

MARWAN ABU-AMARA

EDUCATION

1992 - 1995	Texas A&M University	College Station, Texas, USA
<i>Doctor of Philosophy, Electrical and Computer Engineering</i>		
1989 - 1991	Texas A&M University	College Station, Texas, USA
<i>Master of Science, Electrical and Computer Engineering</i>		
1984 - 1989	Kuwait University	Kuwait City, Kuwait
<i>Bachelor of Science, Computer Engineering (Honor's List)</i>		

ACADEMIC EXPERIENCE

2003 - Present	King Fahd University of Petroleum & Minerals	Dhahran, KSA
<i>Associate Professor, Computer Engineering Department</i>		
▪ <i>Courses taught:</i> Network Security (graduate course), Network Management (graduate course), Computer Network Design (graduate course), Computer Networks (graduate course), Computer and Network Security (undergraduate course), Internetwork Design and Management (undergraduate course), Computer Networks (undergraduate course), Data and Computer Communications (undergraduate course), Computer Architecture (undergraduate course), and Digital Logic (undergraduate course).		
1992 - 1995	Texas A&M University	College Station, Texas, USA
<i>Lecturer, Electrical Engineering Department</i>		
▪ <i>Courses taught:</i> Digital Logic (undergraduate course), and Electronics (undergraduate course).		
1991 - 1992	Texas A&M University	College Station, Texas, USA
<i>Teaching Assistant, Electrical Engineering Department</i>		

PROFESSIONAL EXPERIENCE

1998 – 2003	Nortel Networks	Richardson, Texas, USA
<i>Senior Technical Advisor, Wireless Network Engineering</i>		
▪ Design, plan, and optimize wireless data & voice networks.		
▪ Successfully designed and deployed several wireless data & voice systems for commercial customers.		
▪ Conducted several workshops related to wireless data & voice network designing, planning, and optimization.		
1995 - 1997	Nortel Networks	Richardson, Texas, USA
<i>Wireless CDMA System Design Architect</i>		
▪ Designed the wireless CDMA inter-system soft handoff feature and generated two patents.		
▪ Authored guidelines for provisioning wireless data & voice networks.		
▪ Primed performance monitoring for customer's wireless data & voice networks.		

PATENTS

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1. M. Abu-Amara, F. Abdulhameed, F. Azzedin, A. Mahmoud, and M. Sqalli, "Dynamic Round-Robin Peer-to-Peer (P2P) Domain Name System (DNS)," *US Patent # 8,612,618* (also published as US20130111049), 2013.
 2. M. Abu-Amara, "Reducing the Rate of Registration in CDMA-based Mobile Networks," *US Patent # 7,769,380*, 2010.
 3. M. Abu-Amara, S. Sides, A. Jalali, J. Boppana, S. Doctor, "CDMA Inter-Mobile Switching Center Soft Hand-Off," *US Patent # 6,173,183*, 2001, *US Patent # 5,930,714*, 1999, *European Patent Office # WO/1998/018282*, 1998.

PUBLICATIONS (Journals)

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1. S. Alsowail, M. Sqalli, M. Abu-Amara, Z. Baig, and K. Salah, "Experimental Evaluation of the Effectiveness of EDoS-Shield Mitigation," *Arabian Journal for Science and Engineering (AJSE)*, January 2016, Accepted.
 2. M. Abu-Amara, "A Combined Solution for the Internet Access Denial Caused by Malicious ISPs," *Journal of Security and Communication Networks (SCN)*, John Wiley, Volume 7, Issue 11, pp. 2078–2095, October 2014.
 3. M. Sqalli, S. Firdous, K. Salah, and M. Abu-Amara, "Classifying Malicious Activities in Honeynets using Entropy and Volume-based Thresholds," *Journal of Security and Communication Networks (SCN)*, John Wiley, Volume 6, Issue 5, pp. 567–583, May 2013.

4. M. Abu-Amara, A. Al-Baiz, A. Mahmoud, M. Sqalli, and F. Azzedin, "A Scalable NAT-Based Solution to Internet Access Denial by Higher-tier ISPs," **Journal of Security and Communication Networks (SCN)**, John Wiley, Volume 6, Issue 2, pp. 194–209, February 2013.
5. A. Mahmoud, A. Alrefai, M. Abu-Amara, M. Sqalli, and F. Azzedin, "Qualitative analysis of methods for circumventing malicious ISP blocking," **Arabian Journal for Science and Engineering (AJSE)**, Volume 37, Issue 7, pp 1911-1928, October 2012.
6. S. Mahmoud and M. Abu-Amara, "Recognition of Handwritten Arabic (Indian) Numerals Using Radon and Fourier Transforms," **WSEAS Transactions on Computers**, Volume 9, Issue 3, March 2010.
7. T. Sheltami, A. Mahmoud, M. Abu-Amara, "An Ad hoc Wireless Sensor Network for Telemedicine Applications," **Arabian Journal for Science and Engineering (AJSE)**, Volume 32, No. 1B, pp. 131-143, April 2007.
8. T. Sheltami, A. Mahmoud, M. Abu-Amara, "Telecare Monitoring System Based on Wireless Sensor Network," **International Journal of Computer Science and Network Security**, Vol. 5, No. 12, pp. 66-74, December 2005.
9. H. Sayeed, M. Abu-Amara, H. Abu-Amara, "Optimal Asynchronous Agreement and Leader Election Algorithm for Complete Networks with Byzantine Faulty Links," **Distributed Computing**, Vol. 9, Issue 3, pp. 147-156, 1995.
10. S. Sarwar and M. Abu-Amara, "Functional Languages: A Performance Study," **Journal of Systems and Software**, Volume 20, Number 2, pp. 163-167, February 1993.

PUBLICATIONS (Conferences)

1. A. Al-Ghadhban, A. Mahmoud, M. Abu-Amara, F. Azzedin, and M. Sqalli, "Interdomain Traffic Engineering Techniques to Overcome Undesirable Connectivity Incidents," Proceedings of the 11th IFIP International Conference on Network and Parallel Computing (NPC), pp. 618-622, Ilan, Taiwan, September 18-20, 2014.
2. A. Al-Ghadhban, M. Abu-Amara, "Prototyping and Evaluating a Tunnel-Based Solution to Circumvent Malicious IISP Blocking," Proceedings of the 2012 International Conference on Communications and Information Technology (ICCIT), pp. 286-290, Hammamet, June 26-28, 2012.
3. A. Al-Ghadhban, A. Mahmoud, M. Abu-Amara, F. Azzedin, and M. Sqalli, "Prototyping and Evaluating BGP-Based Solutions to Overcome Malicious IISP Blocking," The 2nd International Conference on Networking and Information Technology, pp. 134-143, Hong Kong, November 25-27, 2011.
4. M. Abu-Amara, M. Asif, M. Sqalli, A. Mahmoud, and F. Azzedin, "Resilient Internet Access Using Tunnel-Based Solution for Malicious ISP Blocking," The 3rd IEEE International Conference on Communication Software and Networks, pp. 85-89, Xi'an, China, May 27-29, 2011.
5. M. Abu-Amara, F. Azzedin, F. Abdulhameed, A. Mahmoud, and M. Sqalli, "Dynamic Peer-to-Peer (P2P) Solution to Counter Malicious Higher Domain Name System (DNS) Nameservers," The 24th Canadian Conference on Electrical and Computer Engineering, pp. 001014-001018, Niagara Falls, Ontario, Canada, May 8-11, 2011.
6. A. Al-Baiz, M. Abu-Amara, A. Mahmoud, M. Sqalli, and F. Azzedin, "Internet Access Denial by Higher-tier ISPs: A NAT-Based Solution," The 24th Canadian Conference on Electrical and Computer Engineering, pp. 001004-001008, Niagara Falls, Ontario, Canada, May 8-11, 2011.
7. M. Sqalli, S. Firdous, K. Salah, and M. Abu-Amara, "Identifying Network Traffic Features Suitable for HoneyNet Data Analysis," The 24th Canadian Conference on Electrical and Computer Engineering, pp. 001044-001048, Niagara Falls, Ontario, Canada, May 8-11, 2011.
8. M. Asif and M. Abu-Amara, "Resilient Internet Access for KSA using Tunnel-Based Solution," Second Scientific Conference for Graduate and Undergraduate Students, Jeddah, Kingdom of Saudi Arabia, 28-31 March, 2011.
9. A. Mahmoud, A. Al-Helali, M. Abu-Amara, T. Al-Kharobi, T. Sheltami, "Comparative Performance Study for Integrated 3G/WLAN Networks Using Mobile IP, SIP, and m-SCTP Protocols," 2010 IEEE 71st Vehicular Technology Conference (VTC 2010-Spring), pp.1-5, May 2010.
10. F. Abdulhameed and M. Abu-Amara, "Dynamic Round-Robin P2P DNS to Improve Internet Access Resiliency at KSA," First Scientific Conference for Graduate and Undergraduate Students, p. 96, Riyadh, March 2010.
11. S. Mahmoud and M. Abu-Amara, "Recognition of Handwritten Arabic (Indian) Numerals using Radon-Fourier-based Features," Proceedings of the 9th WSEAS International Conference on Signal Processing, Robotics and Automation, pp. 158-163, Cambridge, UK, February 2010.
12. M. Abu-Amara, A. Mahmoud, T. Sheltami, A. Al-Shahrani, K. Al-Otaibi, S.M. Rehman, T. Anwar, "Performance of UMTS/WLAN Integration at Hot-Spot Locations Using OPNET," Proceedings of 4th IEEE-GCC Conference, 5 pages, Bahrain, November 11-14, 2007.
13. S. Asadullah, A. Mahmoud, M. Abu-Amara, T. Sheltami, "Vertical Handoff Characterization for SIP and mSCTP Based UMTS-WLAN Integration Solutions," Proceedings of 4th IEEE-GCC Conference, 5 pages, Bahrain, November 11-14, 2007.
14. T. Landolsi and M. Abu-Amara, "CDMA Access Channel Performance under Idle-Mode Ping-Pong Effect in Inter-MSC Handoffs," Proceedings of the 3rd International Symposium on Wireless Communication Systems (ISWCS), pp. 584-

586, Valencia, Spain, September 5–8, 2006.

15. M. Abu-Amara, S. Sait, Abdul Subhan, “*A Heuristics Based Approach for Cellular Mobile Network Planning*,” Proceedings of the 2006 International Wireless Communications & Mobile Computing Conference, p. 79, Vancouver, Canada, July 3–6, 2006.
16. A. Mahmoud, M. Abu-Amara, T. Sheltami, E. Rahman, J. Jaffar, “*WLAN Integration For Future Generation Mobile Network Operators – A Case Study*,” Proceedings of 18th National Computer Conference (NCC 18), pp. 47-54, Riyadh - Saudi Arabia, March 26-29, 2006.
17. T. Sheltami, A. Mahmoud, M. Abu-Amara, “*Warning and Monitoring System using Sensor Networks*,” Proceedings of 18th National Computer Conference (NCC 18), pp. 63-68, Riyadh - Saudi Arabia, March 26-29, 2006.
18. A. Mahmoud, T. Sheltami, M. Abu-Amara, “*Wireless Sensor Network Implementation for Mobile Patient*,” Proceedings of 3rd IEEE-GCC Conference, Bahrain, March 19-22, 2006.
19. A. Mahmoud and M. Abu-Amara, “*Performance of Inter-Base Station Soft Handoff for 3G CDMA Networks*,” Proceeding of the 1st International Conference on Modeling, Simulation and Applied Optimization, Sharjah, UAE, February 2005.
20. M. Abu-Amara, “*Minimum Traffic Inter-BS SHO Boundary Selection Algorithm for CDMA-Based Wireless Networks*,” Proceedings of the 2004 IEEE Radio and Wireless Conference, pp. 51-53, Atlanta, Georgia, September 2004.
21. M. Abu-Amara, “*Asynchronous Failure Location Algorithm for Fiber-Optic Networks*,” Proceedings of the Seventh IEEE Symposium of Parallel and Distributed Processing, pp. 690-693, San Antonio, Texas, October, 1995.
22. H. Sayeed, M. Abu-Amara, H. Abu-Amara, “*Asynchronous Agreement and Leader Election Algorithms for General Networks with Byzantine Faulty Links*,” Proceedings of the ISCA Eighth International Conference on Parallel and Distributed Computing Systems, pp. 177-182, Orlando, Florida, September, 1995.
23. H. Sayeed, M. Abu-Amara, H. Abu-Amara, “*Optimal Asynchronous Agreement Algorithm for Complete Networks with Byzantine Links*,” Proceedings of the ISCA/IEEE Seventh International Conference on Parallel and Distributed Computing Systems, pp. 593-596, Las Vegas, Nevada, October, 1994.
24. M. Abu-Amara and H. Abu-Amara, “*Locating Switching Faults In General Synchronous Fiber-Optic Networks*,” Proceedings of the ISCA/IEEE Seventh International Conference on Parallel and Distributed Computing Systems, pp. 761-766, Las Vegas, Nevada, October, 1994.

M.Sc. THESES/Ph.D. DISSERTATIONS (Summary)

1. Supervised/Co-supervised (8) M.Sc. students. Currently, supervising (2) M.Sc. students and (1) PhD. student.
2. Member of (4) Ph.D. committees, and (10) M.Sc. committees.

FUNDED PROJECTS

1. *Modeling and Mitigation of Economic Denial of Sustainability (EDoS) Attacks in Cloud Computing*, The 4th Cycle of the National Plan for Science, Technology & Innovation (NSTIP), **CO-I**, 2012 – 2014, **Completed**.
2. *Internet Access Denial by International Internet Service Providers: Analysis and Counter Measures*, The 1st Cycle of the National Plan for Science, Technology & Innovation (NSTIP), **PI**, 2009 – 2011, **Completed**.
3. *Saudi HoneyNet Project*, The 1st Cycle of the National Plan for Science, Technology & Innovation (NSTIP), **CO-I**, 2009 – 2011, **Completed**.
4. *WiMAX Subchannel Scheduling and Capacity Characterization*, Saudi Telecom Company (STC), December 2007 – December 2008, **Completed**.

AWARDS

- University Award for the category of Patents, 2010-2011, and 2013-2014, *KFUPM*
- CCSE Award of Merit for the category of Distinguished Innovation Project, 2006, *KFUPM*
- President and CEO’s Top Talent Award, 2000 and 2001, *Nortel Networks*
- Circle of Excellence - Sales Support Award, 1999, *Nortel Networks*
- Wireless Networks President’s Award of Excellence in Technology, 1998, *Nortel Networks*
- Award of Merit - CDMA Product Positioning, 1998, *Nortel Networks*

REFERENCES

Available upon request