

Academic Resume



Fatma Bouabdallah

Associate Professor, Information Technology Department

Habilitation A Diriger Des Recherches (HDR), 2022, Université Paris-Est, France. (French Degree For Professorship and Senior Researcher Qualifications)
Professorship Qualification 2023: French Ministry of Education

Contact Information.

Building 61, Room 147, fothman1@kau.edu.sa.

Highest Degree.

2008, Ph.D. in Computer Science, Networks, University de Rennes I, France.

Academic and Professional Experiences.

1. **2019 - Present**
Associate Professor, FCIT Jeddah, K.A.U, , .
2. **2011 - 2019**
Assistant professor, FCIT Jeddah, K.A.U.
3. **2010 - 2011**
Researcher, Canada, D. R. Cheriton School of Computer Science, University of Waterloo,.
4. **2006 - 2009**
Researcher, France, INRIA (Institut Nationale de Recherche en Informatique et Automatique),.

Research Interests.

Wireless Sensor Networks, Internet of Things, LPWAN technologies,, Reinforcement Learning, Underwater Acoustic Sensor Networks, Network Modelling.

Teaching Interests.

IoT technologies, Simulation and modelling, Wireless Data Networks, Wireless Sensor Networks, Network Security, Logic, Fuzzy Logic, Learning, Probability and stochastic processes, Networks administration, Internetworking.

Certifications and Trainings.

1. CCNA Routing and Switching (CCNA1) certified by CISCO Network Academy,.
2. CCNA Routing and Switching (CCNA2) certified by CISCO Network Academy,.
3. CCNA Routing and Switching (CCNA3) certified by CISCO Network Academy,.
4. Using the e-learning system Blackbord. Deanship of e-learning and distance education King AbdulAziz University.
5. How to use the Exam Electronic System QMark. Deanship of e-learning and distance education. King AbdulAziz University.
6. CISCO AWARD for 5 years of teaching experience within the CISCO network academy..

Social, Scientific and Professional Affiliation.

Excellence Awards and Patents.

1. 2022, International, Best paper Award for PhD students, Computing and Engineering schools at Edinburgh Napier University in 2022.

Funded Projects.

1. 2021, Institutional Finance Program Project, KAU, Utilizing Low Power WAN Technology for Mission Critical IoT Sensors.

Publications.

1. Ghida Jubran Alqahtani, Fatma Bouabdallah, "Routing Protocols Based On Node Selection For Freely Floating Underwater Wireless Sensor Networks: A Survey", Eurasip Journal On Wireless Communications And Networking, vol: 2023, 2023.
DOI: [10.1186/s13638-023-02324-6](https://doi.org/10.1186/s13638-023-02324-6)
2. Enas Ali Alsaeedi, Fatma Bouabdallah, "A Multichannel Conflict-Free Mac Protocol For Enhancing Rpm Scalability", Sensors, vol: 23, pp. 9363, 2023.
DOI: [10.3390/s23239363](https://doi.org/10.3390/s23239363)
3. Hanan Alahmadi, Fatma Bouabdallah, Ahmed Al-Dubai, Baraq Ghaleb, "A Novel Autonomous Time-Slotted Lora Mac Protocol With Adaptive Frame Sizes", 2023 International Wireless Communications And Mobile Computing (Iwcmc), pp. 917-922, 2023.
DOI: [10.1109/IWCMC58020.2023.10182638](https://doi.org/10.1109/IWCMC58020.2023.10182638)
4. Halah Alqurashi, Fatma Bouabdallah, Enas Khairullah, "Scap Sigfox: A Scalable Communication Protocol For Low-Power Wide-Area Iot Networks", Sensors, vol: 23, pp. 3732, 2023.
DOI: [10.3390/s23073732](https://doi.org/10.3390/s23073732)
5. Hanan Alahmadi, Fatma Bouabdallah, Ahmed Al-Dubai, "A Novel Time-Slotted Lora Mac Protocol For Scalable Iot Networks", Future Generation Computer Systems, vol: 134, pp. 287-302, 2022.
DOI: [10.1016/j.future.2022.04.003](https://doi.org/10.1016/j.future.2022.04.003)
6. Ghada Al-Mamari, Fatma Bouabdallah, Asma Cherif, "A Survey Of Sink Mobility Models To Avoid The Energy-Hole Problem In Wireless Sensor Networks", International Journal Of Advanced Computer Science And Applications, vol: 13, 2022.
DOI: [10.14569/IJACSA.2022.01305110](https://doi.org/10.14569/IJACSA.2022.01305110)
7. Eman Alzahrani, Fatma Bouabdallah, Hind Almisbahi, "State Of The Art In Quorum-Based Sleep/Wakeup Scheduling Mac Protocols For Ad Hoc And Wireless Sensor Networks", Wireless Communications And Mobile Computing, vol: 2022, pp. 1-33, 2022.
DOI: [10.1155/2022/6625385](https://doi.org/10.1155/2022/6625385)
8. Hanan Alahmadi, Fatma Bouabdallah, Baraq Ghaleb, Ahmed Al-Dubai, "Sensitivity-Aware Configurations For High Packet Generation Rate Lora Networks", 2021 20th International Conference On Ubiquitous Computing And Communications (Iucc/Cit/Dsci/Smartcns), pp. 240-246, 2021.
DOI: [10.1109/IUCC-CIT-DSCI-SmartCNS551](https://doi.org/10.1109/IUCC-CIT-DSCI-SmartCNS551)
9. Hanan Alahmadi, Fatma Boabdallah, "A Review Of Multi-Channel Medium Access Control Protocols For Wireless Sensor Networks", European Journal Of Engineering And Technology Research, vol: 6, pp. 39-53, 2021.
DOI: [10.24018/ejers.2021.6.6.2222](https://doi.org/10.24018/ejers.2021.6.6.2222)
10. Ghida Jubran Alqahtani, Fatma Bouabdallah, "Energy-Efficient Mobility Prediction Routing Protocol For Freely Floating Underwater Acoustic Sensor Networks", Frontiers In Communications And Networks, vol: 2, 2021.
DOI: [10.3389/frcmn.2021.692002](https://doi.org/10.3389/frcmn.2021.692002)
11. Hanan Alahmadi, Fatma Bouabdallah, Ahmed Al-Dubai, "A New Annulus-Based Distribution Algorithm For Scalable Iot-Driven Lora Networks", Icc 2021 - Ieee International Conference On Communications, pp. 1-6, 2021.
DOI: [10.1109/ICC42927.2021.9500407](https://doi.org/10.1109/ICC42927.2021.9500407)
12. Eman Alzahrani, Fatma Bouabdallah, "Qmmac: Quorum-Based Multichannel Mac Protocol For Wireless Sensor Networks", Sensors, vol: 21, pp. 3789, 2021.
DOI: [10.3390/s21113789](https://doi.org/10.3390/s21113789)
13. Fatma Bouabdallah, "Temporal Mobility Evolution Of Freely Floating Underwater Sensor Networks", 2019 15th International Wireless Communications & Mobile Computing Conference (Iwcmc), Tangier, Morocco, 10.1109/Iwcmc.2019.8766689, 2019.

Publications.

14. Hanan ALAhmadi, Fatma Bouabdallah, "Multichannel Preamble Sampling Mac Protocol For Wireless Sensor Networks, International Journal Of Distributed Sensor Networks 2019, Vol. 15(5),10.1177/1550147719850951", International Journal Of Distributed Sensor Networks 2019, Vol. 15(5),10.1177/1550147719850951, 2019.
15. Fatma Bouabdallah, "Selection Of Optimal Deployment And Routing Configurations In Underwater Acoustic Sensor Networks For Avoiding Energy, Mobile Information Systems Volume 2019, 13 Pages,10.1155/2019/3597304", Mobile Information Systems Volume 2019, 13 Pages,10.1155/2019/3597304, 2019.
16. Fatma Bouabdallah, "Time Evolution Of Underwater Sensor Networks Coverage And Connectivity Using Physically-Based Mobility Model, Wireless Communications And Mobile Computing Volume 2019,10.1155/2019/9818931", Wireless Communications And Mobile Computing Volume 2019,10.1155/2019/9818931, 2019.
17. Rawan Abdullah Albukhary, Fatma Bouabdallah, "Time-Variant Balanced Routing Strategy For Underwater Wireless Sensor Networks, Wireless Networks, August 2019, Volume 25, Issue 6, Pp3481-3495,10.1007/S11276-019-01942-7", Wireless Networks, August 2019, Volume 25, Issue 6, Pp3481-3495,10.1007/S11276-019-01942-7, 2019.
18. Fatma Bouabdallah ; Chaima zidi ; Raouf Boutaba ; Ahmed Mehaoua, "Collision Avoidance Energy Efficient Multi-Channel Mac Protocol For Underwater Acoustic Sensor Networks, Ieee Transactions On Mobile Computing,10.1109/Tmc.2018.2871686", Ieee Transactions On Mobile Computing,10.1109/Tmc.2018.2871686, 2019.
19. Hanan Al-Ahmadi, Fatma Bouabdallah, "Mcps: A Multi-Channel Preamble Sampling Mac Protocol For Wireless Sensor Networks", Ieee Conference On Wireless Sensors (Icwise) 2018
Doi:10.1109/Icwise.2018.8633281, 2018.
20. Chaima Zidi, Fatma Bouabdallah, Raouf Boutaba, Ahmed Mehaoua, "Toward Avoiding Energy Holes In Underwater Acoustic Sensor Networks", 2017 13th International Wireless Communications And Mobile Computing Conference (Iwcmc), pp. 1616-1621, 2017.
DOI: [10.1109/IWCMC.2017.7986526](https://doi.org/10.1109/IWCMC.2017.7986526)
21. Chaima Zidi, Fatma Bouabdallah, Raouf Boutaba, Ahmed Mehaoua, "Mc-Uwmac: A Multi-Channel Mac Protocol For Underwater Sensor Networks", 2017 International Conference On Wireless Networks And Mobile Communications (Wincom), pp. 1-6, 2017.
DOI: [10.1109/WINCOM.2017.8238152](https://doi.org/10.1109/WINCOM.2017.8238152)
22. Fatma Bouabdallah, Chaima Zidi, Raouf Boutaba, "Joint Routing And Energy Management In Underwater Acoustic Sensor Networks", Ieee Transactions On Network And Service Management, vol: 14, pp. 456-471, 2017.
DOI: [10.1109/TNSM.2017.2679482](https://doi.org/10.1109/TNSM.2017.2679482)
23. Thamary Alruhaili, Ghadah Aldabbagh, Fatma Bouabdallah, Nikos Dimitriou, Moe Win, "Performance Evaluation For Wi-Fi Offloading Schemes In Lte Networks", International Journal Of Computing And Information Sciences, vol: 12, pp. 121-131, 2016.
DOI: [10.21700/ijcis.2016.115](https://doi.org/10.21700/ijcis.2016.115)
24. Chaima Zidi, Fatma Bouabdallah, Raouf Boutaba, "Routing Design Avoiding Energy Holes In Underwater Acoustic Sensor Networks", Wireless Communications And Mobile Computing, vol: 16, pp. 2035-2051, 2016.
DOI: [10.1002/wcm.2666](https://doi.org/10.1002/wcm.2666)
25. Fatma Bouabdallah, "Reliable And Energy Efficient Cooperative Detection In Wireless Sensor Networks", , vol: 36 number 5, pp. 520-532, 2013.

Publications.

26. Fatma Bouabdallah, "Efficient Reporting Node Selection-Based Mac Protocol For Wireless Sensor Networks", , vol: Vol. 19, No. 3, pp. 373-391, 2013.
DOI: [10.1007/s11276-012-0473-9](https://doi.org/10.1007/s11276-012-0473-9)
27. Fatma Bouabdallah, R. Boutaba, "A Distributed Ofdma Medium Access Control For Underwater Acoustic Sensor Networks", Ieee Icc 2011 , Kyoto, Japan, pp. 1-5, 2011.
DOI: [10.1109/icc.2011.5962515](https://doi.org/10.1109/icc.2011.5962515)
28. Fatma Bouabdallah, R. Boutaba, N. Bouabdallah, "Cross-Layer Design For Energy Conservation In Wireless Sensor Networks", Ieee Icc 2009 , Dresden, Germany, pp. 1-6, 2009.
DOI: [10.1109/ICC.2009.5198872](https://doi.org/10.1109/ICC.2009.5198872)
29. Fatma Bouabdallah, R. Boutaba, N. Bouabdallah, "On Balancing Energy Consumption In Wireless Sensor Networks", , vol: Vol. 58, Issue 6, pp. 2909-2924, 2009.
DOI: [10.1109/TVT.2008.2008715](https://doi.org/10.1109/TVT.2008.2008715)
30. Fatma Bouabdallah, N. Bouabdallah, R. Boutaba, "Towards Reliable And Efficient Reporting In Wireless Mobile Computing Sensor Networks, Ieee Transactions On", , 2008.
31. Fatma Bouabdallah, "The Relationship Between The Sensor Networks Performance And The Number Of Reporting Nodes", Ieee Wcnc 2008 , Las Vegas, Usa, pp. 2361-2366, 2008.
DOI: [10.1109/WCNC.2008.416](https://doi.org/10.1109/WCNC.2008.416)
32. Fatma Bouabdallah, "Energy Conservation In Reliable Wireless Sensor Networks", Ieee Icc 2008 , Beijing, China, pp. 2404-2408, 2008.
DOI: [10.1109/ICC.2008.457](https://doi.org/10.1109/ICC.2008.457)
33. Fatma Bouabdallah, "Load-Balanced Routing Scheme For Energy-Efficient Wireless Sensor Networks", Ieee Globecom 2008 , New Orleans, La, Usa, pp. 1-6, 2008.
DOI: [10.1109/GLOCOM.2008.ECP.21](https://doi.org/10.1109/GLOCOM.2008.ECP.21)
34. Fatma Bouabdallah, N. Bouabdallah, "The Tradeoff Between Maximizing The Sensor Network Lifetime And The Fastest Way To Report Reliably An Event Using Reporting Nodes' Selection", , vol: Vol. 31, Issue 9, pp. 1763-1776, 2008.
DOI: [10.1016/j.comcom.2007.11.020](https://doi.org/10.1016/j.comcom.2007.11.020)
35. Fatma Bouabdallah, "Toward Reliable And Efficient Reporting In Wireless Sensor Networks", , vol: Vol. 7, No. 8, pp. 978-994, 2008.
DOI: [10.1109/TMC.2008.21](https://doi.org/10.1109/TMC.2008.21)
36. Fatma Bouabdallah, "Analysis Of The Impact Of The Number Of Reporting Nodes On The Sensor Networks Lifetime", Ieee Globecom 2007 , Washington, Usa, pp. 892-897, 2007.
DOI: [10.1109/GLOCOM.2007.172](https://doi.org/10.1109/GLOCOM.2007.172)