**Dr. Sadiq Akbar**

**Assistant Professor**
Department of Electronics, University of Peshawar

Peshawar, Khyber Pakhtunkhwa, Pakistan

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**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)

**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 (November2023 – October2024)*

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

**JOURNAL PUBLICATIONS**

1. **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*.
2. **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.
3. 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*.
4. **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.
5. 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*.
6. **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.
7. 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.
8. 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.
9. 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 Ca1-xBaxTiO3 low loss ceramics. *Journal of Ceramic Processing Research*, 21(6), pp.745-750.
10. **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.
11. 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.
12. **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
* Controller Designing

**TECHNICAL SKILLS**

* Competent 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.