

Curriculum Vitae

Dr. Iman Almomani, BSc, MSc, PhD, MIEEE

Personal Details:

Name: Iman M. J. Almomani
Nationality: Jordanian
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Address (work): Department of Computer Science
King Abdullah II School for Information Technology
The University of Jordan
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Academic Qualifications:

August 2007 **Ph.D.** in Computer Science
Major: Wireless Network Security
De Montfort University, UK, <http://www.dmu.ac.uk>
Thesis Title: Security Solutions for Wireless Mobile Ad hoc Networks (WMANETs)
Supervisors: Professor Hussein Zedan, Dr. Amelia Platt
June 2002 **M.Sc.** in Computer Science, Average 3.91 / 4.
The University of Jordan, <http://www.ju.edu.jo>
June 2000 **B.Sc.** in Computer Science, Average 3.91 / 4
UAE University, <http://www.uaeu.ac.ae/>
Graduation Project: CORBA-Based Secure E-Commerce System
1996 General Secondary Education Certificate Exam Scientific Branch, Average 97.5%

Specialization

Networks and Computer Security

Academic Posts

12/2012 –Present Associate Professor
Department of Computer Science
King Abdullah II School for Information Technology
The University of Jordan
Amman, Jordan

09/2007 –12/2012 Assistant Professor
Department of Computer Science
King Abdullah II School for Information Technology
The University of Jordan
Amman, Jordan

2009- 2010 Head of Computer Science Department
King Abdullah II School for Information Technology
The University of Jordan
Amman, Jordan

2002–2004 Teaching Assistant
The University of Jordan

Professional Membership, Editorial Board and Technical Committees

1. IEEE Member.
2. Member of IEEE Women in Engineering (WIE).
3. Technical reviewer:
 - IET Information Security/ IET.
 - Wireless Personal Communications/ Springer.
 - International Journal of Security and Networks/ Inderscience.
 - IET Wireless Sensor Systems/ IET.
 - Computer Journal/ Oxford Journals.
 - IEEE Transactions on Industrial Informatics.
 - KSII Transactions on Internet and Information Systems.
4. Technical committee and peer reviewer – International Arab Conference on e-Technology, October 15-16, 2008, Amman, Jordan.
5. Session Chair – Eleventh WSEAS International Conference on Fuzzy Systems (FS'10), 13-15 June, 2010, Iasi, Romania.
6. Technical Program Committee – Mosharaka International Conference on Communications and Electronic Systems, Mesh, Ad Hoc and Sensor Networks (MAS) Track, 4-6 November 2011, Amman, Jordan.
7. Local Organization Committee – 2011 Pan Arab Cyber Security Day, 21-23 November 2011, Amman, Jordan.
8. Security Track Chair + Technical Program Committee member – IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT 2011), 6-8 December 2011, Amman, Jordan.
9. Keynote Speaker- Philadelphia University Scientific Day entitled “**Computing: Directions and Challenges**”, 15 May 2013, Amman, Jordan.
10. Smart Systems for Renewable Energy Track Chair + Technical Program Committee – 2013 1st International Conference & Exhibition on the Applications of Information Technology to Renewable Energy Processes and Systems (IT-DREPS 2013), 29-30 May 2013, Amman, Jordan.
11. Communications & Networking Track Chair - The Second IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT 2013), 3-5 December, 2013, Amman, Jordan.

Prizes – Awards

1. The University of Jordan Distinguished Researcher Award for the year 2011.
2. 1st First Lego League Arabia Championship, Dead Sea, Jordan 27-29 of March 2009 – **Proof of Concepts Award.**
3. 1st First Lego League Arabia Championship, Dead Sea, Jordan 27-29 of March 2009 – **Audience Voting 1st Place Award.**
4. Information Technology Student's Activity Fair (ITSAF), University of Petra (UoP), 6-7 of July 2010. **1st Place Award-applicable to the market category**, “*GPS Vehicle Tracking and Management System*”.
5. Information Technology Student's Activity Fair (ITSAF), University of Petra (UoP), 13-14 of July 2011. **1st Place Award-research category**, “*Secure Cluster-Based Protocol for Wireless Sensor Networks with Fair Energy Architecture*”.

Funded Projects

1. Fleet Management and Optimal Route Planning using GIS Techniques and Cellular Networks - King Abdullah II Fund for Development (KAFD) + King Abdullah II Design and Development Bureau (KADDB).
2. HeliRobot: A prototype was built for flying robot using Lego NXT. The University of Jordan - Deanship of Academic Research (DAR).
3. Robot Library Assistant System: A prototype was built for a library assistant robot using Lego NXT. The University of Jordan - Deanship of Academic Research (DAR).

Research Interests

Wireless Networks:

Wireless Mobile Ad hoc Networks (MANETs)
Wireless Sensor Networks (WSNs)
WiMAX (IEEE 802.16)

Network Security

Wireless Network security
Cryptography
Intrusion Detection Systems (IDS)

Multimedia Networking:

Voice over IP (VoIP) & Quality of Speech Aspects
IPTV

Programming Languages and Simulation

C++, Java, VB, NS-2, Qualnet.

Learning Methodologies

Electronic Learning (E-Learning)
Mobile Learning (M-Learning)

Publications:

- **International Journals**

1. **Iman Almomani**, Eman Al-Banna, and Mousa AL-Akhras, “*Logic-Based Security Architecture for Systems Providing Multihop Communication*”, International Journal of Distributed Sensor Networks, vol. 2013, Article ID 768489, 17 pages, 2013. doi:10.1155/2013/768489.
2. **Iman Almomani**, Maha Saadeh, “*Security Model for Tree-based Routing in Wireless Sensor Networks: Structure and Evaluation*”, KSII Transactions on Internet and Information Systems, Vol. 6, No. 4, 2012, pp. 1223-1247.
3. **Iman Almomani**, Maha Saadeh, Mousa AL-Akhras, Hamzeh AL Jawawdeh, “*A Tree-Based Power Saving Routing Protocol for Wireless Sensor Networks*”, International Journal of Computers and Communications, University Press, Vol. 5, No. 2, 2011, pp. 84-92.
4. **Iman Almomani**, Mohammed Al-Saruri, Mousa AL-Akhras, “*Secure Public Key Exchange against Man-in-the-Middle Attacks During Secure Simple Pairing (SSP) in Bluetooth*”, World Applied Sciences Journal, Vol. 13, No. 4, 2011, pp.769-780.
5. **I. Almomani**, O. Karajeh and L. Abdulla, “*Reducing the Vulnerability of Broadcast Authentication against Denial of Service Attacks in Wireless Sensor Networks*”, MEDJCN: Mediterranean Journal of Computers and Networks, Vol. 7, No. 2, 2011, pp. 192-201.
6. **Iman M. Almomani**, Maha K. Saadeh, “*FEAR: Fuzzy-Based Energy Aware Routing Protocol for Wireless Sensor Networks*”, International Journal of Communications, Network and System Sciences (IJCNS), Scientific Research Publishing, Vol. 4, No. 6, 2011, pp. 403-415.
7. Mousa AL-Akhras, **Iman Almomani** and Azzam Sleit, “*An Improved E-Model Using Artificial Neural Network VoIP Quality Predictor*”, Neural Network World, Vol. 21, Issue 1, 2011, pp. 3-26.
8. **Iman Almomani**, “*Copyrights Protection Schema: A Secure PDF Reader*”, International Journal of Computer science and Network Security (IJCSNS), Vol. 10, No. 12, December 2010, pp. 15-25.
9. **Iman Almomani**, Emad Almashakbeh, “*A Power-Efficient Secure Routing Protocol for Wireless Sensor Network*”, WSEAS TRANSACTIONS on COMPUTERS, Vol. 9, Issue 9, September 2010, pp. 1042-1052.
10. Mousa T. AL-Akhras and **Iman M. Almomani**, “*Design and Implementation of a SIP-based E-Learning System*”, International Journal of Internet Education (IJIE), Vol. 4. July 2009, pp. 78-91.
11. M. AL-Akhras, H. Zedan, R. John, **I. Almomani**, “*Non-Intrusive Speech Quality Prediction in VoIP Networks using a Neural Network Approach*”, Neurocomputing, Vol. 72, Issue 10-12, June 2009, pp. 2595-2608.

12. **Iman Almomani**, Hussein Zedan, “*Heterogeneous Certificate Authority for Wireless Mobile Ad hoc Networks (WMANETs)*”, International Journal on Computer Science and Information System (IJCSIS Journal), Volume 2, Number 1, April 2007, pp.1-17.
13. **I. Almomani**, M. Al-Akaidi, P. Reynolds and J. Ivins, “*Architectural Framework for Wireless Mobile Ad hoc Networks (AF WMANETs)*”, Computer Communications, Volume 30, Issue 1, 15 December 2006, pp.178-191.

- **International & Local Conferences**

1. Hamzeh Aljawawdeh, **Iman Almomani**, “*Dynamic Load Balancing Protocol (DLBP) for Wireless Sensor Networks*”, 2013 IEEE Jordan Conference on Applied Electrical Engineering and Computer Technologies, 3-5 December, 2013, Amman, Jordan.
2. Lamyia Abdullah, **Iman Almomani**, Ala' F.A Aburumman, “*Secure Cluster-Based SIP Service over Ad Hoc Networks*”, 2013 IEEE Jordan Conference on Applied Electrical Engineering and Computer Technologies, 3-5 December, 2013, Amman, Jordan.
3. **Iman Almomani**, Enas Ahmad, Nour Alkhalil, Rania Judi, “*Ubiquitous GPS Vehicle Tracking and Management System*”, 2011 IEEE Jordan Conference on Applied Electrical Engineering and Computer Technologies, 6-8 December, 2011, Amman, Jordan, pp. 316-321.
4. **Iman Almomani**, Mousa Al-Akhras, “*Internet Skills in Scientific Research- In Arabic*”, The Fifth Conference on Scientific Research in Jordan, 19 October 2011, Amman, Jordan.
5. **Iman Almomani**, Maha Saadeh, Hamzeh Al Jawawdeh, Mousa Al-Akhras, “*Energy Awareness Tree-Based Routing Protocol for Wireless Sensor Networks*”, The 10th WSEAS International Conference on Applied Computer and Applied Computational Science (ACACOS '11), 8-10 March, 2011, Venice, Italy, pp. 26-30.
6. First Regional Conference for IPR and Cyber Crimes in Cooperation with Department of National Library, Adobe System & Co., 24-25 October, 2010, Grand Hyatt Hotel, Amman, Jordan – **Attendant**.
7. **Iman Almomani**, Asma' Abdel Aziz and Mousa AL-Akhras, “*Secure and Power Saving Routing Protocol for Wireless Sensor Networks*”, 11th WSEAS International Conference on Fuzzy Systems (FS'10), 13-15 June, 2010, Iasi, Romania, pp. 209-214.
8. **Iman Almomani**, Ola Karajeh and Lamyia Abdulla, “*Pre-Authenticator and Adaptive Window-Based DoS Containing Scheme for Broadcast Authentication in Wireless Sensor Networks*”. The 3rd Mosharaka International Conference on Communications, Networking and Information Technology (MIC-CNIT 2009), 21-23 December, 2009, Amman, Jordan, ISBN 978-9957-486-09-9, pp. 7-13.
9. **Iman Almomani**, Maryam Al-Sharief and Rawa'a Al-Jabaly, “*Building Reputation Of Suspicious Nodes In Cluster-Based Intrusion Detection System For Wireless Sensors Networks*”, The 3rd Mosharaka International Conference on Communications, Networking and Information Technology (MIC-CNIT 2009), 21-23 December, 2009, Amman, Jordan, ISBN 978-9957-486-09-9, pp. 14-18.
10. **I. Almomani**, “*Secure Wireless Communication for Mobile Surgical Army Hospitals*”, The 2008 International Conference on Wireless Networks (ICWN'8: July 14-17, 2008), Monte Carlo Resort, Las Vegas, Nevada, USA, pp. 628-633.

11. **I. Almomani** and M. Al-Akhras, “*Statistical Speech Quality Prediction in Voice over IP Networks*”, The 2008 International Conference on Communications in Computing (CIC'8: July 14-17, 2008), Monte Carlo Resort, Las Vegas, Nevada, USA, pp. 146-152.
12. **Iman Almomani**, Hussein Zedan, “*Secure Distributed Key Management for Wireless Mobile Ad hoc Networks (WMANETs)*”, IADIS International Conference Applied Computing 2007, Salamanca, Spain.
13. **Iman Almomani**, Hussein Zedan, “*End-to-End Security Solution for Wireless Mobile Ad hoc Network (WMANET)*”, IADIS International Conference Applied Computing 2007, Salamanca, Spain, ISBN: 978-972-8924-30-0, pp. 624-629.
14. **I. Almomani**, M. Al-Akaidi, J. Ivins, P. Reynolds, “*Architectural Framework for Wireless Mobile Ad hoc Networks (WMANETs)*”, The 6th IEE International Conference ON 3G & BEYOND (3G 2005), 7-9 November 2005, The IEE, Savoy Place, London, UK.

- **Books**

1. **Iman Almomani**, “*Security Solutions for Wireless Mobile Ad hoc Networks*”, ISBN: 978-3-8465-0839-8, International Book Market Service publisher, Germany, 2011.
2. Mousa AL-Akhras and **Iman Almomani**, “*Internet Skills in Scientific Research*”, ISBN: 978-9957-72-040-7, ZAMZAM publisher and distributor, Amman, Jordan, 2010.

- **Book Chapters**

1. Mousa AL-Akhras and **Iman Almomani**, “*VoIP Quality Assessment Technologies - Book: VoIP Technologies*”, ISBN: 978-953-7619-X-X, INTECH Open Access Publisher, Vienna, Austria.

Attended Workshops, Training Courses with Certificates

Research Training Program - with certificates (De Montfort University, UK)

Research Students Induction Event	29/03/2004
Planning and Managing Research	02/05/2004
Writing Skills	24/05/2004
Intellectual Property Rights and Ethics	15/06/2004
English Language for Academic Research Purposes	22/06/2004
Literature Searching and Reference Management	23/06/2004
Research Methods	22-23/10/2004
Presenting Your Research to and Audience	02/03/2005
Writing for Publication	20/06/2005
Written Application Skills and Job Interview Skills	14/06/2005
Managing Data Using Excel	23/02/2006
Finishing Your Thesis and Preparing for the Viva	09/03/2006
Using SPSS	10/03/2006
Effective Presentation Using PowerPoint	27/03/2006
Creating and Managing Large Documents	04/04/2006
Typesetting Documents Using LaTeX	05/04/2006

Staff Training Courses – with certificates (The University of Jordan)

Design of Study Plan	6 Hours	15-16/1/2012
Teaching Strategies	12 Hours	17-22/1/2012

Effective Skills of University Teaching	12 Hours	23-26/1/2012
Learner's Assessment and Test Preparation	12 Hours	29/1-1/2/2012
Laws and Regulation of the University of Jordan	6 Hours	2-5/2/2012
University Work Ethics	2 Hours	6/2/2012

Other Workshops

Writing Proposal for FP7 People Programme, given by Mr. Leonardo Piccinetti, the University of Jordan. 13/4/2010.

Committees

- **The University of Jordan, University level Committees, (2011 – Present):**
 - Member of UoJ Website Evaluation Committee.
- **The University of Jordan, King Abdullah II School for Information Technology, (During 2007 – Present):**
 - Ph. D. Program Admission Exam.
 - Member of the Higher Studies Committee.
 - Member of the Curriculum Planning Committee.
 - Member of the Scientific Research, Conferences, Seminars, and Expositions Committee.
 - Member of the Supervising Committee on Students Union's Elections.
 - Member of Social Committee.
 - Member of the Quality Assurance & Examination Committee.
 - Member of the Equalizing Courses Committee for Transferred Students.
 - Member of Faculty's Infrastructure Committee.
 - Member of Student's Affairs Committee.
- **The University of Jordan, Computer Science Department, (During 2007 – Present):**
 - Member of the Higher Studies Committee.
 - Member of the Curriculum Planning Committee.
 - Member of the Appointment and Promotion Committee.
 - Member of the Students' Training Committee.
 - Member of the M.Sc. Theses Examination Committees.
 - Member of Social Committee.
 - Member of the M.Sc. Comprehensive Exam Committee.
 - Member of the Students Counseling Committee.

Teaching - Previously Taught Courses

Computer Network -1
Computer Network – 2
Computer Security
Network Security (Master)
Wireless Networks (Master)
Computer Networks (Master)
Network Programming
Distributed Systems
Data Structure
Discrete Mathematics
C++
Advanced C++
Java
Advanced Java
Computer Skills

Selected Graduation Projects Supervision

1. KASIT Attendance System, 2007.
2. Robot Library Assistant System (RLAS), 2008- **Funded Project**.
3. Multimedia Voice and Video Conferencing System using SIP Protocol Using Java programming language, 2007.
4. Mobile Quiz System using J2ME, 2008.
5. Mobile Lecturing System, 2008.
6. Mobile Blackboard System, 2009.
7. Mobile Shopping System (MobiShop), 2009.
8. Landmine Detection System (Bamboozleing Bot), 2010.
9. Iris Recognition System, 2010.
10. GPS tracking System, 2010.
11. Energy Efficient Intrusion Detection System for Wireless Sensor Networks (WSNs), 2011.
12. Robot-based Overhead Crane, 2011.
13. Helirobot: A flying robot, 2012- **Funded Project**.
14. Mobile-based Taxi Service, 2012.
15. Security Penetration Test for E-Learning Environment, 2012.
16. JU Navigator: Android Application, 2013.

Master Thesis Supervision

1. Eman Alwadiya, “*Multipath Quality of Service Routing Protocol for Mobile Ad hoc Networks*”, Department of Computer Science, The University of Jordan, 2009.
2. Anas Liswi, “*Collaborative Mobile Learning Architecture Based on Mobile Agents*”, Department of Computer Science, The University of Jordan, 2009.
3. Ala' Fahad Aburumman, “*Securing SIP over Ad hoc Network*”, Department of Computer Science, The University of Jordan, 2009.
4. Mohammed Al-Saruri, “*Enhanced Scheduling Scheme for IEEE 802.16 Traffic to Achieve Quality of Service*”, Department of Computer Science, The University of Jordan, 2009.
5. Ola Karajeh, “*Securing Wireless Sensor Networks against Denial of Service Attacks*”, Department of Computer Science, The University of Jordan, 2010.
6. Lamyia Omar, “*Distributed Secure SIP Service over Ad Hoc Networks*”, Department of Computer Science, The University of Jordan, 2010.

7. Maha Khaled, "*Secure Routing Protocol for Wireless Sensor Networks*", Department of Computer Science, The University of Jordan, 2011.
8. Eman Albanna, "*Interference-aware Multipath Routing Protocol for Wireless Mobile Ad hoc Networks*", Department of Computer Science, The University of Jordan, 2011.
9. Katrina Sundus, "*Mobility Effect on Broadcast Authentication for Wireless Sensor Networks*", Department of Computer Science, The University of Jordan, 2011.
10. Hamzeh AL Jawawdeh, "*Energy-Balanced Topology for Wireless Sensor Networks*", Department of Computer Science, The University of Jordan, 2012.
11. Amenah Qousini, "*Role-Based Access Control Model for Privacy Preservation in Cloud Computing Environment*", Department of Computer Science, The University of Jordan, 2013.
12. Bassam Kasasbeh, "*A Mechanism for Detecting and Classifying Denial of Service Attacks in Wireless Sensor Networks using Artificial Neural Networks*", Department of Computer Science, The University of Jordan, 2014.

Master Thesis Committees

1. Ghada Bader, "*Efficient Power Control Routing Protocol in Ad Hoc Network*", Department of Computer Science, The University of Jordan, 2008.
2. Mustafa Ahmad Bani Khalaf, "*Smart Probabilistic Broadcasting in Mobile Ad-hoc Networks*", Department of Computer Science, Jordan University of Science and Technology, 2009. **External Examiner.**
3. Rahmeh Jabai, "*Object Recognition Based on Dominant Points Identification*", Department of Computer Science, The University of Jordan, 2009.
4. Iman Ibrahim Badran, "*An Adaptive Backoff Algorithm for Mobile Ad-Hoc Networks*", Department of Computer Science, Jordan University of Science and Technology, 2010. **External Examiner.**
5. Affaf Omar Tareef, "*Improving the Robustness of Image Watermarking Against Attack*", Department of Computer Science, The University of Jordan, 2010.
6. Yacoub Elias Massad, "*Performance Evaluation of Transmission Power Control (TPC) in Mobile Wireless Ad Hoc Networks*", Department of Computer Science, The University of Jordan, 2010.
7. Rasha Beidas, "*Skin Cancer Recognition by using Neuro-Fuzzy System*", Department of Computer Science, The University of Jordan, 2010.
8. Maryam Al-sharief, "*Evaluation of Automatic Human Identification Algorithm using facial Features*", Department of Computer Science, The University of Jordan, 2010.
9. Fatima Abo Alsauwd, "*Dual Recognition of Multi-Script License Plates*", Department of Computer Science, The University of Jordan, 2010.
10. Rodwan Shalalfeh, "*Best Utilization of Mirroring Server Resources using Artificial Neural Networks*", Department of Computer Science, The University of Jordan, 2011.

11. Muhammad Adnan Jassim, "*A Multi-function Energy-Efficient System Model for Location-Aware Wireless Sensor Networks*", Department of Computer Science, The University of Jordan, 2011.
12. Khawla Naji Al-Shonikat, "*Energy-aware Partially Joint Routing Protocol for Wireless Sensor Networks*", Department of Computer Science, The University of Jordan, 2013.
13. Marwa K. S. Salayma, "*Power Efficiency Model for Zigbee Networks*", Department of Computer Science, Jordan University of Science and Technology, 2013. **External Examiner.**
14. Amani Mohammed Goniemat, "Analysis and critical evaluation of residue number system converters", Department of Computer Engineering, The University of Jordan, 2013.

References

1. Dr. Mohammad Banat:

Position:

- Senior Member, IEEE
- Associate Professor, Department of Electrical Engineering
- Faculty of Engineering
- Jordan University for Science and Technology
- Founder, Wireless Communications Laboratory
- Jordan University of Science and Technology
- Chairman of Mosharaka International Conferences (<http://mosharaka.net>)

Address

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- Email: m.banat@ieee.org
- Website: <http://mbanat.net>

2. Dr. Wesam Almobaideen:

Position:

- Associate Professor and Chairperson of Computer Science Department
- Computer Science Department
- King Abdullah II School for Information Technology
- The University of Jordan

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- Tel: +962 (0) 6 5355000 Extension 22575
- Fax: + 962 (0) 6 53 00 233
- Email: wesmoba@ju.edu.jo

3. Dr. Bassam Hammo:

Position:

- Associate Professor and Deputy Dean
- King Abdullah II School for Information Technology
- The University of Jordan

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