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Name: Husam Abduldaem Mohammed
University Degree: Ph. D. in Photonic Engineering, Universiti Putra Malaysia (UPM) 12-07-2018
Scientific degree: Assistant Professor, since 28-05-2020.
Birth Date: 19. 5. 1974.
Birth Place: Baghdad, Iraq
Material Status: Married
Permanent Address: Baghdad, Iraq
Telephone: +964 7705 815 120
Email: husam.a@coeng.uobaghdad.edu.iq, gs38472@student.upm.edu.my, hus_ira@yahoo.com
Work Status: Electronic and Communications Engineering Department / University of Baghdad
Research interest: Optical fiber communication systems, Visible Light Communications (VLC), LIFI, OCDMA, sensor multiplexing techniques, nanomaterial-based sensors, optical fiber gas sensor networks, Programmable Logic Controllers (PLC), Embedded systems, Internet of Things (IoT).
Scientific accounts:    



Academic Record:

2018 Ph. D. in Photonic Engineering/ department of Computer and Communication Engineering/ University Putra Malaysia (UPM).

2001 M.Sc. In Electronic and Communications Engineering / Laser Applications form Laser Postgraduate Institute in Baghdad University.

1996 B.Sc. In Electronic and Communications Engineering from Baghdad University.

Publications:

A Taper-in-Etch Based Hybrid Fiber Mach-Zehnder Interferometer Hydrogen Sensor, Optical fiber technology, 80:103390, 2023, DOI: [10.1016/j.yofte.2023.103390](https://doi.org/10.1016/j.yofte.2023.103390).

Deployment of Multiservice Code in FSO-Based Hybrid Subcarrier System, Journal of Optical Communication, Journal of Optical Communication, 2022.

Arsenic Detection Using Surface Plasmon Resonance Sensor With Hydrous Ferric Oxide Layer, Photonic Sensors, vol. 12, no. 3, p. 220306, 2022/01/18 2022.

A Simple Chaotic Base Encryption Scheme for Securing OFDM-PON Communications, Journal of Optical Communication, 2022, DOI: 10.1515/joc-2022-0018.

Performance Evaluations of Ammonia Sensors Using Cladding Modified Single-Mode Optical Fiber Coated with Polyaniline Nanofibers, *International Journal of Nanoscience and Nanotechnology (IJNN)* vol. 18, no. 2, June 2022, pp. 135-141.

Highly sensitive fiber Bragg grating based gas sensor integrating polyaniline nanofiber for remote monitoring, *Optical Fiber Technology*, vol. 71, p. 102901, 2022. <https://doi.org/10.1016/j.yofte.2022.102901>.

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320 Gbps Free Space Optic Communication System Deploying Ultra Dense Wavelength Division Multiplexing and Polarization Mode Division Multiplexing, *Journal of Optical Communications*, vol. 43, no. 1, pp. 137-145, January 2022.

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Modified Fiber Bragg Grating Based Heavy Metal Ions Sensor In C-Band, *Journal of Engineering Science and Technology*, 16(4), 2021, 3025-3032

A Novel Modified Fiber Bragg Grating (FBG) Based Ammonia Sensor Coated with Polyaniline/Graphite Nanofibers Nanocomposites 2020 *Optical Fiber Technology*, *Optical Fiber Technology*, 58, 2020.

Etched Fiber Bragg Grating Based Lead Ions Sensor in the C-Band, Malaysia.

Di-iron trioxide hydrate-multi-walled carbon nanotube nanocomposite for arsenite detection using surface plasmon resonance technique, *IEEE Photonics Journal*, vol. 11, no. 4, 2019, pp 1-9.

Fabrication and Characterizations of a Novel Etched-tapered Single Mode Optical Fiber Ammonia Sensors Integrating PANI/GNF Nanocomposite, *Sensors and Actuators B:*, vol. 287, pp. 71-77, 2019.

Sensing performance of Modified Single Mode Optical Fiber Coated with Nanomaterials Based Ammonia Sensors Operated in the C-Band, *IEEE Access*, vol. 7, no. 1, pp. 5467-5476, Dec, 7, 2019.

OCDMA Based Gas Sensor Network Using Modified SMF Coated with Nanomaterials, PhD. thesis, Universiti Putra Malaysia, Malaysia, 2018.

SCADA over Fiber Optic Communications System, *International Journal of Electronics Communication and Computer Engineering*, Vol. 4, No. 2, 2013.

Performance Evaluation and Comparison Between LDPC and Turbo Coded MC-CDM", Journal of Engineering, University of Baghdad, Number 4, Volume 18, April 2012.

Design and Implementation of a Network Based on Wavelength Division Multiplexing (WDM), Journal of University of Karbbela, Vol. 9, No. 1 Scientific 2011.

الاتصالات الضوئية الرقمية بين حاسبتين عبر الجو او الالياف البصرية ذهابا و ايابا ,المؤتمر العلمي الثاني - كلية الهندسة جامعة القادسية, 2010.

SCCC-MCCDMA combination performance over multipath Rayleigh fading channel, Journal of University of Karbbela, Vol. 8, No.4 Scientific 2010..

PCCC MC-CDMA Combination Performance over Multipath Rayleigh Fading Channel, Journal of Engineering/ University of Baghdad, V.15, No.3, 2009.

Transmission of a Multiplexed Eight Channels Subcarrier Optically Intensity Modulated Based on Microcontroller" Vol. 15, No.2, 2009.

Free Space Digital Laser Communication System Based On Microcontroller, ATTI DELLA "FONDAZIONE GIORGIO RONCHI" ANNO LXIII, No. 4, 2008.

2002 Design Considerations of Laser Source in a Ring Network Based on Fiber distributed Data Interface (FDDI).

2001 Conducting a research project entitled "Design and Implementation of a Ring Network Based on Fiber distributed Data Interface (FDDI)" submitted as partial fulfillment for the M.Sc. degree.

Books

Ring Network Based on Fiber Distributed Data Interface (FDDI) Design and Implementation, Lambert Academic Publishing/ Germany, 2014/1/26, 2014

Book Chapters

Wireless Techniques and Applications of the Internet of Medical Things, In book: 5G Impact on Biomedical Engineering Wireless Technologies Applications, Edited By Abdallah Makhoul, Jacques Demerjian and Jacques Bou Abdo, Publisher: CRC, 2021. ISBN 9780367523848.

Polyaniline-graphite Nanocomposite Based Modified Cladding Optical Fiber Gas Sensors in Handbook of Polymer Nanocomposites for Industrial Applications, Edited by Hussain, Chaudhery Mustansar, Elsevier, 2020.

Modified Single Mode Optical Fiber Ammonia Sensor, in the title “Optical Fiber”, Edited by Dr. Sulaiman Wadi Harun, ISBN 978-1-83962-615-9, InTechOpen, June 2020.

Teaching

2004-up to present: Optical Fiber Communication System, Electronic and Communications Engineering Department / College of Engineering / University of Baghdad.

2020-2021 Supervisor of Electronic Workshop Laboratory, Electronic and Communications Engineering Department / College of Engineering / University of Baghdad.

2017-up to present: Electronic I, Electronic and Communications Engineering Department / College of Engineering / University of Baghdad.

2017-2019, 2022-2023: Advanced Optical Communication System, Postgraduate studies, Electronic and Communications Engineering Department / College of Engineering / University of Baghdad.

2010-2013 Electric Circuits, Electronic and Communications Engineering Department / College of Engineering / University of Baghdad.

2002-2004 Laser Principles, Electronic and Communications Engineering Department / College of Engineering / University of Baghdad.

2003-2005 Information Theory and Coding, Electronic and Communications Engineering Department / College of Engineering / University of Baghdad.

2003-2005 Optical Fiber Communication System, Information and Communication Engineering Department / Alkharizmi Engineering College / University of Baghdad.

2008-2009 Communication Theory II, Electrical Engineering Department / College of Engineering / Tikrit University.

Software: Microsoft visual basic, Microsoft products.

Optiwave ,VPI Photonics, PLC programming.

Editor-in-Chief

Scienxt Journal of Nano Science & Technology

Editorial board member

1. Journal of Electronic & Information Systems.
2. Semiconductor Science and Information Devices.

3. Journal of Applied Nanotechnology.
4. International Journal of Multidisciplinary Engineering.
5. International Journal of Electrical and Electronics.
6. Frontiers in Sensors.
7. Scienxt Journal of Nano Science & Technology.
8. Nanomedicine & Nanotechnology Open Access (NNOA).

International Conferences Committee Members:

1. Nanotechnology Conference-Global Edition (Hybrid Event)” slated during April 08-09, 2024 in New York City, New York, USA.
2. 1st Mosharaka International Conference on Optical Communications, Optics and Optoelectronics (MIC-Optical 2024), which will be held in Irbid, Jordan in the period 6-8 December 2024 (Remotely).
3. 2nd International Conference on Electrical, Electronics and Information Engineering [EEIE 2023]
4. 2nd International Conference on Advanced Optics & Photonics Research in Engineering will be held on October 14-15, 2022 in Beijing, China
<https://www.aopr-conf.com/committee>
5. International Conference on Optical Technology, Semiconductor Materials and Devices (OTSMD 2022). 28th - 30th October 2022, Venue: Xiamen, China
<http://www.otsmd.org/Committee>
6. 7th Annual World Congress of Smart Materials-2023, Feb.08-10, 2023, Sapporo, Japan
7. 4th Mosharaka International Conference on Telecommunication Systems and Networks (MIC-Telecom 2022), 2-4 December 2022 in Valencia, Spain, 2-4 December 2022 in Valencia, Spain
Optical Communication Systems and Networks (Optical Track)
8. 1st Mosharaka International Conference on Communication Systems and Applications (MIC-Communications 2023), 3-5 March 2023 (Remotely) in Irbid, Jordan, 3-5 March 2023 (Remotely) in Irbid, Jordan
Optical Communications (Optical Track)
9. 1st Mosharaka International Conference on Emerging Applications of Electrical Engineering (MIC-ElectricApps 2020), 4-6 September 2020 (Remotely) in Valencia, Spain

Photonics, Bio-Photonics and Nano-Photonics (Photonics Track)

