

# Khair Eddin M. Sabri

*Professor*

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King Abdulla II School for Information Technology  
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## Education

- **McMaster University** Hamilton, ON  
*PhD in Software Engineering* *September 2004 – April 2010*
  - Dissertation: “Algebraic Framework for the Verification of Confidentiality Properties”
  - Supervisor: Dr. Ridha Khedri
- **University of Jordan** Amman, Jordan  
*MSc. in Computer Science* *September 2001 – December 2003*
  - Thesis: “Reverse Software Engineering and Reengineering to Detect Plagiarism in Java Programs”
  - Supervisor: Dr. Jubair Al-Ja’afar
- **Applied Science University** Amman, Jordan  
*Bsc. in Computer Science* *September 1997 – June 2001*

## Academic Positions

- **University of Jordan** Amman, Jordan  
*Professor* *April 2019 – Present*
  - Courses taught: Computer Security, Information Security and Privacy, Theory of Computation, Network System Security (graduate course).
- **University of Jordan** Amman, Jordan  
*Associate Professor* *April 2015 – April 2019*
  - Courses taught: Discrete Mathematics, Theory of Computation, Computer Security, Digital Design, Java Programming Language, C++ Programming Language, Information Security and Privacy, Software Engineering (graduate course), Computability and Complexity (graduate course), Network Security (graduate course), Web Applications Security (graduate course).
- **University of Jordan** Amman, Jordan  
*Assistant Professor* *August 2010 – April 2015*
  - Courses taught: Discrete Mathematics, C++ Programming Language, Advanced Programming, Theory of Computation, Computer Security, Digital Design, Computability and Complexity (graduate course)
- **McMaster University** Hamilton, ON  
*Teaching Assistant* *September 2005 – April 2010*

- Courses: Software Requirement and Security Consideration, Software Testing, Software Design (graduate course)

- **University of Jordan**

- *Teaching Assistant*

- Courses taught: Computer Skills, Discrete Mathematics

Amman, Jordan

*March 2002 – August 2004*

## Administrative Positions

- **University of Jordan**

- *Director of Information Technology Center*

Amman, Jordan

*September 2019 – Present*

- **University of Jordan**

- *Dean Assistant for Computer Labs*

Amman, Jordan

*September 2018 – September 2019*

## Research Interest

I am pursuing research in theoretical and practical areas of Information Security among which:

- Design and analysis of security protocols.
- Intruder detection and machine learning.
- Formal specification of access control policies.
- The analysis of cryptographic-key distribution schemes.
- Detecting information leakage via covert channels.

## Research Experience

- Visiting Professor, Department of Systems and Computer Engineering, Faculty of Engineering and Design, Carleton University, Ottawa, ON, Canada, June 2018 - August 2018.
- Visiting Professor, Department of Computing and Software, McMaster University, Hamilton, ON, Canada, June 2011 - August 2011.

## Research Statement

My research is focused on information security and mainly on the use of formal methods to verify security properties. The main topics of my research interest include:

- *Access Control Policies:* The purpose of this research is to handle access control policies and more specific Role-based access control policies by formally specifying them. We have focused on three main problems in access control. The first one is dealing with incomplete knowledge about access control policies and handling conflicts between them. This involves developing a language based on temporal defeasible logic [2,14]. The second problem is verifying the satisfaction of authorization constraints within an access control system. We use first order logic to specify policies and constraints and then using formal reasoning to verify the satisfactions [9,17]. Additionally, we use these constraints to minimize the number of test cases generated to test access control systems [3]. The third problem is the manipulation of policies by combining and comparing them. We develop an algebra based on information algebra to specify policies and analyze the effects of these operations on the satisfaction of authorization constraints [4,13].
- *IOT Security:* The purpose of this research is proposing new architectures and developing security protocols for IOT security. We have proposed an architecture for IOT mobile object authentication [5,7] and a privacy-aware ICN architecture for IOT environment [1,6,8].

- *Covert Channel*: The purpose of this research is investigating the problem of covert channel and proposing a technique, based on relational algebra, to detect confidential information leakage via protocol-based covert channels [15,20,21,25,26].
- *Key Assignment Schemes*: The purpose of this research is developing an algebraic framework to specify the algebraic properties of cryptographic primitives. The developed model is used to specify key assignment schemes in order to analyze the correctness of these schemes and to modify some of them [18,19,23,24]. Furthermore, the model is used to specify and analyze health records [16].
- *Analysis of information flow*: The purpose of this research is analyzing the information flow between agents and verifying the ability of an agent to link elements of information in order to evolve its knowledge. The technique uses global calculus to specify the communication between agents, information algebra to represent agent knowledge, and an amended version of Hoare logic to verify the satisfiability of policies [28,31].
- *Analysis of Cryptographic Protocols* The purpose of this research is analyzing cryptographic protocols by taking into consideration the algebraic properties of cryptographic primitives (secret, key, and cipher) and using information algebra to represent knowledge [27,29,30,32,34,35,36,37].
- Other:
  - Using of information algebra to describe structured data sets and data cleaning [22].
  - Formalizing of SQL injection attacks based on regular expressions [11].
  - Proposing techniques for data hiding in images [12,43,44,45].
  - Detecting plagiarism and evaluating Java programs [39,40,41,42].
  - Proposing graph coloring algorithms [33,38].
  - Developing a secure voting system [10].

## Publications

1. Huda Saadeh, Wesam Almobaideen, Khair Eddin Sabri and Maha Saadeh. Hybrid SDN-ICN Architecture Design for the Internet of Things, In *Sixth International Conference on Software Defined Systems (SDS)*, 96-101, 2019.
2. Noor Al-Anbaki, Nadim Obeid and Khair Eddin Sabri. A Defeasible Logic-based Framework for Contextualizing Deployed Applications, *International Journal of Advanced Computer Science and Applications*, 9(10): 176-186, 2019.
3. Yousef Khdairat and Khair Eddin Sabri. Generating Test Cases from Role-Based Access Control Policies using Cause-Effect Graph, *Journal of Software*, 13(9): 497-505, 2018.
4. Khair Eddin Sabri. An Algebraic Model to Analyze Role-Based Access Control Policies, *Modern Applied Science*, 12(10): 50-57, 2018.
5. Maha Saadeh, Azzam Sleit, Khair Eddin Sabri and Wesam Almobaideen. Hierarchical Architecture and Protocol for Mobile Object Authentication in the Context of IoT Smart Cities, *Journal of Network and Computer Applications*, 121: 1-19, 2018.
6. Huda Saadeh, Wesam Almobaideen and Khair Eddin Sabri. PPUSTMAN: Privacy-Aware Publish/Subscribe IoT MVC Architecture Using Information Centric Networking, *Modern Applied Science*, 12(5): 128-152, 2018.
7. Maha Saadeh, Azzam Sleit, Khair Eddin Sabri and Wesam Almobaideen. Lightweight Identity Based Signature for Mobile Object Authentication in the Internet of Things, *Journal of Theoretical & Applied Information Technology*, 96(3): 788-798, 2017.

8. Huda Saadeh, Wesam Almobaideen and Khair Eddin Sabri. Internet of Things: A Review to Support IoT Architecture's Design In *Proceedings of the 2nd International Conference on the Applications of Information, Technology in Developing Renewable Energy Processes & Systems (IT-DREPS)*, IEEE, 2017.
9. Nafi Alswaer and Khair Eddin Sabri. Formal Specification of Constraints on Role-Based Access Control Policies, In *Proceedings of the New Trends in Information Technology (NTIT)*, 2017.
10. Mohammed Arabiat, Nael Al-Basheer, Khair Eddin Sabri and Hazem Hiary. Homomorphic Encryption in E-Voting Systems: The University of Jordan Case Study, In *Proceedings of the New Trends in Information Technology (NTIT)*, 2017.
11. Mohammad Qbea'h, Mohammad Alshraideh and Khair Eddin Sabri. Detecting and Preventing SQL Injection Attacks: A Formal Approach, In *Proceedings of the Cybersecurity and Cyberforensics Conference (CCC)*, pages 123–129, IEEE, 2016.
12. Hazem Hiary, Khair Eddin Sabri, Mohammed S. Mohammed and Ahlam Al-Dhamari. A Hybrid Steganography System based on LSB Matching and Replacement. *International Journal of Advanced Computer Science and Applications(IJACSA)*, 7(9): 374-380, 2016.
13. Khair Eddin Sabri and Hazem Hiary. Algebraic model for handling access control policies. In *Proceedings of the 7th International Conference on Ambient Systems, Networks and Technologies (ANT 2016)*, volume 83 of *Procedia Computer Science*, pages 653–657. Elsevier, 2016.
14. Khair Eddin Sabri and Nadim Obeid. A temporal defeasible logic for handling access control policies. *Applied Intelligence*, 44(1): 30-42, 2016.
15. Jason Jaskolka, Ridha Khedri and Khair Eddin Sabri. Investigative Support for Information Confidentiality. *Journal of Ambient Intelligence and Humanized Computing*, 6(4): 425-451, 2015.
16. Khair Eddin Sabri. Algebraic specification and analysis of health records. *International Journal of Advanced Science and Technology*, 76 : 9-20, 2015.
17. Khair Eddin Sabri. Automated verification of role-based access control polices constraints using Prover9. *International Journal of Security, Privacy and Trust Management*, 4(1): 1-10, 2015.
18. Khair Eddin Sabri. Algebraic analysis of Akl and Taylor key scheme. *International Review on Computers and Software*, 9(11):2033-2042, 2014.
19. Khair Eddin Sabri. Algebraic analysis of object-based key assignment schemes. *Journal of Software*, 9(8):2033-2042, 2014.
20. Jason Jaskolka, Ridha Khedri, and Khair Eddin Sabri. Investigative support for information confidentiality part II: Applications in crypanalysis and digital forensics. In *Proceedings of the 9th International Conference on Future Networks and Communications*, volume 43 of *Procedia Computer Science*, pages 266–275. Elsevier, August 2014.
21. Jason Jaskolka, Ridha Khedri, and Khair Eddin Sabri. Investigative support for information confidentiality part I: Detecting confidentiality information leakage via protocol-based covert channels. In *Proceedings of the 9th International Conference on Future Networks and Communications*, volume 43 of *Procedia Computer Science*, pages 276–285. Elsevier, August 2014.
22. Ridha Khedri, Fei Chiang and Khair Eddin Sabri. An algebraic approach towards data cleaning. In *4th International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN-2013)*, volume 21 of *Procedia Computer Science*, pages 50–59. Elsevier, 2013.

23. Khair Eddin Sabri and Ridha Khedri. A generic algebraic model for the analysis of cryptographic-key assignment schemes. In *Proceedings of the 5th International Symposium on Foundations and Practice of Security*, volume 7743 of *Lecture Notes in Computer Science*, pages 62–77. Springer-Verlag Berlin Heidelberg, October 2012.
24. Khair Eddin Sabri and Ridha Khedri. Algebraic framework for the specification and analysis of cryptographic-key distribution. *Fundamenta Informaticae*, 112(4):305-335, 2011.
25. Jason Jaskolka, Ridha Khedri and Khair Eddin Sabri. A formal test for detecting information leakage via covert channels. In *Proceedings of the 7th Cyber Security and Information Intelligence Research Workshop, CSIIRW 2011*, ACM, 2011.
26. Jason Jaskolka, Ridha Khedri, and Khair Eddin Sabri. Information leakage via protocol-based covert channels: Detection, automation, and applications. Technical Report CAS-11-05-RK, department of Computing and Software, Faculty of Engineering, McMaster University, Hamilton, ON, Canada, January 2011. <http://www.cas.mcmaster.ca/cas/0template1.php?601>.
27. Khair Eddin Sabri and Ridha Khedri. Algebraic framework for the analysis of information security. In *Proceedings of the 6th International Computing Conference in Arabic (ICCA)*, 2010. (in Arabic).
28. Khair Eddin Sabri, Ridha Khedri, and Jason Jaskolka. Verification of information flow in agent-based systems. In G. Babin, P. Kropf, and M. Weiss, editors, *Proceedings of the 4th MCETECH Conference on e-Technologies*, volume 26 of *Lecture Notes in Business Information Processing*, pages 252–266. Springer-Verlag Berlin Heidelberg, May 2009. (**Nominated for Best Paper Award**).
29. Khair Eddin Sabri, Ridha Khedri, and Jason Jaskolka. Specification of agent explicit knowledge in cryptographic protocols. *International Journal of Computer Science*, 4(2):122–129, 2009.
30. Khair Eddin Sabri, Ridha Khedri, and Jason Jaskolka. *Advanced Technologies*, Chapter 13: Algebraic Model for Agent Explicit Knowledge in Multi-agent Systems, pages 225–250. IN-TECH, October 2009.
31. Khair Eddin Sabri, Ridha Khedri, and Jason Jaskolka. Automated verification of information flow in agent-based systems. Technical Report CAS-09-01-RK, department of Computing and Software, Faculty of Engineering, McMaster University, Hamilton, ON, Canada, January 2009. <http://www.cas.mcmaster.ca/cas/0template1.php?601>.
32. Khair Eddin Sabri, Ridha Khedri, and Jason Jaskolka. Specification of agent explicit knowledge in cryptographic protocols. In *Proceedings of the International Conference on Computer, Electrical, and Systems Science, and Engineering (CESSE 2008)*, volume 35. World Academy of Science, Engineering and Technology, October 2008. (This paper is also published as a journal paper).
33. Ahmad Sharieh and Khair Eddin Sabri. Parallel graph colouring based on saturated degree ordering. *ABHATH AL-YARMOUK: “Basic Science & Engineering”*, 17(2):489–503, 2008.
34. Khair Eddin Sabri and Ridha Khedri. Agent explicit knowledge: Survey of the literature and elements of a suitable representation. In *Proceedings of the 2nd Workshop on Practice and Theory of IT Security (PTITS 2008)*, pages 4–9, 2008.
35. Khair Eddin Sabri and Ridha Khedri. A mathematical framework to capture agent explicit knowledge in cryptographic protocols. Technical Report CAS-07-04-RK, department of Computing and Software, Faculty of Engineering, McMaster University, October 2007. <http://www.cas.mcmaster.ca/cas/0template1.php?601>.

36. Khair Eddin Sabri and Ridha Khedri. Multi-view framework for the analysis of cryptographic protocols. Technical Report CAS-07-06-RK, department of Computing and Software, Faculty of Engineering, McMaster University, Hamilton, ON, Canada, November 2007.
37. Khair Eddin Sabri and Ridha Khedri. A multi-view approach for the analysis of cryptographic protocols. In *Proceedings of the Workshop on Practice and Theory of IT Security (PTITS 2006)*, pages 21–27, 2006.
38. Hussein Al-Omari and Khair Eddin Sabri. New graph coloring algorithms. *American Journal of Mathematics and Statistics*, 2(4), 2006.
39. Khair Eddin Sabri and Jubair Al-Ja'afar. The JK system to detect plagiarism. *Journal of Computer Science & Technology*, 6(2):66–72, October 2006.
40. Jubair Al-Ja'afar and Khair Eddin Sabri. Automark++: A case tool to automatically mark student java programs. *The International Arab Journal of Information Technology*, 2(1):87–96, January 2005.
41. Jubair Al-Ja'afar and Khair Eddin Sabri. Chidamber-Kemerer (CK) and Lorenze-Kidd (LK) metrics to assess java programs. In *International Workshop on Software System (IWSS'04)*, 2004.
42. Jubair Al-Ja'afar and Khair Eddin Sabri. Metrics for Object Oriented Design (MOOD) to assess java programs. In *International Arab Conference on Information Technology (ACIT'04)*, 2004.
43. Ahmed Al-Jaber and Khair Eddin Sabri. Data hiding in a binary image. In *Proceedings of the Mediterranean Conference on Modeling and Simulation MCMS'03*, volume 4 of *Lectures on Modeling and Simulation*, pages 10–17, June 2003.
44. Ahmed Al-Jaber and Khair Eddin Sabri. Information hiding without changing the cover image. In *International Conference on Information Technology and Natural Science (ICITNS 2003)*, May 2003.
45. Ahmed Al-Jaber and Khair Eddin Sabri. A secure and invisible data hiding in a gray-scale image. In *Proceedings of the 7th WSEAS International Conference on Computers*, pages 167–171, 2003.

## PhD Theses Supervised

- Sheren Hijazi, (co-supervisor with Dr. Nadim Obeid) On Developing an Appropriate Medical Prescription Framework Based on Description Logic Based Ontology and Non Classical Logic.
- Hadeel Azzam (Co-supervised with Dr. Ahmed Sharieh, An Automatic Lightweight Intelligent Intrusion Detection System for Cyber Security
- Areej Shorman (co-supervisor with Dr. Mohammad Abushariah), A Mathematical Model for Vulnerabilities Detection in Ethereum Smart Contracts.
- Huda Saadeh (co-supervisor with Dr. Wesam Almobaideen) (Completed in 2018), IoT adaptive multi-layer privacy in information centric network.
- Maha Saadeh (co-supervisor with Dr. Azzam Sleit) (Completed in 2018), An authentication technique of mobile Oobjects for the internet of things.
- Noora Anbaki (co-supervisor with Dr. Nadim Obeid) (Completed in 2019), A contextually adapted temporal defeasible logic for managing access control policies in ubiquitous environments

## M.Sc. Theses Supervised

- Ahmed Saleh, Malware Detection Based on Dynamic Features.

- Tariq Al-Khader, Detecting Compromised IOT Devices Using Machine Learning
- Raya Alyazjeen, Verification of access control policies using model checking.
- Majd Hasan, Providing Confidentiality, Mobility, and Anonymity in Healthcare Application (Completed in 2019).
- Hebatullah Jarboua (co-supervisor with Dr. Wesam Almobaideen), Unified Architecture for Cloud Searchable Encryption (Completed in 2019)
- Suhad Abureesh (co-supervisor with Dr. Mohammad Alshraideh)(Completed in 2018), An intrusion detection system based on a dendrite morphological neural networks.
- Nafea Alswaier (Completed in 2017), Formal modeling of role hierarchy and delegation constraints in role based access control policies.
- Mohammad Mesbah Qbea'h (co-supervisor with Dr. Mohammad Alshraideh)(Completed in 2016), Detecting SQL injection attacks: a formal approach.
- Yousef Khdirat (Completed in 2016), Role-based access control policy testing based on cause-effect graph.
- Mahmoud Shtayyat (Completed in 2016), Trust and risk based access control model for cloud Computing environment
- Nafea Kharabsheh (co-supervisor with Dr. Saher Manaseer)(Completed in 2015), Clustering-based broadcasting in ad hoc networks.
- Eman Beno (co-supervisor with Dr. Saher Manaseer)(Completed in 2015), The effect of network transmission history on backoff algorithms for mobile ad hoc networks.

## **M.Sc. Theses Examination Committees**

- Ahmad Mahafzah (Middle East University, 2018), Optimizing indoor tracking system for wireless sensor networks using ZigBee.
- Ibrahim Alhabash (2017), Topology aware media access control protocol for mobile ad hoc network.
- Arwa Al-Dabobi (2017), Visual analysis of graph community structures.
- Adel Mohammad (2017), Enhancing the integration of security within the software development life cycle through an adaptive risk framework and an automated tool.
- Dua' Alsoudi (2017), Energy and distance based varying cluster-head role duration for clustered wireless sensor network.
- Ali Alzeinat (Middle East University, 2017), A signcryption approach based on Rabin digital signature schemes
- Hamzeh Alawi (2016), A greedy algorithm for testing of Java card applications.
- Mohammed Al-Mbaideen (2016), Power-aware multi-path routing protocol for wireless sensor network.
- Ayman Refoa (2016), The relation between thieves fingerprint minutiae and the criminal attributes.
- Shireen Riaty (2016), Enhancing the performance of detecting phishing website rate.
- Asmaa Alsarhan (2016), Security phishing detection using DOM-Tree Structure and cAnt-MinerPB algorithm.

- Sarah Khader (2015), Utilizing business process models to generate software test cases.
- Huthaifa Al-Adaileh (2014), Off-line cursive signature verification based on image processing and geometric features.
- Amenah Qousini (2014), Role-based access control model for privacy preservation in cloud computing environment.
- Aisha Al-Fitouri (2013), Character recognition using character segmentation.
- Katrina Sundus (2013), Mobility effect on broadcast authentication for wireless sensor networks.
- Boran Mohammed (2013), Security phishing detection using induction (PRISM) data mining.

### **PhD Theses Examination Committees**

- Alia Madain (2017), Computational modeling of proteins based on cellular automata.

### **Supervised Graduation Projects of Undergraduate Students**

- Exams Scheduling
- Smart baby cradle (Funded)
- E-voting System
- Development of a 2D educational compute game
- Students grades systems
- GPS Traffic Track APP
- Travel to Jordan App
- Home security system
- Image recognition of numbers in mobile cards
- Practicing Al-Hajj
- Holy land tour guide
- Clause slicing tool
- Academic network
- Encryption tool

### **Professional Activities**

- Program Committee: The Eleventh International Conference on Emerging Network Intelligence (EMERGING 2019).
- Program Committee: The Ninth International Conference on Ambient Computing, Applications, Services and Technologies (AMBIENT 2019)
- Program Committee: The 10th International Conference on Ambient Systems, Networks and Technologies (ANT 2019)
- Program Committee: The 9th International Conference on Ambient Systems, Networks and Technologies (ANT 2018)



- Program Committee: The 8th International Conference On Computer Science and Information Technology (CSIT 2018)
- Program Committee: The Eighth International Conference on Ambient Computing, Applications, Services and Technologies (AMBIENT 2018)
- Program Committee: The Tenth International Conference on Emerging Network Intelligence (EMERGING 2018)
- Evaluating Grant Proposals (2018): Umm Al-Qura University, Saudi Arabia
- Program Committee: New Trends in Information Technology (NTIT 2017).
- Program Committee: The 8th International Conference on Ambient Systems, Networks and Technologies (ANT 2017).
- Program Committee: The Seventh International Conference on Ambient Computing, Applications, Services and Technologies (AMBIENT 2017)
- Program Committee: The Ninth International Conference on Emerging Network Intelligence (EMERGING 2017)
- Reviewer: 11th International Conference on Global Security, Safety & Sustainability (ICGS3 2017)
- Technical Chair: Cybersecurity and Cyberforensics Conference (CCC 2016)
- Program Committee: The 7th International Conference on Ambient Systems, Networks and Technologies (ANT 2016)
- Reviewer: Iranica Journal
- Program Committee: The 7th International Conference on Computer Science and Information Technology (CSIT 2016)
- Program Committee: The Eighth International Conference on Emerging Network Intelligence (EMERGING 2016)
- Program Committee: The Sixth International Conference on Ambient Computing, Applications, Services and Technologies (AMBIENT 2016)
- Program Committee: The Eighth International Conference on Emerging Network Intelligence (EMERGING 2016)
- Program Committee: The Seventh International Conference on Emerging Network Intelligence (EMERGING 2015)
- Evaluating Grant Proposals (2016): The University of Jordan, Jordan
- Evaluating Grant Proposals (2016): Umm Al-Qura University, Saudi Arabia
- Program Committee: The Fifth International Conference on Ambient Computing, Applications, Services and Technologies (AMBIENT 2015)
- Reviewer: The 19th World Multi-Conference on Systemics, Cybernetics and Informatics: WMSCI 2015
- Program Committee: The 5th International Conference on Ambient Systems, Networks and Technologies (ANT 2014)

- Program Committee: The Sixth International Conference on Emerging Network Intelligence (EMERGING 2014)
- Program Committee: The Fourth International Conference on Ambient Computing, Applications, Services and Technologies (AMBIENT 2014)
- Program Committee: International Conference on Communication and Network (ICCN 2014).
- Reviewer: the 12th Workshop on Discrete Event Systems (WODES 2014)
- Track Chair: Systems Security and Privacy track for the 4th International Conference on Ambient Systems, Networks and Technologies (ANT 2013)
- Program Committee: The Third International Conference on Ambient Computing, Applications, Services and Technologies (AMBIENT 2013)
- Program Committee: The 5th International Conference on Computer Science and Information Technology (CSIT 2013)
- Reviewer: International Journal of Software Engineering and Knowledge Engineering
- Program Committee: International Workshop on Software Engineering for sAFety-critical Systems and Medical dEvices (SEASAME 2013)
- Program Committee: The 3rd International Conference on Ambient Systems, Networks and Technologies (ANT 2012)
- Program Committee: The International Arab Conference of e-Technology (IACe-T 2012)
- Reviewer: The 7th International Computing Conference in Arabic (ICCA 2011)
- Reviewer: The 6th International Computing Conference in Arabic (ICCA 2010)
- Reviewer: The 7th International Conference on Software Engineering and Formal Methods (SEFM 2009)
- Reviewer: The 9th Workshop on Discrete Event Systems (WODES 2008)
- Reviewer: The 2nd Workshop on Practice and Theory of IT Security (PTITS 2008)
- Reviewer: The 1st Workshop on Practice and Theory of IT Security (PTITS 2006)
- Reviewer: The 8th Workshop on Discrete Event Systems (WODES 2006)

## Academic Membership at The University of Jordan

- Member of the Quality Assurance and ABET Committee
- Member of the ISO Committee
- Member of the Strategic Planning Committee
- Member of the Curriculum Planning Committee
- Member of the Quality Assurance of the Automated Exam Committee
- Member of the e-Learning Committee
- Member of the Student Training Committee
- Member of the Student Advisory Committee

## Membership of Research Groups

- Formal Requirements and Information Security Enhancements (FRAISE) Research Group
- The Jordan Information Security & Digital Forensics (JISDF) Research Group.

## Training Courses Completed

- Digital Forensics: with Open Source Software 2019
- CCNA 2019
- Ethical Hacking 2019
- Palo Alto Networks Cybersecurity 2018
- Flipped and Project-Based Learning, The University of Jordan, 2017
- ISO 9001:2015 Internal Auditor, Lloyd's Register LRQA, 2016
- ISO 9001:2015 Awareness & Documentation Training Course, Lloyd's Register LRQA, 2015
- Improving the Teaching Effectiveness of the New Faculty Members, The University of Jordan, 2012
- Effective Teaching Communication and English Pronunciation, McMaster University, 2005

## Languages

- Arabic: Excellent
- English: Excellent