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Education:

- University of Alabama–Huntsville (UAH), USA. Ph.D. in Computer Engineering-Wireless Networks, 2006.
 - Dissertation title: ***Secure Routing with Key Pre-Distribution Using MDS Codes in Mobile Ad Hoc Networks***
- University of Alabama–Huntsville (UAH), USA. Master degree of computer engineering, May 2003.
 - Thesis Title: ***Performance Study for Route Maintenance in Wireless Ad Hoc Networks.***
- B.Sc. in Electrical Engineering, Jordan University of Science and Technology (JUST), Jordan, June 2000.

Professional Experiences:

- Associate Professor, Network Engineering and Security Department , JUST-Jordan
- Assistant Professor, Network Engineering and Security Department , JUST-Jordan
- Assistant Professor, Computer Engineering Department , JUST-Jordan
- Graduate Research Assistant at ECE, UAH
- Graduate Teaching Assistant at ECE, UAH.
- Network administrator in Wireless Networks Lab, UAH:
 - UNIX, Linux and windows servers' administration to insure reliability, availability and security.
 - Clients' administration and monitoring.
- Teaching and Research Assistant at Jordan University of Science and Technology.
- Teaching experience in the following courses:
 - Computer Interfacing Lab.
 - Digital Design Lab.
 - Computer Networks.
 - Network Security
 - C/C++ Programming.
 - MATLAB programming.
 - Microprocessor and Assembly Language.
 - UNIX Administration.
 - Wireless Network.
 - Wireless Networks Security.
 - Wireless Network Protocols.
 - Operating Systems.
 - Simulation and Modeling
 - Probability and Random Variables
 - Advanced Computer Networks
- Network Administrator at Hashemite University, Jordan, includes:
 - Supervision of the network and keep it fully functional.
 - Updating the Website information and data.
 - Installing new hardware and equipment.
 - Network security and monitoring.

Current Research Projects

Network coding: Network coding is a technique that can be used to improve the network's throughput, efficiency and scalability. In this technique, the nodes of a network take several packets and combine them together for transmission. This can be used to attain the maximum possible information flow in a network.

Handover in cellular 4G: the coexistence of femtocell/macrocell in cellular network impose the problem of unnecessary handover between them to ascertain the connection stability. We will utilize mobile node attributes to choose the best and minimum number of handovers.

IoT: the coexistence of femtocell/macrocell in cellular network impose the problem of unnecessary handover between them to ascertain the connection stability. We will utilize mobile node attributes to choose the best and minimum number of handovers.

SDN: the coexistence of femtocell/macrocell in cellular network impose the problem of unnecessary handover between them to ascertain the connection stability. We will utilize mobile node attributes to choose the best and minimum number of handovers.

Security in 5G: the coexistence of femtocell/macrocell in cellular network impose the problem of unnecessary handover between them to ascertain the connection stability. We will utilize mobile node attributes to choose the best and minimum number of handovers.

Cognitive Radio Networks (CRN): the coexistence of femtocell/macrocell in cellular network impose the problem of unnecessary handover between them to ascertain the connection stability. We will utilize mobile node attributes to choose the best and minimum number of handovers.

Supervisor: Completed Graduate Students

- 1- Ahmad J. Qdaimat, Graduated in 2010
Thesis title: **Dynamic Addressing for Mobile Ad Hoc networks**
- 2- Farah M. Alsalami, Graduated in 2011
Thesis title: **Throuput-Oriented MAC Protocol with Adaptive Power Management in Multi-Channel Multi-Radio Wireless Networks**
- 3- Muath A. Wahdan , Graduated in 2012
Thesis title: **Energy Efficient Adaptive Prediction-Based Algorithm for Target Tracking in Wireless Sensor**
- 4- Turki S. Alrashidim Graduated in 2012
Thesis title: **Minimizing the power consumption of Wireless Sensor Network using spatial correlation.**
- 5- Emad S. Nawafa, Graduated in 2012
Thesis title: **Optimum Number of Active Sensors for Efficient Power and Area Coverage in Wireless Sensor Networks**
- 6- Rami R. Bani Hani, Graduated in 2014
Thesis title: **Conflict Based Matrix Optimization for Network Coding Enhancement**

7- Zaid A. Alomari, Graduated in 2013

Thesis title : **Charging and Rewarding Scheme for Trusted Nodes in Clustering Area in wireless networks**

8- Muawyah M. Alhulayil, Graduated in 2014

Thesis title: **Performance Analysis of Cognitive Amplify-and-Forward Relaying with Best Relay Selection**

9- Belal A. Alshuaib, Graduated in 2014

Thesis title: **NBEB and DCWI Techniques for Improving Fairness in Wireless Ad Hoc networks**

10- Salem B. Issou, Graduated in 2015

Thesis title: **Cross Layer Based Intrusion Detection System for Securing Wireless Adhoc Networks from Black Hole Attack**

11- Abdulmoghni Y. Hamza, Graduated in 2016

Thesis title: **Energy Efficient Clustering and Cluster-head Election Using Fuzzy Logic for Wireless Sensor Networks**

Supervisor: Current Graduate Students

1- Esraa Alasem,

Thesis theme : **under water acoustic sensor networks**

2- Huthifa Alrashdan,

Thesis theme : **SDN security**

Graduate Students Thesis Committee :

1- Shereen S. Ismail, The University of Jordan 2012

Thesis title: **Efficient Techniques for Mobile Target Tracking in Wireless Sensor Networks**

2- Yahya A. Yahya, JUST 2013

Thesis title: **On the Use of Transmission Control Protocol for Transporting Power Grid Synchrophasor Measurements**

3- Wijdan Y. Albitoosh, The University of Jordan 2016

Thesis title: **Improved Clustering Algorithms for Target Tracking in Wireless Sensor Networks**

4- Saja M. Odetalla, The University of Jordan 2016

Thesis title: **Energy-Aware and Density-Based Clustering and Routing Algorithms for Gathering Data in Wireless Sensor Networks**

Professional Services

Invited Speaker :

- Jordan Europe Wide Enhanced Research Links in ICT (JEWEL), Amman, Jordan, 2011.
- The 16th IEEE Mediterranean Electrotechnical conference (MELECON 2012), Hammamet, Tunisia.

Program Committee Member:

- The 5th International Conference on Communications, Computers and Applications (MIC-CCA2012)
- IEEE 11th International Multi Conference on Systems, Signals & Devices, SSD 2014
- The International Conference on Information and Communication Systems, ICICS.

Peer Review:

Journal Articles:

- Elsevier Computer Networks Journal.
- The International Journal of Computer and Telecommunications Networking
- Journal of Communication and Networks
- Ad Hoc & Sensor Wireless Networks Journal.
- Wireless Network Journal, Wiley
- Journal of King Saud University.

Selected Publications

- **Mohammad M. Shurman**, Mamoun F. Al-Mistarihi, Moawiah M. Alhulayil, "Performance analysis of amplify-and-forward cognitive relay networks with interference power constraints over Nakagami-m fading channels", IET Journal of communication, 2016.
- **Mohammad Shurman**, Bilal Al-Shua'b, "N-BEB: New Binary Exponential Back-off Algorithm for IEEE 802.11", accepted for publication in Elsevier computer networks Journal, 2015.
- **Mohammad Shurman**, Mamoun F. Al-Mistarihi, Moawiah M. Alhulayil, "Outage probability of dual-hop amplify-and-forward cognitive relay networks under interference power constraints over Nakagami-m fading channels", MIPRO 2015.
- **Mohammad Shurman**, Zaid Alomari, Khaldoon Mhaidat, "An Efficient Billing Scheme for Trusted Nodes Using Fuzzy Logic in Wireless Sensor Networks," Wireless Engineering and Technology, vol. 5, no. 3, 2014
- **Mohammad M. Shurman**, Noor Awad, Mamoun F. Al-Mistarihi, Khalid A. Darabkh, "LEACH Enhancements for Wireless Sensor Networks Based on Energy Model, SSD 2014.
- Mamoun F. AlMistarihi, Rami Mohaisen, Ashraf Sharaqa, **Mohammad AlShurman**, and Khald A. Darabkh, "Performance evaluation of multiuser diversity in multiuser two hop cooperative multi-relay wireless networks using maximal ratio combining over Rayleigh fading channels", International Journal of Communication systems, 2013.
- **Mohammad M. Al-Shurman**, Mamoun F. Al-Mistarihi, Shehab Nasser, "Hard Handover Optimization in Mobile WiMAX Networks", 5th International Conference on Communications, Computers and Applications (MIC-CCA 2012), Istanbul, Turkey, Oct. 2012.

- Khalid A.Darabkh, Shereen S. Ismail, **Mohammad Al-Shurman**, Iyad F.Jafar, Eman Alkhader, Mamoun F.Al-Mistarihi, "Performance evaluation of selective and adaptive heads clustering algorithms over wireless sensor networks," Journal of Network and Computer Applications, vol. 35, no. 6, November 2012.
- **Mohammad M. Al-Shurman**, Mamoun F. Al-Mistarihi, Salah Harb, "An Energy-Efficient Coverage Aware Clustering Mechanism for Wireless Sensor Networks",5th International Conference on Communications, Computers and Applications (MIC-CCA 2012), Istanbul, Turkey, Oct. 2012.
- Mamoun F. Al-Mistarihi, **Mohammad Al-Shurman**, Ahmad Qudaimat: "Tree based dynamic address autoconfiguration in mobile ad hoc networks," Journal of Computer Networks, vol. 55, No. 8: 2011.
- **M. Al-shurman**, M. Mistarihi, A. Qdaimat,"Network Address Assignment in Mobile Ad-Hoc Networks", ICUMT 2010, Moscow 2010.
- **Mohammad Al-Shurman**, Seong-Moo Yoo, Bonam Kim, "Distributive Key Management for Mobile Ad Hoc Networks", MUE 2008: pp. 533-536, 2008.
- **M. Al-Shurman**, S. M. Yoo, and S. Park, "A Performance Simulation for Route Maintenance in Wireless Ad Hoc Networks", ACM 42nd Southeast Conference (ACMSE 04), Huntsville, Alabama, pp. 25-30, April 2004.
- **M. Al-Shurman**, S. M. Yoo, and S. Park, "Black Hole Attack in Wireless Ad Hoc Networks", ACM 42nd Southeast Conference (ACMSE 04), Huntsville, Alabama, April 2004
- S. Park, S.M. Yoo, **M. Al-Shurman**, B. VanVoorst, and C.H. Jo, "ARM: Anticipated Route Maintenance Scheme in Location-Aided Mobile Ad Hoc Networks", Journal of Communications and Networks, vol. 7, no. 3, pp. 325-336, Sep. 2005.
- **M. Al-Shurman**, S.-M. Yoo, and Y. Kanamori, "Decreasing Broadcast in Route Discovery Using Vectors", ACM 43rd Southeast Conference (ACMSE-05), Atlanta, March 2005.
- **M. Al-Shurman** and S.-M. Yoo, "Key Pre-Distribution Using MDS Codes in Mobile Ad Hoc Networks", International Conf. on Information Technology: Next Generations (ITNG 2006), Las Vegas, Nevada, April 2006.
- Y. Kanamori, S.-M. Yoo, and **M. Al-Shurman**, "A Quantum No-Key Protocol for Secure Communication", ACM 43rd Southeast Conference (ACMSE-05), Atlanta, March 2005

References

- Available upon request