusi, “On Population Density Estimation via Quorum Sensing“, Canadian Workshop on Information Theory (CWIT), June 2017, Canada (presentation and paper in CWIT workshop proceedings, pp. 1-5, doi: 10.1109/CWIT.2017.7994827).
- IP-8) **M. Hussain**, ~N. Michelusi, “Throughput Optimal Beam Alignment in Millimeter Wave Networks“, Information Theory and Applications (ITA) Workshop, Feb. 2017, San Diego, USA (presentation and paper in ITA workshop proceedings, pp. 1-6, doi: 10.1109/ITA.2017.8023460).
- IP-9) ~N. Michelusi, U. Mitra, “Model and Analysis of Population Density Estimation via Quorum Sensing“, *50th Asilomar conference on Signals, Systems and Computers*, Nov. 2016, USA (presentation and paper in Asilomar conference proceedings, pp. 961-965, doi: 10.1109/ACSSC.2016.7869192).
- IP-10) ~N. Michelusi, “Bacterial Population Density Estimation via Quorum Sensing“, *Communication Theory Workshop*, May 18th, 2016 (presentation only)
- IP-11) ~N. Michelusi, U. Mitra, “Sparsity Aware Dynamic Distributed Compressive Spectrum Sensing and Scheduling“, *49th Asilomar conference on Signals, Systems and Computers*, Nov. 2015, USA (presentation and paper in Asilomar conference proceedings, pp. 1109-1113, doi: 10.1109/ACSSC.2015.7421312).
- IP-12) ~N. Michelusi, J. Boedicker, M.Y. El-Naggar, U. Mitra, “A Stochastic Queuing Model of Quorum Sensing in Microbial Communities“, *49th Asilomar conference on Signals, Systems and Computers*, Nov. 2015, USA (presentation and paper in Asilomar conference proceedings, pp. 133-138, doi: 10.1109/ACSSC.2015.7421098).
- IP-13) E. Pavez, ~N. Michelusi, A. Anis, U. Mitra, A. Ortega, “Markov Chain Sparsification with Independent Sets for Approximate Value Iteration“, *53rd Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, Oct. 2015, Monticello, USA (presentation and paper in Allerton conference proceedings, pp. 1399-1405, doi: 10.1109/ALLERTON.2015.7447172).
- IP-14) ~N. Michelusi, U. Mitra, “Controlled spectrum sensing and scheduling under resource constraints“, *24th International Conference on Computer Communications and Networks (ICCCN)*, Aug. 2015, Las Vegas, USA (presentation and paper in ICCCN conference proceedings, pp. 1-6, doi: 10.1109/ICCCN.2015.7288389).
- IP-15) ~U. Mitra, N. Michelusi, S. Pirbadian, H. Koorehdavoudi, M.Y. El-Naggar, P. Bogdan, “Queueing theory as a modeling tool for Bacterial Interaction: Implications for Microbial Fuel Cells“, *International Conference on Computing, Networking and Communications (ICNC)*, 2015 (presentation and paper in ICNC conference proceedings, 658-662, doi: 10.1109/ICNC.2015.7069423).
- IP-16) ~N. Michelusi, U. Mitra, “Joint Control and Compressed Sensing for Dynamic Spectrum Access in Agile Wireless Networks“, *52nd Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, Monticello, USA, October 2nd 2014 (presentation and paper in Allerton conference proceedings, pp. 1156-1162, doi: 10.1109/ALLERTON.2014.7028585).
- IP-17) ~N. Michelusi, “Electron transfer & cell energetics in bacterial cables: modeling & information theoretic aspects“, BIRS Workshop on Biological and Bio-Inspired Information Theory, Banff, Alberta, Canada, October 27th 2014 (presentation only).
- IP-18) ~N. Michelusi, “Electron transfer & cell energetics in bacterial cables: modeling & information theoretic aspects“, Information Theory and Applications Workshop, San Diego, CA, USA, February 14th 2014 (presentation only).
- IP-19) ~N. Michelusi, U. Mitra, “Dynamic Spectrum Sensing-Scheduling in Agile Networks with Compressed Belief Information“, *IEEE Global Conference on Signal and Information Processing (GlobalSIP) 2014* (presentation and paper in IEEE GlobalSIP conference proceedings, pp. 808-812, doi: 10.1109/GlobalSIP.2014.7032231).
- IP-20) ~N. Michelusi, P. Popovski, M. Zorzi, “Cognitive access policies under a primary ARQ process via

- chain decoding“, Information Theory and Applications (ITA) Workshop, pp.1-8, 10-15 Feb. 2013, San Diego, USA (presentation and paper in ITA workshop proceedings, pp. 1-8, doi: 10.1109/ITA.2013.6502994).
- IP-21) N. Michelusi, K. Stamatiou, ~M. Zorzi, “On optimal transmission policies for energy harvesting devices“, Information Theory and Applications (ITA) Workshop, pp.249-254, 5-10 Feb. 2012, San Diego, USA (presentation and paper in ITA workshop proceedings, pp. 249-254, doi: 10.1109/ITA.2012.6181793).
- IP-22) N. Michelusi, U. Mitra, A.F. Molisch, ~M. Zorzi, “Hybrid sparse/diffuse channels: A new model and estimators for wideband channels“, *49th Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, pp.477-484, 28-30 Sept. 2011, Monticello, USA (presentation and paper in Allerton conference proceedings, pp. 477-484, doi: 10.1109/Allerton.2011.6120205).
- IP-23) N. Michelusi, O. Simeone, M. Levorato, P. Popovski, ~M. Zorzi, “Optimal cognitive transmission exploiting redundancy in the primary ARQ process“, Information Theory and Applications (ITA) Workshop, pp.1-10, 6-11 Feb. 2011, San Diego, USA (presentation and paper in ITA workshop proceedings, pp. 1-10, doi: 10.1109/ITA.2011.5743628).

INVITED TALKS & SEMINARS (S):

- *Learning in Wireless Networks: From Federated to Decentralized Learning Architectures*
S1 - Summer School of Information Engineering (SSIE PhD Summer School), Bressanone (Italy), July 15th, 2022
- *Learning and Adaptation in Millimeter-Wave Networks: a Dual Timescale approach*
S2 - LIONS Seminar Series, Arizona State University, April 23rd, 2021
- *Adaptive Communication-Efficient Beam-Alignment for Millimeter-Wave Wireless Network*
S3 - Arizona State University, March 27th, 2020
- *Second-best Beam-Alignment via Bayesian Multi-Armed Bandits*
S4 - University of Padova, Padova, Italy, June 20th 2018
S5 - NYU Wireless, New York City, April 16th 2018
S6 - Blue Danube Systems, Santa Clara, CA, October 27th 2017
S7 - Institute for Telecommunication Sciences (NTIA) and University of Colorado Boulder, Boulder, CO, August 14th 2017
- *Optimal Secondary Access in Retransmission based Primary Networks via Chain Decoding*
S8 - University of Padova, Padova, Italy, July 11th 2017
- *Energy Harvesting for Wireless Sensor Networks*
S9 - ReNEW, West Lafayette, IN, USA, talk delivered for Regal Beloit Corporation, May 12, 2017
- *Cross layer Sensing, Estimation & Control in Wireless Networks*
S10 - University of Padova, Padova, Italy, June 10th 2016
S11 - EURECOM, Biot, France, June 2nd 2016
- *Cross layer Sensing, Estimation & Control in Wireless Networks*
S12 - University of California, Santa Barbara, CA, July 6th 2015
S13 - National Chiao Tung University, Hsinchu City, Taiwan, April 22nd 2015
S14 - National Institute of Informatics, Tokyo, Japan, April 17th 2015
S15 - Ohio State University, Columbus, OH, USA, April 9th 2015
S16 - Purdue University, West Lafayette, IN, USA, April 6th 2015
S17 - John Hopkins University, Baltimore, MD, USA, 27th February 2015
- *Electron transfer & cell energetics in bacterial cables: modeling & information theoretic aspects*
S18 - University of California, Los Angeles, CA, USA, May 20th 2015
S19 - Georgia Institute of Technology, Atlanta, GA, USA, December 2nd 2014
- *Joint Control and Compressed Sensing for Dynamic Spectrum Access in Agile Wireless Networks*
S20 - University of Southern California, Los Angeles, CA, USA, September 10th 2014
- *Cross-layer design of distributed sensing-estimation strategies with quality feedback*
S21 - Stanford University, CA, USA, 4th April 2014
S22 - University of Southern California, Los Angeles, CA, USA, 16th October 2013
- *Energy Harvesting for Wireless Sensor Networks*
S23 - Purdue University, West Lafayette, IN, USA, October 1st 2013
- *Optimal Secondary Access in Retransmission based Primary Networks via Chain Decoding*
S24 - University of Southern California, Los Angeles, CA, USA, April 3rd 2013
- *Hybrid Sparse/Diffuse UWB Channel Estimation*
S25 - New Jersey Institute of Technology (NJIT), Newark, NJ, USA, August 22nd 2011
S26 - WINLAB, Rutgers University, NJ, USA, August 18th 2011
S27 - Woods Hole Oceanographic Institution (WHOI), Woods Hole, MA, USA, April 20th 2011

INVITED PANELS (IP):

- IP-1) "5G/mmWave Capacity Improvements: A Systems Perspective", 2017 International Symposium on Advance Radio Technologies, August 15-17, Boulder, CO.

PHD THESIS: "Coping with spectrum and energy scarcity in Wireless Networks: a Stochastic Opti-

mization approach to Cognitive Radio and Energy Harvesting," 2013

MASTER'S THESIS: "Semi-Blind Channel Estimation for LTE DownLink," 2009