

MELIKE EROL-KANTARCI, *PhD, P.Eng., SMIEEE, SM-ACM*

Canada Research Chair (Tier 2) in AI-Enabled Next-Generation Wireless Networks,
Associate Professor (Tenured) at University of Ottawa

Faculty Affiliate at Vector Institute, Toronto

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PROFILE

- Founding director of Networked Systems and Communications Research (NETCORE) laboratory
- Over 6000 citations and an h-index of 39 with more than 150 refereed publications and 3 invention disclosures
- Received over \$4M funding in-cash as a PI/co-PI
- **IEEE ComSoc Distinguished Lecturer (2020-2021)**; 50+ keynotes and invited talks
- Received the 2020 Distinguished Service Award of the IEEE Communications Society, Technical Committee on Green Communications and Computing
- Selected to N2Women: Stars in Networking and Communications
- IEEE ComSoc Best Tutorial Paper Award 2017; plus 3 more best paper awards and 2 articles listed in the IEEE ComSoc Best Readings
- Expertise: wireless networks, 5G, 6G, ORAN, AI-enabled networks, smart grid communications, electric vehicles, cybersecurity, Internet of Things (IoT), wireless energy harvesting and wireless sensor networks.

Activities:

- Vice-chair for IEEE ComSoc emerging technologies initiative on Machine Learning for Communications
- Chair for SIG on Machine Learning and AI in Networking
- Chair for SIG on Green Smart Grid Communications
- Co-Chair for SIG on AI and Computational Intelligence in Smart Grid
- Steering Committee Member for IEEE Sustainable ICT Initiative
- Senior Member of IEEE and ACM
- Professional Engineer of Ontario

WORK EXPERIENCE

Associate Professor (Tenured) May 2019-Present
University of Ottawa
School of Electrical Engineering and Computer Science

Faculty Affiliate December 2020 - Present
Vector Institute, Toronto

Faculty Affiliate August 2019- Present
Institute for Science, Society and Policy, University of Ottawa

Courtesy Faculty 2016-Present
Clarkson University
Department of Electrical and Computer Engineering

Assistant Professor (Tenure-track) August 2016 - April 2019
University of Ottawa
School of Electrical Engineering and Computer Science

Assistant Professor (Tenure-track) Clarkson University Department of Electrical and Computer Engineering	2014-2016
Affiliated Faculty Clarkson University Institute for a Sustainable Environment (ISE)	2015-2016
Coordinator of the Smart Grid Communications Lab University of Ottawa	2013 - 2014
Postdoctoral Fellow University of Ottawa School of Electrical Engineering and Computer Science	2009 - 2014
Lecturer Istanbul Technical University Information Technologies Program	2008 - 2009
Teaching and Research Assistant Istanbul Technical University Department of Computer Engineering	2001 - 2009
Researcher University of California, Los Angeles (UCLA) Department of Computer Science Funded by Fulbright PhD. Scholarship	2006 - 2007
Project Researcher Performance Study of Optical Networks and Their Traffic Modeling Funded by Centre National de la Recherche Scientifique (CNRS- France), The Scientific and Technical Research Council of Turkey (TUBITAK) and Istanbul Technical University	2004 - 2005

EDUCATION

Istanbul Technical University PhD, Computer Engineering (advisor: Dr. Sema Oktug)	2004 - 2009
University of California, Los Angeles (UCLA) PhD Thesis Study, Computer Science (supervisor: Dr. Mario Gerla) Thesis: Localization and Its Effects on Data Delivery in Underwater Sensor Networks	2006-2007
Istanbul Technical University MSc, Computer Engineering (advisor: Dr. Sema Oktug) Thesis: The Impact of Queue Management Policies on the Self-Similarity of Network Traffic	2001- 2004
Istanbul Technical University BSc, Control and Computer Engineering	1997 – 2001

GRANTS

- **NSERC Canada Research Chairs Program, CRC (Tier II) in AI-Enabled Next Generation Wireless Networks (PI, Awarded \$600,000, 5 years)** 2019-2024
- **MITACS Accelerate (PI, Awarded \$544,000, 5 years)** 2021
Project title: Traffic Estimation and Stable Resource Allocation Using Distributed Machine Learning
- **MITACS Accelerate (PI, Awarded \$255,000, 2 years)** 2021
Project title: Machine Learning-Enhanced Anomaly Detection and Performance Optimization for Enterprise WiFi Networks
- **Academia Sinica (Taiwan)-uOttawa Mobility Program (PI, Awarded \$67,500, 2 years)** 2020
Project Title: Exploring Machine Learning Techniques for Localization of 5G-enabled Indoor Sensor Networks
- **Ontario Centers of Excellence – 5G ENCQOR Program (PI, Awarded \$148,500, 2 years)** 2019
Project Title: Self-optimized edge caching and computing fabric in 5G
- **Ontario Centers of Excellence – 5G ENCQOR Program (PI, Awarded \$148,500, 2 years)** 2019
Project Title: Enhanced Mobility Solutions for Ultra Reliable Low Latency Edge Computing Services
- **Ontario Centers of Excellence – 5G ENCQOR Program (PI, Awarded \$150,000, 2 years)** 2019
Project Title: AI-enabled Radio Resource Management in LTE-NR Dual Connectivity
- **ERASMUS+ International Mobility Grant (PI, Awarded \$3,000, one-time)** 2019
- **NSERC Engage (PI, Awarded \$25,000, 6 months)** 2018
Project Title: Smart enterprise-centric context-based fine-grained access control
- **Mitacs Globalink Research Award - National Research Foundation of Korea (Host Supervisor, \$3,000)** 2018
Project Title: Mobile Beacon-based Localization with Motion Compensation for Underwater Acoustic Sensor Networks
- **NSERC CREATE (Co-PI, Awarded \$ 1.650.000, 6 years)** 2017
Project Title: Training in Optoelectronics for Power: from Science and Engineering to Technology (TOP-SET)
- **NSERC Discovery (PI, Awarded \$145,000, 5 years)** 2017
Project Title: Peer-to-peer Energy Trading over Reliable Small Cell Networks
- **NSF (PI at University of Ottawa, Awarded \$290,000, 3 years)** 2017
Project Title: An Integrated Reconfigurable Control and Self-Organizing Communication Framework for Advanced Community Resilience Microgrids
- **Natural Resources Canada (NRCAN), Sci. and Tech. Intern. Program (PI, Awarded \$10,000, one-time)** 2017
Project Title: Energy-Efficient Ultra-Dense Wireless Networks
- **uOttawa Office of the VP Research, Visiting Researchers Program (PI, Awarded \$4,000, one-time)** 2017
- **Canada-Italy Innovation Award, (Co-PI, Awarded \$4,500, one-time)** 2017
Project Title: Privacy-Utility Trade off in Big Data for Green Smart Cities
- **uOttawa Startup Grant** 2107
- **QUALCOMM Inc. (Co-PI, funded \$20,000(USD))** 2015 - 2016
Project Title: Wireless Internet of Things Lab for Sensor Networks, Localization, and Mobile Computing at Clarkson University
- **NSF Industry/University Cooperative Research Center (Co-PI, funded \$40,000(USD))** 2015
Project Title: Context-aware Anomaly Detection in Internet of Biometric Things

- **Clarkson Startup Grant** 2014
- **Visiting Scientist Fellowship**, Scientific And Technological Research Council of Turkey (TUBITAK) 2014

AWARDS AND SCHOLARSHIPS

- Received the Distinguished Service Award of the IEEE Communications Society, Technical Committee on Green Communications and Computing 2020
- Selected as N2Women: 2019 Stars in Networking and Communications 2019
- Article selected to IEEE ComSoc “Best Readings in Green Communications” 2018
- IEEE Multimedia Communications Technical Committee (MMTC) Best Editor Award 2017
- IEEE ComSoc Best Tutorial Paper Award 2017
- Best Paper Award of the IEEE ComSoc Technical Committee on Communications Systems Integration and Modeling 2017
- NSF CISE CAREER workshop travel grant 2015
- Elevated to IEEE Senior Member Grade 2015
- Article selected to IEEE ComSoc “Best Readings in Smart Grid Communications” 2014
- Article selected to IEEE ComSoc Technology News (CTN) 2013
- Joint holder of the Paper Award at the IEEE Electrical Power and Energy Conference (EPEC) 2010
- Joint holder of the Best Paper Award for at the Fifth Advanced Int. Conference on Telecommunications 2009
- INFOCOM Conference Student Travel Grant, IEEE Communications Society 2008
- Fulbright Ph.D. Research Scholarship, (granted to one PhD student in the Computer Science and Engineering field among over 400 applicants), FULBRIGHT Foundation 2006-2007
- Siemens Excellence Award 2004
- ACM/SIGCOMM Conference Student Travel Grant 2004
- National University Entrance Exam Merit Grant, Istanbul Technical University 1997- 2001

SERVICE TO UNIVERSITY & OUTREACH

- University of Ottawa, Internal Reviewer for NSERC Programs 2021
- University of Ottawa, ISSP Steering Committee Member 2021- Present
- University of Ottawa, Admission Committee 2020 - Present
- University of Ottawa, EECS, Teaching Assistantship Committee 2018-2019
- University of Ottawa, EECS, Library Committee 2018-2019
- University of Ottawa, EECS, CEG Curriculum Committee 2017-2018
- University of Ottawa, EECS, ELG Curriculum Committee 2016 - 2017
- University of Ottawa, EECS, Co-op Coordinator, CEG 2016-2017
- University of Ottawa, EECS, Co-op Coordinator, MEBT 2016
- University of Ottawa, EECS, Co-op Marking, ELG/CEG 2016-2017
- Clarkson University, ECE Graduate Committee 2015 - 2016
- Clarkson University, ECE Computer Engineering Curriculum Committee 2015 - 2016
- Clarkson University, ECE Awards Committee 2016
- Science Café Seminar February 2016

SERVICE TO FUNDING AGENCIES

- Academy of Finland 2021
- Canada Foundation for Innovation – Expert Panelist 2020
- NSERC Discovery - Reviewer 2016, 2018, 2019
- Science Foundation of Ireland -Reviewer 2019-2021
- NSERC CRD - Reviewer 2017
- MITACS Accelerate and Elevate - Reviewer 2017,2018
- Netherlands Organisation for Scientific Research - Reviewer 2016
- Israel Science Foundation - Reviewer 2015

SUPERVISED STUDENTS

Current Supervised Students and Researchers (14):

- Shahram Mollahasani (PDF) Research topic: 6G and AI-enabled Networks
- Roghayeh Joda (Researcher) Research topic: Multi-RAT environments
- Turgay Pamuklu (PDF) Research topic: AI and O-RAN
- Mohammad Sadeghi (PhD Candidate) Thesis topic: Learning based co-optimized energy and communication systems
- Mikhak Samadi (PhD Candidate – co-supervised with Dr. Henry Schriemer) Thesis topic: Demand management in smart grid
- Hao Zhou (PhD Candidate) Thesis topic: Electric vehicle (EV) Integration to Peer-to-Peer Energy Trading Microgrids
- Pedro Iturria Rivera (PhD Student) Thesis topic: Distributed multi-agents for wireless networks
- Fahimeh Khoramnejad (PhD Student) Thesis topic: Multi-access edge computing with machine learning
- Tiffany Cheng (MSc Student) Thesis topic: AI-Enabled Network Management
- Hind Mukhtar (MSc Student) Thesis topic: Machine Learning-Based Localization
- Han Zhang (MSc Student - Vector Institute Scholarship Winner) Thesis topic: AI-enabled open virtualized RAN
- Yujie Yao (MSc Student) Thesis topic: Vision-based mMIMO in 5G
- Anne Catherine Nguyen (MSc Student) Thesis topic: Resource allocation using machine learning
- David Chan (Undergraduate Summer Intern) Project topic: Use case design for 6G

Past supervised students (22):

- Medhat Elsayed (PhD) Thesis topic: Machine Learning-Enabled RadioResource Management forNext-Generation Wireless Networks (May 2021) Recipient of the NSERC CREATE TOPSET Graduate Research Training Scholarship
- Kyle Quintal (MSc Student – co-supervised with Dr. Burak Kantarci) Thesis title: Context-Awareness for Adversarial and Defensive Machine Learning Methods in Cybersecurity (July 2020)
- Kevin Shimotakahara (MSc Student – co-supervised with Dr. Karin Hinzer - Recipient of NSERC Alexander Graham Bell Scholarship and the NSERC Canada Graduate Scholarship - Nominated to the 2020 Faculty of Engineering Thesis Prize) Thesis title: Device-to-device communications for smart grid (June 2020).
- Anne Catherine Nguyen (Undergraduate student – winner of Cognos Prize with her project) Honors project topic: Load Balancing in 5G with Reinforcement Learning (April 2020)
- Riqiang (Richard) Liu (MSc. Student) Thesis title: Dynamic Routing with Online Traffic Estimation for Video Streaming over Software Defined Networks (March 2020)

- Muhammad Usama (Master's) MEng - Project topic: Energy-efficiency in 5G (September 2019)
- Navjot Singh (MAsc Student)
Thesis Title: Planning of Mobile Edge Computing Resources in 5G Based on Uplink Energy Efficiency (November 2018)
- Yonghun Kim (PhD Student at Gwangju Institute of Science and Technology, South Korea) – Visiting student supported by National Research Foundation of Korea and Globalink Research Award by Mitacs (October 2018-March 2019) Project Topic: Mobile Beacon-based Localization with Motion Compensation for Underwater Acoustic Sensor Networks
- Ting-Hui (Jerry) Chiang (PhD Student at National Chiao Tung University, Taiwan) – Visiting student (March-May 2018) Project Topic: Advanced Indoor Localization Techniques
- Sukhmani Sukhmani (Master's) MEng - Project topic: Caching and computing in 5G (December 2017)
- Sukhman Kaur (Master's) MEng - Project topic: Directional cells in 5G networks (June 2017)
- Inayat Irfan (Undergraduate Summer Intern – BSc at McGill) Project topic: NS3-based 5G Simulation Environment Enhancement
- Hazal Saygili (Undergraduate) Summer Intern – 3rd year UG at Bilkent University (July 2017)
- Meesam Haider (Undergraduate) NSERC CREATE - TOPSET Trainee (January 2018)
Project Title: Enhanced LBT Mechanism for LTE-Unlicensed using Reinforcement Learning
- Keivan Bahmani (PhD), Anwar Parvej (MS), Jayesh Bokhira, and Andy Hoang (Undergraduate) at Clarkson University
- Guided the PhD thesis of Dr. Irfan Al-Anbagi at University of Ottawa. Thesis title: Quality of Service for Wireless Sensor Networks in Smart Grid Applications
- Guided the MAsc thesis of Mr. Omar Asad at University of Ottawa. Thesis title: Smart Grid Applications Using Sensor Web Services
- Guided the MAsc thesis of Mr. Nima Zaker at University of Ottawa. Thesis title: Fiber-Wireless Sensor Broadband Access Network Integration for the Smart Grid
- Collaborated with Ms. Selda Kuruoglu on her MSc thesis and won the best paper award with the paper entitled “Localization in Wireless Sensor Networks with Range Measurement Errors”
- Guided the BSc graduation project of Mr. Ibrahim Cevizci

THESIS EXAMINATION COMMITTEES

- Shady Elkamhawy, MAsc, “Power Gain Optimization for Multiple Active Multiple Passive Dipole Antenna Arrays, Carleton University (supervisor: R. Gohary), 2021.
- Yonghun Kim, PhD, “Acoustic Ranging Issues Based on Time-of-Arrival for Underwater Localization,” Gwangju Institute of Science and Technology (supervisor: Kiseon Kim), 2020.
- Rawan Alkurd, PhD, “Big Data-Driven AI-based Wireless Network Personalization,” Carleton University (supervisors: H. Yanikomeroğlu and I. Abualhaol), 2020.
- Rachel Beverly Belcher, MAsc. “Fuzzy Logic Based Module-Level Power Electronics for Mitigation of Rapid Cloud Shading in Photovoltaic Systems,” University of Ottawa (supervisors: K. Hinzer and H. Schriemer), 2020.
- Alan Zhang, MAsc. “Urban and Indoor Vehicular Navigation using IMU, GNSS, LiDAR, and Radar,” Department of Systems and Computer Engineering, Carleton University (supervisor: M. Atia), 2020.
- Yanan Sun, PhD. “Application of Behind-the-Meter Energy Storage Systems for Household Load Hiding and Frequency Regulation Service” Department of Electrical and Computer Engineering, University of British Columbia (Supervisors: L. Lampe and V. Wong), 2020.
- Elham Kalantari, PhD. “Placement of Air and Ground Base Stations in Integrated Aerial and Terrestrial Wireless Cellular Networks,” School of Electrical Engineering and Computer Science, University of Ottawa (supervisor: A. Yongacoglu), 2020.
- Isam Mashhour Hasan Al Jawarneh, PhD. “Quality of Service Aware Data Stream Processing for Highly Dynamic and Scalable Applications,” Department of Computer Science and Engineering, University of Bologna (supervisor: R. Montanari), 2019.

- Mitchell Fantuz, MSc. “Multi-User Detection of Overloaded Systems with Low Density Spreading,” School of Electrical Engineering and Computer Science, University of Ottawa (supervisor: C. D’Amours), 2019.
- Maryam Hezaveh, PhD, “Privacy Preservation for Nearby-Friend and Nearby-Places Location-Based Services,” School of Electrical Engineering and Computer Science, University of Ottawa (supervisor: C. Adams), 2019.
- Riccardo Venanzi, PhD, “Device as a Service and Fog Computing Middleware for the Internet of Things,” Engineering Sciences, University of Ferrara, 2018.
- Faraj Lagum, PhD, “Stochastic Geometry-Based Tools for Spatial Modeling and Planning of Future Cellular Networks: Opportunistic Cell Switch-off and Strategic Deployment of Flying Base Stations,” Department of Systems and Computer Engineering, Carleton University (supervisor: H. Yanikomeroglu), 2018.
- He Li, MSc, “A Resilience-oriented and NFV-supported Scheme for Failure Detection in Software-Dened Networking,” School of Electrical Engineering and Computer Science, University of Ottawa (supervisor: A. Boukerche), 2018.
- Xiangshen Yu, MSc, “Efficient Interest Forwarding for Vehicular Information-Centric Networks,” School of Electrical Engineering and Computer Science, University of Ottawa (supervisor: A. Boukerche), 2018.
- Meron Gessesse, MSc, “Multi-sensor Attitude and Heading Reference System Design using Genetically Optimized Kalman Filter,” Carleton University (supervisor: M Atia), 2018.
- Ioannis Zenginīs, PhD, “Optimal sizing and operation planning of microgrids and operation analysis of charging stations for electric vehicles,” Universitat Politècnica de Catalunya (supervisor: C. Verikoukis), 2018 (external referee).
- Fazel Anjomshoa, PhD, “Behavioral User Profiling and Energy Efficient Incentives in Mobile Crowd-sensing,” Department of Electrical and Computer Engineering (supervisor: B. Kantarci), Clarkson University, 2018.
- Maryam Pouryazdanpanah Kermani, PhD, “Effective incentives to maximize trustworthy participation in mobile crowd-sensing,” Department of Electrical and Computer Engineering, Clarkson University (supervisor: B. Kantarci), 2018.
- Yamen Nasrallah, PhD, “Enhanced IEEE 802.11.p-Based Mac Protocols For Vehicular Ad Hoc Networks,” School of Electrical Engineering and Computer Science, University of Ottawa (supervisor: H. Mouftah), 2017.
- Suzan Ureten, PhD, “Single and Multiple Emitter Localization in Cognitive Radio Networks,” School of Electrical Engineering and Computer Science, University of Ottawa (supervisor: A. Yongacoglu), 2017.
- Maryam M. Alotaibi, PhD, “Relay Selection for Heterogeneous Transmission Powers in Connected Vehicles,” School of Electrical Engineering and Computer Science, University of Ottawa (supervisors: H. Mouftah and A. Boukerche), 2017.
- Anastassia Gharib, MSc, “Distributed Learning-based Cooperative Spectrum Sensing for Cognitive Internet of Things Systems,” Department of Systems and Computer Engineering, Carleton University (supervisor: M. Ibnkhala), 2017.
- Fayzah Alshammari, MSc, “Towards an Evaluation of a Recommended Tor Browser Configuration in Light of Website Fingerprinting Attacks,” School of Electrical Engineering and Computer Science, University of Ottawa (supervisor: C. Adams), 2017.
- Ziwen Zhao, MSc, “Spatial in Slotted ALOHA Two-Hop Random Access for Machine Type Communications,” Department of Systems and Computer Engineering, Carleton University (supervisor: H. Yanikomeroglu), 2017.

TEACHING

UNIVERSITY OF OTTAWA (2016 - Present)

- AI-enabled Wireless Networks (CSI 5140/ELG5143 – Falls in 2019 -2020)
- Wireless Networks (CEG 4186 – Winters in 2017 - 2021)
- ComNet-IPS: Communications and Networking for Intelligent Physical Systems (CSI 5140 – Fall 2018)
- Introduction to Data Communications and Networking (CEG3185 – Summer 2017)
- Computer Communications (ELG 5374 - Fall 2016)

CLARKSON UNIVERSITY (2014-2016)

- Database Systems (EE 468)
- Wireless Sensor Networks (EE 511) - Developed this course for the first time for Clarkson University

PATENTS AND INVENTION DISCLOSURES

[P03] A. Walenstein, A. Malton, B. Kantarci, Melike Erol-Kantarci, J. Liu, M. Simsek, “Risk-Aware Access Control System and Related Methods, US patent filed on 21 December 2020.

[P02] Melike Erol-Kantarci, M. Elsayed, “System and Method for Joint Power and Resource Allocation Using Reinforcement Learning,” US patent filed on 30 October 2020.

[P01] A. Walenstein, A. Malton, K. Quintal, Melike Erol-Kantarci, B. Kantarci, “Document Management System Having Context-Based Access Control and Related Methods,” US patent filed on 11 July 2019.

PUBLICATION LIST

Edited Books:

[B03] H. T. Mouftah, M. Erol-Kantarci, S. Sorour, “**Connected and Autonomous Vehicles in Smart Cities,**” CRC Press, 2020. ISBN: 9780429329401.

[B02] H. T. Mouftah, M. Erol-Kantarci, M. H. Rehmani, “**Transportation and Power Grid in Smart Cities: Communication Networks and Services,**” Wiley, 2018, ISBN: 9781119360087.

[B01] H. T. Mouftah, Melike Erol-Kantarci, “**Smart Grid: Networking, Data Management, and Business Models,**” CRC Press, 2016. ISBN: 9781498719704.

Editorial Articles:

[E007] Melike Erol-Kantarci, “**Special Issue on Mobile AR/VR/MR and Haptics over 5G and Beyond,**” IEEE MMTTC Communications Frontiers Journal, March 2019.

[E006] Melike Erol-Kantarci, “**Special Issue on Data Analytics for Smart Grid and Electric Vehicles,**” IEEE MMTTC Communications Frontiers Journal, November 2017.

[E005] M. H. Rehmani, M. Reisslein, A. Rachedi, Melike Erol-Kantarci, M. Radenkovic, “Guest Editorial Special Section on Smart Grid and Renewable Energy Resources: Information and Communication Technologies with Industry Perspective,” in **IEEE Transactions on Industrial Informatics**, vol. 13, no. 6, pp. 3119-3123, Dec. 2017.

[E004] Melike Erol-Kantarci, “**Special Issue on Recent Activities in Mobile Edge Computing and Edge Caching,**” IEEE MMTTC Communications Frontiers Journal, July 2017.

[E003] Y. Zhang, D. Yau, S. Zonouz, D. Jin, M. Qiu and Melike Erol-Kantarci, “Guest Editorial Smart Grid Cyber-Physical Security,” in **IEEE Transactions on Smart Grid**, vol. 8, no. 5, pp. 2409-2410, Sept. 2017.

[E002] M. H. Rehmani, A. Rachedi, M. Erol-Kantarci, M. Radenkovic, M. Reisslein, “Cognitive radio based smart grid: The future of the traditional electrical grid,” **Elsevier Ad Hoc Networks**, vol. 41, pp. 1-4, 2016.

[E001] M. H. Rehmani, M. Erol-Kantarci, A. Rachedi, M. Radenkovic, M. Reisslein, “Smart Grids: a Hub of Interdisciplinary Research,” **IEEE Access**, vol. 3, pp. 3114-3118, 2015.

Refereed Journal Papers:

- [J50] M. Akbari, M. R. Abedi, R. Joda, M. Pourghasemian, N. Mokari, Melike Erol-Kantarci, "Age of Information Aware VNF Scheduling in Industrial IoT Using Deep Reinforcement Learning, accepted to **IEEE Journal on Selected Areas in Communications (JSAC)**, April 2021.
- [J49] R. Joda, M. Elsayed, H. Abou-zeid, R. Atawia, A. Bin Sediq, G. Boudreau, Melike Erol-Kantarci, "Carrier Aggregation with Optimized UE Power Consumption in 5G," accepted to **IEEE Networking Letters**, April 2021.
- [J48] S. Mollahasani, Melike Erol-Kantarci, M. Hirab, H. Dehghan, R. Wilson, "Actor-Critic Learning Based QoS-Aware Scheduler for Reconfigurable Wireless Networks," accepted to **Transactions on Network Science and Engineering**, March 2021.
- [J47] M. Elsayed, Melike Erol-Kantarci, H. Yanikomeroglu, "Transfer Reinforcement Learning for 5G-NR mm-Wave Networks," **IEEE Transactions on Wireless Communications**, vol. 20, no. 5, pp. 2838-2849, May 2021.
- [J46] Y. Kim, Melike Erol-Kantarci, Y. Noh, K. Kim, "Range-Free Localization with a Mobile Beacon via Motion Compensation in Underwater Sensor Networks," **IEEE Wireless Communications Letters**, vol:10, no:1, pp.6-10, Jan 2021.
- [J45] M. Samadi, J. Fattahi, H. Schriemer, Melike Erol-Kantarci "Demand Management for Optimized Energy Usage and Consumer Comfort Using Sequential Optimization," **Sensors**, 21(1), 130, December 2020.
- [J44] M. Sadeghi, S. Mollahasani, Melike Erol-Kantarci, "Power Loss-Aware Transactive Microgrid Coalitions under Uncertainty," **Energies**, 13(21), 5782, November 2020.
- [J43] K. Shimotakahara, M. Elsayed, K. Hinzer, Melike Erol-Kantarci, "Mobile Communications-Enabled Smart Grid Co-Simulator System Design," **IEEE Systems Journal**, June 2020.
- [J42] J. Fattahi, M. Samadi, Melike Erol-Kantarci, H. Schriemer, "Transactive Demand Response Operation at the Grid Edge using the IEEE 2030.5 Standard," **Elsevier Engineering**, vol. 6, no. 7, pp. 801-811 July 2020.
- [J41] M. Elsayed, Melike Erol-Kantarci, B. Kantarci, L. Wu, J. Li, "Low-latency Communications for Community Resilience Microgrids: A Reinforcement Learning Approach," **IEEE Transactions on Smart Grid**, vol.11, no. 2, pp. 1091-1099, March 2020.
- [J40] K. Shimotakahara, M. Elsayed, K. Hinzer, Melike Erol-Kantarci, "High-Reliability Multi-Agent Q-Learning-based Scheduling for LTE-Compliant D2D Microgrid Communications," **IEEE Access**, vol. 7, no. 1, pp. 74412-74421, December 2019.
- [J39] M. Akerele, I. Al-Anbagi, Melike Erol-Kantarci, "A Fiber-Wireless Sensor Networks QoS Mechanism for Delay-Critical Smart Grid Applications," **IEEE Access**, vol. 7, no. 1, pp. 37601-37610, December 2019.
- [J38] K. Quintal, B. Kantarci, Melike Erol-Kantarci, A. Malton, A. Walenstein, "Contextual, Behavioral, and Biometric Signatures for Continuous Authentication," **IEEE Internet Computing**, vol. 23, no. 5, pp. 18-28, 1 Sept.-Oct. 2019.
- [J37] M. Elsayed, Melike Erol-Kantarci, "AI-enabled Future Wireless Networks: Challenges, Opportunities and Open Issues," **IEEE Vehicular Technology Magazine**, Special Issue on 6G: What is Next?, Volume: 14 , Issue: 3 , pp. 70-77, Sept. 2019.
- [J36] M. Usama, Melike Erol-Kantarci, "A survey on Recent Trends and Open Issues in Energy Efficiency of 5G," **Sensors**, Special Issue on Green, Energy-Efficient and Sustainable Networks, vol. 19, July 2019.
- [J35] S. Sukhmani, M. Sadeghi, Melike Erol-Kantarci, A. El-Saddik, "Edge Caching and Computing in 5G for Mobile AR/VR and Tactile Internet," **IEEE Multimedia**, vol. 26, no.1, pp. 21-30, January 2019.
- [J34] S. Mousavian, Melike Erol-Kantarci, L. Wu, T. Ortmeier, "A Risk-based Optimization Model for Electric Vehicle Infrastructure Response to Cyber Attacks," **IEEE Transactions on Smart Grid**, vol. 9, no. 6, pp. 6160-6169, November 2018.
- [J33] M. H. Rehmani, M. Reisslein, A. Rachedi, Melike Erol-Kantarci, M. Radenkovic, "Integrating Renewable Energy Resources into the Smart Grid: Recent Developments in Information and Communication Technologies," **IEEE Transactions in Industrial Informatics**, Vol 14, no.7, pp. 2814 - 2825, 2018.
- [J32] B. Li, M. Kisacikoglu, C. Liu, N. Singh, Melike Erol-Kantarci, "Big Data Analytics for Electric Vehicle

- Integration in Green Smart Cities,” **IEEE Communication Magazine**, vol. 55, no. 11, pp. 19-25, November 2017.
- [J31] F. Anjomshoa, M. Aloqaily, B. Kantarci, Melike Erol-Kantarci, S. Schuckers, “Social Behaviometrics for Personalized Devices in the Internet of Things Era,” **IEEE Access**, vol. 5, pp. 12199-12213, June 2017.
- [J30] L. Wu, J. Li, Melike Erol Kantarci, B. Kantarci, “An Integrated Reconfigurable Control and Self-Organizing Communication Framework for Community Resilience Microgrids,” **The Electricity Journal**, Vol. 30, no. 4, pp. 27-34, May 2017.
- [J29] N. Nezamoddini, S. Mousavian, Melike Erol-Kantarci, “A Risk Optimization Model for Enhanced Power Grid Resilience Against Physical Attacks,” **Electric Power Systems Research**, vol. 143, pp. 329–338, February 2017.
- [J28] J. Yang, S. He, Z. Lv, W. Wei, H. Song, Melike Erol-Kantarci, B. Kantarci, “Multimedia recommendation and transmission system based on cloud platform,” **Elsevier Journal on Future Generation Computer Systems**, vol. 70, pp. 94-103, 2017.
- [J27] P. Shams, Melike Erol-Kantarci, M. Uysal, “MAC Layer Performance of the IEEE 802.15.7 Visible Light Communication Standard,” **Wiley Transactions on Emerging Telecommunications Technologies**, vol. 27, no. 5, pp. 662–674, May 2016.
- [J26] I. Butun, Melike Erol-Kantarci, B. Kantarci, H. Song, “Cloud-centric Multi-level Authentication as a Service for Secure Public Safety Device Networks,” **IEEE Communications Magazine**, vol. 54, no.4, April 2016.
- [J25] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, “A Survey on Cross-layer Quality of Service Approaches in WSNs for Delay and Reliability Aware Applications,” **IEEE Communications Surveys and Tutorials**, vol.18, no.1, First Quarter 2016. **This article received the Best Paper Award of the IEEE ComSoc Technical Committee on Communications Systems Integration and Modeling 2017.**
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[C001] S. Baykut, Melike Erol, T. E. Ozkurt, T. Akgul, “The Estimation of H for fBm Processes: a Comparative Study,” (in Turkish), in Proc. of IEEE 13. Sinyal İşleme Kurultayı (Signal Processing and Applications Conference), May 16-18, 2005, Erciyes, Turkey.

Book Chapters:

[BC15] M. Sadeghi, Melike Erol-Kantarci, H. T. Mouftah, “Connected and Autonomous Electric Vehicle Charging Infrastructure Integration to Microgrids in Future Smart Cities,” in Connected and Autonomous Vehicles in Smart Cities, Eds. H. T. Mouftah, M. Erol-Kantarci, S. Sorour, CRC Press, 2020.

- [BC14] Melike Erol-Kantarci, A. Caruso, "Ultra Reliable and Low Latency Communications for the Smart Grid," in Encyclopedia of Wireless Networks, Ed. V. Wong, Springer, 2018.
- [BC13] S. Mousavian, Melike Erol-Kantarci, H. T. Mouftah, "Cyber-Security and Resiliency of Transportation and Power Systems in Smart Cities," in Transportation and Power Grid in Smart Cities: Communication Networks and Services, Eds. H. T. Mouftah, M. Erol-Kantarci, M. H. Rehmani, Wiley, 2018.
- [BC12] K. Bahmani, A. Argyriou, M. Erol-Kantarci, "Backhaul Relaxation through Caching," in Access, Fronthaul and Backhaul for 5G Wireless Networks, Eds. M. Imran, S. A. Raza, M. Z. Shakir, IET, 2017.
- [BC11] Melike Erol-Kantarci, D. W. Illig, L. Rumbaugh, W. D. Jemison, "RF-Powered Mobile Sensors and Cyber-Physical Systems," in Cyber-Physical Systems: Foundations, Principles, and Applications, Eds. H. Song, D. B. Rawat, S. Jeschke, C. Btecher, Elsevier, 2016.
- [BC10] Melike Erol-Kantarci, H. T. Mouftah, "Toward Low-Carbon Economy and Green Smart Grid through Pervasive Demand Management," in Smart Grid: Networking, Data Management, and Business Models," Eds. M. Erol-Kantarci, H. T. Mouftah, CRC, 2016. ISBN: 9781498719704. (Reprint from the chapter in Pervasive Communications Handbook.)
- [BC09] Melike Erol-Kantarci, M. Uysal, "Multiple Access in Visible Light Communication Networks," in Optical Wireless Communications, Eds. M. Uysal, C. Capsoni, Z. Ghassemlooy, A. Boucouvalas, E. G. Udvary, Springer, 2016.
- [BC08] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, "Future Wireless Sensor Networks For The Smart Grid," The Future of Wireless Networks: Architectures, Protocols, and Services, (ISBN 9781482220940), Eds. M. Guizani, H.-H. Chen, C. Wang CRC Press, 2015.
- [BC07] Melike Erol-Kantarci, H. T. Mouftah, "Wireless Rechargeable Sensor Networks in the Smart Grid" Rechargeable Sensor Networks: Technology, Theory and Application, (ISBN-13: 978-9814525459), Eds. J. Chen, S. He, Y. Sun, World Scientific, 2014.
- [BC06] Melike Erol-Kantarci, H. T. Mouftah, "Wireless Sensor and Actor Networks for Monitoring and Controlling Energy Use in the Smart Grid," Sensor Networks for Sustainable Development, (ISBN-13: 978-1466582064), Eds. M. Ilyas, S. Alwakeel, M. Alwakeel, M. Aggoune, CRC Press, 2014.
- [BC05] Melike Erol-Kantarci, H. T. Mouftah, "Machine-to-machine communications in the smart grid," Machine-To-Machine Communications – Architectures, Technology, Standards, and Applications, (ISBN-13: 978-1466561236), Eds. J. Misic, V. Misic, CRC Press, 2014.
- [BC04] H. T. Mouftah, Melike Erol-Kantarci, "Wireless Sensor Networks for Consumer Applications in the Smart Grid," Smart Grid Infrastructure and Networking, (ISBN-13: 978-0071787741), Ed. K. Iniewski, McGraw-Hill, 2012.
- [BC03] H. T. Mouftah, Melike Erol-Kantarci, "Smart Grid Communications: Opportunities and Challenges," Handbook of Green Information and Communication Systems, (ISBN-13: 978-0124158443), Eds. M. S. Obaidat, A. Anpalagan and I. Woungang, Elsevier, 2012.
- [BC02] Melike Erol-Kantarci, H. T. Mouftah, "Pervasive Energy Management for the Smart Grid: Towards a Low Carbon Economy," Pervasive Communications Handbook, (ISBN 9781420051094), Eds. S. I. A. Shah, M. Ilyas, H. T. Mouftah, CRC Press, 2011.
- [BC01] Melike Erol-Kantarci, H. T. Mouftah, "Demand Management and Wireless Sensor Networks in the Smart Grid," Energy Management Systems, (ISBN 978-953-307-579-2), Eds. P. Giridhar Kini. (Ed.), InTech, 2011. (Downloaded 6,000 times as of February 2014.)

Non-Refereed Journal Papers:

- [NRJ05] N. Singh, M. Kisacikoglu, Melike Erol-Kantarci, "Big Data for Electric Vehicle-Grid Integration (EVGI) Decision Making," IEEE MMTC Communications Frontiers Journal, November 2017.
- [NRJ04] I. Al-Anbagi, Melike Erol-Kantarci, H.T. Mouftah, "QoS in Wireless Multimedia Sensor and Actuator Networks for Smart Grids and Critical Infrastructures," IEEE MMTC Newsletter, pp. 28-32, September 2015.

[NRJ03] Melike Erol-Kantarci, H.T. Mouftah, "Electric Vehicles in the Smart Grid and Energy Trading Communities," IEEE MMTC Newsletter, 2015.

[NRJ02] Melike Erol-Kantarci, O. Asad and H.T. Mouftah, "Residential Power Trading Will Depend on Wireless Sensor Networks", IEEE Smart Grid Newsletter, September 2011.

[NRJ01] Melike Erol-Kantarci, S. Oktug, "Analyzing the performance of localization protocols for underwater acoustic sensor networks," ITU Journal, vol 9, issue 5, June 2010, pp.1726.

Non-Refereed/Non-Indexed Conferences and Poster Presentations:

[NRC24] H. Zhou, M. Erol-Kantarci, "Multi-agent Correlated Deep Q-learning for Microgrid Energy Management," in Vector Institute 2021 Research Symposium, February 2021.

[NRC23] H. Zhou, M. Erol-Kantarci "Decentralized Microgrid Energy Management Using A Multi-agent Correlated Q-learning Approach" Deep Learning Reinforcement Learning Summer School, August 2020.

[NRC22] H. Zhou, M. Erol-Kantarci "Decentralized Microgrid Energy Management Using A Multi-agent Correlated Q-learning Approach" NSERC CREATE TOPSET Summer School, July 2020.

[NRC21] M. Elsayed, M. Erol-Kantarci, "Artificial Intelligence (AI)-enabled Wireless Networks," 2019 Deep Learning and Reinforcement Learning Summer School, Edmonton, Alberta, 2019.

[NRC20] M. Sadeghi, M. Erol-Kantarci, "Edge Caching and Computing for AR/VR and Tactile Internet Applications in E-Health," CRETE BEST and MDII Poster day, September 2018.

[NRC19] M. Elsayed, M. Erol-Kantarci, "AI-Enabled 5G and Beyond Wireless Networks for Microgrid Communications," NSERC CREATE TOPSET Summer School, May 2018.

[NRC18] M. Samadi, H. Schriemer, M. Erol-Kantarci, "Demand response approach using non-cooperative game theory and machine learning algorithm," NSERC CREATE TOPSET Summer School, May 2018.

[NRC17] M. Sadeghi, M. Erol-Kantarci, "Coalitional Energy Trading in Microgrids Using Q-Learning," NSERC CREATE TOPSET Summer School, May 2018.

[NRC16] R. Liu, M. Erol-Kantarci, "5G Network Slicing in Renewable Energy Distribution," NSERC CREATE TOPSET Summer School, May 2018.

[NRC15] M. Haider, M. Erol-Kantarci, "Enhanced LBT Mechanism for LTE-Unlicensed using Reinforcement Learning," NSERC CREATE TOPSET Summer School, May 2018.

[NRC14] M. Elsayed, M. Erol-Kantarci, "Reinforcement learning in wireless networks for smart health applications," CRETE BEST and MDII Poster day, September 2017.

[NRC13] A. M. Caruso, M. Erol-Kantarci, "Privacy-Utility Trade off in Big Data of Smart Cities," 3rd Italian Conference on ICT for Smart Cities & Communities, Bari, Italy, September 27-29, 2017.

[NRC12] Md A. Parvej, J. Bokharia, M. Erol-Kantarci, "RF Energy Harvesting Sensors under In-Band and Out-of-Band WiFi Existence," Clarkson Graduate Symposium, Sept. 2015.

[NRC11] T. Yang, A. R. Momani, B. Li, M. Erol-Kantarci, "Packet Reception Performance of ZigBee Networks under Interference from Beamforming WiFi Routers," Clarkson Graduate Symposium, Sept. 2015.

[NRC10] Melike Erol-Kantarci, H. T. Mouftah, "Sustainable Wireless Sensor Networks for Long-Term Smart Grid Applications", 4th WiSense Workshop, Ottawa, ON, Canada, September 8, 2012.

[NRC09] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, "Low-Latency WSN Communication Schemes for Condition Monitoring Applications in the Smart Grid", 4th WiSense Workshop, Ottawa, ON, Canada, September 8, 2012.

[NRC08] N. Zaker, B. Kantarci, Melike Erol-Kantarci, H. T. Mouftah, "Fiber-Wireless Sensor Network Integration

(Fi-WSN) For the Smart Grid", 4th WiSense Workshop, Ottawa, ON, Canada, September 8, 2012.

[NRC07] Melike Erol-Kantarci, H. T. Mouftah, "Wireless Sensor Networks for Demand-side Smart Grid Applications", 3rd WiSense Workshop, Ottawa, ON, Canada, September 2, 2011.

[NRC06] Melike Erol-Kantarci, B. Kantarci, H. T. Mouftah, "Reliable Overlay Topology Design for Interconnected Microgrids", 3rd WiSense Workshop, Ottawa, ON, Canada, September 2, 2011.

[NRC05] Melike Erol-Kantarci, J. Sarker, H. T. Mouftah, "Communication-based Admission Control for Plug-in Hybrid Electric Vehicles in the Smart Grid", 3rd WiSense Workshop, Ottawa, ON, Canada, September 2, 2011.

[NRC04] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, "Delay-Sensitive WSN Design for Wind Farm Monitoring in the Smart Grid", 3rd WiSense Workshop, Ottawa, ON, Canada, September 2, 2011.

[NRC03] Melike Erol-Kantarci and H.T. Mouftah, "Wireless Sensor Networks (WSNs) in the Smart Grid", NRC-uOttawa WiSense Workshop, Ottawa, March 2, 2011.

[NRC02] H.T. Mouftah and Melike Erol-Kantarci, "Wireless Sensor Networks for the Smart Power Grid", Poster in Canada Research Chairs Thinking Ahead for a Strong Future Conference, Toronto, Nov. 2010.

[NRC01] Melike Erol-Kantarci and H.T. Mouftah, "Wireless Sensor Networks for Residential Energy Management in Smart Grids", 2nd WiSense Workshop, Kingston, ON, Canada, May 2010.

KEYNOTES AND PLENARY TALKS

[KN07] Keynote on "AI-enabled Energy Trading for Microgrids and Transactive Energy Systems," at IEEE 3rd Global Power, Energy and Communication Conference, October 2021.

[KN06] Keynote on "AI-Enabled Future Wireless Networks and Security," at IEEE ICC 4th Workshop on 5G and Beyond Wireless Security (IEEE WIRELESS-SEC), June 2021.

[KN05] Distinguished speaker on "Security in the Era of Hyperconnected World," in Underrepresented Groups in Cybersecurity Panel, Silicon Valley Cybersecurity Conference, December 2020.

[KN04] Keynote on "AI-Enabled Future Wireless Networks," 16th IFIP International Conference on Network and Service Management (CSNM), November 2020.

[KN03] Keynote on "AI-Enabled Wireless Networks: A Bridge from 5G to 6G," Global Information Infrastructure Networking Symposium (GIIS), October 2020.

[KN02] Plenary Talk on "AI-enabled Transactive Energy Systems and the Role of Communications", IEEE International Conference on Advanced Communication Technologies and Networking (CommNet'20), September 2020.

[KN01] Plenary Talk on "AI-enabled Energy Trading for Microgrids and Transactive Energy Systems," IEEE Smart Energy Grid Engineering, August 2020.

TUTORIALS

[T12] Melike Erol-Kantarci and M. Simsek, "AI-enabled Open Virtualized Wireless Networks," IEEE PIMRC, virtual conference due to COVID-19, September 2021.

[T11] Melike Erol-Kantarci and M. Simsek, "AI-enabled Optimization in Virtualized Wireless Networks: An Open RAN Perspective," European Wireless, Verona, Italy, November 2021.

[T10] Melike Erol-Kantarci and M. Simsek, "AI-enabled Open Virtualized Wireless Networks," IEEE ICC, virtual conference due to COVID-19, June 2021.

[T09] Melike Erol-Kantarci and M. Simsek, "AI-enabled Future Wireless Networks: Opportunities and Challenges Towards 6G," IEEE CCNC, virtual conference due to COVID-19, January 2021.

[T08] Melike Erol-Kantarci and M. Elsayed, “AI-enabled Wireless Networks: Towards 6G,” **Ottawa AI Workshop**, Ottawa, ON, November 2019.

[T07] H. T. Mouftah and Melike Erol-Kantarci, “Connected Electric Vehicles Vehicle-to-Grid and Grid-to-Vehicle Applications,” **IEEE CCECE**, Windsor, ON, May 2017.

[T06] H. T. Mouftah and Melike Erol-Kantarci, “Communication Architectures and Networking for Electric Vehicles in the Smart Grid,” **IEEE ICUWB**, Montreal, QC, October 2015.

[T05] H. T. Mouftah and Melike Erol-Kantarci, “Communication Architectures and Networking for Electric Vehicles in the Smart Grid,” **IEEE ICC**, London, England, June 2015.

[T04] H. T. Mouftah and Melike Erol-Kantarci, “Communication Architectures and Networks for Electric Vehicles in the Smart Grid,” **IEEE Vehicular Technology Conference (VTC) Spring**, Glasgow, Scotland, May 2015.

[T03] H. T. Mouftah and Melike Erol-Kantarci, “Communication Architectures and Networking for Electric Vehicles in the Smart Grid,” **IEEE WCNC**, New Orleans, LA, March 2015.

[T02] H. T. Mouftah and Melike Erol-Kantarci, “Architectures, Models and Networks for Electric Vehicles in the Smart Grid,” **IEEE Vehicular Technology Conference (VTC) Fall**, Vancouver, BC, September 2014.

[T01] H. T. Mouftah and Melike Erol-Kantarci, “Architectures, Models and Networks for Electric Vehicles in the Smart Grid,” **IEEE Canadian Conference on Electrical and Computer Engineering (CCECE)**, Toronto, ON, May 2014.

IEEE DISTINGUISHED LECTURES

[DL3] “Deep and Reinforcement Learning in 5G and 6G,” IEEE Distinguished Lecturer Series – IEEE Egypt Chapter, 2 June 2021.

[DL2] “AI-Enabled Wireless Networks,” IEEE Distinguished Lecturer Series – IEEE Seattle Section Joint Chapter, IEEE Vancouver Joint Chapter and IEEE Victoria Section Joint Chapter, 20 May 2021.

[DL1] “AI-Enabled Wireless Networks: A Bridge from 5G to 6G,” IEEE Distinguished Lecturer Series - IEEE Sri Lanka Section, 8 April 2021.

INVITED TALKS

[INV35] “The Nexus of Connected Autonomous Electric Vehicles and AI-enabled Transactive Energy Systems,” Vector Institute Mobility Symposium, 8 June 2021.

[INV34] “The role of AI in 5G and 6G: Research, Development and Testbeds,” Industry Research and Development - Canadian Perspective on B5G, SCC-NRC Canada Beyond Workshop, 26 May 2021.

[INV33] “AI-Enabled Wireless Networks: A Bridge from 5G to 6G,” IEEE Montreal Chapter, 10 May 2021.

[INV32] “Towards Autonomous 6G Networks and the Role of Advanced Machine Learning Techniques,” International Telecommunications Union (ITU) AI for Good Webinar Series, 21 April 2021.

[INV31] “AI-Enabled Wireless Networks: A Bridge from 5G to 6G,” IEEE Santa Clara Valley Section, 14 April 2021.

[INV30] “AI-Enabled Wireless Networks: A Bridge from 5G to 6G,” IEEE Training School in Machine Learning for Wireless Communications, 24-26 March 2021.

[INV29] “Towards Autonomous 6G Networks and the Role of Advanced Machine Learning Techniques,” Lakehead University, Computer Science Speaker Series, January 2021.

[INV28] “Internet Protocol and IP Addressing” Guest Lecture at International Hellenic University, January 2021.

[INV27] “Reinforcement Learning and Deep Learning: A holistic landscape for networks,” Ciena Tech Forum, network Intelligence Think Tank, September 2020.

[INV26] “Machine Learning for Resource Allocation and Scheduling in Device-to-Device (D2D) Microgrid Communications,” IEEE GlobalSIP, November 2019, Ottawa, ON.

- [INV25] “AI-enabled Wireless Networks: Opportunities and Challenges Towards 6G,” IEEE 5G World Forum, Systems Optimization, October 2019, Dresden, Germany.
- [INV24] “AI-enabled Wireless Networks: A Case Study on Resource Allocation using Deep Reinforcement Learning,” Middle East Technical University, June 2019, Ankara, Turkey.
- [INV23] “AI-enabled Wireless Networks: A Case Study on Resource Allocation using Deep Reinforcement Learning,” BlackBerry Innovate Technology Series (BITS), December 2018, Ottawa, ON.
- [INV22] “Resource Allocation in Wireless Networks using Machine Learning” Istanbul Technical University, July 20 2018, Istanbul, Turkey.
- [INV21] “A career in engineering. Engineering your own career!” Keynote in IEEE Electrical Power and Energy Conference- Women in Engineering, Ottawa, Canada, October 2016.
- [INV20] “Cyber-Physical System Monitoring and Security,” École de technologie supérieure (ÉTS)- Montreal, QC, 4 May 2016.
- [INV19] “A Short Course on Communication Systems for Connected Electric Vehicles,” Istanbul Technical University, June 24, 2015, Istanbul, Turkey.
- [INV18] “Enhanced Wireless Sensor Networking for the Smart Grid,” Carleton University, July 9, 2014, Ottawa, ON, Canada.
- [INV17] “Enhanced Wireless Sensor Networking for the Smart Grid,” Ryerson University, May 5, 2014, Toronto, ON, Canada.
- [INV16] “Networks and Architectures for Connected Electric Vehicles in the Smart Grid,” University of Ottawa, April 24, 2014, Ottawa, ON, Canada.
- [INV15] “Towards Enhanced Wireless Sensor Networks for Smart Grid Monitoring,” Istanbul Technical University, April 10, 2014, Istanbul, Turkey.
- [INV14] “Wireless Sensor Networks for the Smart Grid,” Clarkson University, February 12, 2014, Potsdam, NY, US.
- [INV13] “Cyber Physical System Monitoring Using Wireless Sensor Networks,” EPFL, January 31, 2014, Lausanne, Switzerland.
- [INV12] “Wireless Rechargeable Sensor Networks in the Smart Grid,” University of Ottawa, September 8, 2012, Ottawa, ON, Canada.
- [INV11] “How Will the Smart Grid Enable Electrification of Transportation?” University of Ottawa, October 20, 2011, Ottawa, ON, Canada.
- [INV10] “Opportunities for Wireless Technologies in the Smart Grid Communications Arena,” University of Ottawa, September 2, 2011, Ottawa, ON, Canada.
- [INV9] “Localization in Underwater Acoustic Sensor Networks,” University of Ottawa, March 10, 2011, Ottawa, ON, Canada.
- [INV8] “Wireless Sensor Networks in the Smart Grid,” National Research Council of Canada, March 2, 2011, Ottawa, ON, Canada.
- [INV7] “Localization Techniques for Underwater Acoustic Sensor Networks,” Communications Research Center of Canada, February 22, 2011, Ottawa, ON, Canada.
- [INV6] “Wireless Sensor Networks for Smart Demand Response in the Smart Grid,” Carleton University, February 16, 2011, Ottawa, ON, Canada.
- [INV5] “Wireless Sensor Networks (WSN) in the Power Grid,” IEEE Ottawa Chapter, November 22, 2010, Ottawa, ON, Canada.
- [INV4] “Wireless Sensor Networks for In-Home Energy Management in Smart Grids,” University of Ottawa, March 18, 2010, Ottawa, ON, Canada.
- [INV3] “Underwater Wireless Sensor Networks”, Bogazici University, September 17, 2009, Istanbul, Turkey.
- [INV2] “Localization in Underwater Sensor Networks”, Turkish Naval Research Center Command, June 17, 2008, Istanbul, Turkey.
- [INV1] “Underwater Sensor Networks”, Department of Electrical and Electronics Engineering, Bogazici University, December 2007, Istanbul, Turkey.

PANELS AND OUTREACH

- Panelist for “Next Generation Wireless Networking and Security for the Internet of Everything,” IEEE ICC 4th Workshop on 5G and Beyond Wireless Security (IEEE WIRELESS-SEC), June 2021.
- Keynote speaker for NETX Event Case Competition, 20 March 2021.
- Speaker for ITU ACM Student Chapter Women in Engineering, 11 March 2021.
- Panelist for “EV-fleet as Virtual Power Plant (VPP) for V2G services to the Grid” at IEEE Conference on Innovative Smart Grid Technologies (ISGT), February 2021.
- Panelist for “Future of Wireless Charging,” Industry Panel by AirFuel Alliance, IEEE CCNC January 2021.
- Career panel for underrepresented groups in cybersecurity, Silicon Valley Cybersecurity Conference, December 2020.
- Panelist for IEEE Toronto Section, IEEE Day, October 2020.
- Panelist for “Urban Analytics for Smart Cities: How to solve urban mobility problems through data sharing from heterogeneous systems”, IEEE International Smart Cities Conference (ISC2), September 2020.
- Co-host of IEEE ComSoc TCGCC Advanced Green Communications and Computing Seminar Series on “AI for Green 6G,” August 2020.
- Panelist for “Moving The Dial, Women in Stem”, IEEE Toronto International Women in Engineering Day Event, June 2020.
- Panelist for “360° View of Innovative Mission Critical Mobile Applications APIs,” IEEE PIMRC, Istanbul, September 2019.
- Speaker on “AI-enabled Future Networks” at uOttawa Innovates, Kanata North, February 2019.
- Panelist for “Charting AV/CV Technology Opportunities and Challenges,” Ottawa AV Summit, April 2018.
- Panelist for “Bridging the skill gap - How can the education system satisfy big data & cybersecurity industry demand?” Big Data and Cybersecurity Conference, Ottawa, February 2018.
- Girl Guides of Canada, Women in Science Night, Forrest Valley Elementary School, February 2018.
- CBC Radio, Quirks and Quarks, Annual Quirks' Question Show, Ottawa, December 2017.
- Panelist for “Developing Smart Canadian Networks,” The Centre of Excellence in Next Generation Networks (CENGN) Summit, Ottawa, December 2016.
- Women in Science and Engineering (WISE) seminar on engineering career, University of Ottawa, November 2016.

PROFESSIONAL ACTIVITIES AND MEMBERSHIPS

Leadership

IEEE ComSoc Distinguished Lecturer	2021- Present
Vice-chair, IEEE ComSoc emerging technologies initiative on Machine Learning for Communications	2021- Present
Co-Chair for SIG on AI and Computational Intelligence in Smart Grid of IEEE Technical Committee on Smart Grid Communications	2021- Present
Chair, SIG on ML and AI in Networking of IEEE Technical Committee on Communications Software	2020-Present
Chair, SIG on Green Smart Grid Communications of IEEE Technical Committee on Green Communications and Computing (TCGCC)	2019 - Present
Steering Committee Member for IEEE Sustainable ICT	2018 - Present
Research Group Leader – IEEE Smart Grid and Big Data Standardization	2016 - 2020
Vice-Chair – SIG on Green Smart Grid Communications of IEEE TCGCC	2014 - 2019
Vice-Chair - IEEE Ottawa Women in Engineering	2012 - 2014

Editorial Boards of Scientific and Scholarly Journals

Specialty Chief Editor, Frontiers in Communications and Networks, Smart Grid Communications	2020 - Present
Associate Editor, IEEE Transactions on Cognitive Communications and Networking	2020 - Present

Associate Editor, IEEE Networking Letters	2020 - Present
Associate Editor, IEEE Internet of Things Journal	2020 - Present
Associate Editor, IEEE Vehicular Technology Magazine	2020 - Present
Associate Editor, IEEE Communications Letters	2016 - Present
Associate Editor, IEEE Access	2017 - Present
Co-director, IEEE MMTC Communication Frontiers	2018 - 2020
Associate Editor, International Journal of Distributed Sensor Networks	2013 - 2019
Associate Editor, IEEE MMTC Communication Frontiers	2015 - 2018

Award Committees

IEEE Technical Committee on Green Communications and Computing (TCGCC) editor selection committee	2020
IEEE ComSoc EMEA Region Distinguished Service Award	2020
IEEE GC'20 Awards Committee	2020
IEEE Comsoc TC on Green Communications and Computing (early career and editor selection committees)	2020

Guest Editorial on Special Issue

Special Issue on "AI and 6G Convergence: an Energy-efficiency Perspective" (IEEE Network Magazine)	2021
Special Issue on "Communications and Computing for Green Industrial IoT and Smart Grids" (IEEE Transactions on Green Communications and Networking)	2021
Special Issue on "Edge Learning for the Internet of Vehicles" (Wiley Transactions on Emerging Telecommunications Technologies)	2019
Special section on "Smart Grid Cyber-Physical Security" (IEEE Transaction on Smart Grid)	2017
Special section on "Smart Grid and Renewable Energy Resources: Information and Communication Technologies with Industry Perspective" (IEEE Transactions on Industrial Informatics)	2017
Special Issue on "Cognitive Radio Based Smart Grid: The Future of the Traditional Electrical Grid" (Elsevier Ad Hoc Networks)	2015
Special Section on "Smart Grids: A Hub of Interdisciplinary Research" (IEEE Access)	2015

General Co-Chair:

Workshop on experimental wireless platforms and testbeds for computing, communication and networking research (Testbeds4Wireless) (in conj. With IEEE Globecom)	2021
International Workshop on Communications in Extreme Conditions (in conj. with WCNC)	2016
International Workshop on Internet-of-Things Communications and Networking (in conj. with PIMRC)	2012

TPC Chair:

IEEE Canadian Conference on Electrical and Computer Engineering (CCECE)	2021
IEEE Int. Workshop on Computer Aided Modeling and Design of Communication Links and Networks	2020
IEEE International Conference on Wireless for Space and Extreme Environments (WISEE)	2019
5th IEEE ICC International Workshop on Internet of Things	2017
Wireless Communications and Signal Processing (WCSP), Wireless Networking Symposium	2017
IEEE/IFIP Network Operations and Management Symposium (NOMS)	2016
7th International Conference on Ad Hoc Networks (AdHocNets)	2015
6th International Conference on Ad Hoc Networks (AdHocNets)	2014
3rd IEEE ICC International Workshop on Internet of Things	2015

Track/Symposium Chair:

IEEE GLOBECOM, Wireless Communications	2022
IEEE CCNC, AI/ML in Communications and Networking	2022
IEEE CCNC, Next Generation Protocols: MAC and above	2021
IEEE GLOBECOM, Communication QoS, Reliability And Modeling	2020
IEEE SmartGridComm, Communications and Networking Symposium	2020
IEEE CCNC, Wireless Communications: MAC And Cross-Layer Design	2020
IEEE PIMRC, MAC and Cross-Layer Design Track	2019

IEEE Vehicular Technology Conference (VTC) Fall, Electric Vehicles, Vehicular Electronics, and Intelligent Transportation Track	2019
IEEE SmartGridComm, Communications and Networking Symposium	2018
Workshops Committee Co-Chair:	
IEEE Vehicular Technology Conference - VTC2017-Fall	2017
ACM Int. Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWIM)	2015
Tutorial and Panel Co-Chair:	
International Conference on Computing, Networking and Communications (ICNC)	2020
IEEE Symposium on Computers and Communications (ISCC)	2017
Poster Co-Chair:	
IEEE ICC, 7th N2Women Workshop	2018
Publicity Co-Chair:	
IEEE VTC'16 - International Workshop on Connecting All Things for Enabling Smart Cities	2016
The International Workshop on Computer-Aided Modeling Analysis and Design of Communication Links and Networks (CAMAD)	2015
The 27th Biennial Symposium on Communications	2014
Int. Conference on Ad Hoc Networks (ADHOCNETS)	2012, 2013
Int. Conference on Wireless Communications and Signal Processing (WCSP)	2012
IEEE Symposium on Computers and Communications (ISCC)	2012
Local Organizing Committee Member	
Int. Sym. on Computer and Information Sciences (ISCIS)	2008
Panel Co-Organizer and Mentor	
IEEE Women in Engineering Mentor at Globecom	2019
IEEE Women in Engineering Panel at International Conference on Communications (ICC)	2012
Technical Program Committee Member	
IEEE Globecom	2011 - 2022
IEEE ICC	2014 - 2022
IEEE SmartGridComm	2012- 2012
IEEE ICC - International Workshop on Cloud Computing Systems, Networks, and Applications	2015
International Conference on Smart Grids for Smart Cities	2015
IEEE Vehicular Technology Conference (VTC)	2013, 2015
IEEE Consumer Communications & Networking Conference (CCNC)	2013, 2014
IEEE Canadian Conference on Electrical and Computer Engineering	2014
IEEE/SAE International Conference on Connected Vehicles and Expo	2013, 2014
IEEE Local Computer Networks (LCN)	2012 - 2015
IEEE Symposium on Computers and Communications (ISCC)	2012 - 2015
IEEE CloudCom	2013
IEEE International Symposium on Trust, Security and Privacy for Emerging Applications (TSP)	2013
Int. Conference on Cloud Computing	2013
IEEE Int. Workshop on Smart Communication Protocols and Algorithms (in conj. with ICC'13)	2013
Int. Conference on Computing, Networking and Communications (ICNC)	2013
International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN)	2013
IEEE Workshop on Machine to Machine Communications Interfaces and Platforms (M2MCIP)	2013
IEEE Workshop on Internet-of-Things Networking and Control (IoT-NC)	2013
European Signal Processing Conference (EUSIPCO)	2012
Int. Conference on Ambient Systems, Networks and Technologies (ANTS)	2012

IEEE International Workshop on Integrated Enabling Technology	2012
Networking Networking Women Workshop (in conjunction with INFOCOM)	2012
The Ninth Workshop on Wireless Ad hoc and Sensor Networks	2012

Memberships

IEEE Senior Member	2015-Present
ACM Senior Member	2020-Present
ACM Member	2015-2020
IEEE Member	2008-2015