Dr. Amna Shabbir

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Profile

Accomplished educator with demonstrated ability to teach, motivate, and direct students while maintaining high interest and achievement. Articulate communicator able to effectively interact with diverse populations of students at a variety of academic levels. Consistently maintain excellent 2relations with students, parents, faculty, and administrators. Self-motivated with strong planning, organizational, and leadership skills.

Academics

Post-Doctoral Research Fellow   **In Progress**
Majors: Wireless Communication
Multimedia University, Malaysia

PhD   **2019**
Majors: Wireless Networks Engineering
NED University of Engineering & Technology, Karachi

Masters in Engineering   **2009**
Majors: Communication Engineering
NED University of Engineering & Technology, Karachi

Bachelors in Engineering   **2006**
Majors: Telecommunications
NED University of Engineering & Technology, Karachi

Professional Experience

Assistant Professor   **July 2019-Till date**
Electronic Engineering Department
NED University of Engineering & Technology, Karachi

Lecturer   **July 2007 – June 2019**
Electronic Engineering Department
NED University of Engineering & Technology, Karachi

Technical Knowledge Engineer   **Jan 2007 – June 2007**
Etilize Pakistan

Administrative Assignments

- Member Programme team for Outcome Base Education **(OBE)** implementation and execution
- Member Programme Team for development of Departmental Self-Assessment Report **(SAR)**
- In charge PhD Lab (2022-Til date)
- In charge Girls Affairs Society (2022-Till date)
- Member **FYP Steering Committee** (2021-Till date)
- Class Advisor, Final Year Electronic Engineering (2009-2012)
- Faculty In-charge, Career Expo
- In charge PLC Lab (2007-2015)
- In charge Industrial and Power Electronic Lab (2016-2017)

Research Publications

1. **Amna Shabbir**, et al. "Optimizing energy efficiency in heterogeneous networks: An integrated stochastic geometry approach with novel sleep mode strategies and QoS framework." *Plos one* 19.2 (2024): e0296392. **(IF:3.7)**

2. Hashmi, Shahzad Azam, **Amna Shabbir**, Syed Agha Hassnain Mohsan, Myriam Hadjouni, and Samih M. Mostafa. "Parametric Classification of Furniture from Point Cloud Developed using Low Cost Trolley based Laser Scanning System." *IEEE Access* (2023) **(IF:3.47)**

3. Hasan, Naureen, Safdar Rizvi, and **Amna Shabbir**. "A Clustered PD-NOMA in an Ultra-Dense Heterogeneous Network with Improved System Capacity and Throughput." Applied Sciences (2022) **(IF:2.838)**

4. Muhammed Ali Akhtar, **Amna Shabbir**, Najmi G.Haider ,Maria Andleeb, Syed Abbas Ali, Safdar Rizvi, "Virtual Reality in Gymnasium: Stationary bike using Hall-Effect Sensor and Bluetooth BLE", IJCSNS International Journal of Computer Science and Network Security, VOL.22 No.5, May 2022 **(Y Category)**

5. N.Farhan, S.Rizvi, **Amna Shabbir**, I.Memon, "Clustering Approaches for Efficient Radio Resource Management in Heterogeneous Networks' VFAST Transactions on Software Engineering Vol 9, No 3. 2021. **(Y Category)**

6. M. Azhar, **Amna Shabbir**, "5G Networks: Challenges and Techniques for Energy Efficiency", Engineering, Technology & Applied Science Research journal, Vol. 8, No. 1. 2018. **(Y Category)**

7. M. Azhar, **Amna Shabbir**, 'A Traffic Variation Aware Approach For Energy Efficient Heterogeneous Cellular Networks', ICE(TE)[2,] Feb 2018, Electronic Engineering NEDUET.

8. **Amna Shabbir**, HR Khan, SA Ali, A Traffic Load-Aware Approach for Optimum Throughput in 5G Heterogeneous Cellular Networks. IEEE, ICCOINS, Malaysia August 2018.

9. **Amna Shabbir**, HR Khan, SA Ali, S. Rizvi, 'Design and Performance Analysis of Multitier Heterogeneous Network through Coverage, Throughput and Energy Efficiency" ETASR Journal Vol. 7, No. 6. 2017. **(Y Category)**

10. **Amna Shabbir**, HR Khan, SA Ali, 'Outage analysis of two-tier heterogeneous cellular network with sleep strategies' Circuits, System, and Simulation (ICCSS), IEEE, London, July 2017.

11. **Amna Shabbir**, HR Khan, SA Ali, S Rizvi,' A Stochastic Geometrical Approach for Performance Analysis of Heterogeneous Cellular Network' International Journal of Computer Science and Information Security, Aug 2016, volume 14, issue 8, pp467-475. **(ISI Indexed)**

12. S. Rizvi, **Amna Shabbir**, Asif Aziz, S Rizwan Ali, Ghulam Muhammad, Shujaat H Butt, 'A Proactive RSS Based Vertical Handoff Protocol for Next Generation Wireless Heterogeneous Network', Sept 2016, IJCSIS, Vol 14, issue 9. **(ISI Indexed)**

13. Attaullah Khawaja, **Amna Shabbir** "Sum Capacity with Regularized Channel Inversion in Multiantenna Downlink Systems under Equal Power Constraint" International Journal of Computer and Information Engineering Vol:2, No:1, 2015.

14. **Amna Shabbir**, Ali Yasir, "Improving space Time Diversity in a Fixed Point Link Using LMS Based Interference Cancellers", Digital Content, Multimedia Technology and its Applications (IDC), IEEE, Seoul, Korea, 08-10 August 2010.

Tools And Software

- MATLAB (Advanced)
- AGS (Intermediate)
- LabView (Intermediate)
- C (Intermediate)
- EndNote (Advance)
- LaTEX (Basic)
- MS Visio (Advance)
- MS Word, MS PowerPoint and MS Excel (Advance)

Courses Taught

- Basic Electronics
- Electronic Devices and Circuits
- Amplifier and Oscillators
- Fundamentals of telecommunications
- Digital Signal Processing
- Matlab and Simulink
- Communication Systems-I
- Communication Systems-II
- Opto-Electronics and Microwave Engineering
- Fundamentals of Computer Engineering
- Programming Languages
- Antenna and Microwave Engineering