

Jamal Nazzal Al-Karaki



Personal Information

Marital status: Married
Nationality: Jordanian
Age: 40
Place of Birth: Jordan

Objective

Summary of Qualifications

2009-to date The Hashemite University Zarka 13115
Dean, Faculty of Prince Hussein Bin Abdullah-II for Information Technology

Planning and supervising all academic, research, and Community Service of the Faculty, leading in curriculum development, performing administrative work, and taking charge in establishing research programs in the area of Information Technology.

2006 to 2010 The Hashemite University Zarka 13115
Director, Computer Center

Planning and supervising all operations of the computer center.

2006 to 2009 The Hashemite University Zarka 13115
Chair and Cofounder of Computer Engineering Dept.

Lay foundations of the department, running computer engineering department: leading in curriculum development, performing administrative work, and taking charge in establishing research programs in the area of specialization

Education

2001-2004 Iowa State University Ames, IA 50010
Ph.D., Computer Engineering - Wireless Computer Networks
Obtained Research Excellence Award (2004)

1993-1995 Jordan Univ. of Science ad Tech. Irbid 22110
M.Sc., Computer Engineering
Distinguished research Award (1995)

1988-1993 Jordan Univ. of Science ad Tech. Irbid 22110
B.Sc., Electrical/Computer Engineering

Professional experience

2009-Date **Dean**
Faculty of Prince Hussein Bin AbdullahII for Information Technology
The Hashemite University
Zarka 13115, Jordan

2006-Date **Director**
Computer Center, The Hashemite University
Zarka 13115, Jordan

2006-2009 **Founder and Chair**
Computer Engineering Department, The Hashemite
University, Zarka, 13115, Jordan

2004-Date **Assistant Professor** of Computer Engineering,
The Hashemite University

2004-2007	NB. Already applied for Tenureship to Associate Professor of Computer Engineering, The Hashemite University e-learning project coordinator , The Hashemite University, Zarka 13115, Jordan
2000-2004	TA/RA, Iowa State University, Ames, IA USA
1998-2000	Full Time Lecturer , The Hashemite University, Zarka 13115, Jordan
1997-1998	Full Time Lecturer , Qatar University, Doha ,Qatar
1995-1997	Full Time Lecturer , Delmon University, Manama, Bahrain

Patents and publications

Refereed Journals

- 1) Jamal N. Al-Karaki, A.E. Kamal, "Quality of Service Routing in Mobile Ad hoc Networks: Current and Future Trends", Book Chapter, The Handbook of Wireless Ad hoc Networks, M. Ilyas and E. Mahgoub (editors), 2004.
- 2) Jamal N. Al-Karaki, A.E. Kamal, "A Taxonomy of Routing Techniques in Wireless Sensor Networks", Book Chapter, The Handbook of Sensor Networks, M. Ilyas and E. Mahgoub (editors), 2004.
- 3) Sameer Bataineh & Jamal Al-Karaki, "Response Time Analysis of Repairable Multiprocessor Systems", International journal of Computer Systems Science and Engineering, Vol. 15, Number 4, July 2000, pages 201-211.
- 4) Sameer Bataineh & Jamal N. Al-Karaki, " Closed form solutions for response time of fault tolerant network of processors" International journal of Computers and Electrical Engineering, V30, Issue 4, 2002.
- 5) Atif Nsour & Jamal Al-Karaki, "Low Loss Gighertz filter for surface acoustic waves", International Journal of Modeling and Simulation, 2002.
- 6) Jamal N. Al-Karaki & Ahmed E. Kamal, "End-to-End Support for Statistical Quality of Service in Heterogeneous Mobile Ad hoc Networks", Computer Communications, Computer Communications 28(18): 2119-2132, 2005.
- 7) Jamal N. Al-Karaki & M. J. Chang, "Quality of service support in IEEE 802.11 wireless ad hoc networks", Journal of Ad Hoc Networks, Vol 2/3 pp 265-281, 2004.
- 8) Jamal N. Al-Karaki & Ahmed E. Kamal, "Routing Techniques in Sensor Networks: A survey", IEEE communications, Volume 11, No. 6, Dec. 2004, pp. 6--28 .
- 9) Jamal N. Al-Karaki & M. J. Chang, "Will 802.11e bring QoS to WLANs", IEEE ITPro, 2006.
- 10) Jamal N. Al-Karaki, "Analysis of Routing Security-Energy Tradeoffs in Wireless Sensor Networks", International Journal of Security and Networks (IJSN), Vol.1, No.2, 2006.
- 11) Jamal N. Al-Karaki & Ahmed E. Kamal, "Stimulating Node Cooperation in Mobile Ad hoc Networks ", Journal of Wireless Personal Communications, ISSN: 0929-6212, vol. 44, Issue: 2, 2008, Pages: 219-239.
- 12) Jamal N. Al-Karaki & G. Al-Mashaqbeh, "Energy-Centric Routing in Wireless Sensor Networks", Elsevier Microprocessors and Microsystems, 31(4): 252-262, 2007.
- 13) Jamal N. Al-Karaki, Ahmed E. Kamal, "Efficient virtual-backbone routing in mobile ad hoc networks", Elsevier Computer Networks 52(2): 327-350 (2008).
- 14) Jamal N. Al-Karaki, " Emerging Trends in Routing Protocols in Mobile Wireless Ad Hoc and Sensor Networks ", Wiley/The Handbook of Computer Networks / Volume II - LANs, MANs, WANs, The Internet, Global, Cellular and Wireless Networks, 2007.
- 15) J. Mohammad & Jamal N. Al-Karaki, "Integrating Internet into university education: A practical Study of usage and attitude", International Journal of Information Technology, No. 4, Vol 5, October 2008 .
- 16) J. Mohammad, Jamal N. Al-Karaki, A. Abu Nab'a, "Analysis of the teaching staff members' attitudes towards using IT applications in the university education, and the effect of some variables on this use ", Journal of Educational and Psychological Sciences (JEPS), Vol. 9, No. 3, Sept. 2008.
- 17) J. Al-Karaki, A. E. Kamal, "Data Aggregation and Routing in Wireless

- Sensor Networks: Optimal and Heuristic Algorithms”, Computer Networks”, accepted for publication, 2008.
- 18) G. Al-Mashaqbeh, J. Al-Karaki, S. Bataineh, “CLEAR: A Cross-Layer Enhanced and Adaptive Routing Framework for Wireless Mesh Networks Wireless Personal Communications, 2009.
 - 19) Haya Samaneh, Jamal Al-Karaki, Sameer Bataineh, " End-to-End Support for Short-Lived TCP Flows in Heterogeneous Wired-cum-Wireless Networks: An Analytical Study ", accepted, International Arab Journal of Information Technology (IAJIT), 2009.
 - 20) Khalil M. Yousef, Jamal N. Al-Karaki and Ali M. Shatnawi , "Intelligent Traffic Light Flow Control System Using Wireless Sensors Networks", Journal of Information Science and Engineering, Vol. 26 , No. 3 , May 2010.
 - 21) Islam T. Almkaw, Manel Guerrero Zapata, Jamal N. Al-Karaki and Julian Morillo-Pozo , " Wireless Multimedia Sensor Networks: Current Trends and Future Directions", Sensors, 2010, 10(7), 6662-6717; doi:10.3390/s100706662

Refereed Conferences

- 1) Sameer Bataineh & Jamal Al-Karaki, "Fault-Tolerant Computing on Cluster of Workstations", Proceedings of ACS/IEEE International Conference on Computer Systems and Applications (AICCSA'03), Tunis, Tunisia, July, 2003 .
- 2) Sameer Bataineh & Jamal Al-Karaki, " Closed Form Solution for Response Time of Fault Tolerant Systems Based on Primary Site Approach", Proceedings of IEEE ICECS 95, Amman - Jordan, Dec. 17-21, 1995, pp 47-55 .
- 3) Sameer Bataineh & Jamal Al-Karaki, “Response Time Analysis of Repairable Multiprocessor Systems" Proceedings of the International 1995 AMSE Conference on Communication, Signals & Systems , Rabat - Morocco, Oct. 9-11, 1995 .
- 4) Jamal Al-Karaki & Sameer Bataineh, " An Optimal Packet Switch Architecture for ATM Using WDM Cross-Connect Star Topology", ICCT 96 .
- 5) Jamal Al-Karaki, "Modeling of stability and reliability of Wireless Ad hoc Networks", International Conference On Performance Modeling and Evaluation of Heterogeneous Networks (HET-NETs '03), Ilkley, West Yorkshire, UK, 2003 .
- 6) Jamal Al-Karaki, "Performability Analysis of Response Time in Communications Systems", Proceedings of The Sixth International Workshop on Performability Modeling of Computer and Communication Systems (PMCCS), September 5-7, 2003, Monticello, Illinois, USA
- 7) Jamal N. Al-Karaki, Ahmed E. Kamal, Raza Ul-Mustafa "On the Optimal Clustering in Mobile Ad hoc Networks", Proceedings of IEEE Consumer Communications and Networking, Las Vegas, Nevada USA/ January 5-8, 2004 .
- 8) Jamal N. Al-Karaki & Ahmed E. Kamal, "Stability helps Quality of Service Routing in Wireless Ad hoc Networks", Proceedings of 23rd IEEE International Performance Computing and Communications Conference (IPCCC 2004), April 14-17, 2004, Phoenix, Arizona, USA.
- 9) Jamal N. Al-Karaki & Morris J. Chang, "A Lightweight Multi-Priority Distributed Access Control Scheme for QoS Support in WLANs", Proceedings of 23rd IEEE International Performance Computing and Communications Conference (IPCCC 2004), April 14-17, 2004, Phoenix, Arizona, USA .
- 10) Jamal N. Al-Karaki & Morris J. Chang, "A Simple Distributed Access Control Scheme for Supporting QoS in IEEE 802.11 Wireless LANs", Proceedings of IEEE Wireless Communications and Networking Conference (WCNC 2004), Atlanta, Georgia, USA, March 21-25, 2004, USA .
- 11) Jamal N. Al-Karaki, "Performance Analysis of Response Time in Repairable Clusters of Workstations", Proceedings of 3rd International Workshop on Performance Modeling, Evaluation, and Optimization of Parallel and Distributed Systems (PMEOPDS'04) in conjunction with IPDPS' 2004, 26-30 April 2004, Santa Fe, New Mexico, USA .
- 12) Jamal N. Al-Karaki, Raza Ul-Mustafa, Ahmed E. Kamal, "Data Aggregation in Wireless Sensor Networks-Exact and Approximate Algorithms", Proceedings of IEEE Workshop on High Performance Switching and Routing (HPSR) 2004, April 18-21, 2004, Phoenix, Arizona, USA .
- 13) Jamal N. Al-Karaki, A.E. Kamal "Optimal Data Aggregation in Wireless Sensor Networks", poster in the Proceedings of The International symposium on

- Modern Computing, Ames, Iowa, October 2003 .
- 14) Jamal N. Al-Karaki, A.E. Kamal, " On the Correlated Data Gathering Problem in Wireless Sensor Networks", Proceedings of The Ninth IEEE Symposium on Computers and Communications, Alexandria, Egypt, July 2004 .
 - 15) Jamal N. Al-Karaki, " A new evaluation system for distance education", Distance Education Symposium, Yarmouk University, Irbid-Jordan, 2004.
 - 16) Jamal N. Al-Karaki, "A cluster-based solution for Quality of Service in Mobile Ad hoc Networks", JIEEEEC 2006, Accepted for publication.
 - 17) Jamal N. Al-Karaki, "Enforcing Node Cooperation in Mobile Ad hoc Networks", IEEE ICCS 2006, Accepted for publication.
 - 18) Jamal N. Al-Karaki, G. Al-Mashaqbeh, " SENSORIA: A Fully-Fledged Simulator for Wireless Sensor Networks-Part I", IEEE WEMIC 2006, Accepted for publication.
 - 19) Jamal Al-Karaki, "A Fast Handoff Mechanism for Mobile Internet", IEEE ICTTA 2006, Damascus, Syria, Accepted for publication.
 - 20) Osama Bataineh & Jamal N. Al-Karaki, "Ultrasound Induced Hyperthermia: A New Method for Treatment of Prostate Cancer", accepted for publication in IEEE IMIBE 2006.
 - 21) Jamal N. Al-Karaki & G. Mashaqbeh, "Energy-Centric Routing in Wireless Sensor Networks", Proceedings of IEEE 11th Symposium on Computers and Communications 2006, Sardinia -Italy. **The BEST PAPER AWARD** winner.
 - 22) Jamal N. Al-Karaki, G. Al-Mashaqbeh, " SENSORIA: A Fully-Fledged Simulator for Wireless Sensor Networks- Part II", Proceedings IEEE PIMRC 2006, Accepted for publication, Finland, Sept. 2006.
 - 23) Jamal N. Al-Karaki & Sameer Bataineh, "Enforcing Cooperation in Mobile Ad hoc Networks", Accepted for Publication, to appear in IEEE ICCS, Singapore, 2006.
 - 24) A.E. Kamal and J. N. Al-Karaki, " RMM: A new mobility model for mobile ad hoc networks", IEEE ICC 2007.
 - 25) J. N. Al-Karaki, G. Al-Mashaqbeh, "A Cross-layer Based Multilevel Routing Framework for Wireless Mesh Networks", IEEE ICOIN 2009.
 - 26) J. N. Al-Karaki, I. Al-Malkawi, "On Energy Efficient Routing for Wireless Sensor Networks", accepted for publication in IEEE Innovations 2009.

Patents

"Building a General Wireless Ad hoc LAN", U.S.A. Patent, *Pending*.

Additional professional activities

Member of Editorial Board of International Journals on computing and Networking, Act as reviewer for many journals and conferences, member of many technical and advisory committees in the ICT sector in Jordan.

Professional memberships

- Jordan Engineers Association
- Member of Tau Beta Pi (The Engineering Honor Society), USA.
- Member of IEEE

Languages

Excellent reading, speaking, and writing in Arabic and English.

Community activities

Member of many committees that serve communities in technology related subjects.

Extracurricular activities

Act in many conferences as TCP member. Organized many workshops and exhibitions (e.g. Mawaheb 2009) among others.

Interests and activities

Reading, Surfing web, Authoring books, writing studies for local newspapers.

Awards received

1. Who's Who in Engineering, 2009, Academic Keys, USA.
2. Research Excellence Award, Iowa State University, Ames, IA, USA, 2004.
3. Best Paper Award, IEEE ISCC 2006, Italy.
4. Her Majesty Queen Rania Award for entrepreneurs, Jordan, 2006.
5. Best Teacher Award, Delmon University, Bahrain 1999.
6. Best Project, Jordan Engineers Association, 2005.

Conferences/Worshops

1. Forum for the creative partnership of information technology and communications, Hijawi Faculty of Engineering Technology, Hotel Meridian / Oman 7-8/12/2004
2. Today the scientific developments of electronic security systems, the Jordanian Engineers Association, the good / complex trade unions / Shmeisani 26/11/2005
1. Distance learning workshop, Yarmouk University, 7 / 2004
2. Workshop e-Government, Ministry of Communications and Information Technology, Oman, 5 / 2005
3. The workshop plans to develop the fields of IT, Ministry of Higher Education, University of Jordan, 5 / 2005
4. Workshop on e-learning with IBM, The Hashemite University, Faculty of Information Technology, 6 / 2005 \
5. The "contemporary themes in the management of the business," Queen Rania Center for Entrepreneurship, EJabi, Oman, 12/2005
6. Workshop "Information Technology", Philadelphia University, Amman, 2 / 2006
7. Exhibit creativity in the student Sofex 2006, KADDB, Oman, 2 / 2006
8. Higher Education Development Forum and the Jordanian Ministry of Higher Education, the Dead Sea, 2 / 2007
9. Workshop ABET Criteria EC2000 University, UAE Experience, University of Jordan, Amman, 24-25/6/2007
10. Summer University, Instrumentation and Robotics, University of Science and Technology, Amman, 20-28/8/2007
11. World Conference on Electrical and Electronic Engineering JIEEEC 2005 Amman 15-17/11/2005
12. IEEE 6th Jordanian International Conference on Electrical Engineering Jordan 14-16/3/2006
13. IEEE wireless Euro Mediterranean International Conference Jordan 27-29/3/2006
14. IEEE 2nd International Conference on Information Technology: Theory and Applications Syria 24-28/4/2006
15. World Conference 11th IEEE Symposium on Computers and Communications Italy 26-29/6/2006
16. An international conference IEEE ICCS 2006 IEEE Singapore 10/2006
17. Arab Conference on IT Organization of Arab Universities, Yarmouk University 12/2006
18. International Conference on digital communications and applications of computer science and technology, University of Jordan, 19-22/3/2007
19. Microsoft Conference, Microsoft Academic Days Hurghada Egypt 7-10/4/2007
20. Conference SENSORCOMM'07 and Workshops Vlencia Spain 14-19/10/2007
21. MIT Conference on the Dead Sea, Jordan 28-30/11/2007
22. Third Conference of interactive education via mobile devices and the Internet, Interactive Mobile and Computer Aided Learning IMCL2008 Princess Sumaya University Amman 16-18/4/2008
23. Fourth Conference of interactive education via mobile devices and the Internet, Interactive Mobile and Computer Aided Learning IMCL2008 Oman Princess Sumaya University 4 / 2007
24. Sixth Conference of interactive education via mobile devices and the Internet, Interactive Mobile and Computer Aided Learning IMCL2008 Oman Princess Sumaya University 4 / 2009
25. Conference The 5th International Conference on Innovations in Information Technology Al Ain UAE 16-18/12/2008
26. The networks of scientific research "The role of e-research environment in the promotion and development of scientific research and education," University of Jordan, Amman, 2008

27. Participate in specialized session in the field of information, which was held in the city of Sharm el-Sheikh/Egypt (on 2009)
28. Cisco to participate in the conference in the Arab Republic of Egypt in 2009.
29. Participate in a workshop entitled the great ideas in the seeds of success and organized by the Microsoft Innovation Center in 2009.
30. Member of the Preparatory Committee for the green energy during the period 26-28/5/2009 in 2009.
31. The decision of the committee to organize an exhibition of electronic creativity in the Hashemite University in 2008.
32. Participate in the symposium held by the specialist at the University of Jordan on the subject of high-speed computer systems in 2008.
33. Participate in the Third International Conference on the topic of e-learning, which was held in the Princess Sumaya University of Technology during the period 16-18/4/2008.
34. Microsoft to participate in the exhibition in the city of Dubai, UAE 2008.
35. Participate in periodic conference specializing in e-learning, held at Princess Sumaya University of Technology 2008.

**Volunteer/Official
experience**

1. Member of the Council of the League 2008/2009.
2. Member of the Board of the Faculty of Engineering, and since 2005/2006 so far.
3. Member of the Commission for Coordination with the Advisory Office of the complex medical colleges 2009.
4. Member of the Committee for the preparation of an agreement with Alhmok HITECHNO for the purchase of a portable computer in 2009.
5. A member of a committee to study the proposed agreement between the University / Center for e-learning and the British Academy e-Learning in 2009.
6. Member of the Committee for the modernization and development of information on the website of the University in 2009.
7. Member of the Committee to identify and discuss the university charges the university budget, final accounts in 2009.
8. The decision of the Commission to study the tender No. 34/2008 on the supply and installation of a wireless computer network in 2008.
9. Decision to study the tender No. 30/2008 on the purchase of software licenses and support for Oracle servers and President in 2008.
10. The decision of the Commission to examine and prepare the footprint for the organization of the students enter through the gates of the university in 2008.
11. The decision of the Commission to study the matter of installing (UPS) in the university and the specifications in 2008.
12. Council member of the Hashemite University for the current year 2008/2009.
13. A member of the committee to examine applicants for the post of Laboratory Technician 2008.
14. Member of the Commission to negotiate with the companies submitted a tender No. 34/2008 for the supply and installation and operation of the wireless computer network in 2008.
15. The decision of the Commission to study the tender 30/2008 in order to secure the quote from the representative of the United technological solutions Oracle in 2008.
16. The decision of the Commission to study the tender No. 36/2008 on the purchase of software licenses and support for Oracle servers and President 2008.
17. The decision of the Commission to negotiate with Royal Jordanian to lease a draft Convention on the site within the campus, 2008.
18. Member of the Committee on the disclosure and receipt of the communication and the Internet to the building of the Faculty of Medicine in 2008.
19. Member of the Committee on receipt of a medical college in the tender 9 / 2005 2008.
20. Member of the Board of the Center for e-learning at the university in 2008.
21. Member of the Board of the Center for Academic Quality Assurance in 2008.
22. Member of the Council of the status of languages in the university in 2008
23. A member of the standing committee to study the memoranda of understanding

- with some private companies and the status of e-learning in 2007.
24. A member of a committee to study the report prepared by Dr. Ahmed advocate to take advantage of the support of the United Nations Development Fund for Women for the industry-processing laboratory in 2007.
 25. A member of the Committee to consider the content of paragraph (g) of Article (35) instructions from the faculty members in 2007.
 26. Council member of the Computer Center in 2007.
 27. A member of a committee to study the specifications of the various bids before being submitted to the Central Tenders Committee in 2007.
 28. A member of a committee to study the names of the functional status of e-learning and the exchange rate of a financial reward for these titles in 2007.
 29. Decision of the Commission to examine the write-off of computers, printers and bounced changed in favor of the supplies in 2007.
 30. A member of a committee to study the issue of automation of assessment of the effectiveness of the learning process in 2007.
 31. Member of the Committee for the preparation and coordination of academic proficiency test in 2007.
 32. A member of the Committee to ascertain the mechanism and the health of the computer system on the health status in 2007.
 33. A member of a committee to study the subject of maturity of the company Edutec™ a recent claim of the company in 2007.
 34. A member of a committee to study the issue of power outages at the University 2006.
 35. A member of the committee to look into the memorandum of understanding signed between the university and the project management operation of community colleges in the Kingdom of Saudi Arabia in 2006.
 36. Committee for the academic guidance of students.
 37. Committee for the receipt of a medical college.
 38. The Commission of receipt of the wing of a College of Medicine.
 39. Regulatory Commission and receive the guests and students on scientific fifth.
 40. Committee for the formation of the Center to ensure academic quality.
 41. Efficiency of the Committee in the Faculty of Engineering.
 42. Commission on the strategic plan.
 43. A committee to study the report advocates for Women's Development Fund for the processing of the industry free of charge and open the Cisco Academy in the Hashemite University.
 44. Supervisory Committee for the building of the Faculty of Medicine.
 45. Member of the Technical Committee of the Conference on Telecommunications 2005 Maui, Hawaii. USA 13-16/1/2005

Major Projects

1. Building and enhancing IT infrastructure, the Hashemite University, Zarka, Jordan.
2. Building Wireless Campus, the Hashemite University, Zarka Jordan.
3. Establishing computer engineering program, the Hashemite University, Zarka Jordan.
4. Establishing e-learning center, the Hashemite University, Zarka Jordan.
5. Initiate "Towards e-campus", the Hashemite University, Zarka Jordan, which demands to minimize paper work gradually reaching to paper-free campus by end of 2008.

Courses Taught

1. Operating Systems
2. Computer Organization
3. Computer Architecture
4. Neural Computing
5. Data Communications
6. Computer Networks

7. Modeling and Simulation
8. Microprocessors and Microsystems
9. Wireless Networks
11. Logic Design
12. Mobile Computing (Graduate level)

Research Interests

- Wireless Networking and Mobile Computing
- Internet QoS
- Performance Evaluation
- Network Security
- E-learning

References

Available Upon Request.