CV SUMMARY

Contents

A. PERSONAL INFORMATION

NAME:	Hafiz Muhammad Asif
CURRENT ADDRESS:	Department of Electrical and Computer Engineering,
	College of Engineering, Sultan Qaboos University,
	PO Box 33, Al-Khoudh 123
	Muscat, Sultanate Of Oman
	Telephone: (+968)24142664
	Mobile: (+968)91936160
	Email: h.asif@squ.edu.om
DATE AND PLACE OF BIRTH:	30 August 1979, Pakistan
ORIGINAL	Sultan Qaboos University
CURRENT ACADEMIC POSITION:	16 May 2023 – Present
	Associate Professor
	Electrical and Computer Engineering Department
	Sutlan Qaboos University, Muscat Oman
AREAS OF SPECIALIZATION:	Wireless Communication, Visible Light
	Communication, Computer Networks, Algebraic coding
PROFESSIONAL PAGES:	**Google Scholar**
	https://scholar.google.com/citations?user=zjNjhqgAAAAJ&hl=en
	Scopus
	https://scopus.com/authid/detail.uri?authorId=55193034500
	Research Gate
	https://www.researchgate.net/profile/Hafiz-Asif-5
	LinkedIn
	https://www.linkedin.com/in/hafiz-asif-bb6b9615/

B. EDUCATION AND EMPLOYMENT INFORMATION

[B1].   Formal Education

Ph.D.	Communication systems
	The University of Lancaster, Lancaster, UK
	September 2012
	Thesis title: Rank Code Based MIMO & MIMO-UWB
	Ray-Tracing Channel Modelling
M.S.	Computer Engineering
	King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia
	January 2007
	Thesis title: Video Transport over Mobile Ad Hoc Networks
B.Sc.	Electrical Engineering
	University of Engineering & Technology, Lahore, Pakistan
	May 2002
	Project title: Wireless Connection between two PC's using BCC 400 Card

[B2].   Employment Information

February 2004 – January 2007	Research Assistant
	King Fahd University of Petroleum and Minerals,
	Dhahran, Saudi Arabia
February 2007 – January 2008	Lecturer
	Department of Electrical and Computer Engineering, COMSATS
	University Islamabad (CUI), Lahore campus, Pakistan
January 2008 – August 2019	Assistant Professor
	Department of Electrical and Computer Engineering, COMSATS
	University Islamabad (CUI), Lahore campus, Pakistan

30 Aug. 2019 – 15 May 2023:   Assistant Professor
                                     Electrical and Computer Engineering Department
                                     SQU University, Muscat, Oman

16 May 2023 – Present: Associate Professor
                                     Electrical and Computer Engineering Department
                                     SQU University, Muscat, Oman

C. TEACHING AND LEARNING

a) Active Participation in University Teaching & Learning

[C.a.1] Undergraduate Courses Taught at SQU and Course Evaluation

Semester	Course Code	Course Title	Students' Registration
Fall 2023	ECCE3152	Electronics I	32
	ECCE3142	Signals and Systems	20
Spring 2023	ECCE4122	Analog and Digital Communication	21
	ECCE3038	Measurement and Instrumentation	13
Fall 2022	ECCE4122	Analog and Digital Communication	28
	ECCE3142	Signals and Systems	21
Summer 2022	ECCE3142	Signals and Systems	36
Spring 2022	ECCE2016	Circuit Analysis I	20
	ECCE3142	Analog and Digital Communication	30
Fall 2021	ECCE4122	Analog and Digital Communication (2 sections)	44
Summer 2021	ECCE3142	Signals and Systems	39
Spring 2021	ECCE2016	Circuit Analysis I (2 sections)	71
Fall 2020	ECCE4122	Analog and Digital Communication	30
Summer 2020	ECCE3142	Signals and Systems	51
Spring 2020	ECCE4122	Analog and Digital Communication (2 sections)	52
Fall 2019	ECCE4122	Analog and Digital Communication (2 sections)	44

[C.a.2] Graduate Courses Taught and Developed at SQU

Semester	Course Code	Course Title	Students' Registration
Fall 2020	ECCE6162	Radio wave propagation and radio spectrum management	3

[C.a.3] Undergraduate Courses Taught at COMSATS University Islamabad (CUI)

Course code	Course name	Semester taught
EEE371	Power Distribution and Utilization	Fall 2012
EEE121	Electric Circuit Analysis – I	Spring 2013, Fall 2013, Spring 2014
EEE352	Analog Communication Systems	Spring 2013, Fall 2013, Fall 2018
EEE470	Error Control Coding	Spring 2014, Fall 2014, Spring 2015
EEE324	Digital Signal Processing	Fall 2014
EEE251	Probability Methods in Engineering	Fall 2015, Spring 2016
EEE314	Data Communication & Computer Networks	Fall 2016, Spring 2017, Fall 2017, Spring 2018
EEE353	Digital Communications Systems	Fall 2018

[C.a.4] Graduate Courses Taught COMSATS University Islamabad (CUI)

Course code	Course name	Semester taught
ETN642	Information theory and coding	Spring 2015
ETN840	Special Topics in Communication Systems	Spring 2016
ECI716	Probabilistic Methods in Computer System	Fall 2016
EEE611	Stochastic process	Spring 2017

EEE671	Data Networks and Communication	Fall 2017
EEE641	Digital Communications	Spring 2018

b) Student/Trainee Advising and Supervision

[C.b.1]   Student Advising

Assigned students of cohort 2015, 2019, and many others for advising. The main duties include degree auditing, advising in course substitution, handling probation cases, course registration etc. So far, I have advised over 100 students.

[C.b.2]   Supervision of Undergraduate Student Projects at SQU

No.	Year	Title of application	Role
1.	2020	Design of wireless/digital communication laboratory testbed using low cost SDR and GNU Radio free open source software	Co-supervisor
2.	2021	Design of Visible Light Communication Navigational System	Supervisor
3.	2021	Smart Farms	Supervisor
4.	2022	Design of Underwater Visible Light Communication System for the Detection of Water Pollution	Supervisor
5.	2022	OBB FDH Cabinets Security & Entry control	Supervisor
6.	2023	Optimal Selection of Wind Farms Capacity for Generation Expansion	Supervisor
7.	2023		Co-supervisor

[C.b.3]   Master and PhD Projects Supervision

Masters:

No.	Name	Completion Year	Title of thesis	Role
1.	Miad Al Balushi (121506)	Fall 2021	Non-Orthogonal Multiple Access for visible Light Communication	Co-supervisor
2.	Abdulrahim Al Maskari	Spring 2022	Characterization of Vegetation Land Cover Nearby Water Dams in Oman Using Remote Sensing Technology and Image Processing Algorithms	Committee member
3.	Tamadhar Al-hashmi	Fall 2023	NOMA-OFDM Waveform Peak-to-Average Power Ratio Reduction Using Machine Learning Techniques	Co-supervisor
4.	Yasir Said Khamis Al-Ghafri	Fall 2023	Design of a Wireless Powered Cooperative NOMA for NLoS environments	Supervisor

PhD:

No.	Name	Year started	Tentative Title of thesis	Role
1.				

[C.b.4]   Supervision at CUI Lahore

Before joining SQU, I have supervised many undergraduate FYPs. I have also supervised 4 MSc theses at CUI Lahore.

c) Participation in Curriculum Development/Review and Teaching Management

[C.c.1]   Courses Development at SQU

❖   Developed the following new courses:

Undergraduate Course:

ECCE 5137 Mobile Application Development for Networking and communication (3 credits)

Graduate Course:

ECCE 6123 Quantum communication (3 credits)

[C.c.2]   Diversity in Teaching

➢ Used extensively Moodle platform for online teaching in order to create different types of questions, upload lectures, slides and course materials, conduct different assessment components etc.

➢ Used Wiris plugin in Moodle to create graph/equation based mathematical questions

➢ Used synchronous/non-synchronous online teaching, physical teaching in Fall 2019

[C.c.3]   Laboratory Development at CUI

Acted as lab in-charge of networking lab at CUI. The main duties include lab development, procurement of routers/switches and other networking equipment, maintenance and supervision.

d) Personal Professional Development in University Teaching and Learning

[C.d.1]   Huawei Certifications

2020	Huawei Certification: **Huawei Certified ICT Associate (HCIA)**
2020	Huawei Certification: **Huawei Certified Academic Instructor (HCAI)**

[C.d.2]   Certificate of Higher Education Teaching and Learning (CHETL)

2021	March 2022-May 2023 1 yearlong teaching and learning program organized by Center for Excellence In Teaching and Learning (CETL), SQU, equivalent to 35 credit points

[C.d.3]   Teaching Training Course on "Teaching Critical Thinking"

2021	January-March 2021 teaching training course on "**Teaching Critical Thinking**" organized by Center for Excellence In Teaching and Learning (CETL), SQU (successfully submitted final project report and earned 5 credits)

[C.d.4]   Workshop Attendance Related to Teaching and Learning

2023	Attended a session organized by Center for Excellence in Teaching and Learning (CETL), SQU on "**The Awareness Raising Sessions about the Strategies Used for Implementing SQU Teaching Philosophy and Teaching and Learning Methodologies**" on November 09, 2023
2023	Attended a workshop organized by Center for Excellence In Teaching and Learning (CETL), SQU on "**E-Portfolios for professional development**" on May 04, 2023
2023	Attended a workshop organized by Center for Excellence In Teaching and Learning (CETL), SQU on "**Peer Assessment**" on February 23, 2023
2023	Attended a workshop organized by Ceter for Excellence In Teaching and Learning (CETL), SQU on "**Scholarship in Teaching & Learning (SoTL)**" on February 09, 2023
2021	Participated in a webinar organized by the Dean's office, college of engineering on "**Essentials of Academic Advising**" on November, 2021
2021	Attended a workshop organized by Center Excellence In Teaching and Learning (CETL) on "**Promoting Active Learning through Student Assessments Tools and Strategies**" on November, 2021
2021	Participated in a webinar organized by IEEE on "**Resources for University Faculty: Introducing the Teaching Excellence Hub**" on November 09, 2021
2021	Attended a workshop organized by Excellence In Teaching and Learning (CETL) about "**Weighting Course Elements and Designing Courses for Outcome Based Learning: Sharing the Experience**" on October 07, 2021
2021	Attended a workshop organized by Center for Excellence In Teaching and Learning (CETL) on "**Principles from Cognitive Science for Teaching Online**" on January 27, 2021
2021	"**Combined Key Skills and Professional Registration**" on June 15, 2021 arranged by the IET Professional development team
2008	**Teaching workshop on Survival Skills** at Lancaster University, UK

e) Recognition in University Teaching and Learning

[C.f.1]   Teaching and Learning Awards

2022	Elevated to the rank of IEEE senior member (SMIEEE), Institute of Electrical and Electronics Engineering, IEEE (USA)

Exam type: assessment of online submitted dossier

2017	Performance-based award of Honorarium at CUI in 2017
2017	Teaching award presented in recognition of values services in the Education field of Pakistan
2016	Elevated to the rank of Chartered Engineer (CEng), Institute of Engineering and Technology, IET (UK)
	Exam type: a one-hour interview
2013	National Grassroots ICT Research Initiative 2013-14 award for the final year project titled "Interface design of VLC-PLC systems"

f) Leadership In University Teaching And Learning

[C.g.1] Course Coordinator

On joining SQU, I capitalized on my previous rigorous teaching experience in various academic institutions to commit myself to leadership role in teaching at SQU. In recognition of my hard work of teaching, I coordinated and managed two multi-section undergraduate courses listed below:

➢ ECCE4122 - Analog and Digital Communication (Fall 2021)
➢ ECCE2016 - Circuit Analysis I (Spring 2022)

The duties include setting different assessment components by mutual consensus, partial grading of mid and final exam papers, scheduling assessment components other than mid and final exams etc.

[C.g.2] Champion of Student Outcome 1 in ABET accreditation

Under the umbrella of the Quality Assurance and Academic Accreditation (AAA) committee, I have been tasked with the role of *Champion of Student Outcome 1 (SO 1)*. The SO 1 deals with Complex Engineering Problems (CEPs) from three aspects, i.e., identification, formulation and solution of CEPs. In Fall 2021, some of these aspects of the CEPs were successfully investigated for three ECCE subjects (Embedded Systems, Electronics II, and Digital Control Systems).

[C.g.3] Member of Board of Studies (BoS) at Superior University, Lahore

I have been a Board of Studies (BoS) member at the Department of Electrical Engineering, Superior University, Lahore, Pakistan, from 2016 to 2018. I have played my role, as a member, in the development and revision of electrical engineering courses and programs.

g) Impact in University Teaching and Learning

[C.h.1] Peer Evaluation

I believe my teaching has made a good impact among my peers. My peer-review was conducted by senior colleague for the course **Principles of Analog and Digital Communications** on November 24, 2019. My teaching assessment was **Excellent**.

[C.h.2] Editorial Membership

I have been honored and assigned to serve different roles in the editorial board. The details of the roles are as follow:

➢ **Managing Editor:**
   For iKSP Journal of Computer Science and Engineering (iJCSE)
   Tenure: since September 2020 - present
➢ **Editorial Board Member (EMB)**
   For Research Reports on Computer Science (RRCS)
   Tenure: since November 2021 - present

D. SCHOLARSHIP

a) Scholarly work

[D.a.1] Refereed International Journal Articles

[J1] Yasir Al-Ghafri, **Hafiz M. Asif**, Naser Tarhuni, and Zia Nadir, "Advancing Non-Line-of-Sight Communication: A Comprehensive Review of State-of-the-Art Technologies and the Role of Energy Harvesting," *Sensors* 2024, Vol.24, No.14, 4671, Available online at https://doi.org/10.3390/s24144671.

[J2] **Hafiz M. Asif**, Firdous Kausar, Mohammad Abdul Karim, Afaq Ahmad, "Empirical Analysis of Critical Thinking in Electrical Engineering and Computer Science Courses," Journal of Engineering Education Transformations (JEET), Vol.37, No.4, pp.85-93, April 2024, available online at https://journaleet.in/articles/empirical-analysis-of-critical-thinking-in-electrical-engineering-and-computer-science-courses.

[J3] **Hafiz M. Asif,** Khan, S.H., Alahmadi, T.J. et al., "Malaria parasitic detection using a new Deep Boosted and Ensemble Learning framework," Complex Intelligent Systems, 2024, Vol.10, pp. 4835-4851, available online at https://doi.org/10.1007/s40747-024-01406-2.

[J4] Beenish Hassan, Sobia Baig, Saad Aslam, **Hafiz M. Asif**, Shahid Mumtaz, "Adaptive Refined Random Orthogonal Matching Pursuit Algorithm for FBMC/OQAM MIMO Framework," Alexandria Engineering Journal (AEJ), Vol.87, January 2024 available online at https://doi.org/10.1016/j.aej.2023.12.026.

[J5] Affan Affan, **Hafiz M. Asif**, Naser Tarhuni, "Machine Learning Based Indoor Localization Under Shadowing Condition for P-NOMA VLC Systems," Sensors, Vol.23, No.11, 5319, 3 June, 2023, available online at https://doi.org/10.3390/s23115319.

[J6] Tarhuni, Naser, Ibtihal Al Saadi, **Hafiz M. Asif**, Mostefa Mesbah, Omer Eldirdiry, and Abdulnasir Hossen, "Machine-Learning-Based Ground-Level Mobile Network Coverage Prediction Using UAV Measurements," Journal of Sensor and Actuator Networks, Vol.12, No.3, 44, 26 May, 2023, available online at https://doi.org/10.3390/jsan12030044.

[J7] Muhammad Sajid Sarwar, Sobia Baig, **Hafiz M. Asif**, Kaamran Raahemifar, Samir Al-Busaidi, "Wavelet Transform Based Sparse Code Multiple Access for Power Line Communication," Electronics MDPI 2022, Vol.11, No.16, 2618, August 2022, available online at https://doi.org/10.3390/electronics11162618.

[J8] **Hafiz M. Asif**, Mohamed Abdul Karim, Firdous Kausar, "Federated Learning and Its Applications for Security and Communication," International Journal of Advanced Computer Science and Applications (IJACSA), Vol.13, No.2, August 2022, available online at https://doi.org/10.14569/IJACSA.2022.0130838.

[J9] **Hafiz M. Asif**, Affan Affan, Naser Tarhuni, Kaamran Raahemifar, "Deep Learning-Based Next-Generation Waveform for Multiuser VLC Systems," Sensors 2022, Vol.22, No.7, 2771, available online at https://doi.org/10.3390/s22072771.

[J10] Firdous Kausar, Fahad M. Senan, **Hafiz M. Asif**, Kaamran Raahemifar, "6G Technology and Taxonomy of Attacks on Blockchain Technology," Alexandria Engineering Journal, Vol.61, No.6, pp. 4295-4306, June 2022, available online at https://doi.org/10.1016/j.aej.2021.09.051.

[J11] B. Hassan, S. Baig, **Hafiz M.Asif**, Shahid Mumtaz, Sami Muhaidat "A Survey of FDD-based Channel Estimation Schemes With Coordinated Multipoint," IEEE Systems Journal, Vol.16, No.3, pp. 4563-4573, September 2022, available online at https://doi.org/10.1109/JSYST.2021.3111284.

[J12] Sadia Murawwat, **Hafiz M.Asif**, Sana Ijaz, Muhammad Imran Malik, Kaamran Raahemifar, "Denoising and classification of Arrhythmia using MEMD and ANN," Alexandria Engineering Journal, Vol.61, No.4, pp. 2807-2823, April 2022 available online at https://doi.org/10.1016/j.aej.2021.08.014.

[J13] Affan Affan, Shahid Mumtaz, **Hafiz M. Asif**, and Leila Musavia, "Performance Analysis of Orbital Angular Momentum (OAM) –A 6G Waveform Design," IEEE Communication Letters, Vol.25, No.12, pp. 3985-3989, December 2021, available online at https://doi.org/10.1109/LCOMM.2021.3115041.

[J14] B. Hassan, S. Baig and **Hafiz M.Asif**, "Key Technologies for Ultra-Reliable and Low-Latency Communication in 6G," IEEE Communications Standards Magazine, Vol. 5, No. 2, pp. 106-113, June 2021, available online at https://doi.org/10.1109/MCOMSTD.001.2000052.

[J15] S. M. Sheikh, **Hafiz M.Asif**, K. Raahemifar and F. Al-Turjman, "Time Difference of Arrival Based Indoor Positioning System Using Visible Light Communication," IEEE Access, Vol. 9, pp. 52113-52124, 30 March, 2021, available online at https://doi.org/10.1109/ACCESS.2021.3069793.

[J16] Khalid, A., Rashid, F., Tahir, U., **Hafiz M.Asif**, F. Al-Tujman "Multi-carrier Visible Light Communication System Using Enhanced Sub-carrier Index Modulation and Discrete Wavelet Transform," Wireless Personal Communications, Vol.127, No.1, pp. 187-215, November 2022, available online at https://doi.org/10.1007/s11277-021-08121-y.

[J17] Muneeb Ahmad, Sobia Baig, **Hafiz M.Asif**, Kaamran Raahemifar "Mitigation of Imperfect Successive Interference Cancellation and Wavelet-Based Nonorthogonal Multiple Access in the 5G Multiuser Downlink Network," Wireless Communications and Mobile Computing (WCMC), Vol.2021, available online at https://doi.org/10.1155/2021/8876026.

[J18] Ayesha Naz, **Hafiz M.Asif**, Tariq Umer, Shahid Ayub, Fadi Al-Turjman "Tri-lateration based Indoor Localization Schemes for Visible Light Communication Systems," Software:Practice and Experience (SPE), Vol.51, No.3, pp.503-516, March, 2021, available online at https://doi.org/10.1002/spe.2823.

[J19] Arslan Khalid, Faizan Rashid, **Hafiz M.Asif**, Assad Ali, Sattam Al-Otaibi, "Physical deployment of enhanced visible light communication system using forward error correction codes," International Journal of Communication Systems, Vol.33, No.5, 25 March, 2020 available online at https://doi.org/10.1002/dac.4268.

[J20] **Hafiz M.Asif**, "Analysis of space time block codes and cosets for 5G and its applications," Computer Communications, Vol.149, pp.189-193, January 2020, available online at https://doi.org/10.1016/j.comcom.2019.10.015.

[J21] Muhammad Ahmad, Asim Ali Khan, Muhammad Amin, **Hafiz M.Asif**, Sobia Baig, ''Ground plane impact on quadrifilar helix antenna performance with respect to deployment heights,'' in International Journal of Communication Systems, Vol.32, No.14, 25 September, 2019, available online at https://doi.org/10.1002/dac.4075.

[J22] Zainab Tahira, **Hafiz M.Asif**, Asim A.Khan, Sobia Baig, S.Mumtaz, Saba Al-Rubaye "Optimization of Non-Orthogonal Multiple Access based Visible Light Communication System," in IEEE Communication Letters, Vol.23, No.8, pp.1365-1368, August 2019, available online at https://www.doi.org/10.1109/LCOMM.2018.2889986.

[J23] Arsla Khan, Saud Khan, Sobia Baig, **Hafiz M.Asif**, Soo Yong Shin "Wavelet OFDM with Overlap FDE for non-Gaussian channels in precoded NOMA based systems," Future Generation Computer Systems, Vol.97, pp.165-179, August 2019, available online at https://doi.org/10.1016/j.future.2019.02.025.

[J24] Khalid, A., **Hafiz M.Asif**, Kostromitin, K., Al-Otaibi, S., Saidul H., Rodriguez, J. "Doubly Orthogonal Wavelet Packets for Multi-Users Indoor Visible Light Communication Systems," Photonics, Vol.6, No.3, 30 July, 2019, available online at https://doi.org/10.3390/photonics6030085.

[J25] Ayesha Naz, Sobia Baig, **Hafiz M.Asif**, "Non Orthogonal Multiple Access (NOMA) for Broadband Communication in Smart Grids using VLC and PLC," Optik, Elsevier, Vol.188, pp.162-171, July 2019, available online at https://doi.org/10.1016/j.ijleo.2019.03.034.

[J26] Arslan Khalid, **Hafiz M.Asif**, Shahid Mumtaz, Sattam Al-Otaibi, Kostromitin Konstantin "Design of MIMO-Visible Light Communication Transceiver Using Maximum Rank Distance Codes," IEEE Access, Vol.7, pp.89128-89140, 20 June, 2019, available online at https://doi.org/10.1109/ACCESS.2019.2924202.

[J27] Sobia Baig, Usman Ali, **Hafiz M.Asif**, Asim Ali Khan, Shahid Mumtaz "Closed-Form BER Expression for Fourier and Wavelet Transform based Pulse-Shaped Data in Downlink NOMA," IEEE Communication Letters, Vol.23, No.4, pp.592-595, April 2019, available online at https://www.doi.org/10.1109/LCOMM.2019.2903083.

[J28] S. Baig, **Hafiz M.Asif**, T. Umer, S. Mumtaz, M. Shafiq and J. Choi "High Data Rate Discrete Wavelet Transform-Based PLC-VLC Design for 5G Communication Systems," IEEE Access, Vol.6, No.1, pp.52490-52499, 17 September, 2018, https://doi.org/10.1109/ACCESS.2018.2870138.

[J29] Saad Sheikh, Hamza Rahman, **Hafiz M.Asif**, S.Baig, Asim A.Khan "Design of NS3 VLC Module and Performance Analysis of Adhoc Network under VLC and WiFi layers," International Journal of Communication Systems (IJCS), Vol.31, No.14, 25 September, 2018, DOI: 10:1002=dac:3764, available online at https://doi.org/10.1002/dac.3764.

[J30] Aaqib Khalid, Tariq Umer, Adnan Sohail, Muhammad Khalil Afzal, Sheraz Anjum, **Hafiz M.Asif**, "Autonomous Data Driven Surveillance and Rectification System using In-Vehicle Sensors for

Intelligent and Connected Transportation Systems (ICTS)," Computer Networks, Elsevier Journal, Vol.139, No.PP, pp.109-118, July 2018, https://doi.org/10.1016/j.comnet.2018.04.008.

[J31] Hira Khalid, Feroze Waris, **Hafiz M.Asif**, "Design of an Integrated Power Line Communication (PLC)-Visible Light Communication (VLC) System for Data Communication," LASERS in Engineering, Vol.40, No.1-3, pp.107-125, June 2018, available online at http://www.oldcitypublishing.com/journals/lie-home/lie-issue-contents/.

[J32] Ayesha Naz, **Hafiz M.Asif**, T. Umer and B. Kim "PDOA Based Indoor Positioning Using Visible Light Communication," IEEE Access, Vol.6, pp.7557-7564, January, 2018, available online at https://doi.org/10.1109/ACCESS.2018.2796623.

[J33] Sobia Baig, Muneeb Ahmed, **Hafiz M.Asif**, Muhammad Naeem Shahzad, Mujtaba Hussain Jaffery, "Dual PHY Layer for Non-Orthogonal Multiple Access Transceiver in 5G Networks," IEEE Access, Vol.6, No.1, pp.3130-3139, 2018, available online at https://doi.org/10.1109/ACCESS.2017.2787200.

[J34] Arslan Khalid, **Hafiz M.Asif**, "OCDMA and OSTBC Based VLC Transceiver Design using NI cDAQ," Photonic Network Communications (PNC) Springer Journal, Vol.35, No.1, pp.97-108, February 2018, available online at https://doi.org/10.1007/s11107-017-0722-z.

[J35] Muhammad Ahsan, **Hafiz M.Asif**, "ESIM-OFDM-Based Transceiver Design of a Visible Light Communication System," International Journal of Communication Systems, Vol.30, No.8, 25 May, 2017, DOI: 10:1002=dac:3175, available at https://doi.org/10.1002/dac.3175.

[J36] **Hafiz M.Asif**, B.Honary, M.T.Hamayun., "Gaussian Integers and Interleaved Rank Codes for Space Time Block Codes," International Journal of Communication Systems, Wiley Online library, Vol.30, No.1, 10 January, 2017, available online at https://doi.org/10.1002/dac.2943.

[J37] **Hafiz M.Asif**, B.Honary, Hasan Ahmed "Channel Modelling Scheme for UWB with Multiple Antennas Using Ray-Tracing Approach for Rate-Compatible Low-Density Parity-Check Codes," The Arabian Journal for Science and Engineering (AJSE) Springer, Vol.38, No.9, pp.2315-2325, September 2013, available online at https://doi.org/10.1007/s13369-013-0557-6.

[J38] **Hafiz M.Asif**, B.Honary, Hasan Ahmed, "Multiple-input multiple-output ultra-wideband channel modelling method based on ray tracing," IET Communications Journal on Special Issues on UWB Technology, Vol. 6, No.10, pp.1195-1204, July 2012, available online at https://doi.org/10.1049/iet-com.2011.0265.

[D.a.2] Refereed Conference Proceedings

[C1] Affan Affan, **Hafiz M. Asif**, Naser Tarhuni, "VLC Indoor Positioning Using RFR and SVM Reduced Features Machine Learning Techniques," Wireless Telecommunications Symposium (WTS), April 19-21, 2023, Boston, MA, USA.

[C2] **Hafiz M. Asif**, Affan Affan, Naser Tarhuni, "Spatial Distribution Waveform Design for an Efficient Optical Communication System," The 4th West Asian Symposium on Optical and Millimeter-wave Wireless Communications (WASOWC2022), pp.1-5, DOI: 10.1109/WASOWC54657.2022.9798427 , May 12-13, 2022.

[C3] S.M.Sheikh, **Hafiz M.Asif**, K.Raahemifar, F.Kausar, J.Rodrigues, S.Mumtaz "RSSI Based Implementation of Indoor Positioning Visible Light Communication System in NS-3," IEEE International Conference on Communications (ICC): Communication QoS, Reliability and Modeling Symposium (CQRM), 14-23 June 2021, Virtual (Montreal, CA).

[C4] A. Affan, Usama Khan, **Hafiz M. Asif** and K. Raahemifar, "Multiuser Visible Light Communication System using Hybrid OFDM-PWM," International Symposium on Networks Computers and Communications (ISNCC), Oct.20-22, 2020, pp. 1-6, Montreal, QC.

[C5] Z. Tahira, **Hafiz M. Asif**, "Effect of Averaging Techniques on PCA Algorithm and its Performance Comparison in Face Recognition Applications," IEEE International Conference on Computing, Electronic and Electrical Engineering (ICE Cube), 12-13 November 2018, Balochistan University of IT, Engineering and Management Sciences (BUITEMS), Quetta, Pakistan.

[C6] Ayesha Naz, Naveed-ul-Hasan, **Hafiz M.Asif**, "Single LED Ceiling Lamp Based Indoor Positioning System," 4th IEEE World Forum on Internet of Things (WF-IoT), pp.682-687, 05-08 February, 2018,

[C7] Asim Zafar, Arslan Khalid, **Hafiz M.Asif**, "Equalization Techniques for Visible Light Communication System," in the International Conference on Electrical and Computing Technologies and Applications, 2017 (ICECTA'17), November 21-23, 2017, American University of Ras Al Khaimah (AURAK), UAE.

[C8]   Arslan Khalid, **Hafiz M.Asif**, Nesrum inallah, "NI cDAQ Based Software-Defined Radio for Visible Light Communication System," in IEEE 2nd Workshop on Recent Trends in Telecommunications Research (RTTR), February 10, 2017, Massey University, New Zealand, pp.1-5.

[C9]   Asad Ali, Amna Sehar, Sana Najaf, **Hafiz M.Asif**, "Customizable Transceiver Design of a Visible Light Communication System," 13th International Conference on Frontiers of Information Technology (FIT'15), December 14-16, 2015, Islamabad, Pakistan.

[C10] **Hafiz M.Asif**, Ernst Gabidulin, Bahram Honary, "Rank Codes over Gaussian Integers and Space Time Block Codes," International Conference on Mathematics of Distances and Applications (MDA'12), July 2-5, 2012, Varna, Bulgaria.

[C11] **Hafiz M.Asif**, Ernst Gabidulin, Bahram Honary, "Maximum Rank Distance Codes for Space Time Block Coding: A Comparative Study," Next Generation Mobile Applications, Services, and Technologies (NGMAST'11), September 14-16, 2011, Cardiff, UK.

[C12] **Hafiz M.Asif**, Sam Chadwick, Yujie Zeng, Bahram Honary, Hasan Ahmed, "MIMO-UWB Channel Modelling using a 3D Ray Tracing Simulator," Thee 3rd IET International Conference on Wireless, Mobile and Multimedia Networks (ICWMMN2010), September 26-29, 2010, Beijing, China.

[C13] **Hafiz M.Asif**, Sam Chadwick, Yujie Zeng, Bahram Honary, Hasan Ahmed, "Frequency and MIMO Impact on Ray Tracing Based UWB Channel Modelling," 2010 IEEE International Conference on Ultra Wide Band (ICUWB 2010), 20-23 September, Nanjing, China.

[C14] **Hafiz M.Asif**, Tarek Sheltami R., "Power Consumption Optimization and Delay Minimization in MANET," 6th International Conference on Advances in Mobile Computing & Multimedia (MoMM2008) Linz, Austria November 24-26, 2008, pp.67-73.

[C15] **Hafiz M.Asif** and Tarek Sheltami R., "Power Saving Deviation and Sudden Demise Effect of ClusterHead (CH) in the WEAC Protocol," 4th International Conference on Innovations in Information Technologies (IIT), Dubai November 18-20, 2007, pp.118-122.

[C16] **Hafiz M.Asif** and Tarek Sheltami R., "Power and Delay Analysis of The WEAC Protocol Based MANET Under Video Transport," the IEEE 21st International Conference on Advanced Information Networking and Applications (AINA-07) Niagara Falls, Canada, May 21-23, 2007, pp.15-22.

[C17] **Hafiz M. Asif**, Md. Golam Kaosar, "Performance Comparison of IP, ATM and MPLS Based Network Cores Using OPNET," in 1st IEEE International Conference on Industrial & Information Systems (ICIIS 2006), 8-11 August, 2006, Sri Lanka.

[C18] Md. Golam Kaosar, **Hafiz M. Asif**, Tarek R. Sheltami, Ashraf S. Hasan Mahmoud, "Simulation-Based Comparative Study of On Demand Routing Protocols for MANET," International Conference on Wireless Networking and Mobile Computing (ICWNMC'05), 28-30 December 2005, Chennai, India, pp. 201-206.

[C19] **Hafiz M.Asif**, E. El-Alfy, "Performance Evaluation of Queuing Disciplines for Multi-Class Traffic Using OPNET Simulator" MMATCEE'05 WSEAS Conference in Sofia, Bulgaria, October 27-29, 2005.

[D.a.3] Published Book Chapters

F.Kausar, M.A.K.Sadiq, **Hafiz M.Asif** (2021) "Convergence of Blockchain in IoT Applications for Heterogeneous networks" in Real-Time Intelligence for Heterogeneous Networks. Springer, Cham, available online at https://doi.org/10.1007/978-3-030-75614-7_5.

S.Aslam, F.Alam, H.H.Pajooh, M.A.Rashid, **Hafiz M.Asif** (2021) "Machine Learning Applications for Heterogeneous Networks" in Real-Time Intelligence for Heterogeneous Networks. Springer, Cham, available online at https://doi.org/10.1007/978-3-030-75614-7_1.

b) Personal Professional Development in Scholarship

[D.c.1] Research-related Training/Conference/Webinar/Seminar Attendance

I have attended the following training courses/conferences/seminar/webinars at SQU and Outside SQU that relates to the development of research activities:

2022   Attended webinar "**IEEE Authorship and Open Access Symposium**: Tips and Best Practices to Get Published from IEEE Editors" on March 30, 2022

2022   Attended webinar "**IEEE Virtual Tech Talk: IEEE 802.1 Time Sensitive Networking Standards**" on January 26, 2022

2021   Attended webinar "**IEEE TryEngineering Tuesday: 5G Featuring IEEE Communications Society**" on November 17, 2021. Also attended "**On-Demand IEEE TryEngineering Tuesday: 5G**"

2021	**IEEE Tech Talk: IEEE 802 Networking Standards-802.11 Wireless LAN Standards** on May 26, 2021
2021	Served as **TPC member** for The Globecom 2021 and 2022 conferences
2020	Served as **session chair** in International conference on Innovative Trends in Business & Technology (iCITBT)
2020	**IEEE Virtual Tech talk Privacy's Increasing Role in Technology A View from the IAPP**" on organized by IEEE on August 12, 2020

[D.c.2]   Training at HW Communication Ltd. Lancaster, UK

I have done research and development practical training at **HW Communication Ltd., UK** for about a year, i.e., between September 2011 – September 2012. The key responsibilities are to carry out R&D work related to UWB technology, visible light communication (have been involved with Outstanding Technologies, Japan), antenna design etc., especially for surface wave transmission line system, write research and commercial proposals.

[D.c.3]   Publication of editorials

- Shahid mumtaz, Chunxiao Jiang, Antti Tölli, Anwer Al-Dulaimi, Majid Butt, Hafiz M.Asif, Ikram Ashraf, "6G: The Paradigm for Future Wireless Communications," IEEE Wireless Communications Magazine, Vol.29, No.1, pp:14-15, February 2022.
- Hafiz M.Asif (Lead guest editor), T.Umer, S.Mumtaz, Z.Ding, Z.Zhou, A.Rayes "Visible Light Communication (VLC) Technologies," Special Issue for Transactions on Emerging Telecommunications Technologies (ETT), Vol.30, No.2, February 2019, available online at https://doi.org/10.1002/ett.3533. [Guest editor, Q2]

[D.c.4]   Membership of Professional/Scholarly Societies

Membership	**Senior Member**, Institute of Electrical and Electronics Engineering, IEEE (USA). IEEE Member # : 94447808
	Member, IEEE Communications Society, IEEE Member # : 94447808
	Member, IEEE Technology and Engineering Management society, IEEE Member # : 94447808
	Member, Institute of Engineering and Technology, IET (UK), IET Member # : 1100348992
	Chartered Engineer (CEng), Institute of Engineering and Technology, IET (UK)
	PEC Professional member, Pakistan Engineering Council (PEC), Pakistan

[D.c.5]   Reviewer for International Refereed Journals

Served as a **reviewer** for the following journals:

- IEEE Wireless Communications Magazine, IEEE systems journal, IEEE Transactions on Intelligent Transportation Systems, IEEE Access
- The Journal of Engineering Research [TJER] published by SQU
- Computer Communications
- Elsevier and Alexandria Engineering Journal (AEJ) Elsevier
- Sustainability/Sensors/Applied Sciences/Photonics MDPI
- Multimedia systems Springer
- Cybernetics and Systems

c)   Leadership in scholarship

[D.e.1]   Research Grants (RG)

With SQU affiliation

#	PROJECT TITLE	ROLE	FUNDING AGENCY	AMOUNT (USD)	DURATION
1	VISIBLE LIGHT COMMUNICATION FOR INDOOR POSITIONING SYSTEM	PRINCIPAL INVESTIGATOR	SULTAN QABOOS UNIVERSITY	5200	2020-21 COMPLETED

#			(DEANSHIP OF RESEARCH)		
2	DESIGN OF MULTIUSER VISIBLE LIGHT COMMUNICATION FOR LOCALIZATION APPLICATIONS	PRINCIPAL INVESTIGATOR	SULTAN QABOOS UNIVERSITY (INTERNAL GRANT)	10920	2021-22 COMPLETED
3	MACHINE LEARNING BASED INDOOR LOCALIZATION USING VISIBLE LIGHT COMMUNICATION	CO-PRINCIPAL INVESTIGATOR	SULTAN QABOOS UNIVERSITY (INTERNAL GRANT)	14,450	2023 ACCEPTED
4	AN INTELLIGENT COLLISION AVOIDANCE SYSTEM FOR SMART CITIES USING GAME THEORY	CO-PRINCIPAL INVESTIGATOR	TRC RESEARCH GRANT	10,000	2023 SUBMITTED
	SATELLITE-CONNECTED INTERNET OF THINGS (IOT) FOR SMART FISHERIES	CO INVESTIGATOR	HMTF STRATEGIC RESEARCH GRANT	250,000	2023 SUBMITTED

Before joining SQU

#	PROJECT TITLE	ROLE	FUNDING AGENCY	AMOUNT (USD)	DURATION
1	SIMULATION STUDY OF NOVEL SPACE TIME BLOCK CODING USING RANK CODES	PRINCIPAL INVESTIGATOR	HIGHER EDUCATION COMMISSION (HEC), PAKISTAN	2340	2014 COMPLETED

[D.e.2]   Leading Role in Various Societies/Committees

➢ Serving as **International Advisory Committee** of "World Conference on Multidisciplinary Research & Innovation (WCMRI-2022)" on 28th - 29th October 2022, Singapore

➢ Serving as **Co-Chair – Publicity Committee** for Second International Conference on Artificial Intelligence of Things (ICAIoT 2022), Turkey, on Dec. 29-30, 2022

➢ Served as a **Session Chair** in the following conference:
  o International conference on Innovative Trends in Business and Technology (iCITBT) on 17-18 December, 2020.

d) Impact in scholarship

[D.f.1]   Awards of Scholarly Achievements

2012   **Research productivity award** in appreciation of research contribution by COMSATS Institute of Information Technology

2008   **COMSATS fully funded scholarship for PhD**

2004   **KFUPM fully funded scholarship for MS** (studentship was in terms of RA ship in which main duties include grading and assisting in labs)

E. UNIVERSITY & COMMUNITY SERVICE

a) Participation in University and Community Service Activities

[E.a.1]   Department Services at SQU

Committee name	Role details	Role description
Student Societies and Social Activities Committee	**Chair** Fall 2022 - till date **Member** Fall 2019 – Summer 2022	As a chair and an active member of the *Student societies and social activities committee*, I have been doing my best to play my role in arranging different events from time to time. The types of events comprise both virtual (online) and physical. For faculty and staff members, different events are arranged which mainly include farewell gatherings. The events for the students comprise online activities such as IEEE seminars, webinars, workshops etc. I did my best to work as a good and useful team member. I have been member of this committee since Fall 2019 and became its chair in Fall 2022.

Laboratories and Teaching Facilities Committee	**Member** Spring 2021 and Spring 2022	As a member of the *Laboratories and Teaching Facilities committee*, I have done my best to play my role in an attempt to give productive committee outcomes. To facilitate faculty members in terms of different academic facilities, I have played my role as far as any assigned task is concerned in this regard. I have always done my best to work as a good and useful team member. The chair of the committee has always shown good remarks about assigned duties from time to time.
Quality Assurance and Academic Accreditation Committee	**Member** Fall 2020- till date	As a member of the *Quality Assurance and Academic Accreditation committee*, I have done my best to play my role in an attempt to give productive committee outcomes. Under the umbrella of this committee, I took an active part in revising different ECE courses. In this regard, multiple meetings were arranged and suggested points were discussed.

[E.a.2]   Department Services before joining SQU

#	Committee name	Role
1	Departmental Academic Review Committee (DARC)	Member
2	Scholarship committee	Member
3	Networking lab	Lab in-charge
4	FYP evaluation committee	Member

[E.a.3]   College Services at SQU

➢ **Chair of the thesis defense committee**
   I served as chair of MS thesis defense committees of the following students:
   1) Ms. Muna Mohammed Najeem Al-Badi (132308) held on May 15, 2023
   2) Ms. Noor Al Muzaini (115891) held on January 26, 2023
   3) Ms. Khoula Al Mamari (128733) held on November 20, 2022
   4) Ms. Maryam Al Sab'ii (82329) held on 29 June 2022
   5) Ms. Abeer Al Hadrami (86443) held on 06 September 2022
➢ **Short course for HCIA preparation**
   I with my department colleague conducted 1-week short course on "**Huawei Routing and Switching standards" to SQU students** during summer break May 29-June 02, 2022

[E.a.4]   University Services

Before joining SQU, I was involved in the following activities at the university level:
➢ Organized All Pakistan DICE-IET Innovation event held on 08-09 March, 2019 at COMSATS University Islamabad, Lahore Campus
➢ Organized All Pakistan DICE-IET Innovation event held on 15-17 December, 2017 at COMSATS Institute of Information Technology, Lahore

b) Scholarship in University and Community Service

[E.c.1]   Conference Organizing and Technical Program Committees

I have/am served/serving as a **Technical Program Chair** for the following conference events:
➢ The IEEE Global Communications Conference (GLOBECOM) 2021 and 2022
➢ The International Conference on Electrical and Computing Technologies and Applications, 2022 (ICECTA'2022)

c) Popularization, Dissemination and Simplification of Knowledge

[E.d.1]   Short courses and Events Organization

➢ I, with my department colleague, conducted 1-week short course on "**Huawei Routing and Switching standards" to SQU students** during summer break May 29-June 02, 2022
➢ Conducted workshop on LATEX on May 02, 2017 at COMSATS Institute of Information Technology, Lahore
➢ Coordinated two days seminar on 4G, LTE, evolution to 5G Mobile Communication held on 4-5 December, 2018 at COMSATS Institute of Information Technology, Lahore
➢ Organized 11th IEEE multitopic conference INMIC 2007 held on 28-29 December, 2007 at COMSATS Institute of Information Technology, Lahore

d) Serving in Administrative Positions and Committee Membership /Chairmanship

[E.e.1]   SQU Focal Person for Huawei ICT Academy at SQU

I have been serving as SQU Focal Person for Huawei ICT Academy at SQU. The key duties include attending meetings between Huawei and SQU representatives, managing the Huawei ICT Academy online platform, and encouraging both students and faculty/staff members to participate in the academy actively.

[E.e.2]   Vice-Chair IEEE ComSoc Oman section chapter

I have been serving as Vice-Chair IEEE ComSoc Oman section chapter since April 2021, primarily for two years. The key responsibilities include organizing different events such as conferences, webinars, workshops, academic competitions, etc., under the umbrella of the IEEE ComSoc Society, Oman section.

[E.e.3]   IEEE Student Branch Counsellor at SQU

I have been serving as IEEE Student Branch Counsellor for about the last 1 year. The key responsibilities include managing student activities, applying for funds to arrange events, and attending IEEE meetings from time to time.

[E.e.4]   Judging Panel of the Graduate Projects Competition

- ➢ Participated in the Judging Panel of the Graduate Projects Competition-UTAS GPS 2022 held at the University of Technology and Applied Sciences (UTAS), Suhar, on May 26, 2022 and on June 03, 2021.

[E.e.5]   Convener of IET Accreditation Committee

Served as Convener of the IET Accreditation Committee at CUI for a period of two years, 2014-2016. My job included leading the team to produce the overall documentation required for the accreditation. I, along with my team, successfully prepared documents for three programs (BTE, BEE, and BCE) at the Electrical & Computer Engineering Department.