

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

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

Email: melike.erolkantarci@uottawa.ca

Voice: 613 562-5800 ext. 6693

Address: 800 King Edward Avenue, Ottawa, ON K1N 6N5

Office: SITE 5029

Web: www.eecs.uottawa.ca/~merolka2

PROFILE

Research:

- Founding director of Networked Systems and Communications Research (NETCORE) laboratory
- Over **3800 citations** and an **h-index of 30** with more than 100 refereed publications
- More than **\$0.5M funding in-cash** (sole-share) from agencies including Natural Sciences and Engineering Research Council of Canada (NSERC), National Science Foundation (NSF-USA), Natural Resources Canada (NRCAN) and capital gifts from QUALCOMM Inc.
- Received the **2017 IEEE ComSoc Best Tutorial Paper Award**
- Received the **2017 Best Paper Award** of the IEEE ComSoc Technical Committee on Communications Systems Integration and Modeling
- Received the **2017 Best Editor Award** of IEEE Multimedia Communications Technical Committee (MMTC)
- “Wireless Sensor Networks for Cost-Efficient Residential Energy Management in the Smart Grid” is included in the **IEEE ComSoc Best Readings in Smart Grid Communications** collection
- “Energy-Efficient Information and Communication Infrastructures in the Smart Grid: A Survey on Interactions and Open Issues” is included in the **IEEE ComSoc Best Readings in Green Communications** collection
- Expertise: wireless networks, 5G and beyond, AI-enabled networks, smart grid communications, electric vehicles, cyber physical systems, wireless energy harvesting, Internet of Things (IoT), wireless sensor networks

Activities:

- **Chair** for SIG on Green Smart Grid Communications of IEEE Technical Committee on Green Communications & Computing
- **Research Group Leader** of IEEE Smart Grid and Big Data Standardization
- Senior Member of IEEE
- Professional Engineer of Ontario

WORK EXPERIENCE

Assistant Professor (Tenure-track) University of Ottawa School of Electrical Engineering and Computer Science	2016-Present
Courtesy Assistant Professor Clarkson University Department of Electrical and Computer Engineering	2016-Present
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 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)** 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)** 2017
Project Title: Energy-Efficient Ultra-Dense Wireless Networks
- **UOttawa Office of the VP Research, Visiting Researchers Program (PI, Awarded \$4,000)** 2017
- **Canada-Italy Innovation Award, (Co-PI, Awarded \$4,500)** 2017
Project Title: Privacy-Utility Trade off in Big Data for Green Smart Cities
- **UOttawa Startup Grant** 2107
- **QUALCOMM Inc. (Co-PI, funded \$20,0000.00(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 \$40,000.00(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

- 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 for a paper presented at the IEEE Electrical Power and Energy Conference (EPEC), Halifax, Nova Scotia, Canada 2010
- Joint holder of the Best Paper Award for a paper presented at the Fifth Advanced International Conference on Telecommunications (AICT), Venice, Italy 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
- Scholarship for on campus housing, Istanbul Technical University 2001-2006
- 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, EECS, Library Committee 2018-Present
- 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 FOR FUNDING COMMITTEES

- NSERC Discovery Reviewer 2016, 2018
- 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 (7):

- Medhat Elsayed (PhD student) Thesis topic: AI-enabled 5G and beyond wireless networks for mission critical systems
- Mohammad Sadeghi (PhD Student) Thesis topic: Learning based co-optimized energy and communication systems
- Riqiang (Richard) Liu (PhD Student) Thesis topic: Network Management in 5G Wireless Networks
- Mikhak Samadi (PhD Student – co-supervised with Dr. Henry Schriemer) Thesis topic: Demand management in smart grid
- Kevin Shimotakahara (MAsc Student – co-supervised with Dr. Karin Hinzer) Thesis topic: D2D communications for smart grid
- Kyle Quintal (MSc Student – co-supervised with Dr. Burak Kantarci) Thesis topic: Smart Authentication in IoT
- Muhammad Usama (Master's Student) Project topic: Energy-efficient small cell wireless networks

Past supervised students (16):

- 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)
- 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)
- 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

- Riccardo Venanzi, PhD, "Device as a Service and Fog Computing Middleware for the Internet of Things," PhD in 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 Zengin, PhD, "Optimal sizing and operation planning of microgrids and operation analysis of charging stations for electric vehicles," Universitat Politcnica 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, MASc, "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 (Fall 2019)
- Wireless Mobile Networks (CEG 4186 – Winter 2018)
- ComNet-IPS: Communications and Networking for Intelligent Physical Systems (CSI 5140 – Winter 2018) – Developed this course for the first time at University of Ottawa
- Introduction to Data Communications and Networking (CEG3185 – Summer 2017)
- Computer Communications (ELG 5374 - Fall 2016)
- Wireless Mobile Networks (CEG 4186 – Winter 2017)

CLARKSON UNIVERSITY (2014-2016)

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

PUBLICATION LIST

Books:

[B02] H. T. Mouftah, M. Erol-Kantarci, M. H. Rehmani, “**Transportation and Power Grid in Smart Cities: Communication Networks and Services**,” Wiley, 2018, ISBN: 978-1-119-36008-7.

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

Editorial Articles:

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

[E006] Melike Erol-Kantarci, “**Special Issue on Data Analytics for Smart Grid and Electric Vehicles**,” IEEE MMTC 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 MMTC 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:

- [J36]** 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.
- [J35]** S. Sukhmani, M. Sadeghi, Melike Erol-Kantarci, A. El-Saddik, “Edge Caching and Computing in 5G for Mobile AR/VR and Tactile Internet,” in **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.**
- [J24]** Melike Erol-Kantarci, “Cache-At-Relay: Energy-Efficient Content Placement for Next-Generation Wireless Relays,” **Wiley International Journal of Network Management**, vol. 25, no 6, pp. 454–470, Nov./Dec. 2015.
- [J23]** I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, “Delay Critical Smart Grid Applications and Adaptive QoS Provisioning,” **IEEE Access**, vol. 3, pp. 1367 - 1378, 2015.
- [J22]** F. Senel, K. Akkaya, Melike Erol-Kantarci, T. Yilmaz, “Self-deployment of Mobile Underwater Acoustic Sensor Networks for Maximized Coverage and Guaranteed Connectivity,” **Elsevier Ad Hoc Networks Journal**, vol. 34, pp 170-183, November 2015.
- [J21]** M. I. Akbas, Melike Erol-Kantarci, D. Turgut, “Localization for Wireless Sensor and Actor Networks with Meandering Mobility,” **IEEE Transactions on Computers**, vol. 64, no 4, pp. 1015-1028, April 2015.
- [J20]** Melike Erol-Kantarci, H. T. Mouftah, “Energy-Efficient Information and Communication Infrastructures in the Smart Grid: A Survey on Interactions and Open Issues,” **IEEE Communications Surveys and Tutorials**, vol. 17, no. 1, pp. 179-197, February 2015. **This article received the 2017 IEEE ComSoc Best Tutorial Award and is included**

in the [IEEE ComSoc Best Readings in Green Communications](#) collection.

- [J19] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, “A Delay-aware Medium Access Scheme for WSN-based Partial Discharge Measurement,” **IEEE Transactions on Instrumentation and Measurement**, vol. 63, no. 12, December 2014.
- [J18] Melike Erol-Kantarci, J. H. Sarker, H. T. Mouftah, “A Four-way-handshake Protocol for Energy Forwarding Networks in the Smart Grid”, **Elsevier Ad Hoc Networks Journal**, vol. 22, pp. 83-92, November 2014.
- [J17] N. Zaker, B. Kantarci, Melike Erol-Kantarci, H. T. Mouftah, “Smart Grid Monitoring with Service Differentiation via EPON and Wireless Sensor Network Convergence,” **Elsevier Optical Switching and Networking**, vol. 14, pp. 53-68, August 2014.
- [J16] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, “Priority and Delay Aware Medium Access for Wireless Sensor Networks in the Smart Grid”, **IEEE Systems Journal**, vol.8, no.2, pp. 608 - 618, June 2014.
- [J15] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, “A Reliable IEEE 802.15.4 Model for Cyber Physical Power Grid Monitoring Systems,” **IEEE Transactions on Emerging Topics in Computing**, vol. 1, no.2, Dec. 2013.
- [J14] O. Asad, M. Erol-Kantarci, H. T. Mouftah, “A Survey of Sensor Web Services for the Smart Grid,” **Journal of Sensor and Actuator Networks**, vol. 2, no. 1, March 2013.
- [J13] Melike Erol-Kantarci, H. T. Mouftah, “Smart Grid Forensic Science: Applications, Challenges and Open Issues”, **IEEE Communications Magazine**, vol 51, no.1, pp. 68-74, January 2013. [This paper was featured in IEEE ComSoc Technology News \(CTN\) in March 2013.](#)
- [J12] Melike Erol-Kantarci, H. T. Mouftah, “SuReSense: Sustainable Wireless Rechargeable Sensor Networks for the Smart Grid,” **IEEE Wireless Communications**, vol.19, no. 3, pp. 30-36, June 2012.
- [J11] Melike Erol-Kantarci, O Asad, H. T. Mouftah, “Sensor Web Services for a Smarter Planet,” Institute for Computer Sciences, **Social Informatics and Telecommunications Engineering ICaST Magazine**, 2012.
- [J10] Melike Erol-Kantarci, B. Kantarci, H. T. Mouftah, “Reliable Overlay Topology Design for the Smart Microgrid Network,” **IEEE Network**, Special issue on Communication Infrastructures for Smart Grid, vol. 25, no.5, pp.38-43, September/October 2011.
- [J09] Melike Erol-Kantarci, H. T. Mouftah, “Wireless Sensor Networks for Cost-Efficient Residential Energy Management in the Smart Grid”, **IEEE Transactions on Smart Grid**, vol.2, no.2, pp.314-325, June 2011. [This paper is listed in IEEE ComSoc Best Readings in Smart Grid Communications.](#)
- [J08] Melike Erol-Kantarci, H. T. Mouftah, S. Oktug, “A Survey of Architectures and Localization Techniques for Underwater Acoustic Sensor Networks,” **IEEE Communications Surveys and Tutorials**, vol.13, no.3, pp. 487-502, 2011.
- [J07] Melike Erol-Kantarci, H. T. Mouftah, “Wireless Multimedia Sensor and Actor Networks for the Next-Generation Power Grid,” **Elsevier Ad Hoc Networks Journal**, vol.9 no.4, pp. 542-551, June 2011. [This paper was listed by Elsevier Ad Hoc Networks journal as fourth most downloaded article of 2011 and in most cited articles since 2010.](#)
- [J06] T. Akgül, S. Baykut, Melike Erol-Kantarci, S. Oktug, “Periodicity-based Anomalies in Self-similar Network Traffic Flow Measurements,” **IEEE Transactions on Instrumentation and Measurement**, vol.60, no.4, pp.1358-1366, April 2011.
- [J05] Melike Erol-Kantarci, S. Oktug, L. Vieira, M. Gerla, “Performance Evaluation of Distributed Localization Techniques for Mobile Underwater Acoustic Sensor Networks”, **Elsevier Ad Hoc Networks Journal**, vol.9 no.1, pp. 61-72, Jan 2011.
- [J04] A. Elmoudi, O. Asad, Melike Erol-Kantarci, H. T. Mouftah, “Energy Consumption Control of an Air Conditioner using Web Services,” **Journal of Smart Grid and Renewable Energy**, vol. 2, no.3, pp. 255-260, Aug. 2011. (ISSN Online: 2151-4844)

[J03] Melike Erol-Kantarci, H. T. Mouftah, S. Oktug, "Localization Techniques for Underwater Acoustic Sensor Networks," **IEEE Communications Magazine**, vol. 48, no.12, pp. 152-158, 2010.

[J02] Melike Erol, T. Akgül, S. Oktug, S. Baykut, "On the Use of Principle Component Analysis for the Hurst Parameter Estimation of Long-Range Dependent Network Traffic", **Lecture Notes on Computer Science**, Vol.4263, pp. 464-473, 2006.

[J01] Melike Erol, S. Oktug, T. Akgul, "Analyzing the Impacts of Queue Management Policies on the Self-similarity of Aggregate Network Traffic," **WSEAS Transactions on Communications**, Vol.3, No.3, pp. 918-924, 2004.

Refereed Conference Papers:

[C64] J. Zhang, J. Li, L. Wu, Melike Erol-Kantarci, B Kantarci, "Hierarchical Optimal Control of the Resilient Community Microgrid in Islanded Mode," accepted to IEEE PES General Meeting, Atlanta, August 2019.

[C63] A. Omara, B. Kantarci, M. Nogueira, Melike Erol-Kantarci, L. Wu, J. Li "Delay Sensitivity-aware Aggregation of Smart Microgrid Data over Heterogeneous Networks," accepted to IEEE ICC, Shanghai, China, May 2019.

[C62] M. Elsayed, Melike Erol-Kantarci, "Deep Reinforcement Learning for Reducing Latency in Mission Critical Services," in Proc. of IEEE Globecom, Abu Dhabi, December 2018.

[C61] M. Elsayed, Melike Erol-Kantarci, "Deep Q-Learning for Low-Latency Tactile Applications: Microgrid Communications," in Proc. of IEEE SmartGridComm Workshops, Aalborg, Denmark, October 2018.

[C60] M. Elsayed, Melike Erol-Kantarci, "Learning-Based Resource Allocation for Data-Intensive and Immersive Tactile Applications," in Proc. of IEEE 5G-Forum Workshops, July 2018.

[C59] M. Haider, Melike Erol-Kantarci, "Enhanced LBT Mechanism for LTE-Unlicensed using Reinforcement Learning," in Proc. of IEEE Canadian Conference on Electrical and Computer Engineering (CCECE), Quebec City, QC, May 2018.

[C58] Melike Erol-Kantarci, S. Sukhmani, "Caching and Computing at the Edge for Mobile Augmented Reality and Virtual Reality in 5G," in Proc. of ADHOCNETS, Niagara Falls, ON, September 2017.

[C57] F. Anjomshoa, B. Kantarci, Melike Erol-Kantarci, S. Schuckers, "Detection of Spoofed Identities on Smartphones via Sociability Metrics," in Proc. of IEEE ICC, Paris, France, May 2017.

[C56] A. Argyriou, Melike Erol-Kantarci, Y. Liu, "Spectrally-Efficient Cooperative Video Delivery in 5G Heterogeneous Wireless Networks," in Proc. of Globecom Workshops, Washington, DC., December 2016.

[C55] F. Anjomshoa, B. Kantarci, Melike Erol-Kantarci, S. Schuckers, "A mobile platform for sociability-based continuous identification," in Proc. of IEEE International Workshop on Computer Aided Modelling and Design of Communication Links and Networks (CAMAD)- Demo Track, Toronto, ON, October 2016.

[C54] A. A. AlMomani, A. Argyriou, Melike Erol-Kantarci, "A Heuristic Approach for Overlay Content-Caching Network Design in 5G Wireless Networks," in Proc. of IEEE Symposium on Computers and Communications (ISCC), Messina, Italy, 27-30 June 2016.

[C53] F. Anjomshoa, M. Catalfamo, D. Hecker, N. Helgeland, A. Rasch, B. Kantarci, Melike Erol-Kantarci, S. Schuckers, "Mobile Behaviometric Framework for Sociability Assessment and Identification of Smartphone Users," in Proc. of IEEE Symposium on Computers and Communications (ISCC), Messina, Italy, 27-30 June 2016.

[C52] J. Bokhiria, M A. Parvej, Melike Erol-Kantarci, "Project-based Approach in Teaching Energy-Harvesting Wireless Sensor Networks," in Proc. of IEEE Integrated STEM Education Conference (ISEC), pp. 22-25, New Jersey, March 2016.

[C051] A. Mousavian, Melike Erol-Kantarci, T. Ortmeyer, "Cyber Attack Protection for a Resilient Electric Vehicle Infrastructure," in Proc. of IEEE Globecom - Workshop on SmartGrid Resilience, San Diego, CA, December 2015.

[C050] B. Kantarci, Melike Erol-Kantarci, S. Schuckers, "Towards secure cloud-centric Internet of Biometric Things," in Proc. of IEEE International Conference on Cloud Networking, pp.81-83, Niagara Falls, ON, 2015.

[C049] P. Shams, O. Narmanlioglu, M. Uysal, Melike Erol-Kantarci, "Markov-based performance analysis of medium access in visible light communications (Invited)" in Proc. of 17th International Conference on Transparent Optical

Networks (ICTON), pp.1-4, Budapest, Hungary, 2015.

[C048] I. Butun, B. Kantarci, Melike Erol-Kantarci, “Anomaly detection and privacy preservation in cloud-centric Internet of Things,” in Proc. of IEEE ICC 2015 - First Workshop on Security and Privacy for Internet of Things and Cyber-Physical Systems, pp. 2610 – 2615, London, UK, 2015.

[C047] Melike Erol-Kantarci, “Content Caching in Small Cells with Optimized Uplink and Caching Power,” in Proc. of IEEE Wireless Communications and Networking Conference (WCNC), pp. 2173 – 2178, New Orleans, USA, 2015.

[C046] Melike Erol-Kantarci, “Uplink Power Optimized In-Network Content Caching for HetNets,” in Proc. of IEEE International Conference on Computing, Networking and Communications (ICNC) - Workshop on Computing, Networking and Communications (CNC), pp. 270 – 274, Anaheim, CA, USA, 2015.

[C045] Melike Erol-Kantarci, H. T. Mouftah, “Challenges of Wireless Power Transfer for Prolonging User Equipment (UE) Lifetime in Wireless Networks,” in Proc. of IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) – Workshop on Current Challenges for Wireless Power Transfer, pp. 2140 – 2144, Washington DC, USA, 2014.

[C044] Melike Erol-Kantarci, H. T. Mouftah, “Overlay Energy Circle Formation for Cloud Data Centers with Renewable Energy Futures Contracts,” in Proc. of IEEE Symposium on Computers and Communications (ISCC) – Workshop on Management of Cloud Systems, Portugal, June 23-26, 2014.

[C043] Melike Erol-Kantarci, H. T. Mouftah, “Radio-Frequency-Based Wireless Energy Transfer in LTE-A Heterogeneous Networks,” in Proc. of IEEE Symposium on Computers and Communications (ISCC), Portugal, June 23-26, 2014.

[C042] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, “Tuning Guaranteed Time Slots of IEEE 802.15.4 for Transformer Health Monitoring in the Smart Grid”, in Proc. of IEEE Wireless Communications and Networking Conference (WCNC), pp. 3420 – 3425, Istanbul, Turkey, April 6-9, 2014.

[C041] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, “QoS-aware Inter-Cluster Head Scheduling in WSNs for High Data Rate Smart Grid Applications,” in Proc. of IEEE GLOBECOM, Atlanta, GA, December 9-13, 2013.

[C040] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, “Time Slot Allocation in WSNs for Differentiated Smart Grid Traffic,” in Proc. of IEEE Electrical Power and Energy Conference (EPEC), Halifax, NS, Canada, August 21-23, 2013.

[C039] Melike Erol-Kantarci, J. H. Sarker, H. T. Mouftah, “Energy Routing in the Smart Grid for Delay-Tolerant Loads and Mobile Energy Buffers,” in Proc. of IEEE Symposium on Computers and Communications (ISCC), pp. 149-154, Split, Croatia, July 7-10, 2013.

[C038] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, “A Traffic Adaptive Inter-Cluster Head Delay Control Scheme in WSNs,” in Proc. of IEEE Symposium on Computers and Communications (ISCC), pp. 1-6, Split, Croatia, July 7-10, 2013.

[C037] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, “A Delay Mitigation Scheme for WSN-based Smart Grid Substation Monitoring,” in Proc of the International Wireless Communications & Mobile Computing Conference (IWCMC), pp. 1470 – 1475, Cagliari, Italy, July 2013.

[C036] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, “An Adaptive QoS Scheme for WSN-based Smart Grid Monitoring,” in Proc. of IEEE ICC - Workshop on Smart Communication Protocols and Algorithms, pp. 1046 – 1051, Budapest, Hungary, June 2013.

[C035] N. Zaker, B. Kantarci, M. Erol-Kantarci, H. T. Mouftah, “Quality-of-Service-Aware Fiber Wireless Sensor Network Gateway Design for the Smart Grid,” in Proc. of IEEE ICC - Workshop on Optical-Wireless Integrated Technology for Systems and Networks, Budapest, Hungary, June 2013.

[C034] Melike Erol-Kantarci, H. T. Mouftah, “DRIFT: Differentiated RF Power Transmission for Wireless Sensor Network Deployment in the Smart Grid,” in Proc. of IEEE GLOBECOM, - Workshop on Smart Grid

Communications: Design for Performance, pp. 1491-1495, Anaheim, CA, December 3-7, 2012.

[C033] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, "A Low Latency Data Transmission Scheme for Smart Grid Condition Monitoring Applications," in Proc. of IEEE Electrical Power and Energy Conference (EPEC), pp. 20-25, London, ON, Canada, October 8-12, 2012.

[C032] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, "Low-Latency Smart Grid Asset Monitoring for Load Control of Energy-Efficient Buildings," in Proc. of IEEE International Conference on Smart Grid Engineering (SGE), Oshawa, ON, Canada, August 27-29, 2012.

[C031] Melike Erol-Kantarci, H. T. Mouftah, "Mission-Aware Placement of RF-based Power Transmitters in Wireless Sensor Networks," in Proc. of IEEE Symposium on Computers and Communications (ISCC), pp.12-17, Cappadocia, Turkey, July 1-4, 2012.

[C030] I. Al-Anbagi, Melike Erol-Kantarci, H. T. Mouftah, "Fairness in Delay-Aware Cross Layer Data Transmission Scheme for Wireless Sensor Networks," in Proc. of 26th Biennial Symposium on Communications, pp. 146-149, Kingston, ON, Canada, May 28-29, 2012.

[C029] Melike Erol-Kantarci, H. T. Mouftah, "Supply and Load Management for the Smart Distribution Grid Using Wireless Networks," in Proc. of Japan-Egypt Conference on Electronics, Communications and Computers, pp. 145-150, Alexandria, Egypt, March 6-9, 2012.

[C028] Melike Erol-Kantarci, J. H. Sarker, H. T. Mouftah, "Quality of Service in Plug-in Electric Vehicle Charging Infrastructure," in Proc. of IEEE International Electric Vehicle Conference, pp. 1-5, Greenville, SC, March 4-8, 2012.

[C027] Melike Erol-Kantarci, B. Kantarci, H. T. Mouftah, "Cost-Aware Smart Microgrid Network Design for a Sustainable Smart Grid," in Proc. of IEEE GLOBECOM - Workshop on Smart Grid Communications and Networks, pp. 1223-1227, Houston, TX, USA, Dec. 5-9, 2011.

[C026] Melike Erol-Kantarci, H. T. Mouftah, "Management of PHEV Batteries in the Smart Grid: Towards a Cyber-Physical Power Infrastructure," in Proc. of Workshop on Design, Modeling and Evaluation of Cyber Physical Systems (in IWCMC11), pp. 795-800, Istanbul, Turkey, July 5-8, 2011.

[C025] Melike Erol-Kantarci, J. H. Sarker, H. T. Mouftah, "Communication-based Plug-in Hybrid Electrical Vehicle Load Management in the Smart Grid," in Proc. of IEEE Symposium on Computers and Communications (ISCC), pp. 404-409, Corfu, Greece, June 28- July 1, 2011.

[C024] Melike Erol-Kantarci, J. H. Sarker, H. T. Mouftah, "Analysis of Plug-in Hybrid Electrical Vehicle Admission Control in the Smart Grid," in Proc. of International Workshop on Computer-Aided Modeling Analysis and Design of Communication Links and Networks (CAMAD), pp. 1370-1373, Kyoto, Japan, June 10-11, 2011.

[C023] I. Al-Anbagi, H. T. Mouftah, Melike Erol-Kantarci, "Design of a Delay-Sensitive WSN for Wind Generation Monitoring in The Smart Grid," in Proc. of IEEE Canadian Conference on Electrical and Computer Engineering (CCECE), Niagara Falls, ON, Canada, May 8-11, 2011.

[C022] O. Asad, Melike Erol-Kantarci, H. T. Mouftah, "Management of PHEV Charging from the Smart Grid Using Sensor Web Services," in Proc. of IEEE Canadian Conference on Electrical and Computer Engineering (CCECE), pp. 1246-1249, Niagara Falls, ON, Canada, May 8-11, 2011.

[C021] Melike Erol-Kantarci, H. T. Mouftah, "Wireless Sensor Networks for Smart Grid Applications," in Proc. of International Electronics, Communications and Photonics Conference (SIECPC), pp.1-6, Riyadh, Saudi Arabia, April 23-26, 2011.

[C020] O. Asad, Melike Erol-Kantarci, H. T. Mouftah, "Sensor Network Web Services for Demand-Side Energy Management Applications in the Smart Grid," in Proc. of IEEE Consumer Communications and Networking Conference (CCNC), pp. 1176-1180, Las Vegas, USA, January 2011.

[C019] Melike Erol-Kantarci, H. T. Mouftah, "Prediction-Based Charging of PHEVs from the Smart Grid with Dynamic Pricing," in Proc. of First Workshop on Smart Grid Networking Infrastructure in LCN, pp. 1032-1039, Denver, Colorado, USA, October 2010.

- [C018] Melike Erol-Kantarci, H. T. Mouftah, "TOU-Aware Energy Management and Wireless Sensor Networks for Reducing Peak Load in Smart Grids," in Proc. of Green Wireless Communications and Networks Workshop (GreenNet) in IEEE VTC2010-Fall, pp. 1-5, Ottawa, ON, Canada, September 6-9, 2010.
- [C017] Melike Erol-Kantarci, H. T. Mouftah, "The Impact of Smart Grid Residential Energy Management Schemes on the Carbon Footprint of the Household Electricity Consumption," in Proc. of IEEE Electrical Power and Energy Conference (EPEC), pp. 1-6, Halifax, NS, Canada, August 25-27, 2010. **This paper received an outstanding paper award.**
- [C016] Melike Erol-Kantarci, H. T. Mouftah, "Using Wireless Sensor Networks for Energy-Aware Homes in Smart Grids," in Proc. of IEEE symposium on Computers and Communications (ISCC), pp. 456-458, Riccioni, Italy, June 22-25, 2010.
- [C015] Melike Erol-Kantarci, H. T. Mouftah, "Wireless Sensor Networks for Domestic Energy Management in Smart Grids", in Proc. of 25th Biennial Symposium on Communications, pp. 63-66, Kingston, ON, Canada, May 12-14, 2010.
- [C014] S. Kuruoglu, Melike Erol, S. Oktug, "Three Dimensional Localization in Wireless Sensor Networks using the Adapted Multi-Lateration Technique Considering Range Measurement Errors", in Proc. of IEEE GLOBECOM Workshops, pp. 1-5, Hawaii, Dec. 2009.
- [C013] Melike Erol, Sema Oktug, "Localization in Underwater Sensor Networks" (in Turkish: Sualtı Duyarga Ağlarında Konumlandırma), IEEE 17th Signal Processing and Communications Applications Conference (IEEE Sinyal İşleme ve Uygulamaları Kurultayı), April 9-11, 2009, Antalya, Turkey.
- [C012] S. Kuruoglu, Melike Erol, S. Oktug, "Localization in Wireless Sensor Networks with Range Measurement Errors," in Proc. of The Fifth Advanced International Conference on Telecommunications (AICT), pp. 261-266, May 24-28, 2009, Venice, Italy. **This paper received the Best Paper Award.**
- [C011] Melike Erol, L. Vieira, A. Caruso, F. Paparella, M. Gerla, S. Oktug, "Multi Stage Underwater Sensor Localization Using Mobile Beacons", in Proc. of The Second International Workshop on Under Water Sensors and Systems workshop (in conjunction with the Second International Conference on Sensor Technologies and Applications (SENSORCOMM'08), pp. 710-714, August 25-31, 2008, Cap Esterel, France.
- [C010] Melike Erol, S. Oktug, "Sualtı Duyarga Ağları İçin Konumlandırma (SDAK) Protokolü" (A Localization Protocol for Underwater Sensor Networks), Proc. of. 4. Savunma Teknolojileri Kongresi (SAVTEK – 4th Defense Technologies Conference), pp. 257-265, 26-27 June 2008, Ankara, Türkiye.
- [C009] A. Caruso, F. Paparella, L. Vieira, Melike Erol, M. Gerla, "The Meandering Current Mobility Model and its Impact on Underwater Mobile Sensor Networks," in Proc. of IEEE INFOCOM, pp. 221-225, 13-19 April 2008, Phoenix, AZ.
- [C008] Melike Erol, S. Oktug, "A Localization and Routing Framework for Mobile Underwater Sensor Networks," in Proc. of IEEE INFOCOM Workshops, pp. 1-3, 13-19 April 2008, Phoenix, AZ.
- [C007] Melike Erol, L. Vieira, M. Gerla, "Localization with Dive'N'Rise (DNR) Beacons for Underwater Acoustic Sensor Networks," in Proc. of The Second ACM International Workshop on UnderWater Networks WUWNet (in conjunction with ACM MobiCom 2007), pp. 97-100, September 14 2007, Montreal, Quebec, Canada.
- [C006] Melike Erol, L. Vieira, M. Gerla, "AUV-Aided Localization for Underwater Sensor Networks", in Proc. of International Conference on Wireless Algorithms, Systems, and Applications, pp. 44-54, Aug. 1-3, 2007, Chicago, IL.
- [C005] I. Cevizci, Melike Erol, S. Oktug, "Analysis of Multi-Player Online Game Traffic Based on Self-similarity", in Proc. of Netgames 06, October 30-31, 2006, Singapore.
- [C004] S. Baykut, Melike Erol, T. Akgul, "Estimation of the Spectral Exponent of 1/f Process corrupted by White Noise", in Proc. of European Signal Processing Conference (EUSIPCO), Sept. 4-8, 2006, Florence, Italy.
- [C003] Melike Erol, S. Oktug, T. Akgul, "Self-Similarity of AQM Filtered Traffic," in Proc. of International Working Conference on Performance Modelling and Evaluation of Heterogeneous Networks (HET-NETs), July 18-20, 2005,

Ilkley, England.

[C002] S. Baykut, T. E. Ozkurt, Melike Erol, T. Akgul , “The Influence of a Single Tone Sinusoid Over Hurst Estimators,” in Proc. of European Signal Processing Conference (EUSIPCO), Sept. 4-8, 2005, Antalya, Turkey.

[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 Isleme Kurultayi (Signal Processing and Applications Conference), May 16-18, 2005, Erciyes, Turkey.

Book Chapters:

[BC14] Melike Erol-Kantarci, A. Caruso, “Ultra Reliable and Low Latency Communications for the Smart Grid,” accepted to 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. Mistic, V. Mistic, 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:

[**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. Bokhiria, 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.

TUTORIALS

- [**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.

INVITED TALKS

- [**INV023**] "AI-enabled Wireless Networks: A Case Study on Resource Allocation using Deep Reinforcement Learning," BlackBerry Innovate Technology Series (BITS), Ottawa, ON, 2018.
- [**INV022**] "Resource Allocation in Wireless Networks using Machine Learning" Istanbul Technical University, July 20 2018, Istanbul, Turkey.
- [**INV021**] "A career in engineering. Engineering your own career!" Keynote in IEEE Electrical Power and Energy Conference- Women in Engineering, Ottawa, Canada, October 2016.
- [**INV020**] "Cyber-Physical System Monitoring and Security," École de technologie supérieure (ÉTS)- Montreal, QC, 4 May 2016.

- [INV019] “A Short Course on Communication Systems for Connected Electric Vehicles,” Istanbul Technical University, June 24, 2015, Istanbul, Turkey.
- [INV018] “Enhanced Wireless Sensor Networking for the Smart Grid,” Carleton University, July 9, 2014, Ottawa, ON, Canada.
- [INV017] “Enhanced Wireless Sensor Networking for the Smart Grid,” Ryerson University, May 5, 2014, Toronto, ON, Canada.
- [INV016] “Networks and Architectures for Connected Electric Vehicles in the Smart Grid,” University of Ottawa, April 24, 2014, Ottawa, ON, Canada.
- [INV015] “Towards Enhanced Wireless Sensor Networks for Smart Grid Monitoring,” Istanbul Technical University, April 10, 2014, Istanbul, Turkey.
- [INV014] “Wireless Sensor Networks for the Smart Grid,” Clarkson University, February 12, 2014, Potsdam, NY, US.
- [INV013] “Cyber Physical System Monitoring Using Wireless Sensor Networks,” EPFL, January 31, 2014, Lausanne, Switzerland.
- [INV012] “Wireless Rechargeable Sensor Networks in the Smart Grid,” University of Ottawa, September 8, 2012, Ottawa, ON, Canada.
- [INV011] “How Will the Smart Grid Enable Electrification of Transportation?” University of Ottawa, October 20, 2011, Ottawa, ON, Canada.
- [INV010] “Opportunities for Wireless Technologies in the Smart Grid Communications Arena,” University of Ottawa, September 2, 2011, Ottawa, ON, Canada.
- [INV009] “Localization in Underwater Acoustic Sensor Networks,” University of Ottawa, March 10, 2011, Ottawa, ON, Canada.
- [INV008] “Wireless Sensor Networks in the Smart Grid,” National Research Council of Canada, March 2, 2011, Ottawa, ON, Canada.
- [INV007] “Localization Techniques for Underwater Acoustic Sensor Networks,” Communications Research Center of Canada, February 22, 2011, Ottawa, ON, Canada.
- [INV006] “Wireless Sensor Networks for Smart Demand Response in the Smart Grid,” Carleton University, February 16, 2011, Ottawa, ON, Canada.
- [INV005] “Wireless Sensor Networks (WSN) in the Power Grid,” IEEE Ottawa Chapter, November 22, 2010, Ottawa, ON, Canada.
- [INV004] “Wireless Sensor Networks for In-Home Energy Management in Smart Grids,” University of Ottawa, March 18, 2010, Ottawa, ON, Canada.
- [INV003] “Underwater Wireless Sensor Networks”, Bogazici University, September 17, 2009, Istanbul, Turkey.
- [INV002] “Localization in Underwater Sensor Networks”, Turkish Naval Research Center Command, June 17, 2008, Istanbul, Turkey.
- [INV001] “Underwater Sensor Networks”, Department of Electrical and Electronics Engineering, Bogazici University, December 2007, Istanbul, Turkey.

PANELS AND OUTREACH

- 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

Chair – SIG on Green Smart Grid Communications of IEEE Technical Committee on Green Communications and Computing (TCGCC)	2019 - Present
Co-director, IEEE MMTC Communication Frontiers	2018 - Present
Research Group Leader – IEEE Smart Grid and Big Data Standardization	2016 - Present
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

IEEE Access	2017 - Present
IEEE Communications Letters	2016 - Present
International Journal of Distributed Sensor Networks	2013 - Present
IEEE MMTC Communication Frontiers	2015 - 2018

Guest Editorial on Special Issue

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:

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 Co-Chair:

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 International Conference on Wireless for Space and Extreme Environments (WISEE)	2019
IEEE SmartGridComm, Communications and Networking Symposium	2018
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

Workshop 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

IEEE Women in Engineering Panel at International Conference on Communications (ICC) 2012

Technical Program Committee Member

IEEE Globecom – CQRM 2017 - 2019
 IEEE ICC – Selected Areas in Communications 2014 - 2019
 IEEE GLOBECOM – CQRM, CSMAA, MWN 2017
 IEEE ICC - Mobile and Wireless Networks Symposium 2016
 IEEE ICC – Ad Hoc and Sensor Networking Symposium 2015 - 2016
 IEEE ICC - International Workshop on Integrating Communications, Control, and Computing Technologies for Smart Grid 2016
 IEEE GLOBECOM – AHSN, MWN 2016
 IEEE GLOBECOM – Social Networks 2015, 2016
 IEEE ICC - International Workshop on Cloud Computing Systems, Networks, and Applications 2015
 IEEE SmartGridComm- Communications, Networks and Architectures to Enable the Smart Grid 2015
 IEEE SmartGridComm- Cyber Security and Privacy for the Smart Grid 2015
 IEEE GLOBECOM - Green Communications and Computing 2015
 International Conference on Smart Grids for Smart Cities 2015
 IEEE Vehicular Technology Conference (VTC) 2013, 2015
 IEEE SmartGridComm- Communications and Networks to Enable the Smart Grid Symp. 2014
 IEEE SmartGridComm- Architectures, Control, and Operation for Smart Grids and Microgrids Symp. 2014
 IEEE GLOBECOM - Green Communication Systems and Networks 2014
 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, 2013, 2014, 2015
 IEEE Symposium on Computers and Communications (ISCC) 2012, 2013, 2014, 2015
 IEEE SmartGridComm- Communications and Networks for Smart Grids and Smart Metering Symp. 2013
 IEEE SmartGridComm- Architectures and Models for the Smart Grid Symp. 2013
 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
 IEEE GLOBECOM - Ad Hoc and Sensor Networking Symposium 2011, 2012, 2013, 2014, 2015, 2016
 IEEE International Conference on Communications (ICC) 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
IEEE SmartGridComm-Smart Grid Standards, Test-beds & Field Trials Symp.	2012
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

Reviewer Activities:

IEEE/ACM Transactions on Networking, IEEE Transactions on Smart Grid, IEEE Transactions on Parallel and Distributed Systems, IEEE Journal on Selected Areas in Communications, IEEE Transactions on Vehicular Technology, IEEE Transactions on Mobile Computing, IEEE Systems Journal, IEEE Sensors, IEEE Transactions on Wireless Communications, IEEE Wireless Communications, IEEE Computer, IEEE Communications Magazine, IEEE Transactions on Signal Processing, IEEE Transactions on Intelligent Transportation Systems, IEEE Communications Letters, IEEE Signal Processing Applications, IET Communications, Elsevier Computer Networks, Elsevier Ad Hoc Networks, Elsevier Computer Communications, Elsevier Electrical Power and Energy Systems, Journal of Communications and Networks, Springer Wireless Networks, EURASIP Journal on Wireless Communications and Networking.

Memberships

IEEE Senior Member	2015-Present
IEEE Member	2008-2015
IEEE ComSoc Member	2008-Present
ACM Member	2015-Present
IEEE WIE Member	2012-2015

L A N G U A G E S

English	Fluent
French	Passive knowledge of French
Turkish	Native