Prof. Ahmed Khattab

CONTACT INFORMATION	EECE Department Cairo University Giza, Egypt, 12613	*Office:* +2(023) 567 8892, *VoIP:* +1(713) 396 0533 *e-mail:* akhattab@ieee.org *Web:* http://eece.cu.edu.eg/~akhattab

SUMMARY/CORE COMPETENCIES

Multifaceted career with 20-year track record of research and development in wireless networks demonstrated by 3 books, over 105 journal and peer-reviewed book chapters and conference publications and a US patent.
<u>*h-index*</u>: 15 (Scopus) – 19 (Google Scholar)

Expert in designing, optimizing, testing, and prototyping wireless ICT systems including: Internet of Things (IoT)/Wireless Sensor Networks/Vehicular Networks/Cognitive Radio Networks/IEEE 802.11 Protocols.

Exceptional grasp of resource management and the physical and medium access layers in cellular networks.

Outstanding experience of applying machine learning and artificial intelligence in ICT systems.

Vast multidisciplinary background in ICT security and privacy protection.

Supervised 2 Ph.D. and 12 M.Sc. theses in different Egyptian and US universities.

Taught over 20 graduate and undergraduate ECE and CS courses in different Egyptian and US universities.

EDUCATION

University of Louisiana, Lafayette, Louisiana USA

Ph.D. in Computer Engineering, GPA: 4.0/4.0, December 2011
- Dissertation: "Practical Distributed Opportunistic Spectrum Management in Cognitive Radio Networks"

Rice University, Houston, Texas USA

Master of Electrical Engineering (MEE), GPA: 4.03/4.0, December 2009

Cairo University, Egypt

M.Sc. Electronics and Communications Engineering, November 2004
- Thesis: "Channel-Aware Scheduling of Delay-Bounded Multimedia Traffic in Wireless Networks Beyond 3G"

B.Sc. Electronics and Communications Engineering (Honors), July 2002

ACADEMIC POSITIONS

Professor – EECE Department	**July 2022 – Present**
Associate Professor – EECE Department	**July 2017 – June 2022**
Assistant Professor – EECE Department	**July 2012 – June 2017**
Cairo University, Egypt	
Adjunct Professor – ECNG Department	**September 2022 – Present**
Adjunct Associate Professor – ECNG Department	**September 2017 – August 2022**
Adjunct Assistant Professor – ECNG Department	**September 2012 – August 2017**
American University in Cairo (AUC), Egypt	
Adjunct Associate Professor – International Credit Hour Programs	**February 2019 – December 2020**
Ain Shams University (ASU), Egypt	
Visiting Research Scholar – College of Science and Engineering	**July 2016 – August 2016**
Central Michigan University, USA	
Postdoctoral Research Associate	**January 2012 – May 2012**
University of Louisiana, Lafayette, Louisiana USA	

PROFESSIONAL LEADERSHIP AND CONSULTANCIES

Head – Quality Assurance Unit	**February 2021 – Present**
Faculty of Engineering, Cairo University	
Director – High Technology Center	**September 2020 – Present**
Faculty of Engineering, Cairo University	
Member – Technical Office of Cairo University Vice President for Scientific Research and Graduate Studies	
Cairo University	**September 2022 – Present**
Rapporteur – National Communications and Information Technology Committee	**June 2022 – Present**
Academy of Scientific Research and Technology (ASRT)	
Consultant – Curriculum Development for Applied Technology Schools	**August 2020 – August 2021**
Ministry of Education and Technical Education	

Consultant – R&D Lead   **February 2016 – July 2016**
Axxcelera Egypt, a subsidary of Axxcelera Broadband Wireless

Honors and
Awards

IEEE Outstanding Branch Counselor and Branch Chapter Advisor, **awarded 2022**.

Cairo University Excellence Award in Advanced Technological Sciences, **awarded 2020**.

Egypt State First-Class Medallion of Excellence, **awarded 2019**.

Egypt State Encouragement Award for Engineering Sciences, **awarded 2017**.

IEEE Region 8 Exemplary Student Branch Award: <u>Branch Counselor</u>, awarded 2018, 2020 , 2021 and 2022.

2nd Place - Best Ph.D./M.Sc. Thesis in CairoICT 2022 Exhibition: <u>Thesis Advisor</u>, awarded 2022.

Best Graduation Project (Communications Technologies) of Egyptian Engineering Day (EED): <u>Project Advisor</u>, awarded 2021.

Best Graduation Project (IoT Track & All Tracks) of IEEE Japan-Africa Conference on Electronics, Communications and Computers (JAC-ECC): <u>Project Advisor</u>, awarded 2019.

Best Graduation Project (IoT Track) of IEEE International Conference on Microelectronics (ICM): <u>Project Advisor</u>, awarded 2019.

Best Ph.D. Thesis Award of IEEE International Conference on Microelectronics (ICM): <u>Thesis Advisor</u>, awarded 2016.

IEEE ICECS 2015 *Recognition Award* for leading the local organization committee, awarded 2015.

Best Student Paper Award of IEEE Computer Society Chapter at the University of Louisiana at Lafayette, awarded 2010 and 2011.

IEEE WoWMoM student travel grant, awarded 2011.

NSF Travel Grant for IEEE ICCCN, awarded 2008.

Nominated for *Best Paper Award* in IEEE ICCCN 2008.

Texas Instruments Distinguished Student Fellowship, awarded 2005.

Rice University Graduate Fellowship, awarded 2005.

Egyptian President's Award of Excellence: Cairo University EECE Dept. (ranked top 1%), awarded 2001.

Cairo University Undergraduate Distinguished Student Award, awarded 1997-2002.

Research Grants
(PI/Co-PI)

CIP-OLIVE: Cloud-based Integrated Platform for Monitoring Pests, Salinity and Efficient Irrigation in Olive Precision Farming
                          1,500,000 EGP Funded by ITIDA: December 2019 - December 2021
Egyptian-Spanish joint co-operation in ICT to develop an integrated software/hardware platform to monitor different olive diseases and pests, while monitoring the irrigation water and salinity.

Energy Harvesting Solution for Wireless Sensors in IoT Systems for Smart Environments
                          2,018,880 EGP Funded by NTRA: August 2017 - August 2019
Designing a complete IoT system powered via ambient RF energy harvesting for indoor ambience monitoring in museums and smart buildings.

Integrated Monitoring System for Plant Disease Forecast
                          2,027,200 EGP Funded by STDF: April 2015 - October 2017
Interdisciplinary project to develop an integrated software/hardware platform to monitor different plant diseases, and realize an expert system to predict the outbreak of the diseases.

The Web of Objects (WoO)   **950,000 EGP Funded by ITIDA: June 2012 - December 2014**
Multinational grant (*25 industrial and academic partners from 5 countries situated on 4 continents*) outlines a network and services infrastructure for the Internet of Things (IoT) independent of proprietary protocols.

4G++: Advanced Performance Boosting Techniques in 4th Generation Wireless Systems
                          1,646,538 EGP Funded by NTRA: May 2012 - October 2013
Provide protocol design principles and guidelines that can be used by the beyond 4G wireless industry to boost the user experience.

Information Technology Committee Member – Faculty of Engineering, Cairo University
September 2018 – Present

Education and Student Affairs Committee Member – Faculty of Engineering, Cairo University
January 2018 – July 2021

20/21 Academic Planning under COVID-19 Pandemic Committee Member – Faculty of Engineering, Cairo University
May 2020 – August 2020

Quality Assurance Committee Member – CCE Program, Credit Hours System, Faculty of Engineering, Cairo University
August 2018 – Present

Director of Cairo University – Juniper Networks Academic Alliance (JNAA)
July 2015 – Present

Patents

[P1] **A. Khattab**, A. Sabharwal and E. Knightly, *"System and Method for Randomized Antenna Allocation in Asynchronous MIMO Multi-hop Networks,"* U.S. Patent No. 9,768,992, Sept. 2017.

Books

[B3] **A. Khattab**, Z. Jeddi, E. Amini, and M. A. Bayoumi, *"RFID Security: A Lightweight Paradigm,"* Springer, 2017.

[B2] **A. Khattab**, D. Perkins, and M. A. Bayoumi, *"Cognitive Radio Networks: form Theory to Practice,"* Springer, 2013.

[B1] **A. Khattab**, *"Multimedia Traffic Scheduling in Future Wireless Networks: A Channel-Aware Approach,"* LAP LAMBERT Academic Publishing, 2011.

Book Chapters

[BC4] N. Mamdouh, M. Wael and **A. Khattab**, *"Artificial Intelligence based Detection and Counting of Olive Fruit Flies: A Comprehensive Survey,"* in R.C. Poonia, V. Singh, and S.R. Nayak, (Eds.), Deep Learning for Sustainable Agriculture, Academic Press, 2022.

[BC3] B. Abdelhamid, A. Al-Habal, and **A. Khattab**, *"Energy-Efficient Layered IoT Smart Home System,"* in I. El Dimeery et al. (Eds.), Design and Construction of Smart Cities: Toward Sustainable Community, Springer, 2021.

[BC2] M. Tharwat and **A. Khattab**, *"Clustering Techniques for Smart Cities: An Artificial Intelligence Perspective,"* in M.A. Khan, M.T. Quasim and F. Algarni (Eds.), Smart Cities: A Data Analytics Perspective, Springer, 2021.

[BC1] **A. Khattab** and N. Youssry, *"Machine Learning for IoT Systems,"* in M. Alam, K. A. Shakil and S. Khan (Eds.), Internet of Things (IoT): Concept and Applications, Springer, 2020.

Journal Papers

[J34] H. Shahin, M. F. Shaaban, M. H. Ismail, H.-A. Mourad, **A. Khattab**, *"Data Collection in Advanced Metering Infrastructure Using UAVs,"* Journal of Modern Power Systems and Clean Energy, XXX 2022. <u>*Impact Factor: 3.745*</u>

[J33] E. Youssef, H. A. Elsimary, M. A. El-Moursy, H. Mostafa, **A. Khattab**, *"Energy-Efficient Precision-Scaled CNN Implementation with Dynamic Partial Reconfiguration,"* IEEE Access, 10:95571-95584, September 2022. <u>*Impact Factor: 3.745*</u>

[J32] M.T. Waheed, Y. Fahmy, **A. Khattab**, *"DeepChannel: Robust Multi-Modal Outdoor Channel model Prediction in LTE Networks using Deep Learning,"* IEEE Access, 10:79289–79300, July 2022. <u>*Impact Factor: 3.745*</u>

[J31] N. Mamdouh and **A. Khattab**, *"YOLO-Based Deep Learning Framework for Olive Fruit Fly Detection and Counting,"* IEEE Access, 9:84252–84262, June 2021. <u>*Impact Factor: 3.745*</u>

[J30] M. Melek and **A. Khattab**, *"ECG Compression Using Wavelet-based Compressed Sensing with Prior Support Information,"* Biomedical Signal Processing and Control, Elsevier, 68:102786, July 2021. <u>*Impact Factor: 5.076*</u>

[J29] M. Melek, M. F. Abu-Elyazeed, and **A. Khattab**, *"Efficient High-Speed Framework for Sparse Representation-Based Iris Recognition,"* IET Biometrics, 10(3):304–314, May 2021. <u>*Impact Factor: 2.716*</u>

[J28] N. A. Eltresy, O. M. Dardeer, A. Al-Habal, E. Elhariri, A. M. Abotaleb, D. N. Elsheakh, **A. Khattab**, S. A. Taie, H. Mostafa, H. A. Elsadek and E. A. Abdallah, *"Smart Home IoT System by Using RF Energy Harvesting,"* Journal of Sensors, Hindawi, 2020:8828479, December 2020. (doi:10.1155/2020/8828479)   *Impact Factor: 1.595*

[J27] G. Alsuhli, Y. Fahmy, and **A. Khattab**, *"A Bio-Inspired Metaheuristic Framework for Clustering Optimisation in VANETs,"* IET Intelligent Transport Systems, 14(10):1190–1199, October 2020. *Impact Factor: 2.48*

[J26] M. Melek, **A. Khattab**, M. F. Abu-Elyazeed, *"Simultaneous Fast Joint Sparse Recovery for WSN and IoT Applications,"* IET Wireless Sensor Systems, 10(2):96–103, April 2020.

[J25] **A. Khattab**, S.E.D. Habib, H. Ismail, S. Zayan, Y. Fahmy, M.M. Khairy, *"An IoT-based Cognitive Monitoring System for Early Plant Disease Forecast,"* Computers and Electronics in Agriculture, Elsevier, 166:105028, November 2019.   *Impact Factor: 3.858*

[J24] I. Gamal, A. Badawy, A. Habal, M. Adawy, K. Khalil, M.A. El-Moursy and **A. Khattab**, *"A Robust, Real-Time and Calibration-Free Lane Departure Warning System,"* Microprocessors and Microsystems, Elsevier, 71:102874, November 2019.   *Impact Factor: 1.161*

[J23] N. A. Eltresy, O. M. Dardeer, A. Al-Habal, E. Elhariri, A. H. Hassan, **A. Khattab**, D. N. Elsheakh, S. A. Taie, H. Mostafa, H. A. Elsadek and E. A. Abdallah, *"RF Energy Harvesting IoT System for Museum Ambience Control with Deep Learning,"* Sensors, 19(20):4465, October 2019. *Impact Factor: 3.275*

[J22] **A. Khattab**, N. Elgaml, and H.A. Mourad, *"Single Channel Slotted Contention in Cognitive Radio Vehicular Networks,"* IET Communications, 13(8):1078–1089, May 2019.   *Impact Factor: 1.664*

[J21] G. Alsuhli, **A. Khattab**, and Y. Fahmy, *"Double-Head Clustering for Resilient VANETs,"* Wireless Communications and Mobile Computing, Wiley/Hindawi, 2019:2917238, March 2019. (doi:10.1155/2019/2917238)   *Impact Factor: 1.819*

[J20] H. Ibrahim, N. Mostafa, H. Halawa, M. Elsalamouny, R. Daoud, H. Amer, Y. Adel, A. Shaarawi, **A. Khattab**, and H. ElSayed, *"A Layered IoT Architecture for Greenhouse Monitoring and Remote Control,"* SN - Applied Sciences, Springer, 1(3):223, March 2019.

[J19] M. M. Abdel-Sayed, **A. Khattab**, M. F. Abu-Elyazeed, *"Fast Matching Pursuit for Wideband Spectrum Sensing in Cognitive Radio Networks,"* Wireless Networks, Springer, 25(1):131–143, January 2019.   *Impact Factor: 2.659*

[J18] M. Melek, **A. Khattab**, M. F. Abu-Elyazeed, *"Fast Matching Pursuit for Sparse Representation Based Face Recognition,"* IET Image Processing, 12(10):1807–1814, October 2018.
Impact Factor: 1.995

[J17] N. Elgaml, **A. Khattab**, and H.A. Mourad, *"Towards Low-Delay and High-Throughput Cognitive Radio Vehicular Networks,"* ICT Express, Elsevier, 3(4):183–187, December 2017.

[J16] M. Seliem, K. Elsayed, and **A. Khattab**, *"Optimized Neighbor Discovery for 6LoWPANs: Implementation and Performance Evaluation,"* Computer Communications, Elsevier, 112(C):73–92, November, 2017.   *Impact Factor: 2.816*

[J15] Z. Jeddi, **A. Khattab**, E. Amini, and M. A. Bayoumi, *"Redundant Bit Security in RFIDs: Architecture Design and Security Performance Evaluation,"* Journal of Circuits, Systems, and Computers (JCSC), 26(9):1750138, September 2017.   *Impact Factor: 1.363*

[J14] S. Nouh, N. Elgaml, **A. Khattab**, S. Soliman, R. Daoud, H. Amer, *"WSN Lifetime and Reliability Analysis from the Death Criterion,"* International Journal of Handheld Computing Research (IJHCR), IGI Global, 8(3):37–51, September 2017.

[J13] M. M. Abdel-Sayed, **A. Khattab**, M. F. Abu-Elyazeed, *"RMP: Reduced-set Matching Pursuit Approach for Efficient Compressed Sensing Signal Reconstruction,"* Journal of Advanced Research, Elsevier, 7(6): 851–861, November 2016.   *Impact Factor: 6.992*

[J12] K. Q. AbdelFadeel, **A. Khattab**, K. Elsayed, F. Digham, *"Carrier Aggregation Based Dynamic Spectrum Access Framework for LTE-A Primary Operators,"* IET Communications, 10(13): 1596–1604, September 2016.   *Impact Factor: 1.664*

[J11] S. Nouh, N. Elgaml, **A. Khattab**, R. Daoud, H. Amer, *"Generalized Electromagnetic Pollution Monitoring Using WSN,"* Wireless Sensor Network, 8:85–92 June 2016. (doi: 10.4236/wsn.2016.86009)

[J10] **A. Khattab**, and M. A. Bayoumi, *"Standardization of Cognitive Radio Networking: A Comprehensive Survey,"* Annals of Telecommunications, Springer, 70(11): 465–477, December 2015. *Impact Factor: 1.546*

[J9] **A. Khattab**, and Y. A. Fahmy, and A. A. Wahab, *"High Accuracy GPS-Free Vehicle Localization Framework via an INS-Assisted Single RSU,"* International Journal of Distributed Sensor Networks, SAGE, 2015:795036, May 2015. (doi:10.1155/2015/795036)   *Impact Factor: 1.151*

[J8] E. Amini, Z. Jeddi, **A. Khattab**, and M. A. Bayoumi, *"Performance Evaluation and Design Optimization for Flexible Multiple Instruction Multiple Data Elliptic Curve Cryptography Crypto Architecture,"* Journal of Low Power Electronics (JOLPE), 11(1):1–15, March 2015.   *Impact Factor: 0.84*

[J7] **A. Khattab**, D. Perkins, and M. A. Bayoumi, *"Design, Implementation and Characterization of Practical Distributed Cognitive Radio Networks,"* IEEE Trans. on Communications, 61(10):4139–4150, October 2013.   *Impact Factor: 5.646*

[J6] E. Amini, Z. Jeddi, **A. Khattab**, and M. A. Bayoumi, *"A Low-Power Parallel Architecture for Finite Galois Field GF(2^m) Arithmetic Operations for Elliptic Curve Cryptography,"* Journal of Low Power Electronics (JOLPE), 8(4):440–451, August 2012.   *Impact Factor: 0.84*

[J5] **A. Khattab**, D. Perkins, and M. A. Bayoumi, *"Opportunistic Spectrum Access: From Theory to Practice,"* IEEE Vehicular Technology Magazine, 7(2):62–68, June 2012.   *Impact Factor: 7.921*

[J4] **A. Khattab**, D. Perkins, and M. A. Bayoumi, *"Probabilistic Framework for Opportunistic Spectrum Management in Cognitive Ad-hoc Networks,"* EURASIP Journal on Wireless Communications and Networking, 2011:188, November 2011.   *Impact Factor: 1.408*

[J3] **A. Khattab**, *"The Case for SIMO Random Access in Multi-antenna Multi-hop Wireless Networks,"* ACM/Springer Wireless Networks, 17(7):1649–1665, October 2011.   *Impact Factor: 2.659*

[J2] **A. Khattab**, J. Camp, C. Hunter, P. Murphy, A. Sabharwal, and E. Knightly, *"WARP: A Flexible Platform for Clean-Slate Wireless Medium Access Protocol Design,"* ACM SIGMOBILE Mobile Computing and Communications Review, 12(1):56–58, January 2008.

[J1] K. Elsayed, and **A. Khattab**, *"Channel-Aware Earliest Deadline Due Fair Scheduling for Wireless Multimedia Networks,"* Wireless Personal Communications, Springer, 38(2):233–252, July 2006.
           Impact Factor: 1.061

Peer-Reviewed Conference Papers

[C68] M.T. Waheed, Y. Fahmy, **A. Khattab**, *"Highly Accurate Multi-Modal LTE Channel Prediction via Semantic Segmentation of Satellite Images,"* in Proc. of IEEE Japan-Africa Conference on Electronics, Communications and Computers (JAC-ECC), Alexandria, Egypt, December 2022.

[C67] N. Youssry and **A. Khattab**, *"Accurate Real-Time Face Mask Detection Framework Using YOLOv5,"* in Proc. of IEEE International Conference on Design & Test of integrated micro & nano-Systems (DTS), Cairo, Egypt, June 2022.

[C66] N. Mamdouh and **A. Khattab**, *"Olive Leaf Disease Identification Framework using InceptionV3 Deep Learning,"* in Proc. of IEEE International Conference on Design & Test of integrated micro & nano-Systems (DTS), Cairo, Egypt, June 2022.

[C65] M. Abdelwahab, H. Mostafa, and **A. Khattab**, *"A Lightweight Deep Learning Framework for Long-Term Weather Forecasting in Olive Precision Agriculture,"* in Proc. of IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2021.

[C64] S. Adel, K. Muhammed, A. Abdallah, M. Rida, A. Morsy, G. Nasser, **A. Khattab**, A. Taha, and H. El-Akel, *"Cell Outage Compensation Using Q-learning for Self-Organizing Networks,"* in Proc. of IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2021.

[C63] O.A. El-Sayed, S.K. Fawzy, S.H. Tolba, R.S. Salem, Y.S. Hassan, A.M. Ahmed, and **A. Khattab**, *"Deep Learning Framework for Accurate Network Intrusion Detection in ITSs,"* in Proc. of IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2021.

[C62] M. Atef, **A. Khattab**, E. A. Agamy, and M. M. Khairy, *"Deep Learning Based Time-Series Forecasting Framework for Olive Precision Farming,"* in Proc. of IEEE International Midwest Symposium on Circuits and Systems (MWSCAS), Lansing, MI, USA, August 2021.

[C61] M. Melek and **A. Khattab**, *"Joint Sparse Recovery in Precision Agriculture WSN and IoT Applications,"* in Proc. of IEEE World Forum on Internet of Things (WF-IoT), New Orleans, USA, June 2021.

[C60] H. Shahin, M. F. Shaaban, M. H. Ismail, H.-A. Mourad, **A. Khattab**, *"Data Collection in Advanced Metering Infrastructure Using UAVs,"* in Proc. of IEEE International Conference on Communications, Signal Processing and their Applications (ICCSPA), Sharjah, UAE, March 2021.

[C59] L. A. El-Aziz, E. Amr, H. Yehia, H. Mostfa, M. Hisham, A. Shenawy, **A. Khattab**, A. Taha and H. El-Akel, *"Cell Outage Detection and Degradation Classification Based on Alarms and KPI's Correlation,"* in Proc. of IEEE Novel Intelligent and Leading Emerging Sciences (NILES) Conference, Cairo, Egypt, October 2020.

[C58] E. Youssef, H. A. Elsemary, M. A. El-Moursy, **A. Khattab**, H. Mostafa, *"Energy Adaptive Convolution Neural Network Using Dynamic Partial Reconfiguration,"* in Proc. of IEEE International Midwest Symposium on Circuits and Systems (MWSCAS), Springfield, MA, USA, August 2020.

[C57] B. Abdelhamid, A. Al-Habal, **A. Khattab**, *"Energy-Efficient Layered IoT Smart Home System,"* in Proc. of 1st Joint International Conference on Design & Construction of Smart City Components, Springer, Cairo, Egypt, December 2019.

[C56] D. Noby, **A. Khattab**, *"A Survey of Blockchain Applications in IoT Systems,"* in Proc. of IEEE International Conference on Computer Engineering and Systems (ICCES), Cairo, Egypt, December 2019.

[C55] G. Alsuhli, **A. Khattab**, Y. Fahmy, *"An Evolutionary Approach for Optimized VANET Clustering,"* in Proc. of IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2019.

[C54] A. Al-Habal, **A. Khattab**, *"Ultra-Low Power Layered IoT Platform for Museum Content Conservation,"* in Proc. of IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2019.

[C53] M.N. Ashmawy, A.M. Khairy, M.W. Hamdy, A. El-Shazly, K. El-Rashidy, M. Salah, Z. Mansour, **A. Khattab**, *"SmartAmb: An Integrated Platform for Ambulance Routing and Patient Monitoring,"* in Proc. of IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2019.

[C52] N. Youssry, **A. Khattab**, *"Ameliorating IoT and WSNs via Machine Learning,"* in Proc. of IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2019.

[C51] M.A.K. Abuelala, A. Wassal, **A. Khattab**, H.A.H. Fahmy, *"A Novel Model for Injecting Error in Probabilistic Gates,"* in Proc. of IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2019.

[C50] G. Alsuhli, **A. Khattab**, Y. Fahmy, Y. Massoud, *"Enhanced Urban Clustering in VANETs Using Online Machine Learning,"* in Proc. of IEEE International Conference on Vehicular Electronics and Safety (ICVES), Cairo, Egypt, September 2019.

[C49] H. Ghazzai, **A. Khattab**, Y. Massoud, *"Mobility and Energy Aware Data Routing for UAV-Assisted VANETs,"* in Proc. of IEEE International Conference on Vehicular Electronics and Safety (ICVES), Cairo, Egypt, September 2019.

[C48] M.C. Lucic, H. Ghazzai, **A. Khattab**, Y. Massoud, *"Rapid Management of Unexpected Events in Urban V2I Communications Systems,"* in Proc. of IEEE International Conference on Vehicular Electronics and Safety (ICVES), Cairo, Egypt, September 2019.

[C47] I. Gamal, A. Badawy, A. M.W. Al-Habal, M. E.K. Adawy, K. K. Khalil, M. A. El-Moursy, **A. Khattab**, *"A Robust, Real-Time and Calibration-Free Lane Departure Warning System,"* in Proc. of IEEE International Symposium on Circuits and Systems (ISCAS), Sapporo, Japan, May 2019.

[C46] G. Alsuhli, **A. Khattab**, *"A Fog-based IoT Platform for Smart Buildings,"* in Proc. of IEEE International Conference on Innovative Trends in Computer Engineering (ITCE), Aswan, Egypt, February 2019.

[C45] G. Alsuhli, **A. Khattab**, Y. Fahmy, *"A Mobility-Based Double-Head Clustering Algorithm for Dynamic VANET,"* in Proc. of IEEE Japan-Africa Conference on Electronics, Communications and Computers (JAC-ECC), Alexandria, Egypt, December 2018.

[C44] M. Hossam, M. Kamal, M. Moawad, M. Maher, M. Salah, Y. Abady, A. Hesham, **A. Khattab**, *"PLANTAE: An IoT-Based Predictive Platform for Precision Agriculture,"* in Proc. of IEEE Japan-Africa Conference on Electronics, Communications and Computers (JAC-ECC), Alexandria, Egypt, December 2018.

[C43] S. Ibrahim, **A. Khattab**, H. Amer, M. Abdelghany, R. Daoud, and N. Ali, *"Lifetime Enhancement Techniques For MANET Routing In Space Exploration Applications,"* in Proc. of IEEE International Conference on Computer Engineering and Systems (ICCES), Cairo, Egypt, December 2018.

[C42] S. Emara, A. Elewa, O. Wasil, K. Moustafa, N. AbdelKhalek, A. H. Soliman, H. Halawa, M. ElSalamouny, R. Daoud, H. Amer, **A. Khattab**, H. ElSayed, and T. Refaat, *"Heterogeneous ITS Architecture for Manned and Unmanned Cars in Suburban Areas,"* in Proc. of IEEE International Conference on Emerging Technologies and Factory Automation (ETFA), Torino, Italy, September 2018.

[C41] M. Mamdouh, M.A.I. Elrukhsi, **A. Khattab**, *"Securing the Internet of Things and Wireless Sensor Networks via Machine Learning: A Survey,"* in Proc. of IEEE International Conference on Computer and Applications (ICCA), Beirut, Lebanon, July 2018.

[C40] G. Alsuhli, **A. Khattab**, *"An IoT Monitoring and Control Platform for Museum Content Conservation,"* in Proc. of IEEE International Conference on Computer and Applications (ICCA), Beirut, Lebanon, July 2018.

[C39] H. Ibrahim, N. Mostafa, H. Halawa, M. Elsalamouny, R. Daoud, H. Amer, A. Shaarawi, **A. Khattab**, and H. ElSayed, *"A High Availability Networked Control System Architecture for Precision Agriculture,"* in Proc. of IEEE International Conference on Computer and Applications (ICCA), Beirut, Lebanon, July 2018.

[C38] S. Ibrahim, **A. Khattab**, H. Amer, M. Abdelghany, and R. Daoud, *"Resource Aware Space Mission Routing,"* in Proc. of IEEE International Conference on Computer and Applications (ICCA), Beirut, Lebanon, July 2018.

[C37] M. Abdel-Sayed, **A. Khattab**, and M. Abu-Elyazeed, *"Wideband Compressed Sensing Using Wavelet Packet Adaptive Reduced-set Matching Pursuit,"* in Proc. of IEEE International Conference on Innovative Trends in Computer Engineering (ITCE), Aswan, Egypt, February 2018.

[C36] N. Elgaml, **A. Khattab**, and H.A. Mourad, *"Slotted IEEE 802.11p Contention for Overhead-Free Spectrum Sensing in CR-VANETs,"* in Proc. of IEEE Consumer Communications & Networking Conference (CCNC), Las Vegas, NV, USA, January 2018.

[C35] M. Abdel-Sayed, **A. Khattab**, and M. Abu-Elyazeed, *"Sparse Representation Classification via Fast Matching Pursuit for Face Recognition,"* in Proc. of IEEE Japan-Africa Conference on Electronics, Communications and Computers (JAC-ECC), Alexandria, Egypt, December 2017.

[C34] A. Rashed, A. Ibrahim, A. Adel, B. Mourad, A. Hatem, M. Magdy, N. Elgaml, and **A. Khattab**, *"Integrated IoT Medical Platform for Remote Healthcare and Assisted Living,"* in Proc. of IEEE Japan-Africa Conference on Electronics, Communications and Computers (JAC-ECC), Alexandria, Egypt, December 2017.

[C33] M. Elgebali, M. Elbery, A. Mohamed, A. E. Shash, A. Abdel-Hamid, H. Sadek, H. Halawa, M. Elsalamouny, R. Daoud, H. Amer, H. Elsayed, and **A. Khattab**, *"Enhanced Data Gathering for Firefighting Applications,"* in Proc. of IEEE International Conference on Smart Technologies (EUROCON), Ohrid, Macedonia, July 2017.

[C32] S. Nouh, **A. Khattab**, S. Soliman, R. Daoud, and H. Amer, *"On the Impact of the Death Criterion on the WSN Lifetime,"* in Proc. of IEEE International Conference on Electro Information Technology (EIT2017), Lincoln, NE, USA, May 2017.

[C31] M. M. Abdel-Sayed, **A. Khattab**, and M. F. Abu-Elyazeed, *"Application of Compressed Sensing to Wideband Spectrum Sensing in Cognitive Radio Networks,"* in Proc. of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), New Orleans, LA, March 2017.

[C30] A. Abdelgawad, K. Yelamarthi, **A. Khattab**, *"IoT-Based Health Monitoring System for Active and Assisted Living,"* in O. Gaggi O., P. Manzoni, C. Palazzi, A. Bujari, J. Marquez-Barja (eds) Smart Objects and Technologies for Social Good (GOODTECHS 2016), Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, 195:11-20, Springer, Cham, 2017.

[C29] **A. Khattab**, A. Abdelgawad, K. Yelamarthi, *"Design and Implementation of a Cloud-based IoT Scheme for Precision Agriculture,"* in Proc. of IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2016.

[C28] K. Yelamarthi, A. Abdelgawad, **A. Khattab**, *"An Architectural Framework for Low-Power IoT Applications,"* in Proc. of IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2016.

[C27] E. Helal, **A. Khattab**, Y. Fahmy, *"Energy-Efficient Cluster Head Selection for Cognitive Radio Sensor Networks,"* in Proc. of IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2016.

[C26] A. Mostafa, S. Soliman, N. El-Gaml, R. Daoud, H. Amer, **A. Khattab**, *"WSN Lifetime Elongation via Hybrid Routing,"* in Proc. of IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2016.

[C25] M. Mamdouh, K. Elsayed, **A. Khattab**, *"RPL Load Balancing via Minimum Degree Spanning Tree,"* in Proc. of IEEE International Conference on Wireless and Mobile computing (WiMob 2016), New York, USA, October 2016.

[C24] M. Abdel-Sayed, **A. Khattab**, and M. Abu-Elyazeed, *"Adaptive Reduced-Set Matching Pursuit for Compressed Sensing Recovery,"* in Proc. of IEEE International Conference on Image Processing (ICIP), Phoenix, AZ, September 2016.

[C23] A. Abdel Tawab, and **A. Khattab**, *"Efficient Multi-Band Energy Harvesting Circuit for Wireless Sensor Nodes,"* in Proc. of IEEE Japan-Egypt Conference on Electronics, Communications and Computers (JEC-ECC 2016), Cairo, Egypt, May 2016.

[C22] H. Ali, **A. Khattab**, and M. Fikri, *"Generalized Implicit Cooperation with Slotted Contention in Cognitive Radio Wireless Sensor Networks,"* in Proc. of IEEE International Conference on selected topics in Mobile and Wireless Networking (MoWNET), Cairo, Egypt, April 2016.

[C21] **A. Khattab**, *"On the Energy Efficiency of Opportunistic Access in Wireless Home Networks,"* in Proc. of IEEE Global Conference on Signal and Information Processing (GlobalSIP 2015), Orlando, FL, December 2015.

[C20] N. Elgaml, H. Raafat, A. Halim, A. Abdeldayem, N. Mahmoud, **A. Khattab**, and A. H. Zahran, *"Experimental Evaluation of Opportunistic Access in Shared Contention-based Channels,"* in Proc. of IEEE Int'l Conference on Electronics, Circuits, and Systems (ICECS), Cairo, Egypt, December 2015.

[C19] **A. Khattab**, and M. A. Bayoumi, *"An Overview of IEEE Standardization Efforts for Cognitive Radio Networks,"* in Proc. of IEEE International Symposium on Circuits and Systems (ISCAS), Lisbon, Portugal, May 2015.

[C18] H. Ali, **A. Khattab**, and M. Fikri, *"Energy-Efficient Cooperative Sensing for Cognitive Wireless Sensor Networks,"* in Proc. of IEEE International Conference on Energy Aware Computing Systems & Applications (ICEAC), Cairo, Egypt, March 2015.

[C17] M. Elias, **A. Khattab**, and K. Elsayed, *"CORB: Context-Aware Opportunistic Resource-Based Routing for Stationary Wireless Sensor Networks,"* in Proc. of IEEE International Conference on Computing, Networking and Communications (ICNC), Anaheim, CA, February 2015.

[C16] K. Q. AbdelFadeel, K. Elsayed, **A. Khattab**, F. Digham, *"Dynamic Spectrum Access for Primary Operators Exploiting LTE-A Carrier Aggregation,"* in Proc. of IEEE International Conference on Computing, Networking and Communications (ICNC), Anaheim, CA, February 2015.

[C15] **A. Khattab**, and M. A. Bayoumi, *"The Challenges Towards Energy-Efficient Cognitive Radio Networking,"* in Proc. of IEEE NEWCAS 2014, Trois-Rivières, Canada, June 2014.

[C14] B. Sharkawy, **A. Khattab**, and K. Elsayed, *"Fault-Tolerant RPL Through Context Awareness,"* in Proc. of IEEE World Forum on Internet of Things (WF-IoT), Seoul, Korea, March 2014.

[C13] M. Seliem, K. Elsayed, and **A. Khattab**, *"Performance Evaluation and Optimization of Neighbor Discovery Implementation Over Contiki OS,"* in Proc. of IEEE World Forum on Internet of Things (WF-IoT), Seoul, Korea, March 2014.

[C12] **A. Khattab**, and K. Elsayed, *"Autonomous Opportunistic Spectrum Access in Distributed Femtocell Networks,"* in Proc. of IEEE GLOBECOM'13, Atlanta, GA, December 2013.
Acceptance Rate: 37% out of 2272 submissions

[C11] A. A. Wahab, **A. Khattab**, and Y. A. Fahmy, *"Two-Way TOA with Limited Dead Reckoning for GPS-Free Vehicle Localization Using Single RSU,"* in Proc. of IEEE Intelligent Transportation System Telecommunications (ITST 2013), Tampere, Finland, November 2013.

[C10] A. Afifi, K. Elsayed, and **A. Khattab**, *"Interference-Aware Radio Resource Management Framework for the 3GPP LTE Uplink with QoS Constraints,"* in Proc. of IEEE ISCC'13, Split, Croatia, July 2013.

[C9] **A. Khattab**, D. Perkins, and M. A. Bayoumi, *"Experimental Evaluation of Opportunistic Spectrum Access in Distributed Cognitive Radio Networks,"* in Proc. of IEEE IWCMC, Limassol, Cyprus, August 2012.
Acceptance Rate: 35% out of 630 submissions

[C8] **A. Khattab**, D. Perkins, and M. A. Bayoumi, *"Rate-Adaptive Probabilistic Spectrum Management for Cognitive Radio Networks,"* in Proc. of IEEE WoWMoM, Lucca, Italy, June 2011.
Acceptance Rate: 18.5% out of 173 submissions

[C7] **A. Khattab**, *"An Experimental Case for SIMO Random Access in Multi-hop Wireless Networks,"* in Proc. of IEEE INFOCOM mini-conference 2010, San Diego, CA, March 2010.
Acceptance Rate: 24.06% out of 1575 submissions

[C6] V. Mancuso, O. Gurewitz, **A. Khattab**, and E. Knightly, *"Elastic Rate Limiting for Spatially Biased Wireless Mesh Networks,"* in Proc. of IEEE INFOCOM 2010, San Diego, CA, March 2010.
Acceptance Rate: 17.5% out of 1575 submissions

[C5] **A. Khattab**, A. Sabharwal, E. Knightly, *"Fair Randomized Antenna Allocation in Asynchronous MIMO Multi-hop Networks,"* in Proc. of IEEE ICCCN 2008, St. Thomas, US, August 2008. ***(Best Paper Award Finalist)*** *Acceptance Rate: 24.6% out of 399 submissions*

[C4] **A. Khattab**, and K. Elsayed, *"Opportunistic Scheduling of Delay Sensitive Traffic in OFDMA-based Wireless Networks,"* in Proc. of IEEE WoWMoM 2006, Buffalo-NY, June 2006.
Acceptance Rate: 33.33% out of 144 submissions

[C3] **A. Khattab**, and K. Elsayed, *"Opportunistic Subcarrier Management for Delay Sensitive Traffic in OFDMA-based Wireless Multimedia Networks,"* in Proc. of the 14th IST Mobile & Wireless Communications Summit, Dresden, Germany, June 2005.

[C2] **A. Khattab**, and K. Elsayed, *"Channel-Quality Dependent Earliest Deadline Due Fair Scheduling Schemes for Wireless Multimedia Networks,"* in Proc. of ACM MSWiM 2004, Venice, Italy, October 2004. <u>*Acceptance Rate: 17.4% out of 121 submissions*</u>

[C1] **A. Khattab**, A. Talaat, M. Abdulsalam, M. Elsayed, and A. Soliman, *"A Programmable Baseband Chain for a GSM/DECT Fully Integrated CMOS RF Receiver,"* in Proc. of IEEE ICEEC'04, Cairo, Egypt, Sept. 2004.

POSTERS & DEMONSTRATIONS

[D7] F. Digham, K. Elsayed, **A. Khattab**, K. Qorany, "Estimation of Spectrum Demand in an LTE-Advanced Environment," in IEEE GLOBECOM'14 - Industry Program, Austin, TX, December 2014.

[D6] J. Camp, **A. Khattab**, C. Hunter, P. Murphy, A. Sabharwal, and E. Knightly, *"Cross-Layer Rate Adaptation Using WARP,"* ACM MobiCom, San Francisco, California, September 2008.

[D5] J. Camp, **A. Khattab**, C. Hunter, P. Murphy, A. Sabharwal, and E. Knightly, *"Cross-Layer Rate Adaptation Using WARP,"* IEEE INFOCOM, Phoenix, Arizona, April 2008.

[D4] **A. Khattab**, J. Camp, C. Hunter, P. Murphy, A. Sabharwal, and E. Knightly, *"WARP: A Flexible Platform for Clean-Slate Wireless Medium Access Protocol Design,"* ACM MobiCom, Montreal, Canada, Sep. 2007.

[D3] **A. Khattab**, J. Camp, C. Hunter, P. Murphy, A. Sabharwal, and E. Knightly, *"Clean-Slate Mesh Protocol Design Using WARP,"* HOT/A: NSF Wireless Network PI Meeting, Chicago, Illinois, July 2007.

[D2] J. Camp, **A. Khattab**, C. Hunter, P. Murphy, A. Sabharwal, and E. Knightly, *"Clean-slate Mesh Protocol Design using WARP,"* ACM MobiSys, San Juan, Puerto Rico, June 2007.

[D1] P. Murphy, C. Hunter, J. Camp, **A. Khattab**, E. Knightly, and A. Sabharwal, *"Clean-slate Multi-hop Wireless Networks using WARP,"* IEEE INFOCOM, Anchorage, Alaska, May 2007.

INVITED TALKS & TUTORIALS

"Precision Agriculture: An IoTified Approach for Smart Farming," IEEE Japan-Africa Conference on Electronics, Communications and Computers (JAC-ECC), December 2020.

"Success story: CIPOLIVE project," R&D Collaboration between Spain and Egypt on ICT, Online Webinar, November 2020.

"IoT Applications in Smart Environments," School of Systems and Enterprises (SSE) Seminar Series, Stevens Institute of Technology, Hoboken, New Jersey, U.S.A., May 2019.

"IoT Applications in Smart Cities," Centre de Recherche en Informatique (CRI) Workshop Day, l'Université Française d'Egypte (UFE), Cairo, Egypt, April 2019.

"Internet of Things (IoT): Architectures, Challenges and Applications," Advanced Bio-impedance Modeling Using Fractional Calculus Workshop, Cairo, Egypt, June 2017.

"Wireless Networks: From Theory to Practice," School of Engineering & Technology Seminar, Mount Pleasant, Michigan, U.S.A., April 2017.

"From Wireless Sensor Networks to the Internet of Things," IEEE International Conference on Microelectronics (ICM), Cairo, Egypt, December 2016.

"IoT Applications and Challenges," German University in Cairo/Ruhr-University-Bochum/Technical University of Darmstadt Collaborative Research Workshop, Cairo, Egypt, November 2016.

"Precision Agriculture in Egypt: Challenges and Opportunities," Hack4Egypt: Revolutionize Egypt's ICT Health, Education, Agriculture, and Transportation (HEAT) Sectors, Cairo, Egypt, December 2015.

"Cognitive Wireless Sensor Network: Its Applications in Historical Site Health Monitoring," IEEE International Conference on Energy Aware Computing Systems & Applications (ICEAC), Cairo, Egypt, March 2015.

"Wireless Sensor Networks," IEEE Interact with Today's World (ITW 2014), Alexandria, Egypt, August 2014.

"Introduction to Wireless Sensor Networks," ASRT Workshop on Wireless Sensor Networks Applications in Transportation, Agriculture, and Health-care, Cairo, Egypt, May 2014.

CONFERENCE
PRESENTATIONS

"Deep Learning Based Time-Series Forecasting Framework for Olive Precision Farming," IEEE MWSCAS, Lansing, MI, USA, August 2021.

"Joint Sparse Recovery in Precision Agriculture WSN and IoT Applications," IEEE WF-IoT, New Orleans, USA, June 2021.

"Slotted IEEE 802.11p Contention for Overhead-Free Spectrum Sensing in CR-VANETs," IEEE CCNC, Las Vegas, NV, January 2018.

"Adaptive Reduced-Set Matching Pursuit for Compressed Sensing Recovery," IEEE ICIP, Phoenix, AZ, September 2016.

"On the Energy Efficiency of Opportunistic Access in Wireless Home Networks," IEEE GlobalSIP, Orlando, FL, December 2015.

"Autonomous Opportunistic Spectrum Access in Distributed Femtocell Networks," IEEE GLOBECOM, Atlanta, GA, December 2013.

"Experimental Evaluation of Opportunistic Spectrum Access in Distributed Cognitive Radio Networks," IEEE IWCMC, Limassol, Cyprus, August 2012.

"Rate-Adaptive Probabilistic Spectrum Management for Cognitive Radio Networks," IEEE WoWMoM, Lucca, Italy, June 2011.

"An Experimental Case for SIMO Random Access in Multi-hop Wireless Networks," IEEE INFOCOM, San Diego, CA, March 2010.

"Fair Randomized Antenna Allocation in Asynchronous MIMO Multi-hop Networks," IEEE ICCCN, St. Thomas, US Virgin Islands, August 2008.

"Opportunistic Scheduling of Delay Sensitive Traffic in OFDMA-based Wireless Networks," IEEE WoWMoM, Buffalo, NY, June 2006.

TEACHING
EXPERIENCE

Course Instructor

Cairo University, Egypt   **May 2012 - Present**
- ECPM 602: Fundamentals of Telecommunications Networks (Fall 2014 – 2015)
- ELC 629: Software-Defined Radio and Cognitive Radio Networks (Spring 2013 – 2019)
- ELC 695/ELC 724: Wireless Sensor and Ad-hoc Networks (Fall 2012 – 2021)
- ELC 463: Wireless Computer Networks (Spring 2018 – 2022)
- ELC 303-A: Computer Architecture (Fall 2012 – 2021)
- ELC 303-B: Object-Oriented Programming (Spring 2015 – 2017)
- ELC 316: Logic and Computer Design (Spring 2013 – 2014)
- ELCN 316: Digital Communications Principles (Fall 2014 – 2021, Spring 2015 – 2022)
- ELCN 406: Advanced Topics in Wireless Communications (Fall 2014 – 2015, Spring 2015)
- ELCN 416: Information Theory and Coding (Spring 2014)
- ELCN 436: Mobile Communications (Spring 2016–2017,2020, Fall 2016–2017)
- CCEN 280: Seminar 1 (Fall 2021)
- CCEN 380: Seminar 2 (Spring 2014, 2020 – 2022)

The American University in Cairo (AUC), Egypt   **September 2012 - Present**
- ECNG 420: Fundamentals of Communications I (Fall 2016 – 2017, 2019)
- ECNG 421: Fundamentals of Communications II (Spring 2013, 2022, Fall, 2021)
- ECNG 436: Mobile Communication Systems (Fall 2012 – 2017, Spring 2020, 2022)

Ain Shams University (ASU), Egypt   **February 2019 - Present**
- ECE 459: Wireless and Mobile Communications (Spring 2019, Fall 2019 – 2020)

Teaching Assistant

University of Louisiana, Lafayette, Louisiana USA   **August 2009 - December 2011**
- EECE/CMPS 513: Computer Networks (Fall 2009 – 2011, Spring 10)
- EECE/CMPS 430: Computer Architecture (Spring 2011)

Rice University, Houston, Texas USA   **August 2005 - August 2009**
- ELEC 537: Communication Networks (Fall 2007)
- ELEC 437: Introduction to Communication Networks (Fall 2008)
- ELEC 241: Fundamentals of Electrical Engineering (Fall 2006)

Cairo University, Egypt   **August 2002 - August 2005**
  - ELC 306-A: Analog Communications (Fall 2002 – 2004)
  - ELC 306-B: Digital Communications (Spring 2003 – 2004)
  - ELC 202-A: Electric Circuits II (Fall 2003)
  - ELC 202-B: Electric Circuits II (Spring 2004)
  - ELC 325-3: Electric Communications Eng. (Fall 2002)

The American University in Cairo (AUC), Cairo, Egypt   **Jan 2005 - May 2005**
  - Conduct tutorials, administrate labs, hold office hours, grade homework and exams.

PROFESSIONAL
EXPERIENCE

Forward Link - a CBM of America Division, Lafayette, Louisiana USA

Distributed Antenna Systems (DAS) and RF Design Engineer/Coop   **May 2011 - August 2011**

Alcatel Egypt, Cairo, Egypt

Summer Intern at Radio Network Planning Division   **August 2001 - September 2001**

Vodafone Egypt, Cairo, Egypt

Summer Intern at Network Operation and Maintenance (NOM) Department   **June 2001 - July 2001**

PROFESSIONAL
SERVICES

Grant Proposal Reviewer

National Telecommunications Regulations Authority (NTRA), Egypt.

Science and Technology Development Fund (STDF), Egypt.

Information Technology Industry Development Agency (ITIDA), Egypt.

Academy of Scientific Research and Technology (ASRT), Egypt.

San Diego State University (SDSU) Research Foundation, USA.

Central Michigan University Internal Grant Committee, USA.

Organizing Committee Member

Awards Co-chair: IEEE Novel Intelligent and Leading Emerging Sciences Conference (NILES) - Cairo, Egypt, Dec. 2020

Publicity Co-chair: IEEE International Conference on Microelectronics (ICM) - Cairo, Egypt, Dec. 2019

Travel Grants Co-chair: IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) - New Orleans, LA, March 2017

Track Co-chair: IEEE International Conference on Microelectronics (ICM) - Cairo, Egypt, Dec. 2016

Local Organization, Administration and Finance, Ph.D./M.Sc. Forum Co-chair: IEEE International Conference on Electronics, Circuits, and Systems (ICECS) - Cairo, Egypt, Dec. 2015

Ph.D./M.Sc. Forum Co-chair: IEEE International Conference on Electronics, Circuits, and Systems (ICECS) - Abu Dhabi, UAE, Dec. 2013

Technical Program Committee Member

IEEE Global Communications Conference (GLOBECOM)

  - Rio de Janeiro – Brazil (December 2022), Madrid – Spain (December 2021), Taipei – Taiwan (December 2020), Waikoloa – Hawaii (December 2019), Abu Dhabi – UAE (December 2018), Singapore (December 2017), San Diego – California (December 2015), Austin – Texas (December 2014).

IEEE International Conference on Communications (ICC)

  - Rome – Italy (May 2023), Seoul – South Korea (May 2022), Montreal – Canada (June 2021), Dublin – Ireland (June 2020), Shanghai – China (May 2019), Kansas City – USA (May 2018), Paris – France (May 2017), Kuala Lumpur – Malaysia (May 2016).

IEEE Global IoT Summit (GIoTS)

  - Dublin – Ireland (June 2020), Aarhus – Denmark (June 2019), Bilbao – Spain (June 2018), Geneva – Switzerland (June 2017).

IEEE World Forum on Internet of Things (WF-IoT)

  - Singapore (February 2018), Reston – USA (December 2016), Milan – Italy (December 2015), Seoul – South Korea (March 2014).

IEEE 5G World Forum (WF-5G)

- Montreal – Canada (October 2021), Bangalore – India (September 2020), Dresden – Germany (September/October 2019).

IEEE Wireless Communications and Networking Conference (WCNC)

- Austin, Texas – USA (April 2022), Nanjing – China (April 2021), Seoul – South Korea (April 2020), Doha – Qatar (April 2016).

IEEE International Conference on Computer Communications and Networks (ICCCN)

- Hawaii – USA (August 2016), Las Vegas – USA (August 2015), Shanghai – China (August 2014).

IEEE Int'l Mediterranean Conference on Communications and Networking (MeditCom), Athens, Greece, September 2021

IEEE Int'l Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), London, UK, August 2020

IEEE Int'l Wireless Communications & Mobile Computing Conf. (IWCMC), Tangier, Morocco, June 2019

IEEE International Conference on Microelectronics (ICM), Sousse, Tunisia, December 2018

Int'l Conference on Mobile, Secure and Programmable Networking (MSPN'2018), Paris, France, June 2018

IEEE Int'l Conf. on Computing, Networking and Communications (ICNC), Silicon Valley, USA, January 2017

IEEE Int'l Conference on Energy Aware Computing Systems & Applications (ICEAC), Egypt, March 2015

IEEE Int'l Workshop on Real-Time Cyber-Physical Systems (RTCPS), Reno, Nevada, June 2014

IEEE International Conference on Engineering and Technology (ICET), Cairo, Egypt, April 2014

Sensor Network Signal and Information Processing (SNSIP), MIC-CSN 2013, Ruse, Bulgaria, 2013

Technical Reviewer for Journals/Conferences

Journals and Magazines: IEEE Internet of Things Journal, IEEE/ACM Transactions on Mobile Computing, IEEE Transactions on Wireless Communications, IEEE Transactions on Vehicular Technology, IEEE Transactions on Parallel and Distributed Systems, IEEE Journal on Selected Areas in Communications, IEEE Journal on Emerging and Selected Topics in Circuits and Systems, IEEE Vehicular Technology Magazine, IEEE Communications Letters, Ad Hoc Networks (Elsevier), Computer Communications (Elsevier), Computer Networks (Elsevier), Measurement (Elsevier), Annals of Telecommunications (Springer).

Conferences: IEEE INFOCOM 2006-2009, ACM MobiCom 2006-2009, ACM Sigmetrics 2007, WiOpt 2007, IEEE VTC-Fall'12, IEEE VTC-Spring'13, IEEE WCNC'13, IEEE WCNC'16, IEEE ICC'13, , IEEE ICC'15-17, IEEE GLOBECOM'07, IEEE GLOBECOM'13-15, IEEE PIMRC'13, IEEE ICCCN 2014-2017.

Branch Counselor

IEEE Cairo University Student Branch   **September 2017 - Present**

Secretariat

IEEE Computer Society student chapter at the University of Louisiana **August 2010 - December 2011**

MEMBERSHIPS	**IEEE, IEEE Communication Society, IEEE Computer Society, IEEE Signal Processing Society**
	Senior Member (2017), Member (2012), Student Member (2005)

COMPUTER SKILLS
- Packages: MATLAB, Network Simulator (NS-2), iPerf, Xilinx Platform Studio, iBwave
- Programming Languages: C/C++, VB, and FORTRAN
- Operating Systems: Windows, Linux and MAC OS
- Professional user of MS and TeX based systems

SUPERVISED GRADUATE STUDENTS
- Nariman Mamdouh (M.Sc. – 2023): *"Deep Learning-Based Detection and Classification of Pests and Diseases for Olive Precision Agriculture"*
- Mohamed Hany (M.Sc. – 2022): *"A Low Footprint Weather Forecasting Framework Using a Single-Layered Seasonal Attention Encoder-Decoder Model"*
- Haiam Shahin (M.Sc. – 2021): *"Applications of Unmanned Aerial Vehicle in Smart City Planning"*
- Eman Youssef (M.Sc. – 2021): *"Hardware Acceleration of Convolutional Neural Networks Using Approximate Computing and Dynamic Partial Reconfiguration"*
- Ghada Alsuhli (Ph.D. – 2019): *"A Machine Learning-based Optimized Clustering Algorithm for VANETs"*
- Michael Melek (Ph.D. – 2018): *"Compressed Sensing Algorithms for Wideband Spectrum Sensing in Cognitive Radio Networks"*

- Mohamed Abuelala (M.Sc. – 2019): *"A Novel Modeling for Inexact Gates and Analysis of Quasi-TRNG Application"*
- Sameh Abdelghany (M.Sc. – 2018: American University in Cairo): *"Resource Aware Space Mission Routing"*
- Nada Elgaml (M.Sc. – 2018): *"Single Channel Slotted Contention For Cognitive Radio Vehicular Networks"*
- Hany Ali (M.Sc. – 2017): *"Implicit Cooperation Protocols for Green Cognitive Wireless Sensor Networks"*
- Emad Helal (M.Sc. – 2017): *"Energy-Efficient Spectrum aware clustering and Multi-hop Routing for Cognitive Radio Sensor Networks"*
- Marwa Mamdouh (M.Sc. – 2016): *"Load Balancing of The Routing Protocol for Low Power and Lossy Networks via Minimum Degree Spanning Tree"*
- Mohamed Selim (M.Sc. – 2016): *"Optimized Neighbor Discovery For 6LoWPANs: Implementation And Performance Evaluation"*
- Ahmed Abdel Wahab (M.Sc. – 2015): *"High Accuracy GPS-Free Vehicle Localization Framework via A Single RSU"*

CURRENT GRADUATE STUDENTS

Mohamed Tharwat (Ph.D. – expected graduation date 2023)
Mohamed Elsherif (Ph.D. – expected graduation date 2024)
Nevin Nassar (Ph.D. – expected graduation date 2026)
Nouran Youssry (M.Sc. – expected graduation date 2022)
Mostafa Helmy (M.Sc. – expected graduation date 2023)
Israa Ali (M.Sc. – expected graduation date 2023)

REFERENCES

Available upon request.