

# Huthaifa Ahmad OBEIDAT (Dr)

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## AREA OF EXPERTISE

My overarching research interests are multi-disciplinary and have a number of cross cutting themes that include research in electromagnetics, millimeter wave propagation, and indoor localization. Specific themes include:

- Health issues and using Radio-frequency Identification (RFID).
- Indoor localization using Received Signal Strength (RSS) and Time of Arrival (TOA).
- Millimeter-wave propagation application for both indoor and outdoor environments.
- Antenna design and microwave engineering.

## EDUCATION AND QUALIFICATIONS

**10/2014-09/2018 University of Bradford, United Kingdom**

**Qualification Attained: Doctor of Philosophy (Ph.D.)**

**Thesis Title:** Investigation of Indoor Propagation Algorithms for Localization Purposes

Thesis presents simulation and measurements of Indoor Propagation algorithms for localization applications using wall correction factors, local mean power estimation and ray tracing validations

**09/2011-07/2013 University of Bradford, United Kingdom**

**Qualification Attained: Master of Science (MSc.) in Personal Mobile and Satellite Communications**

**Rating: Distinction**

**Thesis Title:** Indoor Localization using Received Signal Strength.

**09/2006 – 06/2011 Jordan University of Science and Technology, Jordan**

**Qualification Attained: BSc. Electrical Engineering (Electronics and Communications)**

## COMPUTER SKILLS

- Expert user of MATLAB.
- Expert user of Wireless EM Propagation Software (Wireless InSite, Remcom).
- Expert user of Wireless EM Propagation Software (WinProp, Altair).
- Expert user of ANSS HFSS software.
- Expert user of Feko software.
- MS Office (including Word, Excel and Power Point)

## ACADEMIC EXPERIENCE

<b>10/2023- Present</b>	Associate Professor, Jadara University, Jordan
<b>09/2022- 10/2023</b>	Associate Professor, Jerash University, Jordan
<b>11/2018- 09/2022</b>	Assistant Professor, Jerash University, Jordan
<b>10/ 2013 – Sep 2014</b>	Part-time lecturer, Jerash University, Jordan

## COURSES TAUGHT

Analog Communications  
Antenna System and Design  
Communication Skills  
Communication Systems  
Digital Communications  
Electric circuits  
Electromagnetics  
Electronic circuits  
Engineering Ethics  
Linear Algebra  
Microwave Engineering  
Mobile Communications  
Optical fiber communications  
Power system  
Probability and statistics  
Radiowave Propagation  
Satellite Communications  
Communication lab  
Electrical circuits Lab  
Electronic circuits lab

## ADMINISTRATIVE EXPERIENCE

<b>11/2023- Present</b>	The dean's assistant for quality affairs at the Faculty of Engineering, Jadara University, Jordan
<b>11/2023- Present</b>	Head of Communications and Computer Engineering, Jadara University, Jordan
<b>09/2022- 10/2023</b>	Representative of the Office of Quality and Accreditation in the Faculty of Engineering, Jerash University, Jordan
<b>01/2019- 09/2022</b>	Head of Communications and Electronics Engineering, Jerash University, Jordan

## PUBLICATIONS

### JOURNAL PAPERS

1. Djamel Sayad, Chemseddine Zebiri, **Huthaifa Obeidat**, et, al. "New Elliptical Miniaturized Antenna Using Concentric Open Rings for UWB Applications". *Progress In Electromagnetics Research C*, 79-91 (134), 2023
2. **Huthaifa Obeidat**, "Performance Comparisons of Angle of Arrival Detection Techniques Using ULA." *Wireless Personal Communications* (2022): 1-13.
3. **Huthaifa A.Obeidat**, et al. "Enhanced TOA Estimation Using OFDM over Wide-Band Transmission Based on a Simulated Model." *Wireless Personal Communications* 123.4 (2022): 3449-3461.

4. **Huthaifa Obeidat**, et al. "A Review of Indoor Localization Techniques and Wireless Technologies." *Wireless Personal Communications* 119.1 (2021): 289-327.
5. **H. Obeidat**, et al. "Channel Impulse Response at 60 GHz and Impact of Electrical Parameters Properties on Ray Tracing Validations". *Electronics* 2021, 10, 393. <https://doi.org/10.3390/electronics10040393>.
6. Y. Bettouche, B. Agba, A. Kouki, **H. Obeidat**, H. Alhassan, A. AlAbdullah, J. Rodriguez, and R. Abd-Alhameed, Determination of areas for surface refractivity variation analysis over Quebec. *Journal of Atmospheric and Solar-Terrestrial Physics*, 208, p.105385. 2020.
7. **H.A. Obeidat**, et al. Verifying Received Power Predictions of Wireless InSite Software in Indoor Environments at WLAN Frequencies. *Applied Computational Electromagnetics Society Journal*, 35(10). 2020.
8. Y. Bettouche, **H. A. Obeidat**, B. L. Agba, A. B. Kouki, M. F. Mosleh, A. M. AlAbdullah, and R. A. Abd-Alhameed. "Comparison of Surface Radio Refractivity Variability in the Northern and Southern Parts of Quebec, Canada." *Radio Science* 55, no. 7, 1-8, 2020.
9. **H. Obeidat**, et al. "Indoor Environment Propagation Review." *Computer Science Review* 37, 100272. 2020
10. **H.A. Obeidat**, et al. Comparative Study on Indoor Path Loss Models at 28 GHz, 60 GHz, and 73.5 GHz Frequency Bands. *Applied Computational Electromagnetics Society Journal*, 35(2), pp.119-128. 2020.
11. W. Shuaieb, G. Oguntala, A. AlAbdullah, **H. Obeidat**, R. Asif, R. Abd-Alhameed, M. Bin-Melha, and C. Kara-Zaitri. "RFID RSS Fingerprinting System for Wearable Human Activity Recognition." *Future Internet* 12, no. 2: 33. 2020
12. Y. Bettouche, B. Agba, A. B. Kouki, **H. Obeidat**, A. Alabdullah, F. Abdussalam, S. Ghauri, and R. Abd-Alhameed. "Estimation and analysis of the radio refractivity, its gradient and the geoclimatic factor in Arctic regions." *Progress In Electromagnetics Research* 92: 181-192. 2020
13. **H. Obeidat**, et al. "Local Average Signal Strength Estimation for Indoor Multipath Propagation." *IEEE Access*. 2019.
14. C. Zebiri, , Sayad, D., Elfergani, I.T., Kosha, J.S., Mshwat, W.F.A., See, C.H., Lashab, M., Rodriguez, J., Sayidmarie, K.H., **H.A. Obeidat**, and R.A. Abd-Alhameed, 2019. Antenna for ultra-wideband applications with non-uniform defected ground plane and offset aperture-coupled cylindrical dielectric resonators. *IEEE Access*, 7, pp.166776-166787.
15. **H.A. Obeidat**, et al., "An Indoor Path Loss Prediction Model using Wall Correction Factors for WLAN and 5G Indoor Networks" *Radio Science*, April. 2018.
16. **H.A. Obeidat**, et al. A Comparison between Vector Algorithm and CRSS Algorithms for Indoor Localization using Received Signal Strength, *ACES Journal*, Vol. 31, No.8, pp.868-876. August 2016.
17. Y. Bettouche, **H. Obeidat**, B. Agba, A. Kouki, H. Alhassan, J. Rodriguez & S. Jones. Long-Term Evolution of The Surface Refractivity for Arctic Regions. *Radio Science*, 54(7), 602-611. 2019
18. W. Manan, **H. Obeidat**, A. Al-Abdullah, R. Abd-Alhameed and F. Hu, "Indoor To Indoor And Indoor To Outdoor Millimeter Wave Propagation Channel Simulations At 26 GHz, 28 GHz And 60 GHz For 5G Mobile Networks" in *The International Journal of Engineering and Science*, March 2018.

## INTERNATIONAL CONFERENCES

1. **Huthaifa Obeidat**, (2020) *A Review on Indoor Localization Techniques using Received Signal Strength*. In: *IMDC-SDSP 2020, 28-30 June 2020*, Cyberspace.
2. **H. obeidat**, R. Abd-Alhameed, E. Elkhazmi, et al." A comprehensive study for indoor localization techniques using received signal strength," *5<sup>th</sup> International Conference on Internet Technologies and Applications 2013*, submitted for publication.

3. **H.A. Obeidat**, W. Shuaieb, H Alhassan, K. Samarah, M. Abousitta, R.A. Abd-Alhameed, S.M.R. Jones, J.M. Noras "Location Based Services using Received Signal Strength Algorithms," in Sixth International Conference on Internet Technologies & Applications 4th International Workshop on Energy Efficient and Reconfigurable Transceivers, Wrexham, 8-11 Sept, 2015, pp.409-411
4. **H. Obeidat**, O. Obeidat, M. Bomhara *et al.*, "Performance comparative study between vector and ECOLOCATION algorithms for indoor positioning," *2017 Internet Technologies and Applications (ITA)*, Wrexham, 2017, pp. 230-234.
5. HSO Migdadi, **H Obeidat**, KO Anoh, NN Khatib, JM Noras, R Qahwaji, RA Abd-Alhameed, "Channel Estimation for OFDM FFT/DWT in Multi-carrier Modulation Used in Wireless Telemedicine," in IEEE International Conference on Computer and Information Technology; Ubiquitous Computing and Communications; Dependable, Autonomic and Secure Computing; Pervasive Intelligence and Computing (CIT/IUCC/DASC/PICOM), 2015.
6. G. Oguntala, **H. Obeidat** et al, "Design framework for unobtrusive patient location recognition using passive RFID and particle filtering," *2017 Internet Technologies and Applications (ITA)*, Wrexham, 2017, pp. 212-217.
7. W. S. Shuaieb, S. M. Jones, **H. A. Obeidat**, G. T. A. E. Sanousi and R. A. Abd-Alhameed, "Radio-location techniques under adverse channel conditions," *2017 Internet Technologies and Applications (ITA)*, Wrexham, 2017, pp. 270-274.
8. HSO Migdadi, RA Abd-Alhameed, **HA Obeidat**, JM Noras, EAA Qaralleh, MJ Ngala, "FIR implementation on FPGA: Investigate the FIR order on SDA and PDA algorithms," in Sixth International Conference on Internet Technologies & Applications 4th International Workshop on Energy Efficient and Reconfigurable Transceivers, Wrexham, 8-11 Sept, 2015, pp. 409-411.
9. MA Bomhara, JG Gardiner, **HA Obeidat**, RA Abd-Alhameed, "CP-QFSK modem for TDMA short range communications systems," in Sixth International Conference on Internet Technologies & Applications 4th International Workshop on Energy Efficient and Reconfigurable Transceivers, Wrexham, 8-11 Sept 2015, pp. 409-411
10. MA Bomhara, JG Gardiner, **HA Obeidat**, RA Abd-Alhameed, "On the eligibility grounds of CP-QFSK for mobile radio systems," in Sixth International Conference on Internet Technologies & Applications 4th International Workshop on Energy Efficient and Reconfigurable Transceivers, Wrexham, 8-11 Sept 2015, pp. 409-411
11. A. AlAbdullah, N. Ali, **H. Obeidat**, R. A. Abd-Alhameed and S. Jones, "Indoor millimetre-wave propagation channel simulations at 28, 39, 60 and 73 GHz for 5G wireless networks," *2017 Internet Technologies and Applications (ITA)*, Wrexham, 2017, pp. 235-239.
12. Y.Dama, A. Masri, H. Ghannam, W. Shuaieb, H. Alhassan, **H.A. Obeidat**, R.A. Abd-Alhameed, "RSSI evaluation for multi-story building," in Sixth International Conference on Internet Technologies & Applications 4th International Workshop on Energy Efficient and Reconfigurable Transceivers, Wrexham, 8-11 Sept 2015, pp. 409-411
13. A AbouAlmal, H Alhassan, **H Obeidat**, MM Abusitta, RA Abd-Alhameed, SMR Jones, H Al-Ahmad, "Surface refractivity profile and validation of measurements in Arabian Gulf region," *Antennas & Propagation Conference (LAPC)*, 2-3 Nov 2015, pp. 240-243, DOI: 978-1-4799-8943-0/15/ ©2015 IEEE.
14. B. A. Mohammed, A. S. Hussaini, R. Abd-Alhameed, N. A. Abduljabbar, **H. A. Obeidat**, I. T. E. Elfergani, J. Rodriguez, M. Fonkam, C. Nche and B. M. Mustapha "A load-pull approach to design an optimum load impedance and matching network for class-F RF power amplifier," *2017 Internet Technologies and Applications (ITA)*, Wrexham, 2017, pp. 280-283.