



Sadia Sharif

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DESIGNATION OBJECTIVE:

Assistant Professor holding a challenging and creative position in a progressive, stimulating and challenging working environment where my skills are fully utilized while sharing and gaining new experiences and knowledge.

EDUCATION:

- 2018** **PhD (Physics)**, Department of Physics, Government College University (GCU) Lahore, Pakistan.
Thesis: *Ion implantation and doping of rare earth metals to tailor the multi-ferroic properties of BiFeO₃*
- 2008** **M.Phil (Physics)**, Department of Physics, Government College University (GCU) Lahore, Pakistan.
Thesis: *Characterization of nitrogen plasma generated by RF source using Optical Emission Spectroscopy*

PROFESSIONAL SUMMARY:

- Application-driven research and understanding of technology and process requirements.
- Hands-on experience in materials-related fabrications and characterization techniques.
- Project management skills, along with demonstrated leadership qualities and teamwork.
- Excellent work force & time management skills.
- Demonstrated written, communication, and presentation skills with strong interpersonal skills.
- Teaching BS, M.Phil, and PhD students.

AREAS OF EXPERTISE:

Hydro Thermal, sol gel, sputtering, chemical vapor deposition, pulse laser deposition, solution precipitation, microwave irradiation, hotplate heating methods, hot pressed vacuum furnace, Hall effect measurement System, VSM, AFM, SEM, XRD, TEM, Raman, TGA, FTIR, Particle size analyzer, Impedance analyzer, XPS, and Field emission measurements.

ACADEMIC AND RESEARCH INTERESTS:

Course XRD Diffraction Methods
Semiconductor and Solid State Devices
Advanced Magnetic Materials and Devices
Nanotechnology and renewable energy resources
Physics of Materials
Spintronics
Nuclear Physics

Research Interest Nanostructured Materials
Thin Films
Magnetic Materials, Hard and Soft Ferrites
Semiconductor Device Physics
Spintronics (Half-Metallic, DMS)
Energy Storage Materials
First Principle studies under the framework of DFT

PROFESSIONAL EXPERIENCE:

2019-To Date **Assistant Professor (BPS-19)**, Department of Physics, Government College University (GCU) Lahore, Pakistan

2011-To 2019 **Lecturer (BPS-18)**, Department/Institute of Physics, Government College University (GCU) Lahore, Pakistan

AWARDS AND SCHOLARSHIPS:

2023 Higher Education Commission (HEC) approved supervisor

2009 **Qualify GRE general (2006) and GRE GAT (Subject)** test conducted by NTS

2015 **Awarded IRSIP Scholarship for Ph.D. (six-month experimental work) in Cardiff University, UK** by Higher Education Commission, Islamabad, Pakistan.

PROFESSIONAL AFFILIATIONS and MEMBERSHIP:

- Life-time member of Pakistan Physics Society (PPS)
- Member of the Admission Committee, Department of Physics GCUL
- In-charge XRD Lab, Department of Physics, GCUL
- In-Charge Nanotechnology Lab (MSc/PhD Level), Department of Physics GCUL
- Member of the Proctor board (Graduation Level), Department of Physics GCUL
- Member of Examination Committee, Department of Physics, GCUL
- Member of the Board of Studies, Department of Physics, GCU Lahore
- Sports Coordinator (Graduation level), Department of Physics GCUL
- Executive Member of Jones Physics Society, Department of Physics GCUL.

RESEARCH PUBLICATIONS

1. Ayyaz, A., Murtaza, G., Usman, A., Akremi, A., Younas, M., Alhummiyany, H., Irfan, M., Shah, M.Q., Abd-Rabboh, H.S., Mahmood, Q. and **Sharif, S.**, 2024. Synthesis, structural, morphological, and optical properties of promising lead-free double perovskite $\text{Na}_2\text{CuBiBr}_6$: a sustainable material for photovoltaic applications. *Materials Science and Engineering: B*, 310, p.117732.
2. Usman, A., Murtaza, G., Younas, M., Akremi, A., Ayyaz, A., Alhummiyany, H., Ali, S.K., Altaf, K., Abd-Rabboh, H.S., **Sharif, S.** and Mahmood, Q., 2025. Study of Pr doped nanocrystalline LiCoO_2 cathode material for spintronic and energy storage applications: A theoretical and experimental analysis. *Materials Chemistry and Physics*, 329, p.130133.
3. Yang, J., Shaheen, F., Hassan, R.U., Asif, M., Hafez, A.A.A., **Sharif, S.**, Mansoor, N. and Al-Sulaimi, S., 2025. Synergistic effect of hydrothermally synthesized $\text{rGO}@ \text{CuPbTiO}_3$ electrode materials for high performance supercapacitors. *Materials Letters*, 378, p.137577.
4. Shafique, M.A., Farid, G., Shaheen, F., Zaheer, Z., Murtaza, G., **Sharif, S.** and Ahmad, R., 2024. Optimizing energy storage: Carbon implantation in NiO matrix unveils C–NiO's hybrid capacitive and battery-like behavior with enhanced electrochemical performance. *Chemical Physics Letters*, 842, p.141213.
5. Shah M. Qasim, G. Murtaza, Maleeha Shafiq, **Sadia Sharif**, and Nicola A. Morley. "Investigation of optoelectronic & thermoelectric features of ZnCrX_2 (X= S Se Te) chalcopyrite semiconductor using mBJ potential." *Chinese Journal of Physics* (2023).
6. Jabbar Saqib, Hiba Asif, Riaz Ahmad, **Sadia Sharif**, Ijaz Ahmad Khan, and M. Ahsan Shafique. "Changes in Structural and Optical Properties of TiO_2 Thin Films Irradiated by Various Doses of 300 keV Carbon Ions." *Journal of Materials Engineering and Performance* (2023): 1-10.
7. Aziz Muhammad Hammad, Fozia Shaheen, Riaz Ahmad, Arif Khan, **Sadia Sharif**, Hafiz Muhammad Fahad, and Qing Huang. "Facile hydrothermal synthesis of $\text{NGO}/\text{NiWO}_3/\text{PANI}$ nanocomposite for durable and high performance hybrid supercapacitors." *Materials Letters* 333 (2023): 133658.
8. Irfan, M., G. Murtaza, Nawaz Muhammad, Shaista Tahir, Hafiz Hamid Raza, B. Sabir, Muryam Iftikhar, and **Sadia Sharif**. "Experimental and theoretical studies of structural, electronic and magnetic properties of $\text{RE}_2\text{NiCrO}_6$ (RE= ce, Pr and Nd) double perovskites." *Physica E: Low-dimensional Systems and Nanostructures* (2022): 115635.
9. Malik, Abdul Raouf, **Sadia Sharif**, Fozia Shaheen, Mansoor Khalid, Yasir Iqbal, Abrar Faisal, Muhammad Hammad Aziz et al. "Green synthesis of RGO-ZnO mediated Ocimum basilicum leaves extract nanocomposite for antioxidant, antibacterial, antidiabetic and photocatalytic activity." *Journal of Saudi Chemical Society* 26, no. 2 (2022): 101438.
10. **Sadia Sharif**, Sana Arbab, Amna Saeed, Khurram Shahzad, Muhammad Aamir Iqbal, Abdullah Khan Durrani, Asghari Maqsood, and Mujtaba Ikram. "Introductory Chapter: Introduction to Advanced Carbon Materials and Innovative Engineering Applications." *21st Century Advanced Carbon Materials for Engineering Applications: A Comprehensive Handbook* (2021): 3.
11. **Sadia Sharif**, G. Murtaza, Muhammad Azhar Khan, Asma Sadaf, Tahani I. Al-Muhimeed, and Ghazanfar Nazir. "Tailoring the multiferroic properties of BiFeO_3 by low energy ions implantation." *Journal of Electroceramics* (2021): 1-18.
12. **Sadia Sharif**, G. Murtaza, Fozia Shaheen, A. N. Akhtar, M. A. Shafique, M. I. Piracha, and S. Atiq. "Effect of Y ions incorporation on structural, morphological and magnetic properties of $\text{Bi}_{1-x}\text{Dy}_x\text{FeO}_3$ for ferromagnetic applications." *Bulletin of Materials Science* 44, no. 3 (2021): 1-12.
13. Fozia Shaheen, Riaz Ahmad, **Sadia Sharif**, Muhammad Habib, Rehana Sharif, Mahvish Fatima, Changda Wang, "Polyaniline effect on $\text{rGO}@ \text{NiPbTiO}_3$ for enhanced supercapacitor performance", *Materials Letters*, 284 (2021) 129031.
14. Mohsin Ishfaq Piracha, G. Murtaza, Mukhtar Ahmed, Ghulam Farid, M. Abdullah, **Sadia Sharif**, "Structural, dielectric and magnetic manifestation in BaM/PEEK nano-composite for X band shielding blocks", *Ceramics International* 47 (2021) 4551–4562
15. **Sharif, S.**, Arbab, S., Saeed, A., Shahzad, K., Iqbal, M.A., Durrani, A.K., Maqsood, A. and Ikram, M., 2021. Introductory Chapter: Introduction to Advanced Carbon Materials and Innovative Engineering Applications. In *21st Century Advanced Carbon Materials for Engineering Applications-A Comprehensive Handbook*. IntechOpen.
16. H. S. Ali, Ali S. Alghamdi, G. Murtaza, H. S. Arif, Wasim Naeem, G. Farid, **Sadia Sharif**, Muhammad Gul Bahar Ashiq, Syeda Ammara Shabbir, "Facile Microemulsion Synthesis of Vanadium-Doped ZnO Nanoparticles to Analyze the Compositional, Optical, and Electronic Properties", *Materials* (2019), 12, 821.

17. **Sadia Sharif**, Ghulam Murtaza, Turgut Meydan, Paul I. Williams, Jerome Cuenca, Shaikh H. Hashimdeen, Fozia Shaheen, Riaz Ahmad, "Structural, surface morphology, dielectric and magnetic properties of holmium doped BiFeO₃ thin films prepared by pulsed laser deposition", *Thin Solid Films* 662 (2018) 83–89.
18. Iram Habib , Ammara Sajawal, G Murtaza , M Ishfaq, Nawaz Muhammad , Ghulam Farid , **Sadia Sharif** , Majid Niaz Akhtar and Sehrish Salim, "Effect of co-doping of Fe and Gd on the structural, morphological and dielectric properties of LaMnO₃ nanocrystallites using Sol-Gel technique", *Mater. Res. Express* 5 (2018) 075018.
19. Ammara Sajawal, M Ishfaq, G Murtaza, Iram Habib, Nawaz Muhammad and **Sadia Sharif**, "Half metallic ferromagnetism in PrMnO₃ orthorhombic stable phase: an experimental and theoretical investigation", *Mater. Res. Express* 5 (2018) 116103.
20. B. Ishaq, G. Murtaza, **Sadia Sharif**, M. Azhar Khan, Naeem Akhtar, I.G. Will, Murtaza Saleem, Shahid M. Ramay, "Investigating the effect of Cd-Mn co-doped nano-sized BiFeO₃ on its physical properties", *Results in Physics* 6 (2016) 675–682.

CONFERENCES, WORKSHOPS, SEMINARS ATTENDED:

- Attended hands-on training on "XRD Analysis, Rietveld Refinement, and Diamond software" 27-29 August 2024, in collaboration with the Central Research Lab at LCWU.
- Attended 3rd International Conference on "Sustainable Development Goals (ICSGD-2024), 25-26 April 2024, Khawaja Fareed University of Engineering and Information Technology, Rahin Yar Khan, Pakistan.
- Attended International Conference on "Emerging Trends in Cyber Security and Artificial Intelligence" 15-17 May 2024, Khawaja Fareed University of Engineering and Information Technology, Rahin Yar Khan, Pakistan.
- Attended the 4th International Conference on Emerging Trends in Physics, 13-15 January 2024, at Lahore College for Women University, Lahore.
- Attended workshop on " Strengthening pathways into Employment for Women at workplace: Bridging Gaps for women's progression through health-related policies, 30th August, 2023, at Government College University, Lahore, with the collaboration of University of Sunderland, UK.
- Attended the 4th International Conference on " Physical Science and Engineering (ICPES-2024)" at Khawaja Fareed University of Engineering and Information Technology, Rahin Yar Khan, Pakistan
- Attended the 3rd International Conference Advances in Materials Science (AIMS) 15-16 December 2022 at the Department of Physics, University of Education, Lahore, Pakistan as a speaker.
- Attended the 17th symposium on Frontiers in Physics, 01-03 November 2022, at GCU Lahore as a Speaker.
- Attended the 16th National Symposium on Frontiers in Physics, Government College University, Lahore, January 2019.
- Attended seminar "Physical Basis of the Standard Model of Cosmology: Nobel Prize Work 2019", by Babar Ahmed Qureshi, Abdus Salam School of Mathematical Sciences, Physics Seminar Hall, GCU Lahore, October 21, 2019.

M-Phil STUDENTS UNDER SUPERVISION:

<u>Student Name</u>	<u>Degree Level</u>	<u>Thesis Topic</u>
Zartash Javaid	M.phil 2023-GCUL-MP-PHY-431 Session: 2023-2025	Experimental and theoretical investigation of double perovskite oxides Sr ₂ XIO ₆ (X= K, Rb) for optoelectronic applications
Amna Qasim	M.phil 2022-GCUL-MP-PHY-411 Session: 2022-2024	DFT and experimental investigation of half-metallic ferromagnetic rare earth-

		based spinels MnX_2O_4 (X=Ce, Nd, Ho) for spintronics applications
Maleeha Noor	M.phil 2022-GCUL-MP-PHY-435 Session: 2022-2024	First principle study of ternary nitrides $NaXN_2$ (X= W, Rh, Os) for thermoelectric applications.
Rimlah Sadia	M.Phil 0458-MPHIL_PHY-21 Session: 2021-2023	Synthesis and characterization of double perovskite oxide M_2FeAlO_6 (M = La, Dy, Ho) using solid state reaction method
Faiza Rani	M.Phil 2019-GCUL-MP-PHY-194 Session: 2019-2021	Synthesis and characterization of lead-free double perovskite halide Cs_2SiX_6 (X = Cl, Br, I) for energy harvesting/optoelectronic applications.

BS STUDENTS UNDER SUPERVISION:

<u>Student Name</u>	<u>Degree Level</u>	<u>Thesis Topic</u>
Fazila Akmal	BS 1427-BS-PHY-21 Session: 2021-2025	Synthesis and characterization of $XMnO_3$ (X=Sr, La) perovskite oxides
Maryam Ehsan	BS 1441-BS-PHY-21 Session: 2021-2025	Structural analysis of $NiFe_2O_4$ and $Ni_{0.5}Co_{0.5}Fe_2O_4$
Ali Jahanzaib	BS 1447-BS-PHY-21 Session: 2021-2025	Synthesis and optical analysis of Ba_2YSbO_6
Soneha Sajid	BS 1470-Bs-PHY-21 Session: 2021-2025	Study the physical properties of double perovskite oxide synthesis by the hydrothermal method.
Muhammad Shahreyar Babar	BS 0633-BH(E)-PHY-20 Session: 2020-2024	Synthesis and Characterization of perovskite oxides
Khadija Siddiqi	BS 0714-BH-PHY-20 Session: 2020-2024	Synthesis and Characterization of Zn/Ca/RGO nano-composite
Muhammad Mehran	BS 0715-BH-PHY-20 Session: 2020-2024	Synthesis of rGO/Mn Composite using Hydrothermal Method
Hafiz Muhammad Ahmad	BS 0721-BH-PHY-20	Synthesis and

Saeed	Session: 2020-2024	characterization of Gd-rGO composites
Sajjad Hussain	BS 0713-BH-PHY-20 Session: 2020-2024	Study the physical properties of double perovskite oxide synthesis by solid state reaction method.
Usama Gulbaz	BS 0716-BH-PHY-18 Session: 2018-2022	Synthesis and Characterization of ZnO nano-rods
Muhammad Waqas Anwar	BS 0733-BH-PHY-18 Session: 2018-2022	Synthesis of GO/Cd Composite using Hydrothermal Method
Mudassar Hussain	BS 0221-BH(E)- 2018 Session: 2018-2022	Synthesis and characterization of Sr-rGO composites
Umair Ahmad	BS 0231-BH(E)- 2018 Session: 2018-2022	Study the physical properties of Ni nano particles synthesis by coriander leaves extract.
Muhammad Waseem	BS 0216-BH (E)-2018 Session: 2018-2022	Structure analysis of Mn nano-particles synthesis Via Green route using Lemon extract
M. Farooq Haider	BS 0739-BH-PHY-17 Session: 2017-2021	Synthesis and Characterization of NiFe ₂ O ₄ /GO Composite
M. Ishan Azam	BS 0742-BH-PHY-17 Session: 2017-2021	Synthesis of GO/MoS ₂ Composite using Hydrothermal Method
M. Faisal	BS 759-BH-PHY-17 Session: 2017-2021	Synthesis and characterization of Graphene Oxide
Amna Qasim	BS 759-BH-PHY-17 Session: 2017-2021	Structure Analysis of Bismuth Ferrite (BFO)

PROFESSIONAL REFERENCES:

Prof. Dr. Riaz Ahmad

Dean

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