

AAMINA AKBAR

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EDUCATION

2018 (in progress- Thesis submitted)	INSTITUTE OF SPACE TECHNOLOGY (IST), ISLAMABAD PhD Electrical (Wireless Communication) Engineering (CGPA-3.84/4.00)
2012-2014	CASE ,CENTER FOR ADVANCED STUDIES IN ENGINEERING ,ISLAMABAD MS Electrical (Telecommunication) Engineering (CGPA-3.90/4.00)
2006-2010	NUST, MILITARY COLLEGE OF SIGNALS, RAWALPINDI B.E Electrical (Telecommunication) Engineering
2004-2006	ARMY PUBLIC SCHOOL AND COLLEGE, HUMAYUN ROAD, RAWALPINDI FSc Pre-Engineering (833/1100- A Grade)
2002-2004	ARMY PUBLIC SCHOOL AND COLLEGE, HUMAYUN ROAD, RAWALPINDI Matriculation in Science (748/850- A+ Grade)

Pakistan Engineering Council (PEC) Registration no. : ELECT/32735

EXPERIENCE

FEBRUARY 2014 To SEPT 2019	LECTURER - SOFTWARE ENGINEERING DEPT. AT Foundation University School of Science and Technology (FUSST), Rawalpindi Campus Taught following courses to Software Engineering and Computer Science students. Basic Electrons, Basic Electronics Lab, Computer Architecture, Digital Logic Design, Digital Logic Design Lab, Probability and Statistics and Engineering Ethics.
OCTOBER 2019 To MARCH 2021	RESEARCH ASSOCIATE - Wireless and Signal Processing (WiSP) Lab, IST, Islamabad Worked on HEC's NRPU project titled "Small Cells-based Solution for Smart Cities".

Subjects Studied in PhD Electrical (Wireless Communication) Engineering

Optimization in Wireless Communication and Signal Processing, Machine Learning, Advanced Topics in Wireless Communication, Stochastic Processes & Random Variables, Advanced Engineering Mathematics and Advanced Digital Communications and Research Methodology.

Subjects Studied in MS Electrical (Telecommunication) Engineering

Wireless Communication, Digital Communications, Mobile Communication Systems, Linear Systems and Controls, Ad hoc and Sensor Networks, Stochastic Processes, Optimization Techniques, Computational Linear Algebra, Advanced DSP and Cryptography and Network Security.

Thesis in PhD Electrical(Wireless Communication) Engineering

My research focused on resource allocation in JT-CoMP-enabled NOMA HetNets, with an emphasis on developing adaptive hybrid NOMA/OMA frameworks for 5G and beyond networks. The work addressed key challenges, including interference mitigation, spectral efficiency, rate maximization, and energy efficiency in dense heterogeneous networks. Additionally, it explored the impact of imperfect SIC, providing practical insights for optimizing next-generation wireless systems under diverse network conditions.

Publications

Published Journals:

- **Akbar, Aamina**, Sobia Jangsher, and Farrukh A. Bhatti. "NOMA and 5G emerging technologies: A survey on issues and solution techniques." *Computer Networks* 190 (2021): 107950. (Impact Factor: 4.4, W-Category)
- **Akbar, Aamina**, Ashfaq Ahmed, Adnan Zafar, and Sobia Jangsher. "An energy-efficient JT-CoMP enabled framework with adaptive OMA/NOMA in HetNets." *Computer Networks* 254 (2024): 110733. (Impact Factor: 4.4, W-Category)

Under Review Journal:

- **Akbar, Aamina**, Sobia Jangsher, Ashfaq Ahmed, and Adnan Zafar. "GA-Optimized JT-CoMP F-Noma in Hetnets: Adaptive Resource Allocation with Imperfect Sic." *Available at SSRN 5023137*. (Impact Factor: 2, W-Category)

Conference Paper:

- Khalid, Myra, **Aamina Akbar**, Hassaan Khaliq Qureshi, and Sobia Jangsher. "Joint Backhaul Pairing and Resource Allocation of Moving Small Cells Using NOMA." In *2023 International Symposium on Networks, Computers and Communications (ISNCC)*, pp. 1-6. IEEE, 2023.

Awards and Achievements

- Presented conference paper "Joint Backhaul Pairing and Resource Allocation of Moving Small Cells Using NOMA." in 2023 International Symposium on Networks, Computers and Communications (ISNCC) at Doha, Qatar.
- Awarded HEC Faculty development scholarship program for PhD studies.
- Merit scholarship in MS Electrical (Telecom) Engineering by Center for Advanced Studies in Engineering (CASE), Islamabad in all semesters (1st, 2nd & 3rd).
- Merit scholarship by Army Public School and College for outstanding performance in Secondary School Certificate Examination.

References:

- 1) **Assistant Professor Dr. Adnan Zafar**
Designation: HoD and Assistant Professor at Institute of Space Technology (IST), Islamabad
Email Address: adnan.zafar@ist.edu.pk
- 2) **Assistant Professor Dr. Sobia Jangsher**
Designation: Assistant Professor at Dublin City University (DCU), Ireland
Email Address: sobia.jangsher@dcu.ie
- 3) **Professor Dr. M. Shaheen Khan Tanoli**
Designation: Dean & Professor at Foundation University School of Science and Technology (FUSST), Rawalpindi Campus
Email Address: dr.shaheen@fui.edu.pk