

Faculty C.V.

1. Name

Muhammad Ikram

2. Academic Rank

Assistant Professor (Full time)

3. Degrees

- a. Doctor of Philosophy (PhD), University of Queensland, Australia, Mar. 2021.
- b. Master of Science (MSc) King Fahd University of Petroleum and Minerals, Saudi Arabia, Feb. 2017.
- c. Bachelor of Science, University of the Punjab, Pakistan, Apr. 2014.

4. Service at this Institution

Assistant Professor, Feb. 2024.

5. Professional Experience

- a. Research Fellow, International Centre for Radio Astronomy Research (ICRAR), Curtin University, Australia, Aug. 2023-Sept. 2023.
- b. Postdoctoral Fellow, King Abdullah University of Science and Technology (KAUST), Saudi Arabia, Feb. 2023-Aug. 2023.
- c. Postdoctoral Research Fellow, University of Queensland, Australia, Oct. 2020-Feb. 2023.

6. Consulting Experience

N/A

7. Professional Registration

- a. IEEE, Member
- b. Pakistan Engineering Council, Member

8. Publications

a) Patents

1. Mohammad S. Sharawi and **Muhammad Ikram**, "Multi-Port Multi-Band Single Connected Multiple-input Multiple-output Antenna," US Patent Office, granted, 21 May. 2019.
2. Mohammad S. Sharawi, **Muhammad Ikram**, and Rifaqat Hussain, "Integrated multi-standard antenna system with dual function connected array," US Patent Office, published, 03 Oct. 2019.

b) Refereed Journals.

1. **Muhammad Ikram**, Kamel Sultan, Ahmed Toaha Mobashsher, Mahdi Moosazadeh, and Amin Abbosh, "Wide-angle Beam Steering Closed-Form Pillbox Antenna Fed by Substrate Integrated Waveguide Horn for On-the-Move Satellite Communications," Sensors, MDPI, Switzerland, Jan. 2024.

2. Khaled Aljaloud, Kamel Sultan, **Muhammad Ikram**, Ali H Alqahtani, Qammar Hussain Abbasi, and Rifaqat Hussain, “Low-Profile Antenna System for Cognitive Radio in IoST CubeSat Applications,” *Sensors*, MDPI, Switzerland, May. 2023.
3. Muhammad Noman, Usman A Haider, Hidayat Ullah, **Muhammad Ikram**, Hatem Rmili, and Farooq A. Tahir, “High-Capacity Double-Sided Square-Mesh-Type Chipless RFID Tags,” *Electronics*, MDPI, Switzerland, Mar. 2023.
4. Rabbia Saleem, Wei Ni, **Muhammad Ikram**, and Abbas Jamalipour “Deep Reinforcement Learning-Driven Secrecy Design for Intelligent Reflecting Surface-Based 6G-IoT Networks,” *IEEE Internet of Things Journal*, Nov. 2022.
5. Kamel Sultan, **Muhammad Ikram**, and Nghia Nguyen-Trong, “Integrated Large-Frequency-Ratio Dual-Band Tapered Slot with Monopole Antenna for 4G/5G/B5G,” *Microwave and Optical Technology Letters*, Wiley, Oct. 2022.
6. Rifaqat Hussain, **Muhammad Ikram**, Abdullah M. Algarni, and Sheikh Sharif Iqbal, “Dual Sense Circularly Polarized Compact Slot Antenna for CubeSat Applications,” *IEEE Access*, Oct. 2022.
7. **Muhammad Ikram**, Kamel Sultan, Amin Abbosh, and Nghia Nguyen-Trong, “Sub-6 GHz and mm-Wave 5G Vehicle-to-Everything (5G-V2X) MIMO Antenna Array,” *IEEE Access*, May. 2022.
8. Kamel Sultan, **Muhammad Ikram**, and Nghia Nguyen-Trong, “A Multi-band Multi-beam Antenna for Sub-6 GHz and Mm-Wave 5G Applications,” *IEEE Antennas and Wireless Propagation Letters*, Mar. 2022.
9. **Muhammad Ikram**, “5G/B5G Internet of Things MIMO Antenna Design” *Signals, Multidisciplinary Digital Publishing Institute (MDPI)*, Switzerland, Jan. 2022.
10. **Muhammad Ikram**, Kamel Sultan, Muhammad Faisal Lateef, and Abdulrahman S. M. Al-Qadami, “A Road towards 6G Communication—A Review of 5G Antennas, Arrays, and Wearable Devices” *Electronics*, MDPI, Switzerland, Jan. 2022.
11. Akram, Tanzeela G. Shahzady, Shabbir Hussain, Nada A. Saad, Md. Tanjir Islam, and **Muhammad Ikram**, “Liquid Crystal Polymers: Overview of Characteristics and Applications in Communication and Biomedical Technologies” *Russian Journal of Applied Chemistry*, Springer, Dec. 2021.
12. **Muhammad Ikram**, Nghia Nguyen-Trong, and Amin Abbosh, “Sub-6 GHz and mm-wave Band Shared-Aperture 5G Antenna System” *IEEE Access*, Nov. 2020.
13. **Muhammad Ikram**, Nghia Nguyen-Trong, and Amin Abbosh, “Hybrid Antenna using Open-Ended Slot for Integrated 4G/5G Mobile Application” *IEEE Antennas and Wireless Propagation Letters*, Mar. 2020.
14. Emad Al Abbas, **Muhammad Ikram**, Ahmed Toaha Mobashsher, and Amin M. Abbosh, “MIMO Antenna System for Multi-Band Millimeter-Wave 5G and Wideband 4G Mobile Communications” *IEEE Access*, Dec. 2019.
15. **Muhammad Ikram**, Nghia Nguyen-Trong, and Amin Abbosh, “A Simple Single-Layered Continuous Frequency and Polarization-Reconfigurable Patch

Antenna Array” IEEE Transactions on Antennas and Propagation, Nov. 2019.

16. **Muhammad Ikram**, Emad Al Abbas, Nghia Nguyen-Trong, Khalil H. Sayidmarie, and Amin Abbosh, “Integrated Frequency-Reconfigurable Slot Antenna and Connected Slot Antenna Array for 4G and 5G Mobile Handsets” IEEE Transactions on Antennas and Propagation, Vol. 67, No. 12, pp. 7225-7233, Dec. 2019.
17. **Muhammad Ikram**, Nghia Nguyen-Trong, and Amin M. Abbosh, “Realization of a Tapered Slot Array as Both Decoupling and Radiating Structure for 4G/5G Wireless Devices” IEEE Access, Oct. 2019.
18. **Muhammad Ikram**, Nghia Nguyen-Trong, and Amin Abbosh, “Multiband MIMO Microwave and Millimeter Antenna System Employing Dual-function Tapered Slot Structure” IEEE Transactions on Antennas and Propagation, Vol. 67, No. 8, pp. 5705-5710, Aug. 2019.
19. Nghia Nguyen-Trong, Son Xuat Ta, **Muhammad Ikram**, Karl Bertling, and Amin M. Abbosh, “A Low-Profile Wideband Tri-Polarized Antenna” IEEE Transactions on Antennas and Propagation, Vol. 67, No. 3, pp. 1946-1951, March 2019.

c) Conferences

1. Zere Iman, Yiyang Yu, **Muhammad Ikram**, Atif Shamim, "A 94-GHz On-chip Metasurface Antenna through Characteristic Mode Analysis," submitted in IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting, Florence, Italy, 14-19 July 2024.
2. Zubair Akhter, **Muhammad Ikram**, Muhammad Akram Karimi, Muhammad Arsalan, and Atif Shamim, “Digital Twin Assisted Microwave Multiphase Flow Measurement Meters for Oil and Gas Industry,” accepted in the KAUST Research Conference on Energizing the Future with Composites (EnergizingComposites), Saudi Arabia, 12-14 June 2023.
3. **Muhammad Ikram**, Ahmed Toaha Mobashsher, and Amin Abbosh, "Integrated Next-Generation 5G and Satellite Communication System Employing Shared Aperture Antenna Technology" in 27th Ka and Broadband Communications Conference (Ka) and the 39th International Communications Satellite Systems Conference (ICSSC), STRESA, ITALY, 18-21 October 2022.
4. Rabbia Saleem, Wei Ni, and **Muhammad Ikram**, "Reinforcement Learning-based Unlicensed Spectrum Sharing for IoT Devices of 5G New Radio" in IEEE International Mediterranean Conference on Communications and Networking, Athens, Greece, 5–8 September 2022.
5. **Muhammad Ikram** and Nghia Nguyen-Trong, "Single-Feed Dual-Band Antenna with Large Frequency Ratio for 5G Wireless Terminals" in 2021 IEEE Asia-Pacific Microwave Conference (APMC), Brisbane, Australia, 28 Nov.-1 Dec. 2021.
6. Nghia Nguyen-Trong and **Muhammad Ikram**, "Multiple-Open-Ended-Slot Antenna for Integrated 4G/5G Mobile Application" in 15th European Conference on Antennas and Propagation (EuCAP), Virtual conference, 22-26 March 2021.

7. Nghia Nguyen-Trong and **Muhammad Ikram**, "Multi-functional Structures for 4G/5G Antennas Utilizing Slot Geometry," in 4th Australian Microwave Symposium, Sydney, Australia, 13-14 February 2020.
8. **Muhammad Ikram**, Nghia Nguyen-Trong, and Amin M. Abbosh, "Patch antenna array with continuous frequency and polarization tuning for 5G Mid-band communications," in IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting, Atlanta, Georgia, USA, 7-9 July 2019.
9. Emad Al Abbas, **Muhammad Ikram**, and Amin M. Abbosh, "Dual functional MIMO Antenna system for mm-Wave 5G and 2 GHz 4G communications," in IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting, Atlanta, Georgia, USA, 7-9 July 2019.
10. **Muhammad Ikram**, Nghia Nguyen-Trong, and Amin M. Abbosh, "Continuous Frequency and Polarization-Reconfigurable Patch Antenna Array," in 16th Australian symposium on antennas (ASA), Sydney, Australia, 12-14 Feb 2019.

9. **Membership in Professional Societies**

- a. IEEE, Member
- b. IEEE Antenna and Propagation society
- c. IEEE young professionals

10. **Patents, Honors and awards**

- a. Awarded a Research Stimulus Fellowship from School of ITEE, the University of Queensland, Australia, 2021-2022.
- b. Awarded an Australian Global Talent award, 2020.
- c. 1 patent is granted and 1 patent is published in 2019.

11. **Courses taught**

- a) At **AUK**, Kuwait.

Semester	Course Code	Course Description
Spring 2024	ELEG 300	Engineering Electromagnetics
	ELEG 310	Electric Machines and Power Fund.
	ELEG 330	Power System Analysis

- b) At **University of Queensland**, Australia.

Semester	Course Code	Course Description
Semester 1, 2022 (Lecturer)	ENGG7802, ENGG4805	Postgraduate Project, Thesis Project
Semester 1, 2021 (Guest Lecturer)	COMS7305	Advanced Microwave Engineering

Semester 1, 2020 (Teaching Assistant)	COMS4104, COMS7104	Microwave Subsystems & Antenna, Microwave Engineering
Semester 1, 2019 (Teaching Assistant)	COMS4104, COMS7104	Microwave Subsystems & Antenna, Microwave Engineering

c) At Technology College, Pakistan

Year	Course Code	Course Description
2014	ET316 ET335 ET343	Alternative Current Machines Transmission, Distribution & Protection of Electrical Power Systems Telecommunication

12. Other Duties

a) **Supervised/Co-supervised Students Work:**

• **PhD Dissertations:**

Rabbia Saleem, Future Wireless Networks: Towards Learning-driven Sixth-generation Wireless Communications, **Australian National University (ANU)**, 2020-2022 (**Co-Supervisor**).

• **Master's Thesis:**

Kangjian Wang, Reconfigurable Intelligent Surface (RIS) Based on PIN diodes: Design, Simulation, and Implementation, University of Queensland (UQ), Australia, 2022 (**Supervisor**).

b) **Master's Thesis Examiner:**

- Patrick Bartley, Millimeter Microwave Polarization, University of Queensland (UQ), Australia, 2022.
- Jiarui Pang, Design & Development of a 5G Beamforming Antenna, University of Queensland (UQ), Australia, 2021.
- Yuzhen Liu, 3D printing lens antenna beamforming for 5G network, University of Queensland (UQ), Australia, 2020.

c) **Professional Services:**

Member of Editorial Board For

- Guest Editor of Sensors, Multidisciplinary Digital Publishing Institute, Switzerland.
- Associate Editor of Microwave and Optical Technology Letters, Wiley, USA.
- Guest Editor of Electronics, Multidisciplinary Digital Publishing Institute, Switzerland.

Reviewing Article For

- IEEE Communication Magazine
- IEEE Transactions on Microwave Theory and Techniques
- IEEE Transactions on Antennas and propagation
- IEEE Antennas and Propagation Letters
- Springer Nature Scientific Reports
- IEEE access
- Microwaves and Optical Technology Letters, Wiley
- Electronics, Multidisciplinary Digital Publishing Institute (MDPI)
- Sensors, MDPI
- IEEE Open Journal of Antennas and Propagation
- Electronics Letters, Wiley
- IEEE Sensor Journal
- IEEE Journal on Electromagnetics, RF, and Microwaves in Medicine and Biology
- Journal of Electromagnetic Waves and Applications

13. Research Grants

- a. Opportunity Fund Program grant of 200k USD from King Abdullah University of Science and Technology, Saudi Arabia 2023 (Co-Investigator).
- b. Research Stimulus Fellowship grant of 110K AUD from The University of Queensland, 2021-2022 (Investigator).
- c. UQ Early Career Research (ECR) Grant of 26K AUD from The University of Queensland, 2021-2022 (Co-Investigator).

14. Participation in Specific Programs

- Awarded Certificate of Higher Education Teaching course offered by the Derek Bok Center for Teaching and Learning, Harvard University 7 Jun.-7 Aug. 2023.