



# Dr. Madeeha Aman

Ph.D. (Computer Science)



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Lahore, Pakistan

ORCID

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## Profile

PhD in Computer Science with 15+ years of teaching and research experience in Computer Networks, and Wireless and Mobile Communications. Specialized in 5G/6G systems, mobility management, wireless communications, mobile networks, AI-driven network systems, Integrated Sensing and Communication (ISAC), and Intelligent Transportation Systems. Proven expertise in supervising undergraduate and postgraduate students, curriculum development, and academic quality assurance. Currently working on advanced resource allocation and mobility management techniques for 6G next-generation networks and Intelligent Transportation Systems.



## RESEARCH INTERESTS

- 5G / 6G Wireless Networks
- Integrated Sensing and Communication (ISAC)
- Mobility Management & Handover Optimization
- SAGIN (Space-Air-Ground Integrated Networks)
- Resource Allocation & Optimization Algorithms
- Intelligent Transportation Systems



## ACADEMIC APPOINTMENTS

Assistant Professor (TTS) of Computer Science  
University of the Punjab, Lahore May 2023 – to date

Lecturer in Computer Science May 2021–July 2022  
Punjab Tianjin University of Technology, Lahore

Lecturer/ Visiting Lecturer in Computer Science  
University of Peshawar Oct 2010–Apr 2021

Teaching Assistant  
University of Peshawar Feb 2009 – Oct 2010



## EDUCATION

University of Peshawar 2020  
Ph.D. in Computer Science

University of Peshawar 2013  
MS in Computer Science

University of Peshawar 2008  
Bachelors in Computer Science

Allama Iqbal Open University, Islamabad 2020  
B.Ed

Federal Board of Intermediate and Secondary Education Islamabad 2004  
HSSC

Federal Board of Intermediate and Secondary Education Islamabad 2002  
SSC



## RESEARCH & PUBLICATIONS

### Peer-Reviewed Journal Articles

- **Aman, M.**, Rehman, G. U., Zubair, M., Alfakeeh, A., Aboulola, O. I., & Daud, A. (2026). *AI-Driven Dynamic Resource Allocation for ISAC Systems in 6G Networks: Intelligent Beamforming, Interference Management, and Power Allocation*. **Scientific Reports**, 16, Article 12613. [2025 JIF: 4.9] | [DOI](#)
- **Aman, M.**, Rehman, G. U., Zubair, M., Alharbey, R., Daud, A., & Khan, S. U. (2026). *Dynamic Power and Frequency Domain Allocation for Dedicated Sensing Signals in Downlink ISAC*. **Scientific Reports**, 16, Article 4305. [2025 JIF: 4.9] | [DOI](#)
- **Aman, M.**, Zubair, M., Alharbey, R., Rehman, G. U., Khan, S. U., & Daud, A. (2026). *ISAC-Based Seamless Handover Solution for SAGIN in High Mobility Environments*. **Scientific Reports**, 16, Article 330. [2025 JIF: 4.9] | [DOI](#)
- **Aman, M.**, Zubair, M., Badshah, A., Farman, H., Rehman, G. U., Khattak, S. B. A., & Nasralla, M. M. (2024). *Cost Analysis of IPv6 Distributed Mobility Management Protocols in Comparison with TFMIPv6*. **PLOS ONE**, 19(8), e0306132. [2025 JIF: 2.8] | [DOI](#)
- Imran, K., Anjum, N., Mahfooz, S., Zubair, M., Yang, Z., Malik, A. H., Ali, Q. E., & **Aman, M.** (2021). *Cluster-Based Group Mobility Support for Smart IoT*. **Computers, Materials & Continua**, 68(2), 2329-2347. [2025 JIF: 2.4] | [DOI](#)
- **Aman, M.**, Mahfooz, S., Zubair, M., Mukhtar, N., Imran, K., & Khusro, S. (2019). *Tunnel-Free Distributed Mobility Management (DMM) Support Protocol for Future Mobile Networks*. **Electronics**, 8(12), Article 1519. [2025 JIF: 2.9] | [DOI](#)

- Ilyas, A., **Aman, M.**, & Saeed, N. (2015). *Delay Analysis of an Improved WiMAX Macro-Femto Handover Technique and Cell Selection Algorithm*. **Wireless Personal Communications**, 85(4), 2157-2168. [2025 JIF: 1.9] | [DOI](#)
- **Aman, M.**, Mahfooz, S., & Rehman, W. U. (2011). *A Handoff Using Guard Channels Scheme (HGCS) for Cognitive Radio Networks*. **Global Journal of Computer Science and Technology**, 11(20), 77-84. | [Article link](#)

### Peer-Reviewed Conference Papers

- **Aman, M.** (2025). *Anticipatory Handover and Multi-Connectivity Algorithm Robust to Intermittent Backhaul and Heterogeneous RATs*. **2025 6th International Conference on Innovative Computing (ICIC)**, Lahore, Pakistan, pp. 1-6. IEEE. | [DOI](#)
- **Aman, M.**, Mahfooz, S., & Rehman, W. U. (2011). *Handoff Delay in Cognitive Radios: A Concept Paper on Utilization of Guard Channels*. **2011 International Conference on Computer Networks and Information Technology (ICCNIT)**, Abbottabad, Pakistan, pp. 211-215. IEEE. | [IEEE Xplore](#)

### Manuscripts Under Review

#### Journal Manuscripts

- *Ephemeris-Locked Mobility Calendars for 6G Non-Terrestrial Networks*  
Submitted to **Computer Networks (Elsevier)**.  
Revised manuscript resubmitted; under review, 2026.
- *Quantum-Inspired Context-Entangled Handover Protocol for Low-Latency Mobility in Future Wireless Network*  
Submitted to **Wireless Personal Communications**.  
Under review, 2026.

- *Airspace-as-Code: Agentic Corridor Slicing for 6G Urban Air Mobility in Low-Altitude Wireless Networks*  
Submitted to **Scientific Reports**. Under review, 2026.
- *Quantile-Constrained Handover-Timed Application Context Relocation for Vehicular MEC*  
Submitted to **IEEE Open Journal of Intelligent Transportation Systems**. Under review, 2026.
- *Selective Trajectory-Calibrated Multi-Connectivity for Integrated Terrestrial-Non-Terrestrial Vehicular Networks*  
Submitted to **IEEE Transactions on Vehicular Technology**. Under review, 2026.

#### Conference Manuscripts

- *AI-Aided Covert-ISAC Opportunity Mapping under Sparse Spectrum Measurements*  
Submitted to **IEEE ICIC 2026**. Conference scheduled for December 2026; under review.
- *HAMQO: Hierarchical Agentic Mobility and QoS Orchestration for Integrated NTN-TN Networks*  
Submitted to **IEEE ICIC 2026**. Conference scheduled for December 2026; under review.
- *Mobility-Aware Network Slice Selection and Handover for Metaverse Services in 5G Networks*  
Submitted to **IEEE ICIC 2026**. Conference scheduled for December 2026; under review.



## RESEARCH FUNDING & PROJECTS

1. **Co-Investigator / Collaborative Researcher**  
Prince Sattam bin Abdulaziz University (Saudi Arabia) (2025)
  - Project 1: Dynamic Power & Frequency Allocation for ISAC
  - Project 2: Seamless Handover Solutions for SAGIN
  - Funding: SAR 100,000
  - Role: Analysis, execution, and lead publication author
2. APC Funding (2024) – Prince Sultan University (Saudi Arabia)



## AWARDS & RECOGNITION

- **Performance-Based Increment (PBI), University of the Punjab, Lahore — 2025**  
Awarded through a performance-based evaluation in recognition of contributions to research publications, teaching, student supervision, institutional service, and overall academic performance.
- **Shield of Honor for 10 Years of Meritorious Service, University of Peshawar — 2021**  
Awarded in recognition of ten years of dedicated and meritorious academic service.



## TEACHING EXPERIENCE

Courses taught across undergraduate and graduate levels:

- Recent Advances in Wireless Communication and Mobile Networks
- Wireless Communication and Mobile Networks
- Computer Networks
- System and Network Administration
- Information Security
- Network Strategies
- Network Security
- Introduction to Computer Networks
- Data Communication and Computer Networks
- Mobile and Wireless Communications
- Applications of ICT
- Advanced Operating Systems
- Operating System
- Software Engineering
- Professional Practices
- Digital Image Processing
- Computer Programming
- Research Methods
- Programming Language I – C++
- Digital Logic and Computer Design
- Computer Studies I
- Web Designing
- Database I
- Introduction to Computers
- Fundamentals of IT



## COURSES DESIGNED

### Graduate Courses:

- Wireless Communications and Mobile Networks
- Recent Advances in Wireless Communications and Mobile Networks
- Internet of Things

### Undergrad Courses:

- Applications of Information, Communication and Technology
- Internet of Things and its Applications



## RESEARCH AND ACADEMIC SERVICE

- Reviewer – IEEE Transactions on Vehicular Technology, IEEE
- Reviewer – Transactions on Emerging Telecommunications Technologies, Wiley
- Reviewer – Scientific Reports, Springer Nature
- Reviewer – Alexandria Engineering Journal, Elsevier
- Reviewer – Journal of Network and Systems Management, Springer Nature
- Reviewer – Telecommunication Systems, Springer Nature
- Reviewer – Cluster Computing, Springer Nature
- Review Committee Member – International Journal of Communication Systems, Wiley
- External Evaluator – Final Year Project Evaluations, COMSATS University Islamabad, Lahore Campus, 2026

Invited to evaluate five undergraduate Final Year Projects, including assessment of project quality, technical implementation, presentation, and student defense.

- Member – Quality Enhancement Cell (QEC), Department of Computer Science, University of the Punjab
- Member – Doctoral Program Committee, Department of Computer Science, University of the Punjab
- Member – Interview Committee for admission in graduate programs, Department of Computer Science, University of the Punjab
- Member – Sub-committee for NCEAC Accreditation, Department of Computer Science, University of the Punjab

- Member Departmental Ethics Review Committee (DERC), Department of Computer Science, University of the Punjab
- Paper Setter – Paper setter of different courses for Punjab University affiliated Colleges.



## STUDENT SUPERVISION AND MENTORSHIP

- Undergrad (Final Year Projects): 14 students
- Graduate (Thesis Supervision): 4 students
- Ph.D. (Independent Study Supervision): 1 student



## INTERNATIONAL EXPOSURE

Participation in leading 6G and telecom research events:

- University of Surrey (UK) – 6G Workshop
- King's College London – Emerging 6G Technologies
- Northeastern University (USA) – 5G/6G Innovation
- University of Essex (UK) – 6G Seminar Series



## SKILLS

- Wireless Network Simulation & Analysis
- AI Integration in Network Systems
- Research Design & Publication
- Academic Teaching & Curriculum Development



## CERTIFICATIONS/ PROFESSIONAL DEVELOPMENT

- IELTS Academic – Band 7.5, British Council (2021)
- Introduction to Data Studio, Google Analytics Academy (2020)
- Certified Teacher, National Testing Service Pakistan (2011)
- Creating Effective Learning Environment, Punjab Higher Education Commission (2024)
- Use of Generative AI in Higher Education, Punjab Higher Education Commission (2024)
- Advancing Teaching Excellence, Punjab Higher Education Commission (2023)



## LANGUAGES

|               |              |
|---------------|--------------|
| English       | Fluent       |
| Arabic        | Basic Skills |
| Urdu & Pashto | Native       |



## REFERENCES

1. Dr. Muhammad Shahid Farid  
Chairman  
Department of Computer Science  
University of the Punjab  
Lahore, Pakistan  
shahid@pucit.edu.pk  
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2. Dr. Muhammad Zubair  
Associate Professor  
Department of Computer Engineering,  
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3. Prof. Dr. Saeed Mahfooz  
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