

Dr. Sadiq Akbar

Assistant Professor

Department of Electronics, University of Peshawar
Peshawar, Khyber Pakhtunkhwa, Pakistan

Email: sadiqakbar@uop.edu.pk, sadiq114@gmail.com

Phone: +92 333 9159497

Date of Birth: April 11, 1975

Marital Status: Married



ACADEMIC QUALIFICATIONS

Postdoctoral Fellowship in DOA Estimation

Department of Mechanical Engineering, Chulalongkorn University, Bangkok, Thailand
2022-2023

Ph.D. in Electronics

Department of Electronics, University of Peshawar, Pakistan
2019

Dissertation: Parameter Estimation of Electromagnetic Plane Waves using Novel Adaptive Metaheuristic Techniques

MS in Telecommunication & Networking

Gandhara University, Peshawar, Pakistan
2010

M.Sc. in Electronics

University of Peshawar, Pakistan
1998

TRAINING AND CERTIFICATION

- Master Class on MATLAB SIMULINK (Pantech Prolabs India Pvt Ltd.)
- Internet of Things Master Class (Pantech eLearning Pvt. Ltd. Chennai)
- MATLAB Master Class (Pantech Prolabs India Pvt Ltd.)
- Master Class on ARDUINO (Pantech Prolabs India Pvt Ltd.)
- Regional Training Workshop for Electronics Teachers (University of Peshawar)

- Project Cycle Management and Logical Framework Approach (Asia Link)
 - Staff Development Course (Higher Education Commission Pakistan)
 - Microcontroller based Trainer (RIMS)
 - Artificial Intelligence in Teaching and Research
-

DISTINCTIONS

- First PhD graduate, Department of Electronics, University of Peshawar, Pakistan
 - 3rd Position in MS Telecommunication & Networking
 - 2nd Position in M.Sc. Electronics
 - 3rd Position in B.Sc. Electronics in the entire Khyber Pakhtunkhwa
-

RESEARCH GRANT

Recipient of the Second Century Fund (C2F) award for high-impact postdoctoral researchers, recognized for producing high-quality academic work published in top-tier international journals.

RESEARCH PROJECT

Direction of Arrival Estimation

Researcher (November 2023 – October 2024)

Department of Mechanical Engineering, Faculty of Engineering, Chulalongkorn University, Bangkok, Thailand

- Worked remotely from Pakistan on a project supervised by Professor Gridsada Phanomchoeng.
 - Successfully completed the project within the stipulated time frame.
 - Developed **MIMO Radar model**, developed code for it, conducted simulations, analyzed data, and published a research paper in **IEEE Access**.
 - Demonstrated strong self-management and remote collaboration skills throughout the project.
-

EMPLOYMENT HISTORY

Assistant Professor

Department of Electronics, University of Peshawar
Peshawar, Khyber Pakhtunkhwa, Pakistan
2010 - Present

Lecturer

Department of Electronics, University of Peshawar
Peshawar, Khyber Pakhtunkhwa, Pakistan
2000 - 2010

VISITING TEACHING

- Department of Physics, University of Peshawar
 - Department of Economics, University of Peshawar
 - Department of Computer Science, University of Peshawar
 - Department of IMS, University of Peshawar
 - NCE in Physical Chemistry, University of Peshawar
 - Department of Computer Science, Preston University, Peshawar
 - Department of Physics, Frontier Women University, Peshawar
 - Department of Mathematics, University of Peshawar
-

JOURNAL PUBLICATIONS

1. Zaman, F., Akhtar, Z., **Akbar, S.** and Phanomchoeng, G., 2026. Joint Signal-Power and Direction of Arrival Estimation For Far-field Targets Using Novel Meta Heuristic Framework. *IEEE Access*.
2. Gul, N., Kim, S.M., **Akbar, S.**, Elahi, A. and Kim, J., 2025. Enhanced sensing performance through the integration of denoising autoencoder and ensembling techniques. *Scientific Reports*.

3. Zaman, F., **Akbar, S.**, Akhtar, Z. and Phanomchoeng, G., 2025. Efficient Technique for Joint Parameter Estimation of Mixed Far Field Targets and Near Field Jammers in Phased Array Radar. *IEEE Access*.
4. **Akbar, S.**, Zaman, F., Ullah, R., Gul, N., Alhassan, A.B. and Phanomchoeng, G., 2024. Direction Of Arrival Estimation in the Presence of Imperfect Waveforms for Multiple Targets in MIMO radar. *IEEE Access*.
5. **Akbar S.**, Sohail M., Raja M.A.Z., Zaman F., Ullah R., Khan M.A.R., Ajavakom N., Phanomchoeng G. (2024). Meta-heuristic computing knacks for target angle estimation in monostatic radar system with coprime arrays. *Ain Shams Engineering Journal*, 15(5), p.102689.
6. Alhassan A.B., Shehu M.A., Muhammad B.B., **Akbar S.**, Chancharoen R., Phanomchoeng G. (2023). Sliding Mode Observer-Based Super-Twisting Controller for Under-Actuated Bridge Cranes Subject to Double-Pendulum Effect. *IEEE Access*.
7. **Akbar S.**, Sohail M., Zaman F., Khan M.A.R., Ajavakom N., Phanomchoeng G. (2023). A Novel Approach for Direction of Arrival Estimation in Co-Located MIMO Radars by Exploiting Extended Array Manifold Vectors. *Sensors*, 23(5), p.2550.
8. Zaman F., Akhtar Z., Mehmood S., **Akbar S.**, Phanomchoeng G. (2023). A Novel FDA-MIMO Deceptive Jamming Method For Neutralizing Phase Array Radar. *IEEE Access*.
9. **Akbar S.**, Raja M.A.Z., Chaudhary N.I., Zaman F., Alquhayz H. (2021). Flower pollination heuristics for parameter estimation of electromagnetic plane waves. *CMC Comput. Mater. Contin*, 68, pp.2529-2543.
10. Gul N., Qureshi I.M., Khan M.S., Elahi A., **Akbar S.** (2020). Differential evolution based reliable cooperative spectrum sensing in the presence of malicious users. *Wireless Personal Communications*, 114, pp.123-147.
11. Zaman F., Hassan A., **Akbar S.**, Rehman A.U., Raja M.A.Z. (2020). Novel computational heuristics for wireless parameters estimation in bistatic radar systems. *Wireless Personal Communications*, 111, pp.909-927.
12. Uddin S., Zaman A., Rasool I., **Akbar S.**, Kamran M., Mehboob N., Ali A., Ahmad A., Nasir M.F., Iqbal Z. (2020). Structural investigation and improvement of microwave dielectric properties in $\text{Ca}_{1-x}\text{Ba}_x\text{TiO}_3$ low loss ceramics. *Journal of Ceramic Processing Research*, 21(6), pp.745-750.

13. **Akbar S.**, Zaman F., Asif M., Rehman A.U., Raja M.A.Z. (2019). Novel application of FO-DPSO for 2-D parameter estimation of electromagnetic plane waves. *Neural Computing and Applications*, 31, pp.3681-3690.
 14. Gul N., Qureshi I.M., **Akbar S.**, Kamran M., Rasool I. (2018). One-to-Many Relationship Based Kullback Leibler Divergence against Malicious Users in Cooperative Spectrum Sensing. *Wireless Communications and Mobile Computing*, 2018(1), p.3153915.
 15. **Akbar S.**, Raja M.A.Z., Zaman F., Mehmood T., Khan M.A.R. (2017). Design of bio-inspired heuristic techniques hybridized with sequential quadratic programming for joint parameters estimation of electromagnetic plane waves. *Wireless Personal Communications*, 96, pp.1475-1494.
-

RESEARCH INTERESTS

- Array Signal Processing
 - Direction of Arrival Estimation
 - Adaptive Beamforming
 - Phased Array & MIMO Systems
 - System Identification
 - Evolutionary Computing
 - Swarm Intelligence and Optimization Methods
 - Controllers Designing
-

TECHNICAL SKILLS

- Competence in MATLAB for developing and debugging
- Solving research problems using adaptive metaheuristic optimization techniques
- Experience in Array Signal Processing and Control System Engineering
- Designing and implementing metaheuristic algorithms in MATLAB
- Expertise in DOA and DOD estimation in MIMO technology

- Designing controllers
 - Expertise in Embedded System Design and IoT
-

ADMINISTRATIVE EXPERIENCE

- Staff Proctor, University of Peshawar
 - Senior Warden, Hostel Block A, University of Peshawar
 - Full Resident Warden, Hostel Block A, University of Peshawar
 - Full Resident Warden, Allama Iqbal Hostel, University of Peshawar
 - Assistant Warden, Allama Iqbal Hostel, University of Peshawar
-

REFERENCES

References available upon request.