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INTRODUCTION:

I am Dr. Muhammad Uzair, currently serving as a Lecturer at the Department of Physics, University of Peshawar, with 17 years of teaching and research experience. I hold an MSc in Physics with distinction from the University of Malakand and a PhD in Electroceramics (Materials Physics) from the University of Peshawar, with research conducted at the Department of Materials Engineering, University of Sheffield, UK. My expertise spans both experimental and theoretical materials research, including structural and electrical characterization using TG/DTA, XRD, SEM, impedance analyzers, and DFT-based studies using WIEN2k. I have published 44 research articles (h-index: 16, & Impact factor: ~130), and have supervised students across BS, MSc, MPhil, and PhD levels. Additionally, I have actively contributed to academic and administrative bodies/committees focused on curriculum development and academic policy.

EDUCATION:

Degree/ Certificate	Year of Passing	Division	Subjects	Board/University
S.S.C	1997	1 st	Science	B.I.S.E Peshawar
F.Sc.	1999	1 st	Pre-Eng	B.I.S.E Peshawar
B.Sc	2001	2 nd	Physics, Maths-A, Computer Science	University of Peshawar
M.Sc.	2005	1 st	Physics	University of Malakand
B. Ed	2007	1 st	Science Teaching	AIOU Islamabad
PhD	2016	3.7	Physics	University of Peshawar

DISTINCTION: 1st Position in University (M.Sc. Physics)

PROFESSIONAL EXPERIENCE:

- Lecturer in physics, Department of physics, University of Peshawar since September 2008.
- Research Associate (6 months) at Department of Material Engineering, University of Sheffield, UK
- Coordinator, BS Physics Program Department of Physics, University of Peshawar
- Member of the American Physical Society 08-01-2025 to 07-31-2026
- Member Syndicate University of Peshawar
- Member Senate University of Peshawar
- Coordinator Community Service Program (CSP), Department of Physics, University of Peshawar

- Member and secretary of **Pakistan Material Society** (JPMS ISSN 1994-6899)
- Member Academic Council, University of Peshawar
- Member, Purchase Committee, Department of Physics, University of Peshawar
- Member National Curriculum Revision Committee (NCRC), HEC Pakistan
- Member steering committee CMS, University of Peshawar
- Member Board of Studies, Department of Physics, Abdul Wali Khan University, Mardan
- Member Board of Studies, Department of Physics, Women University, Mardan
- Member work load committee, University of Peshawar.

PERSONALIA:

FATHER'S NAME:	SHAH MURAD
DATE OF BIRTH:	07/04/1981
MARITAL STATUS:	MARRIED
NATIONALITY:	PAKISTANI
RELIGION:	ISLAM
DOMICILE:	SWABI (Khyber Pakhtunkhwa)
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PUBLICATIONS:

1. **Uzair, M.**, Iqbal, Y., Muhammad, R., Hayat, K., & Reaney, I. M. (2014). Effect of Li₃PO₄ addition on the sintering temperature, phase, microstructure, and electrical properties of BaTiO₃. *Journal of Materials Science*, 50(4), 1752-1759. doi:10.1007/s10853-014-8738-6
2. Muhammad, R., Khesro, A., & **Uzair, M.** (2016). Dielectric Properties and Complex Impedance Analysis of BT-BMT-BS Ceramics. *Journal of Electronic Materials*, 45(8), 4083-4088. doi:10.1007/s11664-016-4589-z
3. Muhammad, R., **Uzair, M.**, Iqbal, M. J., Khan, M. J., Iqbal, Y., & Rambo, C. R. (2016). Synthesis and electrical characterization of CaNdTiO ceramics. *Materials Science-Poland*, 34(1), 164-168.
4. Rehman, Z. U., Shin, S. H., Kaseem, **M.**, **Uzair, M.**, & Koo, B. H. (2017). Towards a compact coating formed on Al6061 alloy in phosphate based electrolyte via two-step PEO process and K₂ZrF₆ additives. *Surface and Coatings Technology*, 328, 355-360. doi:10.1016/j.surfcoat.2017.09.013
5. Rehman, Z. U., **Uzair, M.**, Hwan, N. T., Soo, K. M., Hussain, I., & Koo, B. H. (2017). Synthesis and Microstructural Analysis of Magnetic CaFe_{0.5}Co_{0.5}O_{3-δ} Using Rietveld Method. *Journal of Superconductivity and Novel Magnetism*, 31(3), 833-839. doi:10.1007/s10948-017-4227-x
6. Ur Rehman, Z., **Uzair, M.**, Lim, H. T., & Koo, B. H. (2017). Structural and electrochemical properties of the catalytic CeO₂ nanoparticles-based PEO ceramic coatings on AZ91 Mg alloy. *Journal of Alloys and Compounds*, 726, 284-294. doi:10.1016/j.jallcom.2017.07.301
7. , A., Ji, L., **Uzair, M.**, & Yan, T. (2019). *Structural modifications induced by ultrafast IR laser pulses in sapphire* (Vol. 10842): SPIE.
8. Muhammad, R., Ali, S., Iqbal, Y., Khesro, A., & **Uzair, M.** (2020). Structure, Dielectric Properties and Impedance Spectroscopy of BaTi_{10.97}(Zn, V, Ta)_{0.03}O₃ Ceramics. *Journal of The Chemical Society of Pakistan*, 42(6), 228.

9. Ahmad, R., Haq, S. U., Muhammad, S., Khan, G., Shah, S. K., Hayat, K., . . . **Uzair, M.** (2021). Enhanced photocatalytic activity of Ag-coated ZnO nanorods for the degradation of methylene blue. *Zeitschrift für Physikalische Chemie*, 235(5), 511-523.
10. Rehman, M. U., Manan, A., **Uzair, M.**, Khan, A. S., Ullah, A., Ahmad, A. S., . . . Khan, M. A. (2021). Physicochemical characterization of Pakistani clay for adsorption of methylene blue: Kinetic, isotherm and thermodynamic study. *Materials Chemistry and Physics*, 269, 124722. doi:10.1016/j.matchemphys.2021.124722
11. Ali, H., **Uzair, M.**, Iqbal, Y., Ali, M., & Ahmad, W. (2023). Electrical properties of Barium titanate and graphite incorporated PVA matrix composite (PVA-BaTiO₃-G) nanofibers. *Materials science and engineering: B*, 296, 116655. doi:10.1016/j.mseb.2023.116655
12. Jehan, A., Husain, M., Rahman, N., Tirth, V., Sfina, N., Elhadi, M., **Uzair, M.**, . . . Khan, S. N. (2023). Investigating the structural, elastic, and optoelectronic properties of LiXF₃ (X = Cd, Hg) using the DFT approach for high-energy applications. *Optical and Quantum Electronics*, 56(2), 169. doi:10.1007/s11082-023-05750-4
13. Jehan, A., Husain, M., Tirth, V., Algahtani, A., **Uzair, M.**, Rahman, N., . . . Khan, S. N. (2023). Investigation of the structural, electronic, mechanical, and optical properties of NaXCl₃ (X = Be, Mg) using density functional theory. *RSC Adv*, 13(41), 28395-28406. doi:10.1039/d3ra04922a
14. Rehman, M. U., Manan, A., Khan, M. A., **Uzair, M.**, Qazi, I., Iqbal, Y., . . . Ahmad, A. S. (2023). Improved energy storage performance of Bi(Mg_{0.5}Ti_{0.5})O₃ modified Ba_{0.55}Sr_{0.45}TiO₃ lead-free ceramics for pulsed power capacitors. *Journal of the European Ceramic Society*, 43(6), 2426-2441. doi:10.1016/j.jeurceramsoc.2023.01.027
15. Rehman, M. U., Manan, A., **Uzair, M.**, Amer, M., Khan, M. A., Ullah, S. W., . . . Shah, H. U. (2023). Enhanced Energy Storage Performance of MnO₂-Modified 0.92BaTiO₃-0.08Bi(Mg_{0.5}Ce_{0.5})O₃ Ceramics for Capacitor Applications. *ACS Applied Electronic Materials*, 5(8), 4564-4575. doi:10.1021/acsaelm.3c00732
16. **Uzair, M.**, Iqbal, Y., Hayat, K., & Muhammad, R. (2023). Sintering behavior, dielectric properties, and impedance spectroscopy of BaTiO₃-Li₂WO₄. *Journal of Materials Science: Materials in Electronics*, 34(7), 631. doi:10.1007/s10854-023-10076-8
17. Ali, S., Ali, H., Afaq, M., Mehmood, K., **Uzair, M.**, & Ahmad, W. (2024). Influence of barium titanate and graphite on electrical attributes of Polyvinylidene fluoride matrix composites. *Materials Science in Semiconductor Processing*, 181, 108606. doi:10.1016/j.mssp.2024.108606
18. Amina, **Uzair, M.**, Sohail Khan, A., Quraishi, A. M., Almahri, A., Soliyeva, M., . . . Zaman, A. (2024). Study of structural, electronic, optical and mechanical properties of K2ScCuF6 and K2YCuF6 perovskites via DFT calculations. *Results in Physics*, 62, 107845. doi:10.1016/j.rinp.2024.107845
19. Ayub, G., Husain, M., Tirth, V., Algahtani, A., Khan, R., **Uzair, M.**, . . . Khan, A. (2024). Computational investigations of the structural, optoelectronic, and elastic properties of centrosymmetric ternary chloroperovskites QZnCl₃ (Q = Li and Na) compounds for potential energy applications. *Optical and Quantum Electronics*, 56(4), 513. doi:10.1007/s11082-023-05968-2
20. Husain, M., Rahman, N., Azzouz-Rached, A., Sfina, N., Asad, M., Hussain, A., **Uzair, M.**, . . . Samreen, A. (2024). Investigating structural, optoelectronic, and mechanical properties of novel Tungsten-based oxides double-perovskites compounds Sr₂XWO₆ (X= Mn, Fe): a DFT approach. *Optik*, 315, 172045.
21. Husain, M., Rahman, N., Azzouz-Rached, A., Tirth, V., Ullah, H., Elhadi, M., **Uzair, M.**, . . . Lu, J. (2024). Screening the structural, dynamical, and mechanical stability, tuning band gaps, and optical properties of inorganic Cs₂RbABr₆ (A = Tl and Bi) double perovskites halide using DFT calculations. *Optical and Quantum Electronics*, 56(5), 866. doi:10.1007/s11082-024-06704-0
22. Husain, M., Rahman, N., Azzouz-Rached, A., Tirth, V., Ullah, H., Elhadi, M., **Uzair, M.**, . . . Lu, J. (2024). Exploring Silicon-Based Ca₂TiSiO₆ Ordered Double Perovskite Oxides: a Comprehensive DFT Investigation of Structural, Dynamical, Mechanical Stability, and Optoelectronic Properties. *Silicon*, 16(7), 2781-2790. doi:10.1007/s12633-024-02901-4

23. Khan, S. N., Jehan, A., Husain, M., Rahman, N., Tirth, V., Shah, S. A., **Uzair, M.**, . . . Khan, A. (2024). Predicting structural, elastic, and optoelectronic properties of oxide perovskites HfXO_3 ($\text{X} = \text{Be, Mg}$) employing the DFT approach. *Optik*, 303, 171724. doi:10.1016/j.ijleo.2024.171724
24. Khan, S. N., Jehan, A., Husain, M., Sfina, N., Rahman, N., Elhadi, M., **Uzair, M.**, . . . Khan, A. (2024). Insight into the structural, elastic, and optoelectronic properties of XPbO_3 ($\text{X} = \text{Cs, Rb}$) compounds employing density functional theory. *Physica B: Condensed Matter*, 676, 415647. doi:10.1016/j.physb.2023.415647
25. Khan, Z., Khan, S. N., Husain, M., Rahman, N., Tirth, V., Elhadi, M., **Uzair, M.**, . . . Alotaibi, A. (2024). Insight into the physical properties of lead-free Chloroperovskites GaXCl_3 ($\text{X} = \text{Be, Ca}$) compounds: probed by DFT. *Optical and Quantum Electronics*, 56(5), 836. doi:10.1007/s11082-024-06345-3
26. Rahman, N., Husain, M., Ahmad, Y., Azzouz-Rached, A., Al-khamiseh, B. M., Asad, M., . . . **Uzair, M.** (2024). First-principles investigation of $\text{Cs}_2\text{TlGaX}_6$ ($\text{X} = \text{Cl, F}$) double perovskites: structural and dynamical stability, elastic properties, and optoelectronic characteristics for applications in semiconductor technology. *Optical and Quantum Electronics*, 56(8), 1298. doi:10.1007/s11082-024-07199-5
27. Rahman, N., Husain, M., Tirth, V., Azzouz-Rached, A., Bibi, S., Inayat, K., **Uzair, M.**, . . . Lu, J. (2024). Insight into the structural, elastic, phonon dispersions, and optoelectronic properties of Cs_2YXCl_6 ($\text{X} = \text{In, Tl}$) double perovskites for solar cells and energy conversion applications. *Optik*, 299, 171590. doi:10.1016/j.ijleo.2023.171590
28. Shah, S. A., Husain, M., Tirth, V., **Uzair, M.**, Rahman, N., Alotaibi, A., & Khan, A. (2024). Exploring the structural, electronic and optical properties of $\text{Rb}_2\text{InGaCl}_6$ and $\text{Rb}_2\text{InGaF}_6$ double perovskite compounds for high-energy applications: a DFT-based investigation. *Optical and Quantum Electronics*, 56(4), 690. doi:10.1007/s11082-024-06342-6
29. Ullah, I., Rehman, M. U., Manan, A., Lanagan, M. T., Khan, R. W., Ullah, A., . . . **Uzair, M.** (2024). Structural, dielectric, electrical, and energy storage properties of Mn-doped $\text{Ba}_{0.55}\text{Sr}_{0.45}\text{TiO}_3$ ceramics. *International Journal of Applied Ceramic Technology*, 21(5), 3413-3421. doi:10.1111/ijac.14788
30. Ullah, M., **Uzair, M.**, Rahman, A. u., Bacha, B. A., Kai, G., & Usman, M. (2024). Time cloak based on Gaussian pulse through chiral medium and cavity coupling. *Optical and Quantum Electronics*, 56(7), 1263. doi:10.1007/s11082-024-07150-8
31. Ullah, W., Husain, M., Rahman, N., Sfina, N., Elhadi, M., Khan, R., **Uzair, M.**, . . . Khan, A. (2024). Computational Analysis of Structural, Elastic, and Optoelectronic Properties of Silicon-Based XSiO_3 ($\text{X} = \text{Sc and Y}$) Oxide Perovskite Compounds Employing the Density Functional Theory Approach. *Silicon*, 16(7), 3021-3032. doi:10.1007/s12633-024-02898-w
32. Ullah, W., Husain, M., Rahman, N., Sfina, N., Elhadi, M., Tirth, V., **Uzair, M.**, . . . Khan, A. (2024). Tailoring structural, electronic, elastic and optical properties of Strontium-based XSrO_3 ($\text{X} = \text{Rb, Cs}$) oxide perovskites employing density functional theory. *Physica Scripta*, 99(3), 035939. doi:10.1088/1402-4896/ad25b6
33. Ullah, W., Rahman, N., Husain, M., Sfina, N., Elhadi, M., Tirth, V., **Uzair, M.**, . . . Khan, M. Y. (2024). Insights into the Ab-initio calculations: Unraveling the structural, electronic, elastic, and optical properties of XSiO_3 ($\text{X} = \text{Hg, Zn}$). *Physica B: Condensed Matter*, 688, 416169. doi:10.1016/j.physb.2024.416169
34. Ali, H., **Uzair, M.**, Ahmad, W., Tirth, V., Akhtar, T., Almalki, W. M., . . . Rahman, N. (2025). Enhancement in thermal stability and dielectric properties of barium titanate and carbon allotropes-based polymer (PVDF) composites for energy storage applications. *Inorganic Chemistry Communications*, 173, 113880.
35. Bouhenna, A., Azzouz-Rached, A., Almalki, W. M., Zeggai, O., Sfina, N., Rahman, N., . . . **Uzair, M.** (2025). First-principles calculations to investigate physical properties of oxide perovskites LaBO_3 (BMn, Fe) for thermo-spintronic devices. *Journal of Physics and Chemistry of Solids*, 196, 112362.

36. Sheema, Zafar, S., Khan, S., Jamal, Q., **Uzair, M.**, Akbar, S., . . . Ali, H. (2025). Green Synthesis, Biological Potential, and Semiconducting Properties of MnO: ZnO Bimetallic Nanocomposites. *Journal of Inorganic and Organometallic Polymers and Materials*, 1-21.
37. Zubair, M., Azzouz-Rached, A., Rahman, N., Tirth, V., Husain, M., **Uzair, M.**, . . . Alotaibi, A. M. (2025). Insight into the structural, elastic, optoelectronic, magnetic and thermodynamic properties of Sr_2TbXO_6 (X = Bi, Sb) double perovskites employing DFT approach. *Optical and Quantum Electronics*, 57(4), 237. doi:10.1007/s11082-025-08162-8
38. Zubair, M., **Uzair, M.**, & Asif, M. (2025). Structural, electronic, optical, and elastic properties of $\text{Cs}_2\text{LiSbX}_6$ (X = F, I): Insights into their potential for technological applications. *Computational Condensed Matter*, e01052. doi:10.1016/j.cocom.2025.e01052
39. **Uzair, M.**, Khan, R., Nawab, A., Sajjad, A., Mumtaz, S., Sfina, N., . . . Rahman, N. (2025). First-principles investigation of structural, electronic, optical, and thermoelectric properties of Li_2X (X = Te, Se, S) chalcogenides for energy and optoelectronic applications. *Results in Physics*, 75, 108334. doi:<https://doi.org/10.1016/j.rinp.2025.108334>
40. **Uzair, M.**, Nawab, A., Sajjad, A., Sfina, N., Tirth, V., Algahtani, A., . . . Rahman, N. (2025). Tailoring Zr-based perovskites through a-site substitution: a first-principles investigation of CaZrO_3 and LaZrO_3 . *Indian Journal of Physics*. doi:10.1007/s12648-025-03830-7
41. Nawab, A., **Uzair, M.**, Sfina, N., Alshahrani, M. D., Alshehri, S., Tirth, V., . . . Rekab-Djabri, H. (2025). Structural, optoelectronic, elastic and thermoelectric properties of cubic perovskite YXO_3 (X = Ni, Co): A first-principles study. *Physica B: Condensed Matter*, 719, 417957. doi:<https://doi.org/10.1016/j.physb.2025.417957>
42. Akhtar, T., Ali, H., **Uzair, M.**, Sfina, N., Alshahrani, M. D., Alshehri, S., . . . Rahman, N. (2025). Dielectric and mechanical performance of barium titanate (BT) and copper oxide (CuO) reinforced polyvinyl alcohol (PVA) nanofibers for flexible microelectronic applications. *Journal of Composite Materials*, 0(0), 00219983251383157. doi:10.1177/00219983251383157
43. Ali, H., Khan, R., Ahmad, W., Sfina, N., Alshahrani, M. D., Alshehri, S., . . . **Uzair, M.**, Rekab-Djabri, H. (2025). Fabrication of carbon nanotubes and barium Titanate reinforced PVA electrospun composite nanofibers for energy storage applications in electrical devices. *Inorganic Chemistry Communications*, 181, 115166. doi:<https://doi.org/10.1016/j.inoche.2025.115166>
44. Zubair, M., Ullah, A., Belhachi, S., Rahman, N., Husain, M., Abualnaja, K. M., . . . **Uzair, M.**, Saleem, M. I. (2025). DFT Analysis of Sr_2GdMO_6 (M = Bi, Sb) Double Perovskites for Spintronics and UV Optoelectronics. *Journal of Superconductivity and Novel Magnetism*, 38(4), 169. doi:10.1007/s10948-025-07011-9

CONFERENCES & WORKSHOPS:

1. One Day Workshop on “WHERE ACADEMIA AND INDUSTRY MEET 2007-I” University of Peshawar (**Organizer**)
2. One Day Workshop on “WHERE ACADEMIA AND INDUSTRY MEET 2007-II” Pearl Continental Hotel Peshawar (**Organizer**)
3. One Day Workshop on “Nanomaterials and Regional Meeting of Nanomaterials Forum” April 23, 2008, CRL, University of Peshawar (**Organizer**)
4. International Seminar on “ADVANCES IN CEMENT BASED MATERIALS” 21-22 JAN 2010 NUST ISLAMABAD (**Participant**)
5. 1st National Conference on “MATERIALS PROCESSING, CHARACTERIZATION, PROPERTIES AND THEIR ECONOMIC POTENTIAL” 2010 UNIVERSITY OF PESHAWAR (**Organizer**)

6. 2nd National Conference on “MATERIALS PROCESSING, CHARACTERIAZTION, PROPERTIES AND THEIR ECONOMIC POTENTIAL” 30th November – 2nd December 2011 UNIVERISTY OF PESHAWAR **(Organizer)**
7. Three Days Certified Training Program on “Educational Measurement & Evaluation: Test Item Construction”. 11-13th April 2017 **(Participant)**
8. Three Days Certified Training Program on “Semester Regulations of University of Peshawar”. 09-11th May 2017 **(Participant)**
9. International Symposium on Advances in Metallurgy and Materials (ISAMM’17), October 24-26, 2017, PIEAS, Islamabad **(Invited Speaker)**
10. Three Days Certified Training Program on “Educational Measurement & Evaluation: Test Item Construction”. 11-13th April 2017.

For Reference:

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