

Dr. Sajida Sheikh

Assistant Professor, Department of Materials Engineering
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Academic Career

Ph.D. in Materials Engineering, NED University of Engineering & Technology, Karachi, Pakistan — 2023

M.E. in Materials Engineering, NED University of Engineering & Technology, Karachi, Pakistan — 2016
(CGPA: 3.5)

B.E. in Materials Engineering, NED University of Engineering & Technology, Karachi, Pakistan — 2011
(CGPA: 4.7, 3rd Position)

Teaching Experience

- Assistant Professor, Materials Engineering Department, NED University of Engineering & Technology, Karachi (2019–present)
- Assistant Professor, Metallurgical Engineering Department, NED University of Engineering & Technology, Karachi (2018–2019)
- Lecturer, Materials Engineering Department, NED University of Engineering & Technology, Karachi (2016–2018)
- Visiting Faculty, Institute of Industrial Electronics Engineering (IIEE), Karachi (2012–2013)

Courses Taught

- MM-204: Engineering Ceramics and Refractory Materials
- MM-409: Biomedical and Functional Materials
- MM-303: Inspection and Testing
- MY-206: Furnaces and Refractories
- MY-209: Metal Forming and Shaping Processes
- MY-309: Steel Making Processes
- MY-303: Foundry: Principles, Methods, and Practices
- MY-304: Metallurgy of Welding
- MY-413: Corrosion Engineering
- MY-409: Metallurgical Plants and Quality Control
- MM-201: Physical Metallurgy
- MM-309: Construction Materials
- MM-208: Fundamentals of Modern Manufacturing and Foundry

Research Interests

- Perovskite and Tetragonal Tungsten Bronze Ceramic Oxides
- Piezoelectric, Dielectric, and Magnetic Materials
- Multiferroic Materials

- Corrosion Analysis, Prevention, and Protection

Projects Supervised

- Synthesized ceramic oxides for functional applications.
- Cast aluminium anodes and conducted corrosion analysis.
- Conducted green synthesis of ceramic oxides.
- Supervised synthesis and characterization of perovskite ceramic oxides.

Collaborative Research

Working on various projects with Dr. Fayaz Hussain.

Laboratory Expertise

- Destructive and Nondestructive Testing Lab
- Heat Treatment and Phase Transformation Lab (Furnaces)
- Advanced Material Characterization Lab (LCR, VSM, XRD)
- Optical Characterization Lab (UV-Vis Spectroscopy)
- Corrosion Engineering Lab (Potentiostat)

Funded Projects

Received Rs. 3 Million for PhD project under the supervision of Dr. Fayaz Hussain (Completed)

Software Expertise

XRD Analysis Software (e.g., Match!, HighScore Plus)

Selected Publications

1. Sheikh, S., & Hussain, F. (2023). Structural, dielectric, and magnetic properties of $\text{Ba}_2\text{Bi}_{9-x}\text{Fe}_{5+x}\text{Ti}_8\text{O}_{39}$ tetragonal tungsten bronze ceramics. *Materials Research Express*, 10(3), 036103.
2. Zubairi, H., Hussain, F., Sheikh, S., Shaikh, A. A., Wang, D., & Reaney, I. M. (2023). Comparative study of cold-assisted and conventional sintering of $(1-2x) \text{K}_{0.5}\text{Na}_{0.5}\text{NbO}_3-x\text{BaTiO}_3-x\text{BiFeO}_3$ multiferroic ceramics. *Materials Science and Engineering: B*, 296, 116632.
3. Alshoaibi, A., Bhellar, I. H., Hussain, F., Zubairi, H., Shaikh, S., & Faouri, S. (2023). Functional properties of $\text{Sr}_{1-x}\text{Gd}_x\text{TiO}_3$ ceramics synthesized by solid-state reaction method. *Materials Research Express*, 10(6), 065901.