



- 1. Name and Academic rank:** Abdallah Al Sabbagh, Assistant Professor, Full time
- 2. Education: Degrees, discipline, institution and date:**
  - Ph.D., Telecommunication Engineering, University of Technology Sydney, 2013.
  - Master of Engineering Studies, Telecommunication Networks, University of Technology Sydney, 2010.
  - B.S., Information Technology and Computing, Arab Open University, 2006.
- 3. Academic experience**
  - Beirut Arab University, Assistant Professor, 2022-present, full time
  - Lebanese International University, Assistant Professor, 2018- 2022, full time.
  - University of Technology Sydney, Assistant Professor, 2014- 2016, full time.
- 4. Non academic experience – company or entity, title, brief description of position, when (ex. 1993-1995), full time or part time**
  - MobiNetS SAL Offshore, Telecom Delivery Engineer Lead, 2016- 2018, full time.
  - ZAJIL International Telecom, Pre-Sales Engineer, 2007- 2008, full time.
  - Technology Touches, Project Manager, 2006- 2007, full time.
- 5. Certification or professional Registration**
  - Australasian Association for Engineering Education (AAEE)
  - IEEE ComSoc Radio Communications Committee
- 6. Current membership in professional organizations**
  - IEEE Member
- 7. Honors and Awards:**
  - Australian Patent (AU2013100801), A Hybrid Radio Resource Allocation Method for Multiple Wireless Access Networks, innovation patent, granted in July 2013.
  - Australian Patent (AU2013100806), A Radio Resource Allocation Method for Wireless Sensors in Body Area Networks, innovation patent, granted in July 2013.
  - Teaching Fellowships Awards, School of Computing and Communications, University of Technology Sydney, 2012.
  - Trailblazer Finalist Awards, for the project titled: “Smart Mobile Communication for the Fourth Generation (4G)”, Australia, 2012.
  - UTS Doctoral Scholarships Awards, University of Technology Sydney, 2010.



## 8. Service activities

- 2022 – Current, Counselor for the IEEE BAU-Tripoli Student Branch.
- 2022 – Current, Member of Research Committee, Faculty of Engineering, BAU-Tripoli.
- 2022 – 2023, Member of Quality Assurance Committee, Faculty of Engineering, BAU-Tripoli.
- 2014 – Current, Member of Editorial Board of the Journal of Advanced Computer Science & Technology (JACST), ISSN: 2227-4332.
- 2014 – Current, Member of International Advisory Board of the Indian Streams Research Journal, ISSN: 2230-7850.
- 2014 – Current, Member of Editorial Board of the International Journal of Information Science, ISSN: 2163-1921.
- 2012 – Current, Reviewer for the Australian Journal of Electrical & Electronics Engineering (AJEEE), ISSN: 2205-362X.

## 9. Principal publications and presentations:

### 9.1 Textbook Chapters

- **Abdallah Al-Sabbagh**, R. Braun and M. Abolhasan, “Centralized and Distributed CRRM in Heterogeneous Wireless Networks”, in Advanced Methods and Applications in Computational Intelligence, Topics in Intelligent Engineering and Informatics, vol. 6, Springer International Publishing, Switzerland 2014, pp. 299-314.
- P. Papatwibul, A. Banjar, **Abdallah Al-Sabbagh** and R. Braun, “An Intelligent Model for Distributed Systems in Next Generation Networks”, in Advanced Methods and Applications in Computational Intelligence, Topics in Intelligent Engineering and Informatics, vol. 6, Springer International Publishing, Switzerland 2014, pp. 315-334.

### 9.2 Journal Publications

- Mahmoud Elkhodr, **Abdallah Al-Sabbagh** and Bilal Youssef, "Physics-Guided Graphical Signatures and Machine Learning for In-Cylinder Pressure Sensor Health Monitoring", Symmetry journal, vol. 18, no 10, October 2026. Special Issue: Internet of Things and Symmetry. DOI: 10.3390/sym18101688.
- Mahmoud Farfoura, Ahmad AlKhatib, Mahmoud Elkhodr, Ibrahim El Didi and **Abdallah Al-Sabbagh**, "A Physiology-Anchored Multiple-Instance Framework with Confidence-Stratified Training for Parkinson's Disease Classification from Gait", Applied Sciences journal, vol. 16, no 17, August 2026. Special Issue: Innovative Applications of AI, Machine Learning, IoT, and Assistive Robots in Health Monitoring and Care. DOI: 10.3390/app16178354.
- Mahmoud Elkhodr, Heba El-Halabi and **Abdallah Al-Sabbagh**, "An Integrated AI-IoT Framework for Elderly Mental Health Monitoring: Architecture and Offline Feasibility Evaluation", Neural Computing and Applications journal, vol. 38, no 16, August 2026.



DOI: 10.1007/s00521-026-12443-y.

- **Abdallah Al-Sabbagh**, Eddy Abdo, Khoulood Samrouth, Ahmad Alkhatib and Mahmoud Elkhodr, "AutoSecAgent: A Semi-Automated AI-Driven Penetration Testing Framework through Recursive Memory and Real-Time RAG", The Journal of Supercomputing, vol. 82, no 5, April 2026. DOI: 10.1007/s11227-026-08439-z.
- Samer Sindian, Ziad Osman and **Abdallah Al-Sabbagh**, "A Hybrid Dynamic Sand Cat Swarm Optimisation (HD-SCSO) Approach for Resource Allocation in Wireless Sensor Networks", IET Wireless Sensor Systems, vol. 16, no 1, March 2026. DOI: 10.1049/wss2.70028.
- Rouba Jamal Eddine, Ergun Gide and **Abdallah Al-Sabbagh**, "Systematised Evidence Mapping of Generative Artificial Intelligence (GenAI) and Digital Divide Phenomena in Higher Education", Discover Computing, vol. 29, no 157, March 2026. DOI: 10.1007/s10791-026-10044-w.
- Samer Sindian, Ziad Osman and **Abdallah Al-Sabbagh**, "Horse Herd Leadership Optimization: A Trust-Aware Metaheuristic for Resource Allocation and Secure Wireless Sensor Networks", Technologies, vol. 14, no 2, February 2026. DOI: 10.3390/technologies14020109.
- Mahmoud Elkhodr and **Abdallah Al-Sabbagh**, "An Integrative Framework for Flood Monitoring and Water Quality Management Enabled by Emerging IoT, Drone, Blockchain, and AI Technologies", Cluster Computing, vol. 29, no 97, January 2026.
- Rouba Jamal Eddine, Ergun Gide and **Abdallah Al-Sabbagh**, "Generative AI in Higher Education: A Cross-Sector Analysis of ChatGPT's Impact on STEM, Social Sciences, and Healthcare", STEM Education, vol. 5, no 5, July 2025.
- **Abdallah Al-Sabbagh**, Aya El-Bokhary, Sana El-Koussa, Abdulrahman Jaber and Mahmoud Elkhodr, "Enhancing UAV Security Against GPS Spoofing Attacks through a Genetic Algorithm Driven Deep Learning Framework", Information, vol. 16, no 2, February 2025.
- **Abdallah Al-Sabbagh**, Khalil Hamze, Samiya Khan and Mahmoud Elkhodr, "An Enhanced K-Means Clustering Algorithm for Phishing Attack Detections", Electronics, vol. 13, no 18, September 2024.
- P. Papatwibul, A. Banjar, **Abdallah Al-Sabbagh** and R. Braun, "A Comparative Review: Accurate OpenFlow Simulation Tools for Prototyping," Journal of Networks, vol. 10, no 5, May 2015, pp. 322-327.
- **Abdallah Al-Sabbagh**, R. Braun and M. Abolhasan, "Performance Analysis of the Intelligent Mobility Optimization CRRM Approach Using a Markovian Chain Model," Journal of Networks, vol. 9, no 3, March 2014, pp. 635-644.
- **Abdallah Al-Sabbagh**, R. Braun and M. Abolhasan, "Intelligent Hybrid Cheapest Cost and Mobility Optimization RAT Selection Approaches for Heterogeneous Wireless



Networks,” Journal of Networks, vol. 9, no 2, February 2014, pp. 297-305.

- A. Banjar, P. Papatwibul, **Abdallah Al-Sabbagh** and R. Braun, “Using an ICN Approach to Support Multiple Controllers in OpenFlow,” International Journal of Electrical & Computer Sciences (IJECS), vol. 14, no 2, April 2014, pp. 1-6.
- **Abdallah Al-Sabbagh**, R. Braun and M. Abolhasan, “A Comprehensive Survey on RAT Selection Algorithms for Heterogeneous Networks,” World Academy of Science, Engineering and Technology (WASET), no. 73, January 2011, pp. 141-145.
- **Abdallah Al-Sabbagh**, “A Markov Chain Model for Load-Balancing Based and Service Based RAT Selection Algorithms in Heterogeneous Networks,” World Academy of Science, Engineering and Technology (WASET), no. 73, January 2011, pp. 146-152.

### 9.3 Conference Proceedings

- **Abdallah Al-Sabbagh**, Youssra Hassoun, and Abd El Rahman Zaaroura, "EEG-Based Early Detection of Parkinson's Disease Using a Hybrid CNN-LSTM Deep Learning Framework", International Conference on Intelligent Computing and Next-Generation Technologies (ICONET26), Debbieh, Lebanon, October 15-16, 2026.
- Ibrahim El Didi, Mahmoud Elkhodr, Farhan Ullah, Yue Zhao, and **Abdallah Al-Sabbagh**, "MedGuard-IoMT: A Machine Learning-Enabled Layered Security Framework for Intrusion Detection in Cloud-Connected Healthcare Systems", 2025 IEEE 6th International Conference on Computer, Big Data, Artificial Intelligence (ICCBD+AI), Xiamen, China, November 21-23, 2025, pp. 1-6. DOI: 10.1109/ICCBDAI66607.2025.11388099.
- **Abdallah Al-Sabbagh**, Youssra Hassoun, and Abd El Rahman Zaaroura, "Robust EEG-Based Machine Learning Framework for Early Detection of Parkinson's Disease: A Comparative Evaluation", 2025 Eighth International Conference on Advances in Biomedical Engineering (ICABME), Debbieh, Lebanon, 2025, pp. 1-6.
- **Abdallah Al-Sabbagh**, P. Papatwibul, A. Banjar and R. Braun, “Optimization of the OpenFlow Controller in Wireless Environments for Enhancing Mobility,” in 13th IEEE International Workshop on Wireless Local Networks (WLN'13), in conjunction with the 38th IEEE Conference on Local Computer Networks (LCN 2013), Sydney, Australia, October 21-24, 2013.
- P. Papatwibul, A. Banjar, **Abdallah Al-Sabbagh** and R. Braun, “Developing an Application Based on OpenFlow to Enhance Mobile IP Networks,” in 13th IEEE International Workshop on Wireless Local Networks (WLN'13), in conjunction with the 38th IEEE Conference on Local Computer Networks (LCN 2013), Sydney, Australia, October 21-24, 2013.



- **Abdallah Al-Sabbagh**, R. Braun and M. Abolhasan, “A Power Efficient RAT Selection Algorithm for Heterogeneous Wireless Networks,” in 2012 International Symposium on Communications and Information Technologies (ISCIT 2012), Gold Coast, Australia, October 2-5, 2012, pp. 997-1002.
- **Abdallah Al-Sabbagh**, R. Braun and M. Abolhasan, “A Mobility Optimization CRRM Approach for Next Generation Wireless Networks,” in 2012 International Conference on Computer & Information Science (ICCIS 2012), Kuala Lumpur, Malaysia, June 12-14, 2012, pp. 609-613.

#### **10. Professional development activities in the last five years**

- Completed CCNA Security Instructor course by Cisco, 2020.
- Completed CCNAv7: Enterprise Networking, Security, and Automation Instructor course by Cisco, 2020.
- Completed CCNA Cybersecurity Operations Instructor course by Cisco, 2019.