

CURRICULUM VITAE

Osama Saied

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PERSONAL PROFILE

A PhD holder and lecturer in Communication Engineering with over 10 years' experience in both academic and professional fields. A highly self-motivated, proactive, and hardworking researcher with an ability to follow the systematic problem-solving techniques as well as the creative approaches to reach the objectives. Have an excellent experience in project and team management. A confident lecturer who is able to impart complex information to audiences of all levels. Have the capability to actively contribute as team-member in order to achieve the goals of the organisation.

QUALIFICATION

2013-2018

PhD in Wireless Communication / Northumbria University, Newcastle Upon Tyne, UK

Thesis title: "Orthogonal Frequency Division Multiplexing for indoor Visible Light Communication Links"

Brief Synopsis: Improve the performance of the orthogonal frequency division multiplexing (OFDM) modulation scheme for indoor visible light communication (VLC) link. The data rate of the Unipolar-OFDM is improved by 33% in this thesis by introducing two new attractive unipolar modulation schemes known as: Position encoded asymmetrically clipped optical OFDM (PE-ACO-OFDM) and Pilot aided-ACO-OFDM (PA-ACO-OFDM) schemes.

2009-2010

MSc in Communication and Digital Signal Processing/Newcastle University, Newcastle Upon Tyne, UK.

Course description: The advanced theory and practical knowledge of communication and signal processing have been addressed throughout this course. It is covered the popular types of telecommunication Engineering modules that includes signal processing and estimation, mobile and cellular communication, wired and wireless network techniques, and the implementation of wireless receiver algorithm,

1996-2000

High diploma in electronics and telecommunication (First-class honour)/ Higher institute for poly-technics professions, Gharyan, Libya.

Course description: The basic theoretical and practical information of the electronics and communication engineering have been studied.

RESEARCH INTEREST

I am particularly interested in optical wireless communication such as light fidelity (Li-Fi) and free-space optical communication (FSO), Machine learning, Analogue and digital communications from modulation, coding and multiple access techniques (OFDMA, TDMA, CDMA and FDMA), multi-input multi output (MIMO) systems, Embedded system, Measurement and Spectrum Analysis, and Software Defined Radio.

EMPLOYMENT

- Since 2022** *Research associate*
Job description: Research associate in VLC within the computer science department, Nottingham Trent University. The aim of this possession is to investigate the features of DFTSO-OPAM to be practically implemented to secure visible light networking for connected and autonomous vehicles.
- Since 2021-2022** *Research associate*
Job description: Research associate within the Faculty of Science and Engineering of Manchester Metropolitan University. The main aim of the research was to improve the power efficiency of the Optical OFDM modulation scheme by introducing and implement the novel DFT Spread-Optical Pulse Amplitude Modulation (DFTS-OPAM) signalling scheme in a real time using USRP N210 and compare its performance with the traditional optical OFDM. This goal has been reached as the practical results showed that the DFTS-OPAM scheme can provide more 2.5 dB average transmitted power compared to DCO-OFDM. The results of this work are now published in *IEEE ACCESS Journal*.
- 2020-2021** *Tutor*
Job description: Tutor at Atlantis Academy and the Education School. My main job at the school was to give a support to the international electrical and electronic students by guiding them, supervising them and teach them.
- 2018- 2019** *Associate Lecturer*
Job description: Associate lecturer at Northumbria University (Newcastle Upon Tyne, UK). Have been teaching the following modules:
 - ✓ Communication systems Laboratory.
 - ✓ Digital Signal Processing Systems Laboratory
 - ✓ Digital Signal Processing Systems Seminars
- 2013-2018** *PhD researcher in Optical Wireless Communication*
Job description: Research assistant within the Optical Communication Research Group (OCRG) at Northumbria University.
Lists of skills and achievements acquired during my PhD:
 - ✓ Comprehensive literature review that resulting in proposing new novel optical OFDM schemes.
 - ✓ Modelling and simulation for both traditional optical OFDM and the proposed schemes using Matlab.
 - ✓ Prepared several experimental setups to compare the proposed OFDM schemes with traditional ones in real time using USRP-N210 and Labview software.
 - ✓ Data analysis using adaptive Matlab and labview codes that eventually led to write high quality papers for publication purpose.
- 2001-2013** *Communication Engineer*
Job description: Twelve years technical and practical experience as network engineer at el-Biruni Remote Sensing Centre (BRSC), Tripoli, Libya. The job deals with both software and hardware technical problems as well as teaching IT courses to the new BRSC engineering employer

SKILLS

- ✓ Competent in using Matlab, Embedded C and Labview software.
- ✓ Expert user of Analog/Digital oscilloscopes, spectrum analysers, network analyser and software defined radio “Universal Software Radio Peripheral (USRP).
- ✓ Fundamental practice in FPGA design with Linux software.
- ✓ Competent user of MS office (Word, Excel and PowerPoint).
- ✓ Fluent in English and Arabic.

MEMBERSHIP

- ✓ Researcher in Optical Communication Research Group (OCRG) Northumbria University.
- ✓ Associate member in Institute of Electrical and Electronics Engineers (IEEE) membership.

FUNDING AND AWARDS

- ✓ Scholarship award (Northumbria University, UK) for training course of using FPGA with linux software at the Instituto de Telecomunicacoes, Instituto Politecnico de Leiria, Leiria, Portugal in 2015.
- ✓ Scholarship award (EL-Biruni Remote Sensing Centre (BRSC) computing and network engineering department) for MSc study in signal processing and communication at Newcastle University, UK (2008).
- ✓ Scholarship award (EL-Biruni Remote Sensing Centre computing and network engineering department) for IT training courses at ExecuTrain Microsoft Certified Technical education Centre, Malta in 2002.

LIST OF PUBLICATIONS

- [1] **Osama Saied**, et al. "DFT Spread-Optical Pulse Amplitude Modulation for Visible Light Communication Systems," in *IEEE Access*, vol. 10, pp. 15956-15967, 2022. doi: 10.1109/ACCESS.2022.3147209.
- [2] **Osama Saied**, et al. "Unipolar-pulse amplitude modulation frequency division multiplexing for visible light communication systems." *Optical Engineering*, vol. 59, no. 9, pp. 096108, 2020, doi.org/10.1117/1.OE.59.9.096108.
- [3] **Osama Saied**, et al. "Optical single carrier-interleaved frequency division multiplexing for visible light communication systems", *Optik*, vol. 194, pp. 1-7, 2019, doi.org/10.1016/j.ijleo.2019.06.010.
- [4] Liqaa A Al-hashime, Ghaida A Al-suhail, Sinan M. Abdul and, **Osama Saied**. "Alleviation of nonlinear impact using PAPR hybrid technique in CO-OFDM systems." *Journal of Advances in Science, Technology and Engineering Systems*, vol. 4, no. 6, pp. 423-429, 2019.
- [5] **Osama Saied**. "Orthogonal frequency division multiplexing for indoor visible light communication links," Ph.D. dissertation, Dept. Eng. Environ. Northumbria Univ., Newcastle upon Tyne, U.K., 2018.

- [6] **Osama Saied.** et al. "Position Encoded Asymmetrically Clipped Optical Orthogonal Frequency Division Multiplexing in Visible Light Communications," *Journal of Communications and Information Networks*, vol. 2, no. 4, pp. 1-10, 2017, doi: 10.1007/s41650-017-0038-2.
- [7] **Osama Saied.** et al. "Single carrier optical FDM in visible light communication," in *10th International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP)*, Prague, Czech Republic, 2016, pp. 1-5, doi: 10.1109/CSNDSP.2016.7573947.
- [8] **Osama Saied,** et al. "Pilot-aided asymmetrically clipped optical OFDM in visible light communication." *The Mediterranean journal of electronics and communications*, vol. 12, no. 2, pp. 64-71, 2016.
- [9] **Osama Saied,** et al. " LiNEV: Visible Light Networking for Connected Vehicles." *submitted to IEEE Access journal*.
- [10] et al, **Osama Saied.** " Nearest Neighbor Grubbs Discrete Wavelet Packet Transform for Extracting Features from Electroencephalogram Signals for Human Emotion Recognition." *submitted to the Applied Science Journal*.

REFERENCES