

## CURRICULUM VITAE

### Personal Information

Name Saqer S. Alja' Afreh  
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Date, Place of Birth 21.11.1981, That ras  
Matrital Status Married



### Professional Background

08/11/2015 –Present **Associate Professor @ Electrical Engineering Dept, Mutah University**  
Duties:  

- Teaching undergraduate courses in the field of Electromagnetic; the courses are: Electromagnetic, Fields and Waves, Microwaves, Antennas and Wave propagations, Electric Circuits, Singals and Systems, Numerical Methods.
- Teaching graduate master courses: Cellular Communications Systems, Microwave Engineering.
- Supervision of Master students projects, most of them are on antennas design for wireless applications.

Website: [www.muah.edu.jo](http://www.muah.edu.jo)

16/09/2009 – 06/02/2012 **Lecturer @ Electrical Engineering Dept, Mutah University**  
Duties:  

- Two years experience teaching many courses like, Communication Circuits, Electric Circuits Analysis I, Digital Communications, Digital Signal Processing, Microprocessors, Electronics, Electronics II, Computer Applications in Electrical Engineering and Telephony Engineering.
- Undergraduate students' projects (especially, projects related to Digital Communications) like, " BCH Coded QAM over Fading Channels, Simulation of LMS, Equalized QAM, Simulation of FHSS BFSK Scheme, Design of Mobile Detector and Jammer, Real Time three Voice FDM SSB channels".

Website: [www.muah.edu.jo](http://www.muah.edu.jo)

06/02/2008 – 10/09/2009 **Telecom Engineer and Project Manager @ Northern Digital Telecom (NDT) Subcontractor Telecom Co.**  
Duties:  

- Installation Indoor and Outdoor GSM equipments (Huawei ) with OMNIAH expansion projects, like Huawei BTS 3012AE, 3012 and 3900 and BSC.
- Hhh Installation and Commissioning Mw equipments like NEC V.3 , V.4, NEO Pazolink. Hariss and RTN equipments.
- Managing Lebanon Projects for 4 months (Swap Project for MTC TOUCH and PTN Expansion Project for ALPHA Operator.

Website: [www.ndt.jo](http://www.ndt.jo)

## Academic Qualifications

- 02/2012 - 10/2015 **Phd. in Electrical Engineering (Wireless Communications)**  
**EE Department, University of Liverpool, United Kingdom.**  
Thesis: "MIMO Antennas for Mobile Phone Applications."
- 09/2004 - 02/2007 **M.Sc. in Communications Engineering.**  
**Electrical Engineering Department, Mutah University, Jordan.**  
Thesis: "Performance Analysis of Reed-Solomon Coded M-QAM over Fading Channels."  
Over all average: 92.56 %
- 09/1999 - 02/2004 **B.Sc. in Electrical Engineering (Communication Engineering).**  
**Electrical Engineering Department, Mutah University, Jordan.**  
Graduation Project: "Simulation Design for DSSS-BPSK Scheme."  
Over all average: 86.61 %

## Honors & Awards

- 29/01/2020-01/09/2020 One Semester Research Visit Grant supported by Mutah University to the University of Liverpool, United Kingdom.
- 07/2018 Three months guest visit grant from Deutsche Forschungsgeinschaft German Research Foundation (DFG) to Otto-von-Guericke-University Magdeburg. July 2018.
- 15/11/2016 Best Non-student paper prize (3rd place) in LAPC2016 Conference (14th-15th November 2016),
- 08/04/2014 Best PhD students Poster. University of Liverpool, 2014 (1st place):
- 2000-2007 Top MSc Graduate Student in Electrical Engineering Department. (2007)  
Top Student in Electrical Engineering Department between 2000-2004
- 01/09/2004 MSc Scholarship, Mutah University. Emaar Alkarak Foundation. Jordan.
- 02/2012 PhD Scholarship to University of Liverpool. Mutah University. Jordan.

## Skills & Knowledge

- Knowledge Microsoft Word, Microsoft Excel, Microsoft PowerPoint  
Programming Languages: Matlab, FORTRAN, HTML, Assembly.  
RF circuits, antennas design on CST Microwave Studio, HFSS.  
Advanced Design System (ADS)  
Mobil Communication Systems (GSM, CDMA, UMTS, LTE).
- Languages Arabic, mother tongue  
English, fluently in speech and writing

Driving License Class 3

## Granted Projects

- 01/04/2018 "Introducing Mobile Communications Industry-related in Undergraduate Curriculum (IMMISSU)", Co-funded by the Royal Engineering Academy/ Industry Academia Partnership Programme (IAPP), UK. Project no:(IAPP1R2\ 100035,) April 2018 – Oct 2019. (50,000 GBP), **Principial Investigator (PI).**
- 15/11/2019 "Introducing Recent Electrical Engineering Developments into Undergraduate Curriculum (IREEDER) " Erasmus+ Programme, Capacity Building in the field of Higher Education, Project no: (6 09971-EPP-1-

	2019-1-JO-EPPKA2-CBHE-JP), Nov 2019-Nov 2022, (€768,000). ( <b>Team Member</b> ).
31/03/2020	“A Novel Design for Smart Olive Harvester“ Co-funded by the Royal Engineering Academy/ Transforming Systems through Partnership (TSP), UK. Project no:(TSP 1372) July 2020 – July 2022. (80,000 GBP) ( <b>Co-PI</b> ).
8/06/2020	“Computer-Vision based Automized Assessment of COVID-19 Protective Equipment Usage in Jordan“ Co-funded by the Scientific Research & Innovation Support Fund / Ministry of Higher Education & Scientific Research. Jordan. Project no:(Cor-ICT/1/04/2020) Aug 2020 – Aug 2021. (35,000 JOD) ( <b>Co-PI</b> ).
1/4/2021	“ Decarbonising Jordanian Energy Systems Utilizing Smart Solutions based on Energy Storage“ Co-funded by the Royal Engineering Academy/ Transforming Systems through Partnership (TSP), UK. Project no:(TSP2021_100334) April 2021 – April 2023. (80,000 GBP) ( <b>Co-PI</b> ).

## Courses & Workshops

- Alumnus of DIES University Leadership and Management Training Course (UNILEAD 2021, Organized by DAAD at UNiversity of Oldenburg, Seminar 1: 1st -20th March, 2021.
- Alumnus of Proposal Writing Courses for Research Grants (ProGRANT), Organized by DAAD in Lebanon, Seminar 1: 1st -5th May, 2019.
- Alumnus of Proposal Writing Courses for Research Grants (ProGRANT), Organized by DAAD in Lebanon, Seminar 2: 1st -6th Dec, 2019.
- Engineering Education Systems that are Fit for the Future Conference, The Royal Academy of Engineering, 24-25, September, 2018.
- Huawei UHF and Mw Presentation presented by Huawei Technologies Company, 8th April 2009, NDT Company, Amman-Jordan..
- MOTOROLA GSM Presentation presented by MOTOROLA, Hayat Amman Hotel, 12th December 2008, Amman-Jordan.
- 5 days Huawei Mobile Communications Training Course presented by Huawei Technologies Company, Between 5th December 2018 to 31 December 2018 , Amman-Jordan.

## Professional Activites

- Peer reviewer of IEEE Antennas and Wave Propagation Letter (AWPL).
- Peer reviewer of Jordan Journal of Electrical Engineering (JEE).
- Peer reviewer of International Journal of Electronics and Communications (AEU).
- Peer reviewer of IEEE Open Journal of Antennas and Propagation (OJAP).
- Peer reviewer of IEEE Transactions on Antennas and Wave Propagation (TAP).
- Peer reviewer of IEEE Access.

## Appointments

.3/2021-Now

09/2017-09/2018

- Peer reviewer of the 11th Jordan International Electrical and Electronics Engineering Conference (JIEEEEC 2019).
- Peer reviewer of the EuCAP 2021.

A Head of Electrical Engineering Department, Mutah University.

A Head of Electrical Engineering Department, Mutah University.

## Publications

### Journals

- **S. S. Alja'afreh et al.**, "Ten Antenna Array Using a Small Footprint Capacitive-Coupled-Shorted Loop Antenna for 3.5 GHz 5G Smartphone Applications," *IEEE Access*, vol. 9, pp. 33796-33810, 2021, doi: 10.1109/ACCESS.2021.3061640. **New!!!**
- R. Hussain, M. U. Khan, N. Iqbal, E. AlMajali , **S. S. Alja'afreh**, U. Johar , A. Shamim and M. S. Sharawi" Frequency Agile MIMO Antenna Design for 5G Dynamic Spectrum Sharing in CR Networks ", *Microwave and Optical Technology Letters*, vol. 63, no. 3m pp. 889-894, 2021 **New!!!**
- M. Abbadi, A. Abadelh, **S. S. Alja'afreh** and Z. Halhouli, " Machine Learning-Based Approach For Detecting Driver Behavior Using Smartphone Sensors ", *International Journal of Scientific and Technology reserach*, vol. 8, no. 12, pp. 1057-1060 , December 2019.
- M. H. Alshamaileh, **S. S. Alja'afreh** and E. Almajali, "A Nona-band, Hybrid Antenna for Metal-rimmed Smartphone Applications", *IET Microwaves, Antennas and Propagation*, vol. 13. No. 14, pp. 2439-2448 July 2019.
- **S. S. Alja'afreh**, A. Khafalla and A. Omar , "Universal Antenna with A Small Non-ground Portion for Smartphone Applications", Accepted in *International Journal on Communications Antenna and Propagation (IRECAP)*, vol. 9, no. 4, pp. 292-300, 2019.
- E. Almajali, D. McNamara, **S. S. Alja'afreh**, M. S. Sharawi and I. Mabrouk "A Low-Profile Holographic Antenna with Dual-Metasurface and Printed Yagi Feed," *International Journal of Electronics and Communications (AEU)*, vol.111, 2019
- L. Xing, Q. Xu and **S. S. Alja'afreh** "A high Efficiency Wideband Frequency Reconfigurable Water Antenna with A liquid auto-Control System," *IEEE Antennas and Propagations Magazine*, 6 Aug 2019.
- K. N. Paracha, S. K. Abdul Rahim, H. T Chattha and **S. S. Alja'afreh** , "Low-Cost Printed Flexible Antenna by Using Office Printer for Comformal Applications", *International Journal of Antennas and Propagation*, 2018.
- A. Al-abadleh, **S. S. Alja'afreh**, A. Aljaafreh and K. Alawasa , "A RSS-based localization method using HMM-based error correction", *Journal of Location Based Services*, vol. 12, no. 3-4, pp. 273-285, Nov. 2018.
- **S. S. Alja'afreh**, "Folded Strip Monopole with SRR for Triple-band Mobile Phone Applications", *International Journal on*

- Communications Antenna and Propagation (IRECAP), vol. 7, no. 7, pp. 613-617, 2017.
- O. A. Saraereh, N. Qasem, **S. S. Alja'afreh**, and Q. H. Alsafasfeh, "A Comparative Study of a Novel Shape Dual-band Wearable Antenna on Different Types of Artificial Ground Planes", *World Journal of Modelling and Simulation*. vol. 13, no. 4, pp. 278-292, 2017.
  - A. Aljaafreh, K. Alawasa, **S. S. Alja'afreh**, and A. Abadleh, "Fuzzy Inference System for Speed Bumps Detection using Smartphone Accelerometer Sensor", *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, vol. 9, no. 2-7, pp. 133-136, 2017.
  - H. Chattha, M. Nasir, Q. H. Abbasi, Y. Huang, **S. S. Alja'afreh**, "Planar Inverted-F Antenna for Universal Serial Bus Dongle Applications" *Turkish Journal of Electrical Engineering and Computer Sciences*, vol. 25, pp. 4280-4286, 2017.
  - **S. S. Alja'afreh**, Y. Huang, L. Xing and Q. Xu, "A Novel Approach for Parasitic Decoupling Element Design for MIMO Applications", *Jordan Journal of Electrical Engineering (JEE)*, vol. 3, no. 1, pp. 1-18, 2017.
  - Q. Xu, Y. Huang, L. Xing, C. Song, Z. Tian, **S. S. Alja'afreh** and M. Stanley "3D Antenna Radiation Pattern Reconstruction in A Reverberation Chamber Using Spherical Wave Decomposition," *IEEE Transactions on Antennas and Propagation*, vol. 65, no. 4, pp. 1728-1739, April 2017.
  - **S.S. Alja'afreh** "A Folded, Low Profile Multiband Loop Antenna for 4G Smartphone Applications," *Jordan Journal of Electrical Engineering (JEE)*, vol. 2, no. 4, pp. 270-277, 2016.
  - L. Xing, Y. Huang, Q. Xu and **S. S. Alja'afreh** "Transparent Dielectric Loaded Reconfigurable Antenna with A Wide Tuning Range," *IEEE Antennas and Wireless Propagation Letters*, vol. 15, pp.1630-1633, 2016.
  - L. Xing, Y. Huang, Q. Xu and **S. S. Alja'afreh** "Complex Permittivity of Water-based Liquids for Liquid Antennas," *IEEE Antennas and Wireless Propagation Letters*, vol. 15, pp. 1626-1629, 2016.
  - **S. S. Alja'afreh**, Y. Huang and L. Xing, "A Novel, Low Profile and Wideband PIFA Antenna with Polarization and Pattern Diversities", *IET Microwaves Antennas and Propagation*, vol. 10, no. 2, pp. 152-161, 2016.
  - L. Xing, Y. Huang, Q. Xu and **S. S. Alja'afreh** "A Wideband Hybrid Water Antenna with an F-Shaped Monopole," *IEEE Access Journal*, vol. 3, pp. 1179-1187, 2015.
  - Q. Xu, Y. Huang, X. Zhu, **S. S. Alja'afreh**, L. Xing, "A New Antenna Diversity Gain Measurement Method Using A Reverberation Chamber", *IEEE Antennas and Wireless Propagation Letters*, vol. 14, pp. 935-938, 2015.
  - Q. Xu, Y. Huang, X. Zhu, **S. S. Alja'afreh**, L. Xing, Z. Tian, "Diversity Gain Measurement in A Reverberation Chamber without Extra Antennas", *IEEE Antennas and Wireless Propagation Letters*, vol. 14, 2015.
  - L. Xing, Y. Huang, Q. Xu and **S. S. Alja'afreh**, "Wideband, Hybrid Rectangular Water Antenna for DVB-H Applications," *Microwave and Optical Technology Letters*, vol. 57, no. 9, pp. 2160-2164, 2015.

#### Conferences

- L. Xing, Y. Huang, Q. Xu and **S. S. Alja'afreh** "A Compact Water Loaded Reconfigurable Antenna for DVB-H Applications," Electronic Letters, vol. 51, no. 25, pp. 1958-1960, 2015.
- L. Xing, Y. Huang, Q. Xu, **S. S. Alja'afreh** and T. Liu "A Broadband Hybrid Water Antenna for Hand-Portable Applications," IEEE Antennas and Wireless Propagation Letters, vol. 15, pp. 174-177, 2015.
- **S. S. Alja'afreh**, Y. Huang, L. Xing, Q. Xu and X. Zhu, "A Low Profile and Wideband PILA-based Antenna for Handset Diversity Applications", IEEE Antennas and Wireless Propagation Letters, vol. 14, pp. 923-926, 2015.
- H. Chattha, M. Nasir, Y. Jamal, Y. Huang, **S. S. Alja'afreh**, "Planar Inverted-E Antenna for Future Generations Applications" Microwave and Optical Technology Letters, vol.56, no. 9, pp.2103-2107, 2014.
- L. Xing, Y. Huang, Y. Shen, **S. S. Alja'afreh**, Q. Xu, R. Alrawashdeh, "Further investigations on Water Antennas", IET Microwaves Antennas and Propagation, vol. 9, no. 8, pp. 735-741, 2014.
- H. Chattha, M. Nasir, Q. Abbasi, Y. Huang, **S. S. Alja'afreh**, "Compact Low-Profile Dual-Port Single Wideband Planar Inverted-F MIMO Antenna," IEEE Antennas and Wireless Propagation Letters, vol.12, pp.1673-1675, 2013.
- **S. S. Alja'afreh**, A. Alabadleh, and A. Alja'afreh, "An Industry-related Course Development for Mobile Communications Systems in Undergraduate Curriculum of Communications Engineering ", In Proc. E-Engineering Conference 2021, June, 2021, Jordan. **New!!!**
- **A. Aljaafreh**, A. Alabadleh, **S. S. Alja'afreh**, et al, " A Questionnaire Study on the Practice of Teaching Strategies and Technology Tools in Jordanian Engineering Teaching ", In Proc. E-Engineering Conference 2021, June, 2021, Jordan. **New!!!**
- C. M. Saleh, E. R. Almajali, **S. S. Alja'afreh**, and J. Yousaf, " Dual U-Slot Patch Antenna for 5G Applications ", In Proc. AP-S/URSI 2021 , June, 2021, Singapore. **New!!!**
- J. Yousaf, M. El Najjar, A. Amir, E. R. Almajali, M. Elahi, A. Altaf, and **S. S. Alja'afreh**, " Design and Analysis of Paper-based Arabic RFID Letters for IoT Applications", In Proc. AP-S/URSI 2021 , June, 2021, Singapore. **New!!!**
- **S. S. Alja'afreh**, Q. Xu, L. Xing, Y. Huang, C. Song, E. Almajali "A Dual-Element Folded Strip Monopole with SRR Loading for Multiband Handset MIMO Applications", In Proc. EuCAP 2020, March, 2020, Copenhagen.
- **S. S. Alja'afreh**, C. Song, Y. Huang, L. Xing, Q. Xu. "A Dual-Port, Dual-Polarized and Wideband Slot Rectenna for Ambient RF Energy Harvesting", , In Proc. EuCAP 2020, March, 2020, Copenhagen.
- E. R. Almajali, R. Hussain, **S. S. Alja'afreh**, M. S. Sharawi, "Transmitarray Antennas: Focal Point Shift and Possibility of Beam Scanning", , In Proc. APS/URSI 2020, July, 2020, Montreal.
- **S. S. Aljaafreh**, M. Alshamaileh, E. Almajali and A. Alabadleh "A New Dual-Element Multimode MIMO Antenna for Metal-Rimmed Smartphone", In Proc International Conference on Aviation and Space Technology - 2019 Advances in Science and Engineering

- Technology (ASET) International Conferences, March, 2019, United Arab Emirate.
- E. Almajali, **S. S. Aljaafreh**, et al “Interpreting Trasmittarrays Far-Field Performance Using Its Near Focal Region Fields”, In Proc International Conference on Aviation and Space Technology - 2019 Advances in Science and Engineering Technology (ASET) International Conferences, March, 2019, United Arab Emirate.
  - **S. S. Aljaafreh**, M. Alshamaileh and E. Almajali “A New Reconfigurable Antenna for Full-band Metal-Rimmed Smartphones’ Applications”, In Proc ICCSPA’19 Conference, March, 2019, United Arab Emirate.
  - **S. S. Alja’Afreh**, Y. Huang, Q. Xu and L.Xing, “Dual-element antenna system for Hexa-band Smartphone Applications”, In Proc LAPC 2017 Conference, November, 2017, United Kingdom.
  - **S. S. Alja’Afreh**, Y. Huang, Q. Xu and L.Xing, “Hexa-band Antenna for Smartphone Applications”, In Proc JIEEEC 2017 Conference, May, 2017, Jordan.
  - **S. S. Alja’Afreh**, Y. Huang, L.Xing, Q. Xu and Omar A. Saraereh, “A MIMO Antenna System of a Compact 4-Element PILA for 4G Handset Applications”, In Proc. LAPC 2016 Conference, November, 2016, United Kingdom.
  - M. Stanley, Y. Huang, H. Wang, **S. S. Alja’Afreh**, Q. Xu and L. Xing, “LTE MIMO Antenna Using Unbroken Metallic Rim and Non Resonant CCE Element”, In Proc. EuCAP 2016, April, 2016, Switzerland.
  - L. Xing, Y. Huang, Q. Xu, and **S. S. Alja’Afreh**, “Overview of Water Antenna Designs for Wireless Communications,” In Proc. The IEEE 4th Asia-Pacific Conference on Antennas and Propagation (APCAP), 2015.
  - A. A-B. Sajak, Y. Shen, R. Alrawashdeh, L. Xing and **S. S. Alja’Afreh**, “A Comparison of the Effect of Substrate on the Performance of THz Antenna,” In Proc. 4th International Conference on Engineering Technology and Technopreneurship (ICE2T) 2014, August, 2014, Malaysia.
  - L. Xing, Y. Huang, **S. S. Alja’Afreh**, Q. Xu, M. Kod, C. Song, “Reconfigurable 3D Folded Monopole Antenna Design,” In Proc. LAPC 2014 Conference, November, 2014, United Kingdom.
  - L. Xing, Y. Huang, Y. Shen, **S. S. Alja’Afreh**, Q. Xu, R. Alrawashdeh, “Broadband U-Shaped Water Antenna for DVB-H Applications,” In Proc. IEEE Antennas and Propagation Society International Symposium (APSURSI), July, 2014, USA.
  - H. T. Chattha, M. Nasir, Y. Jamal, **S. S. Alja’Afreh**, Y. Huang and A. Sharif, “MIMO Antenna using Modified Planar Inverted-F Antennas”, In Proc. IEEE Antennas and Propagation Society International Symposium (APSURSI), July, 2014, USA.
  - H. T. Chattha, M. Nasir, **S. S. Alja’Afreh**, Y. Huang and A. Sharif, “Modified wideband Planar Inverted-F Antenna”, In Proc. EuCAP 2014, April, 2014, Netherlands.
  - **S. S. Alja’Afreh**, Y. Huang, L. Xing, “A Compact Wideband and Low profile Planar Inverted-L Antenna”, In Proc. EuCAP 2014, April, 2014, Netherlands.
  - **S. S. Alja’Afreh**, Y. Huang, L. Xing, “A New Dual-Feed PIFA Diversity Antenna”, In Proc. EuCAP 2014, April, 2014, Netherlands.

- H. T. Chattha, **S. S. Alja'Afreh**, Y. Huang, I Hameed and M. Nasir, "Single Element Two-Port Planar Inverted-F Diversity Antenna for Wireless Applications", In Proc. LAPC 2013 Conference, November, 2013, United Kingdom.
- **S. S. Alja'Afreh**, Y. Huang, L. Xing, "A Compact Dual-Feed Water-Based Diversity Antenna", In Proc. LAPC 2013 Conference, November 2013, United Kingdom.
- L. Xing, Y. Huang, **S. S. Alja'Afreh**, S. Boyes, "A Monopole Water Antenna," In Proc. LAPC 2012 Conference, November, 2012, United Kingdom.
- **S. S. Alja'Afreh**, Y. Huang, L. Xing, "A Small, Wideband U-Shaped Dielectric Resonator Antenna", In Proc. LAPC 2012 Conference, November 2012, United Kingdom.

### Hobbies

Traveling, playing football, Reading and playing cards

### Personality

According to The Complete Work Personality Evaluation 'What Breed of Dog Are You at Work?' on Tickle website, this test says that I like German Shepherd. It says that my competitive edge drives me at work. I'm not one to sit back and let others get the good assignments or take sole credit for projects I've had a hand in as well. My sky-high aspirations match my energy level, which is why co-workers and colleagues aren't surprised when I succeed. In fact, they probably expect it from me, which can add some unexpected pressure to my daily tasks. But with my desire to please the group, and the company, I'll find ways of getting the job done regardless of what the job is. My ambitious and competitive spirit earns my colleague's admiration. I try hard and am willing to sacrifice a lot for winning or achieving a goal. My determination and assertive style not only helps me get what I want, but it also impresses the right people.

### References

Upon request.

*Sager Alja'Afreh*