

## Mohamed Abdallah (Assistant Professor)

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### CONTACT INFORMATION

A0036-B, College of Science and Engineering  
Hamad Bin Khalifa University  
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Doha, Qatar

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### EDUCATION

#### **University of Maryland**, College Park, MD, USA

Ph.D., Electrical and Computer Engineering, May 2006  
Dissertation Title: Beamforming Algorithms for Information Relaying in Dense Wireless Networks.

#### **University of Maryland**, College Park, MD, USA

M.S., Electrical and Computer Engineering, Jan 2001  
Thesis Title: Resource-efficient Sequential Encoding and Estimation Strategies for Wireless Sensor Networks.

#### **Cairo University**, Cairo, Egypt

M.S., Electrical and Computer Engineering, Jan 1999  
Thesis Title: Call Admission Control in Wireless Multimedia Networks.

#### **Cairo University**, Cairo, Egypt

B.Sc. with honors, Electrical and Computer Engineering, July 1996.

### SUMMARY OF ACCOMPLISHMENTS

- **Research outcome:** 5 book chapters, 3 US patents (2 issued, 1 filed), 37 journal papers, and 94 conference papers (mostly in IEEE journals and conferences). **Google Scholar citations:** 989, **h-index:** 18, **i-10 index:** 37.
- **Research funding:** Principal investigator (3 Lead PI, 2 Co-Lead PI and 3 PI) in eight research proposal grants in the total amount of USD 7M. Six of them is granted from NPRP-QNRF.
- **Advising experience:** Graduated 7 M.Sc students and currently advising 6 Ph.D. student, 3 M.Sc students, and 2 postdoctoral at Hamad Bin Khalifa University. Graduated and advised several postdoctoral research associates, graduate students at Texas A&M at Qatar, Texas A&M College Station, University of South Florida and Cairo University in their dissertation and theses.
- **Teaching experience:** Eight years experience in teaching a variety of courses in wireless networks and its security aspects, communications and signal processing for both undergraduate and graduate students, and research methods and ethics. I taught six course at HBKU with average instructor evaluation 4.1. I organized and supervised lab sessions in the areas of computer networks, digital electronics and communication theory. Advising undergraduate students in several senior design projects in cooperation with local industry.
- **Professional activities:** Associate Editor for IEEE Transactions on Communications; Track co-chair at the 90th IEEE Vehicular Technology Conference (VTC2019-Fall); Technical program co-chair of the 10th International Conference on Cognitive Radio Oriented Wireless Networks (Crowncom, 2015); Workshop co-chair of the the IEEE WCNC'16 workshop on Optical Wireless Communications; and member of IEEE standard 802.15.7r1 titled 'Short range optical communications'.

**Hamad Bin Khalifa University, Doha, Qatar**

*Assistant Professor, Division of ICT, College of Science and Engineering* **Sept. 16 - Present**

- Instructed undergraduate and graduate courses including
  - ICT501: Research Methods and Ethics in ICT (F'17,F'18).
  - ICT701: Research Graduate Seminar (S'18).
  - CYSE627: Wireless Networks and Security (S'17,S'18)
  - CSE 510: Advanced Algorithms and Data Structures (S'17,S'18)(*co-teaching 40% of class*).
  - CYSE 570: Cybersecurity Policy, management, and IT ethics. (F'16)
  - CPEG 114: Electrical Circuit Theory (F'16)

**Texas A& M University at Qatar, Doha, Qatar**

*Associate Research Scientist, Electrical and Computer Eng. Dept.*

**Oct. 12 - Aug. 16**

*Assistant Research Scientist, Electrical and Computer Eng. Dept.*

**Feb. 11 - Oct. 12**

*Postdoctoral Associate, Electrical and Computer Eng. Dept.*

**Oct. 09 - Feb. 11**

- Conducting and managing research in the area of cellular heterogeneous network, cognitive networks and sensor network with focus on resource allocation, user scheduling, distributed beamforming, cooperative user communication and relaying, detection and estimation, and data fusion algorithms. Recently, I also worked on understanding the physical layers challenges and providing efficient algorithms for novel emerging applications such as visible light and free-space optical communication systems, reconfigurable antenna systems, smart grids, location determination techniques, and cyber security systems.
- Co-advising graduate students on both Qatar and Texas main campuses for their theses, and dissertations.

**Cairo University, Giza, Egypt**

*Associate Professor*

**July 12 - Aug 16**

*Assistant Professor*

**June 06 - July 12**

(*Was taking a leave of absence since Oct 2009 to work at Texas A&M University at Qatar.*)

- Instructed undergraduate courses including
  - Computer Networks.
  - Analog communication systems.
  - Digital communication systems.
  - Signal processing and linear systems.
  - Probability Theory.
- Instructed graduate courses including
  - Detection and estimation theory.
  - Advanced signal processing.
  - Advanced digital Communications.

**American University at Cairo, Cairo, Egypt**

*Adjunct Faculty, Electrical Eng. Dept.*

**Jan. 07 - Sept. 09**

- Spring 2007: Instructed “Computer Networks ” course.

- Spring 2008: Instructed “Digital Communications” course.
- Research collaboration with regular faculty members in the area of cognitive networks.

**University of Maryland**, College Park, Maryland, USA

*Research and Teaching Assistant, ECE Department*

**Jan. 02 - Jun 06**

- Assisted in teaching Estimation and Detection Theory.
- Conducted recitation classes, Graded exams and homework.
- Conducted research in the area of resource-efficient communication and signal processing algorithms for wireless ad-hoc networks.

**Cairo University**, Cairo, Egypt

*Teaching Assistant, ECE Dept.*

**Sept. 96 - Dec. 98**

- Assisted in teaching undergraduate communication classes.
- Preparing and instructing undergraduate labs in the areas of digital electronics, analog/digital communications and signal processing.

WORK EXPERIENCE **Varkon Semiconductors**

- INDUSTRIAL

*Principal Systems Engineer*

**Sept. 08 - Sept. 09**

- Physical layer design and implementation of Digital video broadcasting (DVB) systems using Matlab and C++.

**New Bridge Company**, Cairo branch, Egypt

*Systems Engineer*

**Sep. 96 - Sep. 97**

- Develop and design of telecommunication WAN and LAN for the Egyptian government and private companies.

**InterUniversity Microelectronics Center (IMEC)**, Leuven, Belgium.

*Summer Intern*

**June 94 - July 94**

- Develop measurement tools for nanotechnology.

**Universtat des Saarlandes**, Saarbrücken, Germany.

*Summer Intern*

**July 94 - Aug. 94**

- Implement C++ software program for WAN simulation.

HONORS AND  
AWARDS

1. **Research Fellow Excellence Award:** Texas A & M University at Qatar, 2016.
2. **Best Paper Award:** Mohamed Ismail, Islam Bayram, Mohamed Abdallah, Erchin Serpedin, and Khalid Qaraqe "Optimal planning of PEV fast charging stations", *IEEE First Workshop On Smart Grid And Renewable Energy*, Doha, Qatar, Mar. 2015.
3. **Nortel Networks Industrial Fellowship** at University of Maryland, College Park, MD. Awarded for five consecutive years 1999 - 2003. Awarded only to ONE Ph.D. graduate student.
4. **Best Poster Award:** Honors with Distinction (First Place) in University of Maryland Graduate Research Interaction Day (GRID), 2004.
5. **Best Talk Award:** Honors with Distinction (First Place) in University of Maryland Graduate Research Interaction Day (GRID), 2003.

6. **Distinction at M. Sc** (top 1%), Cairo University, Dec 1998.
7. **Distinction with Honor degree at B.Sc.** (top 1 %), Cairo University, July 1996.
8. **Faculty Certificate of Honor**, 1992-1996., Cairo University, Egypt.

#### RESEARCH GRANTS AWARDED

1. **Relay-assisted Visible Light Communication Systems**, Technology Development Fund (TDF) funded by Qatar National Research Fund.  
**Mohamed Abdallah (Lead PI)**, Collaborators: Murat Uysal, Khalid Qaraqe, Ali Gorcin.  
Amount: US\$ 130K (2018-2019).
2. **Optical Wireless communications: Complementary Technology for Solving RF Spectrum Congestion in 5G Heterogeneous Networks**, funded by Qatar National Research Fund.  
**Mohamed Abdallah (PI)**, Collaborators: Khalid Qaraqe, Khaled B. Letaif, Mohamed-Slim Alouini, Zouheir Rezki, Ahmed Salah, and Mohamed Khairy. Amount: US\$ 720K (2016-2019).
3. **Visible Light Communication for Underwater Sensor Networks**, funded by Qatar National Research Fund.  
**Mohamed Abdallah (Lead PI)**, Collaborators: Murat Uysal, Costas Georgiades, Boon Ooi and Bassem Shihada.  
Amount: US\$ 810K (2016-2019).  
*Currently serving as a PI after I moved from TAMUQ to HBKU*
4. **A Signal Processing Framework for Secure Monitoring, Power-Line Communications, and Energy Management in Energy Grids**, funded by Qatar National Research Fund.  
**Mohamed Abdallah (Lead PI)**, Collaborators: Khalid Qaraqe, Naofal El-Dahrir and Ali Tajer.  
Amount: US\$ 1M (2014-2017).
5. **Cognitive Heterogeneous Networks: Interference-aware Resource-efficient Design and Performance Analysis**, funded by Qatar National Research Fund.  
**Mohamed Abdallah (PI)** , Collaborators: Khalid Qaraqe, Mohamed-Slim Alouini, and Mohamed Khairy.  
Amount: US\$ 1M (2012 - 2015).
6. **Smarter Smart Phones: Adapting to a Changing Digital Landscape with Reconfigurable Antennas**, funded by Qatar National Research Fund.  
**Mohamed Abdallah (Co-Lead PI)**, Collaborators: Jean-Francois Chamberland and Gregory Huff.  
Amount: US\$ 1M (2012 - 2015).
7. **Visible Light Communications**, funded by Qatar National Research Fund.  
**Mohamed Abdallah (Co-Lead PI)**, Collaborators: Costas Georgiades, Murat Uysal and Harald Haas.  
Amount: US\$ 1M (2012 - 2015).
8. **Mobile WiMaX System Design and Analysis**, funded by National Telecommunication Regulatory Authority, Egypt.  
**Mohamed Abdallah (PI)**, Collaborators: Mohamed Khairy, Ahmed Shalash, Mohammed Nafie.  
Amount: US\$ 400K (2007 - 2009).

• **Current Postdoctoral Associates**

1. Dr. Nourreddine Lasla (HKBU, 2018-current)  
*Topic: Developing Blockchain Technology for peer-to-peer Energy Trading Systems.*
2. Dr. Galymzhan Nauryzbayev (HBKU, 2017-current)  
*Topic: Resource optimization for next generation wireless networks.*

• **Current Ph.D. Students (Main advisor)**

1. Jaber Al-Khori (HBKU, Expected Graduation May 2019)  
*Thesis title: Physical layer security for relaying systems in hybrid RF/VLC systems.*
2. Danya Saifaldeen (HBKU, Expected Graduation May 2020)  
*Thesis title: Developing machine learning techniques for hybrid RF/VLC systems.*
3. Hamed Al-Shaibani (HBKU, Expected Graduation May 2020)  
*Thesis title: Developing Blockchain-based solutions for the the financial sector.*
4. Noora Al-Maslmami (HBKU, Expected Graduation May 2021)  
*Thesis title: TBD*
5. Maryam Al-Fehani (HBKU, Expected Graduation May 2021)  
*Thesis title: TBD.*
6. Afaf Al-Sherawi (HBKU, Expected Graduation May 2021)  
*Thesis title: TBD*

• **Current Ph.D. Students (External advisor)**

1. Sultan Arzykulov, Nazarbayev University, Kazakhstan  
*Thesis title: Wireless Powered Cooperative Cognitive Radio*
2. Leila Tlevaldyeva, Nazarbayev University, Kazakhstan  
*Thesis title: Spectrum Sensing of Spectrum sensing/sharing cognitive radio systems with hardware constraints*

• **Current M. Sc. Students (Main advisor)**

1. Eman Abouzohri (HBKU, Expected Graduation May 2018)  
*Thesis title: Physical layer security for Wireless EV charging systems.*
2. Maryam Al-Ammari (HBKU, Expected Graduation May 2018)  
*Thesis title: Developing blockchain technology for IoT-based energy trading systems*
3. Majid Al-Nisf (HBKU, Expected Graduation May 2018)  
*Thesis title: Direction Finder systems for Passive Radar.*

• **Former Postdoctoral Associates**

1. Dr. Imran Ansari (TAMUQ, Currently working as an Assistant Professor at University of Glasgow)  
*Topic: Performance analysis of hybrid RF/FSO systems.*
2. Dr. Islam Baryram (TAMUQ, Currently working as a research scientist at Qatar Environment and Energy Research Institute)  
*Topic: Energy management in smart grids and electric vehicles.*
3. Dr. Mohamed El-Kashef (TAMUQ, Currently working as a Research Associate at National Institute of Standards and Technology)  
*Topic: Cooperative User Scheduling for Visible light communication.*
4. Dr. Ochirkhand Erdene-Ochir (TAMUQ, Currently working as a Patent Examiner at European Patent Office)  
*Topic: Network resilience framework for smart metering systems.*

• **Former M. Sc. Students (Main advisor)**

1. Noora Al-Maslmani (HBKU, Defended May 2018)  
*Thesis title: Sinkhole Attack Detection in WSN using Swarm Intelligence Optimization*
2. Amna Al-Mejali (HBKU, Defended May 2018)  
*Thesis title: Voip Security: Dos Flooding-based Attacks Detection*
3. Maryam Al-Fehani (HBKU, Defended May 2018)  
*Thesis title: The Use of Political Bots for Political Propaganda and Astroturfing.*
4. Afaf Al-Sherawi (HBKU, Defended May 2018)  
*Thesis title: Electrical Demand Load Forecasting for Qatar using a hybrid model of Artificial Neural Network and Swarm Intelligence Optimization*
5. Nour Elhoda Tabet (HBKU, Defended May 2018)  
*Thesis title: Multi-Metrics Jamming Detection algorithm for UAV networks*
6. Mahmoud El-Achi (HBKU, Defended May 2018)  
*Project title: Project Performance Assessment of Ofdm-PLC technology for Smart Meters Deployment in Qatar*
7. Aseel Ghazal (HBKU, Defended June 2018)  
*Thesis title: Intentions of Twitter Automation: A study of Tweet Sources.*
8. Ahmed Elshahraany (Cairo University, Graduated in Aug. 2014)  
*Thesis title: On Relay Selection in Multiuser Cognitive Systems.*
9. Mostafa ElSayed (Cairo University, Graduated in Aug. 2013 )  
*Thesis title: Efficient Diversity Techniques for Cognitive Spectrum Sharing Networks.*
10. Ahmed Gamal (Cairo University, Graduated in July 2011 )  
*Thesis title: Adaptive Rate Transmission and Power Allocation for Spectrum Sharing in Cognitive Radio Networks.*
11. Mohamed Nassar (Cairo University, Graduated in June 2011)  
*Thesis title: Interference Mitigation Schemes for Advanced MIMO Systems.*
12. Mahmoud Sobhy (Cairo University, Graduated in Oct. 2010)  
*Thesis title: Opportunistic Cognitive Relaying for Wireless Networks: Performance Analysis and Optimization.*
13. Mohamed Hany (Cairo University, Graduated in Aug 2009.)  
*Thesis title: Interference-Minimizing Code Assignment for Cognitive Underlay CDMA Systems.*
14. Mohamed Khairy (Cairo University, Graduated in June 2009 )  
*Thesis title: Implementation of Fixed Sphere Decoder for MIMO Systems.*

EXAM COMMITTEES

• **Member of M.Sc. Thesis Committee**

1. Ahmed Al-Kuawri, M. Sc. of Cybersecurity, May 2018.
2. Abdulaziz H. Al-Marwani, M. Sc. of Cybersecurity, May 2018.
3. Priyanka Dodia, M. Sc. of Cybersecurity, May 2018.
4. Mohammed E. Alshriem, M. Sc. of Cybersecurity, May 2018.
5. Aqsa Nazir, M. Sc. of Cybersecurity, May 2018.
6. Mehazabeen Mannan (chair), M.Sc. of Sustainability, May 2018.
7. Abulrahman Altamimi (chair), M.Sc. of Sustainability, May 2018.
8. Saad Ghani Ullah Hafiz (chair), M.Sc. of Sustainability, May 2018.
9. Noor Al-Maslmani (chair), M.Sc. of Life Sciences, May 2018.
10. Meead Al-Jassim (chair), M.Sc. of Sustainability, May 2018.

11. Ameema Zainab, M.Sc. of Data Science, May 2018.
12. Abdulaziz Yousaf Al-Homaid, M.Sc. of Data Science, May 2018.
13. Kamela Al-Manai, M.Sc. of Data Science, May 2018.
14. Ali ElDous, M.Sc. of Data Science, May 2018.

• **Member of Ph.D. Qualification Exam Committee**

1. Ali Al-Rashid, Ph.D. of Computer Science and Engineering, June 2018.
2. Hend Gedawy, Ph.D. of Computer Science and Engineering, April 2018.
3. Elmahdi Bentafat, Ph.D. of Computer Science and Engineering, April 2018.
4. Sana Alfarsi, Ph.D. of Computer Science and Engineering, June 2018.
5. Dana Abdeen, Ph.D. of Sustainability, June 2018.

BOOKS CHAPTERS

1. Ahmed Sherif, Ahmad Alsharif, Mohamed M E A Mahmoud, and Mohamed M. Abdallah, "Priority-based and Privacy-preserving Electric Vehicle Dynamic Charging System with Divisible E-Payment," *Smart Cities Cybersecurity and Privacy Book*, Elsevier Press, USA
2. Mohamed Kashef, Muhammad Ismail, Mohamed Abdallah, Khalid A. Qaraqe, and Erchin Serpedin, "Visible Light Communications for Energy Efficient Heterogeneous Wireless Networks," *Energy Management in Wireless Cellular and Ad-hoc Networks*, pp. 299-317, Springer International Publishing, 2016.
3. Khalid A. Qaraqe, Mohamed Abdallah, Muhammad Zeeshan Shakir, "Resource Efficient Design for Heterogeneous Networks (REDHET)," *Excellence and Impact of Research at Texas A&M at Qatar*, QScience, Bloomsbury Publishing UK, 2013.
4. Ayman Elezabi, Mohamed Kashef, Mohamed Abdallah, "A survey of interference mitigation in underlay cognitive radio networks," invited chapter in *Cognitive Radio: Terminology, Technology and Techniques*, Nova Science Publishers.
5. Mohamed S. Khairy, Mohamed M. Abdallah and Serag E. D. Habib, "Efficient Implementation of MIMO decoders," invited chapter in *MIMO Systems, Theory and Applications*, InTech Open Access Publisher.

PATENTS

1. Hassan Mohamed El-Sallabi, Mohamed Abdallah, Khalid Ali Qaraqe, Gregory H. Huff, and Jean-Francois Chamberland, "Geo-security method and system," U.S. Patent Application 15/286,527, filed April 6, 2017.
2. Hassan Mohamed El-Sallabi, Mohamed Abdallah, Khalid Ali Qaraqe, Gregory H. Huff, and Jean-Francois Chamberland, "Reconfigurable Radio Direction Finder System," U.S. Patent 9,819,081, issued November 14, 2017.
3. Ayman Elezabi, Mohamed Kashef, Mohamed Abdallah, and Mohamed Khairy, "Methods, systems, and computer readable media for interference-minimizing code assignment and system parameter selection for code division multiple access (CDMA) networks," U.S. Patent 8,737,362, issued May 27, 2014.

PUBLICATIONS -  
JOURNALS

1. Salah Hessien, Sezer Can Tokgoz, Noha Anous, Ali Boyacı, Mohamed Abdallah, and Khalid Qaraqe, "Experimental Evaluation of OFDM based Underwater Visible Light Communication System," accepted in *IEEE Photonics Journal*.
2. Mai Kafafy, Yasmine Fahmy, Mohamed Abdallah, and Mohamed Khairy, "A novel bandwidth and power allocation scheme for power efficient hybrid RF/VLC indoor systems," *Physical Communication*, May 2018.

3. G. Nauryzbayev, K. M. Rabie, M. Abdallah and B. Adebisi, "On the Performance of Wireless Powered AF Relaying Systems over  $\alpha$ - $\mu$  Fading Channels," *IEEE Access*, vol. 6, no. 1, pp. 37138-37149, December 2018.
4. S. Arzykulov, G. Nauryzbayev, T. A. Tsiftsis and M. Abdallah, "On the Performance of Wireless Powered Cognitive Relay Network With Interference Alignment," *IEEE Transactions on Communications*, vol. 66, no. 9, pp. 3825-3836, Sept. 2018.
5. Miramirkhani, Farshad, Murat Uysal, Omer Narmanlioglu, Mohamed Abdallah, and Khalid Qaraqe, "Visible Light Channel Modeling for Gas Pipelines," *IEEE Photonics Journal*, vol. 10, no. 2, pp. 1-10, April 2018.
6. N. Anous, M. Abdallah, M. Uysal and K. Qaraqe, "Performance Evaluation of LOS and NLOS Vertical Inhomogeneous Links in Underwater Visible Light Communications," *IEEE Access*, vol. 6, pp. 22408-22420, 2018.
7. M. Kashef, M. Abdallah and N. Al-Dhahir, "Transmit Power Optimization for a Hybrid PLC/VLC/RF Communication System," *IEEE Transactions on Green Communications and Networking*, vol. 2, no. 1, pp. 234-245, March 2018.
8. G. Nauryzbayev, E. Alsusa and M. Abdallah, "On the Feasibility of Interference Alignment in Compounded MIMO Broadcast Channels with Antenna Correlation and Mixed User Classes," *IEEE Transactions on Vehicular Technology*, vol. 67, no. 3, pp. 2130-2140, March 2018.
9. Y. Sapenov, A. Chaaban, Z. Rezki, M. Abdallah, K. Qaraqe and M. S. Alouini, "Diversity Order Results for MIMO Optical Wireless Communications," *IEEE Wireless Communications Letters*, vol. 7, no. 1, pp. 74-77, Feb. 2018.
10. Noha Anous, Tarek Ramadan, Mohamed Abdallah, Khalid Qaraqe, and Diaa Khalil, "Planar broad-band and wide-angle hybrid plasmonic IMI filters with induced transmission for visible light applications," *Applied Optics*, vol. 56, no. 31, pp. 8751-8758, 2017.
11. Mohammed Elamassie, Murat Uysal, Yahya Baykal, Mohamed Abdallah, and Khalid Qaraqe, "Effect of eddy diffusivity ratio on underwater optical scintillation index," *Journal of the Optical Society of America A*, vol. 34, issue 11, pp. 1969-1973, 2017.
12. Taniya Shafique, Osama Amin, Mohamed Abdallah, Imran Shafique Ansari, Mohamed-Slim Alouini, and Khalid Qaraqe, "Performance Analysis of Single Photon Avalanche Diode Underwater VLC System Using ARQ," *IEEE Photonics Journal*, vol. 9, no. 5, pp. 1-11, Oct. 2017.
13. Hassan Oubei, Emna Zedini, Rami T. ElAfandy, Abba Kammoun, Mohamed Abdallah, Tien Khee Ng, Mounir Hamdi, Mohamed-Slim Alouini, and Boon S. Ooi, "Simple statistical Channel Model for Weak Temperature-induced Turbulence in Underwater Wireless Optical Communication Systems," *Optics Letters*, vol. 42, issue 13, pp. 2455-2458, 2017.
14. Carlos E. Mejia, Costas N. Georgiades, Mohamed M. Abdallah, and Yazan H. Al-Badarneh, "Code Design for Flicker Mitigation in Visible Light Communications Using Finite State Machines," *IEEE Transactions on Communications*, vol. 65, no. 5, pp. 2091-2100, May 2017.
15. Ahmed Elsamadouny, Ahmed El Shafie, Mohamed Abdallah, and Noafal Al-Dhahir, "Secure Sum-Rate-Optimal MIMO Multicasting over Medium-Voltage NB-PLC Networks," in *IEEE Transactions on Smart Grid*, vol. 9, no. 4, pp. 2954-2963, July 2018.
16. Noha Anous, Mohamed Abdallah, Tarek Ramadan, Khalid Qaraqe, and Diaa Khalil, "Angle-tolerant hybrid plasmonic filters for visible light communications," *Applied Optics*, vol. 56, issue 4, pp. C106-C116, 2017.
17. Islam Bayram, Mohamed Abdallah, Ali Tajer and Khalid Qaraqe, "A Stochastic Sizing Approach for Sharing-Based Energy Storage Applications," *IEEE Transactions on Smart grids*, vol. 8, no. 3, pp. 1075-1084, May 2017.



18. Z. Bouida, H. El-Sallabi, M. Abdallah, A. Ghayeb and K. A. Qaraqe, "Reconfigurable Antenna-Based Space-Shift Keying for Spectrum Sharing Systems Under Rician Fading," in *IEEE Transactions on Communications*, vol. 64, no. 9, pp. 3970-3980, Sept. 2016.
19. M. Kashef, M. Ismail, M. Abdallah, K. A. Qaraqe and E. Serpedin, "Energy Efficient Resource Allocation for Mixed RF/VLC Heterogeneous Wireless Networks," in *IEEE Journal on Selected Areas in Communications*, vol. 34, no. 4, pp. 883-893, April 2016.
20. Mohamed Kashef, Mohamed Abdallah, Khalid Qaraqe, Harald Haas, and Murat Uysal, "Coordinated Interference Management for Visible Light Communication Systems," in *IEEE/OSA Journal of Optical Communication and Networks*, vol. 7, no. 11, pp. 1098-1108, November 2015.
21. Mohamed Marzban, Muhammad Ismail, Mohamed Abdallah, Mohamed Khairy, Khalid A. Qaraqe, and Erchin Serpedin, "IDC Interference-Aware Resource Allocation for LTE/WLAN Heterogeneous Networks," *IEEE Transactions on Wireless Communication Letters*, vol. 4, no. 6, pp. 581-584, Dec. 2015.
22. Mustafa Yilmaz, Mohamed Abdallah, Hassan El-Sallabi, Jean-Francois Chamberland, Khalid Qaraqe, and Hussein Arslan, "Joint Subcarrier and Antenna State Selection for Cognitive Heterogeneous Networks with Reconfigurable Antennas," *IEEE Transaction on Communication*, vol. 63, no. 11, pp. 4015-4025, Nov. 2015.
23. Mohamed Marzban, Muhammad Ismail, Mohamed Abdallah, Mohamed Khairy, Khalid A. Qaraqe, and Erchin Serpedin, "IDC Interference-Aware Resource Allocation for LTE/WLAN Heterogeneous Networks," *IEEE Transactions on Wireless Communication Letters*, vol. 4, no. 6, pp. 581-584, Dec. 2015.
24. Pierre Brunisholz, Ochirkhand Erdene-Ochir, Mohamed Abdallah, Khalid Qaraqe, Marine Minier, and Fabrice Valois, "Network Coding versus Replication Based Resilient Techniques to Mitigate Insider Attacks for Smart Metering," *International Journal of Distributed Sensor Networks*, vol. 11, no. 6, pp. 737269, 2015.
25. Islam Bayram, Ali Tajer, Mohamed Abdallah, and Khalid Qaraqe, "Capacity Planning Frameworks for Electric Vehicle Charging Stations With Multiclass Customers," in *IEEE Transactions on Smart grids*, vol. 6, no. 4, pp. 1934-1943, July 2015.
26. Marwa Qaraqe, Mohamed Abdallah, Mohamed-Slim Alouini, and Erchin Serpedin, "Performance Analysis of Switch-based Multiuser Scheduling Schemes with Adaptive Modulation in Spectrum Sharing Systems," *Journal of Wireless Communications and Mobile Computing*, vol. 15, no. 17, pp. 2095-2110, 2015.
27. Mostafa Sayed, Mohamed Abdallah, Khalid Qaraqe, Kamel Tourki, and Mohamed-Slim Alouini, "Joint Opportunistic Beam and Spectrum Selection Schemes for Spectrum Sharing Systems with Limited Feedback", *IEEE Transactions on Vehicular Technology*, March 2014.
28. Kamel Tourki, Khalid Qaraqe, and Mohamed Abdallah, "Outage Analysis of Spectrum Sharing Cognitive DF Relay Networks Using Outdated CSI", *IEEE Communication Letters*, vol.17, no.12, pp. 2272 - 2275, Dec. 2013.
29. Mostafa Sayed, Mohamed Abdallah, Khalid Qaraqe, and Mohamed-Slim Alouini, "Joint Switched Multi-Spectrum and Transmit Antenna Diversity for Spectrum Sharing Systems," *IEEE Transactions on Wireless Communications*, vol. 12, no. 10, pp. 4827 - 4839, Oct. 2013.
30. Sayed Hussein, Mohamed Abdallah, Mohamed-Slim Alouini, Khalid Qaraqe, and Mazen Hasna, "Relay Selection in Underlay Cognitive Networks with Fixed Transmission Power Nodes," *European Transactions on Communication, Special issue: Cognitive*, doi: 10.1002/ett.2691, 2013.
31. Sabit Ekin, Mohamed Abdallah, Khalid Qaraqe, and Erchin Serpedin, "A Study on Inter-cell Subcarrier Collisions due to Random Access in OFDM-Based Cognitive Radio Networks," *IEEE Transactions on Communication*, vol.61, no.5, pp.1695 - 1707, May 2013.

32. Zied Bouida, Khalid Qaraqe, Mohamed Abdallah, and Mohamed- Slim Alouini, "Performance Analysis of Joint Multi-Branch Switched Diversity and Adaptive Modulation Schemes for Spectrum Sharing Systems," *IEEE Transactions on Communication*, vol.60, no.12, pp.3609 - 3619, Dec. 2012.
33. Sabit Ekin, Mohamed Abdallah, Khalid Qaraqe, and Erchin Serpedin, "Random Subcarrier Allocation in OFDM-Based Cognitive Radio Networks," *IEEE Transactions on Signal Processing*, vol. 60 , no.9, pp.4758 - 4774, Sept. 2012.
34. Mohamed Abdallah, Ahmed Salem, Mohamed-Slim Alouini, and Khalid Qaraqe, "Adaptive Discrete Rate and Power Transmission for Spectrum Sharing Systems," *IEEE Transactions on Wireless Communications*, vol.11, no.4, pp.1283-1289, April 2012.
35. Ayman Elezabi, Mohamed El-Kashef, Mohamed Abdallah, and Mohamed Khairy, "CDMA Underlay Network with Cognitive Interference-Minimizing Code Assignment and Semi-Blind Interference Suppression," *Journal on Wireless Communication and Mobile Computing, Special Issue: Cognitive Radio and Advanced Spectrum Management*, vol. 9, issue 11, pp. 1460-1471, Nov. 2009.
36. Mohamed Abdallah and Haralabos Papadopoulos, "Beamforming Algorithms for Information Relaying in Wireless Sensor networks," *IEEE Transactions on Signal Processing*, vol.56, no.10, pp.4772-4784, Oct. 2008.
37. Mahmoud El-Hadidi, Khaled Elsayed, and Mohamed Abdallah, "Performance Analysis and Estimation of Call Admission Control Parameters in Wireless Integrated Voice and Data Networks," *European Transactions on Telecommunications*, vol. 11, pp. 327-343, July/August 2000.

#### PUBLICATIONS- CONFERENCES

1. J. Al-khori, G. Nauryzbayev, M. Abdallah and M. Hamdi, "Secrecy Capacity of Hybrid RF/VLC DF Relaying Networks with Jamming," accepted in *Workshop on Computing, Networking and Communications (CNC)*, Hawaii, USA, Feb. 2019.
2. Noha Anous, Mohamed M. Abdallah, Khalid A. Qaraqe, and Diaa Khalil, "Enhancement of Modulation Bandwidth in Wide-Angle VLC Systems via Response-Flattening Filters," *2018 IEEE Global Communications Conference: Optical Networks and Systems (GlobeCom2018 ONS)*, Abu Dhabi, United Arab Emirates, Dec. 2018.
3. Sultangali Arzykulov, Theodoros Tsiftsis, Galymzhan Nauryzbayev, and Mohamed M. Abdallah, "Outage Performance of Underlay CR-NOMA Networks with Detect-and-Forward Relaying," *2018 IEEE Global Communications Conference: Cognitive Radio and Networks (GlobeCom2018 CRN)*, Abu Dhabi, United Arab Emirates, Dec. 2018.
4. Noha Anous, Mohamed Abdallah, and Khalid Qaraqe, "Line-of-Sight VLC in Inhomogeneous Underwater Medium: Performance Evaluations," *8th International Conference on Electronics, Communications and Networks (CECNet2018)*, Bangkok, Thailand, Nov. 2018.
5. Sultangali Arzykulov, Galymzhan Nauryzbayev, Theodoros Tsiftsis, and Mohamed M. Abdallah, "Outage Performance of Underlay CR-NOMA Networks," *2018 10th International Conference on Wireless Communications and Signal Processing (WCSP) (WCSP'18)*, Hangzhou, Zhejiang Province, P.R. China, Oct 2018.
6. J. Al-khori, G. Nauryzbayev, M. Abdallah and M. Hamdi, "Physical Layer Security for Hybrid RF/VLC DF Relaying Systems," in *Proc. of IEEE Vehicular Technology Conference (IEEE VTC2018-Fall)*, Chicago, USA, August 2018.
7. G. Nauryzbayev, M. Abdallah and K.M. Rabie, "Outage Probability of Full-Duplex AF and DF Relaying Systems over  $\alpha$ - $\mu$  Channels," in *Proc. of IEEE Vehicular Technology Conference (IEEE VTC2018-Fall)*, Chicago, USA, August 2018.

8. G. Nauryzbayev, S. Arzykulov, T.A. Tsiftsis, and M. Abdallah, "Performance of cooperative underlay CR-NOMA networks over Nakagami-m channels," *IEEE International Conference on Communications Workshops (IEEE ICC Workshops)*, pp.1-6, Kansas City, USA, May 2018.
9. G. Nauryzbayev, M. Abdallah and H. Elgala, "On the performance of NOMA-enabled spectrally and energy efficient OFDM (SEE-OFDM) for indoor visible light communications," *IEEE Vehicular Technology Conference (IEEE VTC2018-Spring)*, pp.1-5, Porto, Portugal, June 2018.
10. Ahmed Sherif, Ahmad Alsharif, Mohamed M E A Mahmoud, Mohamed M. Abdallah, and Min Song, "Efficient Privacy-Preserving Aggregation Scheme for Data Sets," *25th International Conference on Telecommunications (ICT)*, Saint Malo, France, 2018.
11. Ahmad Alsharif, Mahmoud Nabil, Mohamed M E A Mahmoud, and Mohamed M. Abdallah, "Privacy-Preserving Collection of Power Consumption Data for Enhanced AMI Networks," *25th International Conference on Telecommunications (ICT)*, Saint Malo, France, 2018.
12. Galymzhan Nauryzbayev, Khaled M. Rabie, Mohamed M. Abdallah, and Bamidele Adebisi, "Ergodic Capacity Analysis of Wireless Powered AF Relaying Systems over  $\alpha$ - $\mu$  Fading Channels," *IEEE Global Communications Conference: Green Communications Systems and Networks (Globecom2017 GCSN)*, Singapore, Dec, 2017.
13. Sultangali Arzykulov, Galymzhan Nauryzbayev, Theodoros Tsiftsis, and Mohamed M. Abdallah, "On the Capacity of Wireless Powered Cognitive Relay Network with Interference Alignment," *2017 IEEE Global Communications Conference: Green Communications Systems and Networks (Globecom2017 GCSN)*, Singapore, Dec, 2017.
14. Mohamed Ridha Zenaïdi, Zouheir Rezki, Mohamed M. Abdallah, Khalid A. Qaraqe, and Mohamed-Slim Alouini, "Achievable Rate-Region of VLC/RF Communications with an Energy Harvesting Relay," *IEEE Global Communications Conference: Green Communications Systems and Networks (Globecom2017 GCSN)*, Singapore, Dec, 2017.
15. Sultangali Arzykulov, Galymzhan Nauryzbayev, Theodoros Tsiftsis, and Mohamed M. Abdallah, "Error Performance of Wireless Powered Cognitive Relay Networks with Interference Alignment," *IEEE 28th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC)*, Montreal, Canada, Oct, 2017.
16. Noha Anous, Mohamed Abdallah, and Khalid Qaraqe, "Performance Evaluation For Vertical Inhomogeneous Underwater Visible Light Communications," *2017 IEEE 86th Vehicular Technology Conference: VTC2017-Fall*, Toronto, Canada, Sept, 2017.
17. Mohamed Marzban, Mohamed Kashef, Mohamed M. Abdallah, and Mohamed Khairy, "Beamforming and Power Allocation for Physical-Layer Security in Hybrid RF/VLC Wireless Networks," *IWCMC 2017 Wireless Sensor Symposium (IWCMC-Wireless Sensors 2017)*, Valencia, Spain, Jun, 2017.
18. Mai Kafafy, Yasmine Fahmy, Mohamed M. Abdallah, and Mohamed Khairy, "Power Efficient Downlink Resource Allocation for Hybrid RF/VLC Wireless Networks," *2017 IEEE Wireless Communications and Networking Conference (WCNC)*, San Francisco, USA, March 2017.
19. M. Kashef, M. Abdallah, N. Al-Dhahir and K. Qaraqe, "On the Impact of PLC Backhauling in Multi-User Hybrid VLC/RF Communication Systems," *IEEE Global Communications Conference (GLOBECOM)*, Washington, DC, Dec. 2016.
20. I. S. Ansari, M. M. Abdallah, M. S. Alouini and K. A. Qaraqe, "Outage Analysis of Asymmetric RF-FSO Systems," *IEEE 84th Vehicular Technology Conference (VTC-Fall)*, Montreal, QC, Sept 2016.
21. Zied Bouida, Hassan El-Sallabi, Mohamed M. Abdallah, Ali Ghayeb, and Khalid A. Qaraqe, "Reconfigurable Antenna-Based Space-Shift Keying for Spectrum Sharing Systems," *IEEE ICC 2016 - Wireless Communications Symposium (ICC'16 WCS)*, Kuala Lumpur, Malaysia, May, 2016.

22. Noha Anous, Mohamed M. Abdallah, Mohamed Kashef, and Khalid A. Qaraqe, "A VLC-based System for Optical SPR Sensing Facility," *IEEE Wireless Communications and Networking Conference (WCNC 2016) - Track 4 - Services, Applications, and Business*, Doha, Qatar, April, 2016.
23. M. Ghaderi, L. Gupta, L. Tamil, M. Abdallah, and K. Qaraqe, "mHealth Platform for Breast Cancer Risk Assessment," *2015 IEEE International Conference on in Healthcare Informatics (ICHI)*, pp. 570-573, Dallas, TX, 2015.
24. Mohamed Kashef, Ahmed Torky, Mohamed M. Abdallah, Naofal Al-Dhahir and Khalid A. Qaraqe, "On the Achievable Rate of a Hybrid PLC/VLC/RF Communication System," *2015 IEEE Global Communications Conference: Selected Areas in Communications: Powerline Communications (GC' 15 - SAC - Powerline Communications)*, San Diego, California, USA, Dec. 2015.
25. Mahmoud Elgenedy, Mostafa Sayed, Mohamed Mokhtar, Mohamed M. Abdallah and Naofal Al-Dhahir, "Interference Mitigation Techniques for Narrowband Powerline Smart Grid Communications," *2015 IEEE International Conference on Smart Grid Communications (Smart-GridComm): Communications and Networks to Enable the Smart Grid (IEEE SmartGridComm'15 Symposium - Communications and Networks)*, Miami, USA, Nov. 2015.
26. Mohamed Kashef, Mohamed M. Abdallah, and Khalid A. Qaraqe, "Cooperative OFDM-based Multi-User Visible Light Communication Systems with Limited User Information," *2015 4th International Workshop on Optical Wireless Communications (IWOW)*, Istanbul, Turkey, Sept. 2015.
27. Mohamed Kashef, Muhammad Ismail, Mohamed M. Abdallah, Khalid A. Qaraqe, and Erchin Serpedin, "Power Allocation for Maximizing Energy Efficiency of Mixed RF/VLC Wireless Networks," *23rd European Signal Processing Conference (EUSIPCO)*, Nice, France, Aug. 2015.
28. Hassan El-Sallabi, Mohamed Abdallah, Jean-Francois Chamberland, and Khalid Qaraqe, "Variability of Ellipticity Statistic of MIMO Indoor Radio Channels with Antenna Orientation Angle," *2015 IEEE AP-S Symposium on Antennas and Propagation*, Vancouver Canada, July 2015.
29. Hassan El-Sallabi, Mohamed Abdallah, Jean-Francois Chamberland, and Khalid Qaraqe, "Impact of Reconfigurable Polarization Parameter on Transferred Signal Power in Indoor MIMO Channels," *2015 IEEE AP-S Symposium on Antennas and Propagation*, Vancouver Canada, July 2015.
30. Zied Bouida, Marwa Qaraqe, Qammer Abbasi, Mohamed Abdallah, and Erchin Serpedin, "Performance of Ultra-Wideband Body-Centric Wireless Networks", *Progress In Electromagnetics Research Symposium (Piers)*, Prague Czech Republic, July 2015.
31. Islam Bayram, Mohamed Abdallah, Ali Tajer, and Khalid Qaraqe, "Energy Storage Sizing for Peak Hour Utility Applications," *IEEE International conference on Communication (ICC 2015)*, London UK, June 2015.
32. Ahmed ElShaarany, Mohamed Abdallah, Salama Ikki, Mohamed Khairy, and Khalid Qaraqe, "Best Relay Selection For DF Underlay Cognitive Networks With Different Modulation Levels," *International Conference on Cognitive Radio Oriented Wireless Networks*, Doha, Qatar, April 2015.
33. Mohamed Ismail, Islam Bayram, Mohamed Abdallah, Erchin Serpedin, and Khalid Qaraqe, "Optimal planning of PEV fast charging stations", *IEEE First Workshop On Smart Grid And Renewable Energy*, Doha, Qatar, Mar. 2015 (**Best Paper Award**).
34. Mohamed Kashef, Mohamed Abdallah, and Khalid Qaraqe, "Power allocation for downlink multi-user SC-FDMA visible light communication systems", *49th Annual Conference on Information Sciences and Systems (CISS)*, Baltimore USA, March 2015.

35. A. ElSamadouny, N. Al-Dhahir, M. Abdallah, A.I. Chrysochos, T.A. Papadopoulos, and G.K. Papagiannis, "Multi-User MIMO Broadcasting/Multicasting for Medium-Voltage Narrowband-PLC Networks," *IEEE International Symposium on Power Line Communications and its Applications*, Austin, Texas USA, March 29 - April 1, 2015.
36. Ochirkhand Erdene-Ochir, Mohamed Abdallah, Khalid Qaraqe, Marine Minier, and Fabrice Valois, "A Theoretical Framework of Resilience: Biased Random Walk Routing Against Insider Attacks," *IEEE WCNC'15 Track 3 (Mobile and Wireless Networks)*, New Orleans, USA, March 2015.
37. Islam Bayram, Muhammad Shakir, Mohamed Abdallah, and Khalid Qaraqe, "A Survey on Energy Trading in Smart Grid", *GlobalSIP14-Signal and Information Processing for Energy Exchange and Intelligent Trading (GlobalSIP14-Energy Exchange and Intelligent Trading)*, Atlanta, USA, Dec. 2014.
38. Mustafa Yilmaz, Mohamed Abdallah, Khalid Qaraqe, and Hussein Arslan, "On the performance of Subcarrier Allocation Techniques for Multiuser OFDM Cognitive Networks with Reconfigurable Antennas," *Globecom 2014 - Cognitive Radio and Networks Symposium (GC14 CogRN)*, Austin, USA, Dec. 2014.
39. Yichen Li, Stefan Videv, Mohamed Abdallah, Khalid Qaraqe, Murat Uysal, and Harald Haas, "Single Photon Avalanche Diode (SPAD) VLC System and Application", *Globecom 2014 - Optical Networks and Systems Symposium (GC14 ONS)*, Austin, USA, Dec. 2014.
40. Hassan El-Sallabi, Mohamed Abdallah, Jean-Francois Chamberland, and Khalid Qaraqe, "Impact of reconfigurable polarization angle on parameters of a statistical distribution of coherence time of radio channel," *International Symposium on Antennas and Propagation (ISAP)*, Kaohsiung, Dec. 2014.
41. Hassan El-Sallabi, Mohamed Abdallah, Jean-Francois Chamberland, and Khalid Qaraqe, "A Statistical Model for Delay Domain Radio Channel Parameter Affected with Extreme Values," *International Symposium on Antennas and Propagation (ISAP)*, Kaohsiung, Dec. 2014.
42. Islam Bayram, Muhammad Ismail, Mohamed Abdallah, Khalid Qaraqe, and Erchin Serpedin, "A Pricing-based Load Shifting Framework For EV Fast Charging Stations," *IEEE International Conference on Smart Grid Communications*, Venice, Italy, Nov. 2014.
43. Hassan El-Sallabi, Mohamed Abdallah, and Khalid Qaraqe, "Modelling of Parameters of Rician Fading Distribution as a Function of Polarization Parameter in RA," *IEEE/CIC ICC 2014 Symposium on Wireless Communications Systems (ICC 2014 WCS)*, pp. 545-549, Shanghai, P.R. China, Oct. 2014.
44. Imran Ansari, Mohamed Abdallah, Mohamed-Slim Alouini, and Khalid Qaraqe, "Outage Performance Analysis of Underlay Cognitive RF and FSO Wireless Channels", *3rd International Workshop in Optical Wireless Communications (IWOW 2014)*, pp. 6-10, Funchal, Madeira Island, Portugal, Sept. 2014.
45. Mohamed Kashef, Mohamed Abdallah, Khalid Qaraqe, and Murat Uysal, "The Impact of Location Errors on Achievable Rates in OFDM-Based Multi-User Visible Light Communication Systems," *3rd International Workshop in Optical Wireless Communications (IWOW 2014)*, pp. 65-69, Funchal, Madeira Island, Portugal, Sept. 2014.
46. Zekeriyya Ankarali, Syed Hussain, Mohamed Abdallah, Khalid Qaraqe, Huseyin Arslan, and Harald Haas, "Clipping Noise Mitigation using Partial Transmit Sequence for Optical OFDM Systems," *3rd International Workshop in Optical Wireless Communications (IWOW 2014)*, pp. 80-84, Funchal, Madeira Island, Portugal, Sept. 2014.
47. Mohamed Kashef, Mohamed M. Abdallah, Khalid A. Qaraqe, Harald Haas, and Murat Uysal, "On the Benefits of Cooperation via Power Control in OFDM-Based Visible Light Communication Systems," *25th International Symposium on Personal, Indoor and Mobile Radio Communications - (PIMRC): Fundamentals and PHY (IEEE PIMRC 2014 - Fundamentals and PHY)*, Washington DC, Sept. 2014.

48. Ochirkhand Erdene-Ochir, Mohamed M. Abdallah, Khalid A. Qaraqe, Marine Minier, and Fabrice Valois, "Routing Resilience Evaluation for Smart Metering: Definition, Metric and Techniques," *25th International Symposium on Personal, Indoor and Mobile Radio Communications - (PIMRC): Mobile and Wireless Networks (IEEE PIMRC 2014 - Mobile and Wireless Networks)*, Washington DC, Sept. 2014.
49. Hassan El-Sallabi, Mohamed Abdallah, and Khalid Qaraqe, "Similarity Measures for Fading Profiles of Different Antenna States of Reconfigurable Antennas," *Progress In Electromagnetics Research Symposium, PIERS 2014*, Guangzhou, China, Aug. 2014.
50. Hassan El-Sallabi, Mohamed Abdallah, and Khalid Qaraqe, "On Effective Gain Variability with Antenna Orientation," *Progress In Electromagnetics Research Symposium, PIERS 2014*, Guangzhou, China, Aug. 2014.
51. Ahmed ElShaarany, Mohamed Abdallah, Mohamed Khairy, and Khalid Qaraqe, "Reduced Outage Probability Relay Selection For Underlay Cognitive Networks," *International Wireless Communications and Mobile Computing Conference, Coop-Cognitive Workshop (IWCMC, Coop-Cognitive Workshop)*, pp. 429-434, Nicosia, Cyprus, Aug. 2014.
52. Elham Sarbazi, Murat Uysal, Mohamed Abdallah, and Khalid Qaraqe, "Indoor Channel Modeling and Characterization for Visible Light Communications," *16th International Conference on Transparent Optical Networks*, Graz, Austria, July 2014.
53. Sayed Imtiaz Hussain and Mohamed M. Abdallah, and Khalid A. Qaraqe, "Hybrid Radio-Visible Light Downlink Performance in RF Sensitive Indoor Environments," *International Symposium on Communications, Control, and Signal Processing (ISCCSP)*, Athens, Greece, May 2014.
54. Sarbazi, Elham, Murat Uysal, Mohamed Abdallah, and Khalid Qaraqe, "Ray tracing based channel modeling for visible light communications," *22nd Signal Processing and Communications Applications Conference (SIU)*, pp. 702 - 705, Trabzon, Turkey, April 2014.
55. Islam Bayram, Mohamed Abdallah, and Khalid Qaraqe, "Providing QoS Guarantees to Multiple Classes of EVs Under Deterministic Grid Power," *IEEE International Conference on Energy (EnergyCon 2014)*, pp. 1403-1408, Croatia, April 2014.
56. Mustafa H Yilmaz, Mohamed Abdallah, Khalid Qaraqe, and Huseyin Arslan, "Random Sub-carrier Allocation with Supermodular Game in Cognitive Heterogeneous Networks", *IEEE WCNC'14 Track 2 (MAC and Cross-Layer Design) (IEEE WCNC'14 Track 2: MAC)*, Istanbul, Turkey, April 2014.
57. Imran Shafique Ansari, Mohamed M. Abdallah, Mohamed-Slim Alouini, and Khalid A. Qaraqe, "A Performance Study of Two Hop Transmission in Mixed Underlay RF and FSO Fading Channels," *IEEE WCNC'14 Track 1 (PHY and Fundamentals) (IEEE WCNC'14 Track 1: PHY)*, Istanbul, Turkey, April 2014.
58. Kamel Tourki, Khalid A. Qaraqe, and Mohamed M. Abdallah, "Outage Analysis of Incremental Opportunistic Regenerative Relaying with Outdated CSI under Spectrum Sharing Constraints," *IEEE WCNC'14 Track 1 (PHY and Fundamentals) (IEEE WCNC'14 Track 1: PHY)*, Istanbul, Turkey, April 2014.
59. Sayed Hussein, Mohamed Abdallah, and Khalid Qaraqe, "Power Optimization in Free Space Optical Networks with Amplify-and-Forward Relays," *7th IEEE GCC conference and exhibition*, Doha, Nov. 2013.
60. Hassan El-Sallabi, Mohamed Abdallah, and Khalid Qaraqe, "Impact of Reconfiguring Inclination Angle of Client's Antenna on Radio Channel Characteristics of IEEE802.11ac System," *International Symposium of Antenna and Propagation ISAP*, Nanjing, China, Oct. 2013.
61. Hassan El-Sallabi, Mohamed Abdallah, Jean-Francois Chamberland, and Khalid Qaraqe, "On the Effect of Reconfigurable Antenna Radiation Patterns on Outdoor Channel Characteristics," *47th Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, Nov. 2013.

62. Mohamed Abdallah, Mostafa Sayed, Khalid Qaraqe, and Mohamed-Slim Alouini, "Joint Random Beam and Spectrum Selection for Spectrum Sharing Systems with Partial Channel State Information," *47th Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, Nov. 2013.
63. Hassan El-Sallabi, Mohamed Abdallah, and Khalid Qaraqe, "Channel Characterization for Indoor Communication Systems Employing Reconfigurable Antennas," *Loughborough Antennas Propagation Conference*, Loughborough, UK, Nov. 2013.
64. Sabit Ekin, Mohamed Abdallah, Khalid Qaraqe, Erchin Serpedin, "An Investigation of Inter-cell Subcarrier Collisions in OFDM-Based Cognitive Radio Networks," *The 14th IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Darmstadt, Germany, June 2013.
65. Sabit Ekin, Mohamed Abdallah, Khalid Qaraqe, and Erchin Serpedin, "On the Capacity of a Cognitive User with Subcarrier Collisions over Rayleigh Fading Channels," *IARIA-AICT*, Rome, Italy, June 2013.
66. Mostafa Sayed, Mohamed Abdallah, Mohamed-Slim Alouini, and Khaled Qaraqe, "Multi-Spectrum and Transmit-Antenna Switched Diversity Schemes for Spectrum Sharing Systems: A Performance Analysis," *IEEE Globecom BWA workshop*, Anaheim, California, Dec. 2012.
67. Marwa Qaraqe, Mohamed Abdallah, Mohamed-Slim Alouini, E. Serpedin, H. Alnuweiri, "Joint Multiuser Switched Diversity and Adaptive Modulation Schemes for Spectrum Sharing Systems," *IEEE Global Communications Conference*, Anaheim, California, Dec. 2012.
68. Syed Hussein, Mohamed Abdallah, Mohamed-Slim Alouini, Mazen Hasna, and Khalid Qaraqe, "Best Relay Selection Using SNR and Interference Quotient for Underlay Cognitive Networks," *IEEE International Conference on Communications (ICC)*, Ottawa, Canada, June 2012.
69. Sabit Ekin, Khalid Qaraqe, Mohamed Abdallah, and Erchin Serpedin, "On OFDM-Based Spectrum Sharing Communication Systems with Random Access," *Wireless Advanced (WiAD)*, London, UK, June 2012.
70. Marwa Qaraqe, Mohamed Abdallah, Mohamed-Slim Alouini, and Erchin Serpedin, "On Multi-user Switched Diversity Transmission in Spectrum Sharing Systems", *Crowncom 2012*, Sweden, 2012.
71. Mohamed Abdallah, Mohamed-Slim Alouini, and Khalid Qaraqe, "Switch and Examine Transmit Diversity for Spectrum Sharing Systems," *The Twelfth IEEE International Workshop on Signal Processing Advances in Wireless Communications, SPAWC*, San Francisco, USA, 2011.
72. Syed Imtiaz Hussain, Mohamed M. Abdallah, Mohamed-Slim Alouini, Mazen Hasna, and Khalid Qaraqe, "Performance Analysis of Selective Cooperation in Underlay Cognitive Networks over Rayleigh Channels," *The Twelfth IEEE International Workshop on Signal Processing Advances in Wireless Communications, SPAWC*, San Francisco, USA, 2011.
73. Khalid Qaraqe, Zied Bouida, Mohamed Abdallah, and Mohamed-Slim Alouini, "Joint Switched Transmit Diversity and Adaptive Modulation in Spectrum Sharing Systems," *Crowncom 2011*, Osaka, Japan, 2011.
74. Zied Bouida, Mohamed Abdallah, Khalid Qaraqe and Mohamed-Slim Alouini "Spectrally Efficient Switched Transmit Diversity for Spectrum Sharing Systems," *VTC Fall 2011*, San Francisco, California, 2011.
75. Mostafa Sayed, Mohamed Abdallah, Mohamed-Slim Alouini, and Khaled Qaraqe, "Dual Band Transmit Switch Diversity Techniques for Underlay Cognitive Networks," *VTC Spring, 2011*, Budapest, Hungary, 2011.
76. Mohamed Abdallah, Mohamed-Slim Alouini, and Khalid Qaraqe "Adaptive discrete rate and power adaptation with Quantized Channel State Information," *45th annual Conference on Information Sciences and Systems CISS 2011*, Baltimore, Maryland, March 2011.

77. M. Elsaadany, M. Abdallah, T. Khattab, M. Khairy, and M. Hasna , "Cognitive Relaying in Wireless Sensor Networks: Performance Analysis and Optimization," *IEEE Global Communications Conference (GlobeCom)* - Ad-hoc and Sensor Networking Symposium, Dec. 2010.
78. Mohamed Amin, Mohammed Nafie, Magdi Fikri, and Mohamed Abdallah, " An Interference Mitigation for Multi-user Multi-cell MIMO Systems," in *International Computer Engineering Conference (ICENCO)*, Egypt, 2010.
79. K. A. Qaraqe, S. I. Hussain, H. Celebi, M. Abdallah, and M.-S. Alouini, "An RSS Based Location Estimation Technique for Cognitive Relay Networks," in *3rd International Workshop on Cognitive Radio and Advanced Spectrum Management (CogART'10)*, Rome, Italy, Nov. 2010. (**invited paper**).
80. H. Celebi , M. M. Abdallah, S. I. Hussain, Khalid A. Qaraqe, and M.-S. Alouini, "Time of Arrival Based Location Estimation for Cooperative Relay Networks," *IEEE PIMRC*, Istanbul, Turkey, Sept. 2010.
81. M. Elsaadany, T. Khattab, M. Hasna, M. Abdallah, and M. Khairy, "Priority-based Scheduling for Limited Energy Cognitive Relaying," *IEEE International Conference on Telecommunications (ICT)*, pp. 848-852, April 2010.
82. Mohamed Abdallah, Mohamed-Slim Alouini, and Khalid Qaraqe, "Discrete Rate and Variable Power Adaptation for Underlay Cognitive Networks," *European Wireless Conference 2010*, Lucca Italy, April, 2010. (**invited paper**).
83. Ahmed Gomaa, Mohammed Nafie, and Mohamed Abdallah, "Novel Reliability-Based Hybrid ARQ Technique," *IEEE Global Communications Conference (GlobeCom)*, Honolulu, Hawawi, USA, Dec. 2009.
84. Mohamed Abdallah, "Cooperative Beamforming for Information Relaying in Wireless Sensor Networks," *International Wireless Communications and Mobile Computing Conference (IWCMC)*, Leipzig, Germany, June 2009.
85. Ayman Elezabi, Mohamed El-Kashef, Mohamed Abdallah, and Mohamed Khairy, "Cognitive Interference-Minimizing Code Assignment for Underlay CDMA Networks in Asynchronous Multipath Fading Channel," *International Wireless Communications and Mobile Computing Conference (IWCMC)*, Leipzig, Germany, June 2009.
86. Mohamed El-Kashef, Mohamed Abdallah, Ayman Elezabi, and Mohamed Khairy, "System Parameter Selection for Asymmetric Underlay CDMA Networks with Interference-Minimizing Code Assignment," *SPAWC 2009*, Perugia, Italy, June 2009.
87. Mohamed Khairy, Mohamed Abdallah, and Serag Habib, "Efficient FPGA Implementation of MIMO Decoder for Mobile WiMaX System," *International conference on Communication (ICC)*, Dresden, Germany, June 2009.
88. Mahmoud S. El-Saadany, Ahmed F. Shalash, and Mohamed Abdallah, "Revisiting Active Cancellation Carriers for Shaping the Spectrum of OFDM-based Cognitive Radios," *Sarnoff 2000*, Princeton, NJ, USA, March 2009.
89. Mohamed Abdallah and Haralabos Papadopoulos, "Beamforming Algorithms for Amplify-and-forward Relaying in Wireless Networks," *Proc. 43rd Allerton Conf. Commun. Control Comput.*, Oct. 2005.
90. Mohamed Abdallah and Haralabos Papadopoulos, "Beamforming Algorithms for Decode-and-forward Relaying in Wireless Networks," *Conference on Information Science and Systems*, CISS'05, March 2005.
91. Moustafa Youssef, Mohamed Abdallah, and Ashok Agrawala, "Multivariate Analysis for Probabilistic WLAN Location determination systems," *The Second Annual International Conference on Mobile and Ubiquitous Systems: Networking and Services* (Mobiquitous 2005) July 17-21, 2005, San Diego, California.



92. Mohamed Abdallah and Haralabos Papadopoulos, "Sequential signal encoding and estimation for distributed sensor networks," in *International Conference on Acoustics, Speech, and Signal Processing Proceedings*, Volume: 4, pp. 7-11, May 2001.
93. Mohamed Abdallah, Khaled El-Sayed and Mahmoud El-Hadidi, "Effect of User Mobility on the QoS Parameters for the Guard Channel Policy," *IEEE Wireless Communications and Networking Conference (WCNC)*, New Orleans, USA, Sept. 99.
94. Mohamed Abdallah, Khaled El-Sayed and Mahmoud El-Hadidi, "Performance Analysis and Estimation of Call Admission Policy Parameters for Multiple Traffic Classes in Wireless ATM Networks," *IEEE International Conference on Communications (ICC)*, Vancouver, Canada, June 1999.

#### ACADEMIC SERVICES

- **College Level**

- Director of the Undergraduate Studies, Sept.2018-Present.
- Member of Learning and Curriculum committee, Sept.2018-Present.

- **Division Level**

- Chair of Admission and Student affairs committee, Sept.2018-Present.
- Member of the Admission committee, Sept.2017-Sept.2018.
- Chair of Students Affairs committee for the undergraduate computer engineering program, Sept.2017- Sept. 2018.
- Member of the Curriculum committee, Sept.2017-Sept. 2018.
- Member of the Faculty Search committee, Sept.2017-Sept. 2018.
- Academic Advisor for the undergraduate computer engineering program, Sept. 2017-Sept. 2018.

#### PROFESSIONAL ACTIVITIES

- **Editorial Board**

- Associate Editor for IEEE Transactions on Communications, Dec 2015 - Present.

- **Conference and Workshop Organization**

- Track co-chair: Multiple Antenna Systems and Cooperative Communications, 90th IEEE Vehicular Technology Conference (VTC Fall 2019).
- Track co-chair: Next Generation Systems and Networks Symposium, 13th International Wireless Communications and Mobile Computing Conference (IWCMC), June 2017.
- Workshop co-chair: The IEEE Wireless Communications and Networking Conference (WCNC) workshop on Optical Wireless Communications, April 2016.
- Technical Program co-chair: 10th International Conference on Cognitive Radio Oriented Wireless Networks (Crowncom, 2015).

- **Program Committee Membership**

- IEEE Wireless Communications and Networking Conference (WCNC), Physical layer track, Marrakech, Morocco, April 2019.
- IEEE Global Communications Conference (Globecom), Wireless Communication, Abu Dhabi, UAE, Dec. 2018.
- IEEE Global Communications Conference (Globecom), Wireless Communication, Singapore, Dec. 2017.
- IEEE Global Communications Conference (Globecom), Signal Processing for Communication, Washington DC, USA, Dec. 2016.

- IEEE Vehicular Technology Conference (VTC), Adhoc Networks Symposium track, Montreal, Canada, Fall 2016.
- IEEE International Conference on Communications (ICC), Cognitive Radio Symposium, Malaysia, Dec. 2016.
- IEEE Wireless Communications and Networking Conference (WCNC), Physical layer track, Doha, Qatar, April 2016.
- The 24th World International Traffic Medicine Association (ITMA) Congress, Doha, Qatar, Nov. 2016.
- IEEE Global Communications Conference (Globecom), Signal Processing for Communication, San Diego, USA, Dec. 2015.
- IEEE Global Communications Conference (Globecom), Cognitive Radio Symposium, Austin, Texas, Dec. 2014.
- IEEE International Conference on Communications (ICC), Cognitive Radio Symposium, Sydney, Australia, May 2014.
- IEEE International Conference on Communications (ICC), Cognitive Radio Symposium, Budapest, Hungary, May 2013.
- IEEE International Conference on Communications (ICC), Cognitive Radio Symposium, Ottawa, Canada, May 2012
- International Conference on Cognitive Radio Oriented Wireless Networks (Crowncom) Stockholm, Sweden, 2012.
- IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2011), Toronto, Canada.
- International Conference on Cognitive Radio Oriented Wireless Networks (Crowncom), Japan, 2011.
- IEEE International Conference on Telecommunications (ICT), Doha, Qatar, April 2010.
- IEEE Global Communications Conference (Globecom) - AdHoc and Sensor Networks Symposium 2007.

- **Standard Memberships**

- IEEE 802.16m WiMAX standard committee member (2008-2010).
- IEEE standard 802.15.7r1 titled ‘Short range optical communications’ standard committee member (2015-2017).

- **Journal Reviewing**

- IEEE Transactions on Communications, IEEE Transactions on Wireless Communications, IEEE Communication Letters, IEEE Journal on Selected Areas in Communications, IEEE Transactions on Signal Processing, IEEE Transactions on Signal Processing letters, and IET Transactions on Signal Processing.

- **Professional Memberships**

- Senior IEEE member.
- IEEE Communication Society.

- **Judge Activities**

- Panelist: NPRP GSRA 2nd cycle program.
- Judge: QNRF Annual research conference (ARC) held in Doha, Nov. 2013.

SELECTED  
PRESENTATION AND  
TALKS

- "Secure and Reliable Infrastructure for Dynamic Electric Vehicle Charging in Smart Grid," "Deploying Autonomous Vehicles in Smart Cities," Panel at the International Conference on Computing Sciences and Engineering (ICCSE 2018), Kuwait. (**Invited Talk**).
- Adaptive Discrete Power and Rate Modulation for Spectrum Sharing Systems, KAUST, May 2010 (**Invited Talk**).
- It is a fact: Noise can be useful, University of Maryland Research Interaction Day (GRID), Spring 2003, (**Best Talk Award**).