Dr. Abdullah AL-Hasanat
Associate Professor
Permanent Address: **University of Al-Hussien Bin Talal – Jordan**
Faculty of Engineering, Department of Computer Engineering
P.O. Box 20
Tel: +96232179000, Ext. 7523
Mobile : +96 2 772008918.
University E-mail: *abad@ahu.edu.jo*
Personal E-mail: *abdullahhasanat@yahoo.com*

Current Address: **University of Nizwa – Oman**
Faculty of Engineering and Architecture, Department of Electrical and Computer Engineering
Tel: **00968 25446274** , ext: **637**
Mobile: 00968 90698237
E-mail: a.ismail@unizwa.edu.om

Educations \ Qualifications

- *Oct. 2008 – Aug. 2012* **PhD degree in Computer Engineering**,

  School of Electrical and Electronic Engineering/Newcastle University, UK.

- *Sept. 2005 – Oct. 2007* **MSc Degree in Computer Engineering**,

  Department of Computer Engineering/Jordan University of Science and Technology (JUST), Jordan.

- *1999 – 2004* **BSc Degree in Computer Engineering**,

  Faculty of Engineering/University of Aden, Yemen.

Funding and Awards

- Academic exchange program (Jordan – ministry of higher education) for BSc in computer engineering Aden- Yemen.
- Al-Hussein Bin Talal University/Jordan Full scholarship for PhD degree at Newcastle University, UK, Oct-2008.
- Faculty-for-Factory (FFF) program for the project titled "Autonomous Vehicle Driving System", Ministry of Higher Education, Jordan, 2018. FFF a joint program between academic sector (Alhussein Bin Talal University) and private sector (Bahbish Cooperation).
- Principle Investigator for "An Automotive Vehicular Inspection System using Thermal Imaging Technology. The Academic scientific research/Jordan for a funding of 68,000 JD, Aug. 2019.
- Erasmus+ project, Exchange program at Staffordshire University, UK, 2019.
- Oman TRC Furap fund for the project entitled "*i*-survival" which is an IoT data collection system on assembly points. Oman Research Council, 2000 OMR (= 3800 JD), Oct. 2020.

Conference Papers

1. **A. Alhasant**, M. Al-Khassaweneh and A. Twaisi "*A New Partitioning-Based Data Gathering Algorithm for Path-Constrained Mobile Elements in Wireless Sensor Networks*," the second IEEE Jordan conference on Applied Electrical Engineering and Computing Technologies AEECT**2013, 3-5 December 2013, Amman/Jordan, p.p 1-5.**

2. **A. Alhasant**, B. Sharif, C. Tsimenidis and J. Neasham, "*Low ComplexityLeast-Square Estimator for RSS-based Localization in Wireless Sensor Networks*," the Second International Conference on Communication and Information Technology (ICCIT), **June, 2012, p.p. 331 – 335.**

3. **A. Alhasant**, B. Sharif, C. Tsimenidis and S. Boussakta, " *Direction of estimation approach for collaborative localization in wireless sensor networks*," the IEEE International Symposium on Signal Processing and Information Technology

(ISSPIT), **2009, p.p. 513 - 518.**

4.Saud Al-thnibat, Mohanned Alhasanat, **Abdullah Alhasanat**, "*To handover or not to handover (as a secondary user): An energy efficiency perspective*" Computer Aided Modeling and Design of Communication Links and Networks (CAMAD), **2017 IEEE 22nd International Workshop on. Pp. 1-6, 2017**.

5. Saud Al-thnibat, Mohanned Alhasanat, **Abdullah Alhasanat**, "*Hybrid Spatial Modulation Scheme with Arbitrary Number of Transmit Antennas*", Broadnets 2018, September 2018, Faro, Portugal.

Seminars

1- **Representing** Alhussein Bin Talal University in *The Scientific Research in Arab Countries*: **Challenges and Solutions**. Dead Sea, Jordan**, 18-19/3/2014.**

2- **Representing** Alhussein Bin Talal University in *The union of Arab Universities*: **Cairo-Egypt**.**April/2016.**

3- **The Fourth industrial revolution (the main speaker),** University of Nizwa, Oman, **18/10/2018**.

4- Attend a wide range of workshops through the PhD study at Newcastle University (2008-2012). Among of them (but not limited to), Teaching and learning in higher education (2 days), presentation, communication, management and time skills (each of which is one day workshop), academic writing, scientific research methodologies (one day), etc.

5- **Representing Nizwa University** in the "The national seminar on Oman vision 2020-2040 for scientific research and Development", Muscat, 15/12/2019.

6- **Invited speaker** at the International Conference on Communication, Electronics and Network, 24-36 Oct. 2020**. Speech : "Opportunistic Mobile Networks"**

Journal Papers

2020

1- **Alhasanat Abdullah**, Saud Althnaibat, Mohanad Alhasanat, Moath Alsafasfeh, "*Index Modulation Based Decision Gathering Schemes for Wireless Sensor Networks*" in **Transaction on Emerging Telecommunication Technologies**, submitted 2020.

2- **Alhasanat Abdullah**, Saud Althnaibat, Mohanad Alhasanat, Moath Alsafasfeh, "An Efficient Index-Modulation Based Data Gathering Scheme for Wireless Sensor Networks" submitted to IEEE communication letters.

2019

3- **Alhasanat Abdullah**, Alhasanat Khaled, Ahmed Maamoun , "*Data Collection Algorithm for Wireless Sensor Networks using Collaborative Mobile Elements*" in the International Journal of Electrical and Computer Engineering (IJECE), Q2 Scopus indexed, 2019

2018

4- **Abdullah Alhasanat**, Mohanned Alhasnat, Saud Al-thnibat ' *Home-based Social Routing Algorithm for Delay Tolerant Networks*, **Journal of Wireless Networks,** Springer , 2018.

5- Mohanned Alhasnat, Saud Al-thnibat, **Abdullah Alhasanat**, Khalid Darabkeh; Moath Alsafasfeh,"*A Physical-Layer Key Distribution Mechanism for IoT Networks*", Mobile Networks and Applications, Springer, 2018.

2017

1- Mohanned Alhasanat, Abdullah Alhasanat, Saud Al-thnibat '*Performance Evaluation of Selected E2E TCP Congestion Control Mechanism Over 4G Networks*. International Journal of Wireless & Mobile Networks (IJWMN) Vol. 9, No. 6, 71-79 December 2017.

2016

1. **Abdullah Alhasanat**, Abdelwadood Mesleh and Aws AL-Qaisi, Ahmed Sharadqh; W.L. Woo; S.S. Dlay *'' Blind Separation of Multicomponent Seismic Wavefield''*, Journal of King Saud University - Computer and Information SciencesVolume 29, Issue 1, January 2017, Pages 39-53(**Elsevier**), **2016**.

2- **A. Al-Hasanat**, B. Sharif, C. Tsimenidis and J. Neasham, " *Efficient RSS-Based Collaborative Localisation in Wireless Sensor Networks*," International journal of Sensor Networks IJSNET, Vol 22, No. 1, **2016**. (**InderScience ISI IF 1.38**)

3- Aws Al-Qaisi, **A. I. Alhasanat**, Abdelwadood Mesleh, B. S. Sharif, C. C. Tsimenidis, J. A. Neasham, "Quantized lower bounds on grid-based localization algorithm for wireless sensor networks", annals in Telecommunication, Springer, 71, 239-249, 2016

2015

1. **Abdullah Alhasanat** Ahmad Alhasanat, Khitam Alatoun, and Aws Al-Qaisi," *Data Gathering in Wireless Sensor Networks using the intermediate nodes''*, in the International Journal of Computer Networks and Communication(IJCC), **Vol.7, No.1, January 2015, p.p. 113-124**.

2. **Abdullah Alhasanat**, K. Abdulkader and M. Ahmed, '' *Range-Based Data Collection with a Mobile Sink in wireless sensor networks''*, in International Journal of Wireless and Mobile Networks IJWMN **Volume7, Issue 6, December 2015**.

3. Haitham Alasha'ary, **Abdullah Al-Hasanat**, Khaled Matrouk and Ziad Al-Qadi *"Analysis and Optimization of PID Controller Parameters for a Second-Order Transfer Function"* the Middle-East Journal of Scientific Research, 23 (8): p.p. 1685-1691, **2015.**

2014

1. Khitam M. Alatoun, **Abdullah I. Alhasanat**, Khaled D. Matrouk, Mahmood Al-Khassaweneh and Ahmad A. Alhasanat, "*Nodes Splitting Algorithm for Data Gathering with Multiple Mobile Elements in Wireless Sensor Networks*",

European Journal of Scientific Research (EJSR), vol. **124(4) (September 2014), pp. 437-445.**

2. **Abdullah I. Alhasanat**, Khitam M. Alatoun, Khaled D. Matrouk, Mahmood Al-Khassaweneh and Ahmad A. Alhasanat, "*A Centroid Hierarchical Clustering Algorithm for Data Gathering in Wireless Sensor Networks*", European Journal of Scientific Research (EJSR), vol. **125(1) (September 2014)**, pp. 26-34.

3. Ahmad A. Twaissi, **Abdullah Alhasanat**, Muder Almi'ani and Khaled Almi'ani "*Path Planning Heuristic for Wireless Sensor Networks*", European Journal of Scientific Research (EJSR), vol. **125(1) (September 2014)**, **pp. 20-25.**

4- **Al-Hasanat**, A. I.; Matrouk, K. M.; Alasha'ary, H. A.; Alqadi, Z. A. "*Connectivity-Based Clustering Algorithm for Data Gathering with Path-Constrained Mobile Sink in Wireless Sensor Networks*". Wireless Sensor Network Journal (WSN), **6(6): 118-128 (June 2014)**.

5- Alasha'ary, H. A.;**Al-Hasanat, A. I.;** Matrouk, K. M.; Alqadi, Z. A.; Al-Shalabi, H. M. "*A Novel Digital Filter for Enhancing Dark Gray Images*". European Journal of Scientific Research (EJSR), **122(1): 99-106 (April 2014)**.

6- **Al-Hasanat, A. I.;**Alasha'ary, H. A.; Matrouk, K. M.; Alqadi, Z. A.; Al-Shalabi, H. M. "*Experimental Investigation of Training Algorithms Used in Backpropagation Artificial Neural Networks to Apply Curve Fitting*". European Journal of Scientific Research (EJSR), **121(4): 328-335 (April 2014)**.

7- Matrouk, K. M.; **Al-Hasanat, A. I.;**Alasha'ary, H. A.; Alqadi, Z. A.; Al-Shalabi, H. M. "*Analysis of Matrix Multiplication Computational Methods*". European Journal of Scientific Research (EJSR), **121(3): 258-266 (April 2014)**.

8- Matrouk, K. M.; Alasha'ary, H. A**.**; **Al-Hasanat, A. I**.; Alqadi, Z. A.; Al-Shalabi, H. M. "*Investigation and Analysis of ANN Parameters*". European Journal of Scientific Research (EJSR), **121(2): 217-225 (April 2014)**.

9- Matrouk, K. M.; **Al-Hasanat, A. I.;**Alasha'ary, H. A.; Alqadi, Z. A.; Al-Shalabi, H. M. "*Speech Fingerprint to Identify Isolated Word-Person*". World Applied Sciences Journal (WASJ), **31(10): 1767-1771 (May 2014)**.

10- **A. Al-Hasant**, B. Sharif, C. Tsimenidis and J. Neasham, " *Correlation-Based algorithm for RSS Localization in Wireless Sensor Networks*," Submitted to Computer Network Journal/ Elseiver, **2014**.

2013

1- Alasha'ary, H. A.; Matrouk, K. M.; **Al-Hasanat, A. I.;** Alqadi, Z. A.; Al-Shalabi, H. M. "*Improving Matrix Multiplication Using Parallel Computing*". International Journal on Information Technology (IREIT), **1(6): 346-349 (November 2013)**.

TEACHING EXPERIENCE

A- Postgraduate courses (for Master degree in computer networking)

1- Advanced computer Architecture, Advanced Wireless Networking, Advanced Computer Networking and Digital Image Processing.

2- Supervisor on the following master thesis

   a. "A Deep Machine Learning Model for Tourism Site Recognition in Jordan".

   "Career Guidance for High School Students in Oman Using Artificial Intelligence Techniques".

   b. "Automated Career Counseling Model for Omani High School Students using Fuzzy Logic"

B- Undergraduate courses (for bachelor degree in computer engineering)

1- Digital Image processing, Computer vision, Neural networks and fuzzy logic, Microcontroller and Embedded Systems, Mobile and Wireless Networks, Computer Simulation and Modelling, Computer Networks I and Computer Network II, Microprocessor and Assembly Language, Logic Circuit Design, Electric Circuits, Signals and Systems, Software System Design, Engineering Analysis and Special topics in computer engineering. **LABs:** Electric Circuits Lab, Computer Maintenance Lab, Assembly and microcontroller Lab and Logic Circuit Design Lab.

2. Supervisor for many undergraduate final year projects.

Working Experiences / academic

1- *Aug. 2018 – present* : Associate professor and Head of the department of electrical and computer engineering, University of Nizwa, Oman.

2- *April 2017 – Aug 2018*: Vice Dean of the Faculty of Engineering/ Alhussein Bin Talal University, Jordan.

3- *Oct. 2016 – Aug. 2018*: Chairman of computer engineering department/ Faculty of Engineering/ Alhussein Bin Talal University, Jordan.

4- Aug. 2013 – Sept. 2014: Dean Assistant for Administrational and laboratories affairs, Faculty of engineering, Alhussein Bin Talal University, Jordan.

5- Aug. 2012 – Aug. 2016: Assistant Professor, University of Alhussien Bin Talal/ Department of computer engineering.

6- *Aug. 2016 – Aug.2018*: Associate Professor, University of Alhussien Bin Talal/ Department of computer engineering.

7- Sept. 2014 – Aug 2018: IEEE-AHU branch counselor, University of Alhussien Bin Talal.

Working Experiences / Practical

1- **2010-2012**, Demonstrator (C++ for embedded system, sensor networks, Mplab software for CC2420 transceivers and Pixies) at School of Electrical, Electronics and /*- ComputerEngineering, Newcastle University, UK.

2- *Feb. 2006 - Sept. 2008*: Computer Maintenance Laboratory engineer.

Ministry of education

- Theoretical and practical lectures in computer maintenance and geometrical drawing. Computer assembly and reassembly.Writing Assembly language program for 8085, 8086 and 8088 , Microprocessors.

- Computer maintenance, hardware and software installation, computer assembly and reassembly, network setup and configuration.

3- *April. 2003 to April. 2004* worked as computer teacher in AdenSoft Center for Computer & Languages.

- Programming Languages (Turbo Pascal, C, C++, VBasic 6.0).

- Computer Networks Systems (Windows 2000 Advanced Server).

- Internet Techniques.

4- *June. 2003 to June. 2004* worked in Blue Horizon Center for Computer and Languages for Hardware, Software and Networks Maintenance.

- Installs and setup personal computer, printers for use in the networks.

- Installs computers components and peripherals such as drivers (floppy, Hard Disk and CD-ROM drive), Sound cards, VGA Cards, etc as required.
- Internet accessing setup for client\server and workgroup networks.

RESEARCH EXPERIENCE

- **Research Assistance**, University of Newcastle, UK, 2008-2012

  Thesis Title: *Received-Signal Strength (RSS) Localization for Wireless Sensor Networks.*

- Developed several techniques to obtain sensor locations based on RSS and correlation information.

- Implementation of the developed algorithms with ZIGBEE sensor networks in real world experiments.

- Designation and simulation of sensor networks using MATLAB and OPNET software.

- Developing MPLAB (C and assembly languages) software for different microcontrollers and embedded systems.

- Python programming for computer vision, Artificial Intelligence, deep machine learning.

- Raspberry, Aurdino and PIC microcontroller programming.

COMMUNITY SERVICE

- Reviewed many international conferences papers.

- Reviewer for IEEE Transaction on Vehicular Technology (IEEE TVT)

- Reviewer for the International Journal on Sensor Networks (IJSNET)

- Reviewer for the IEEE Transaction on Mobile Computing (IEEE TMC).

- Reviewer for the Wireless Network, WN springer.

- Reviewer for IEEE Networks.

- Session chair at the ICCIT 2012 conference.

- Chairman of the Human Development Resources Committee, University of Nizwa.

- Member of many community and university committees: Smart university (new campus), E-learning Task Forces, Curriculum , college and department board, OAAA accreditation and ABET and workshop committee.

- Member of **J**ordanian **E**ngineers **A**ssociation. (**JEA**)

- Professional Member of the Institute of Electrical and Electronic Engineering **(IEEE).**

- **IEEE Counselor** for IEEE student branch at AL-Hussein Bin Talal University.

- **Member of the university academic council,** Nizwa university, Oman.

Acknowledgments

- Implementing and Managing Microsoft Exchange server 2003 (Mailing System).

- Certificate of Networks Systems (Windows 2000 Advanced server).

- General Computer Certificate on following Courses: MS Windows, MS Office 2000 - 2007 Applications, Internet Applications.

- **I**nternational **C**omputer **D**riving **L**icense **(ICDL).**

Languages

- Arabic is the mother tongue

- Fluent English Language (Speaking, Reading & Writing).

References

Prof. Bayan Sharif	PhD supervisor (Head of school of electrical engineering, Newcastle University, UK), Now: Dean of the Faculty of Engineering/ Khalifa University, UEA. Tel.: +971 (02) 501 8534 Bayan.sharif@kustar.ac.ae
Prof. Omer Al-Khashman	Dean of the Faculty of Engineering/Al-hussien Bin Tala University, Jordan. Tel.: +962-3-2179000, Ext. 8500 omarkhashman@ahu.edu.jo
Prof. Hussein Abdu Alqader	Dean of the faculty of engineering and architecture. University of Nizwa, Oman. *Office: 00968 25446274 Ext. : 274* *Mobile : 0096898155765* *Fax : 00968 25446245*

	email : *h.alabdulqader@unizwa.edu.om*