

Curriculum Vitae

Dr. Shahzad Hussain Tenured Associate Professor

Office address

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COMSATS University Islamabad (Islamabad Campus), Pakistan
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Email: shahzad.hussain@comsats.edu.pk

Home address

House 96, Street 5, Eastridge Housing Scheme,
High Court Road, Rawalpindi, Pakistan
Mobile: +92-345-5124128
Email: shcqau@gmail.com
Born: December 19, 1983; Married, Three child; Pakistani citizen

Research Interests:

- Electromagnetic Interference Shielding (MXenes & polymer-based EMI shields)
- Magnetism and ferroelectricity
- Magnetoelectric nano and bulk composites
- Storage Devices (Li-ion batteries & Supercapacitors)
- Microwave Absorbers
- Micro/Nanomaterials for Adsorption/desorption
- Water purification & Desalination

Education:

2015	Ph.D.	Quaid-I-Azam University, Islamabad, Pakistan; “Study of Multiferroic and Optical Properties of Pure and Divalent Doped BiFeO ₃ ”. Supervisor: Prof. Dr. S. K. Hasanain. (One research experience from University of Delaware, USA) (1 month research experience from Bangladesh University of Engineering and Technology, Dhaka, Bangladesh)
2008	M. Phil	Quaid-I-Azam University, Islamabad, Pakistan; “Magnetic Properties of Mn doped CuO Nanoparticles” Supervisor: Prof. Dr. Arif Mumtaz.
2004	M. Sc.	Department of Physics, Quaid-I-Azam University, Islamabad, Pakistan

Professional Experience:

01/07/2023 to date	Tenured Associate Professor, Department of Physics, COMSATS University, Islamabad, Pakistan (Tenure Track System (TTS)).
25/01/2017 - 15/05/2023	Assistant Professor, Department of Physics, COMSATS University, Islamabad, Pakistan (TTS).
25/01/2016 - 25/01/2017	Assistant Professor, Department of Physics, COMSATS Institute of Information Technology, Pakistan under Interim Placement for fresh PhDs program (IPFP).
01/01/2014 - 01/01/2016	Teaching Assistant, Department of Physics, Quaid-I-Azam University, Islamabad.
01/01/2015 - 01/02/2015	Research fellow in the Department of Physics, Bangladesh University of Engineering & Technology (Under Upsla University Grant (USP)).
01/12/2012 - 01/08/2013	Research fellow in the Department of Material Science and Engineering, University of Delaware, USA (Under International Research Support Initiative Program (IRSIP) offered by Higher Education Commission (HEC) of Pakistan).
01/01/2010 - 31/05/2015	PhD student at Quaid-I-Azam University, Islamabad.
01/11/2009 - 01/10/2010	Lecturer, HITEC College for Men, Taxila.
01/01/2008 - 01/01/2009	Lecturer, Department of Applied Physics, Federal Urdu University of Art, Science and Technology, Islamabad.

Experimental Skills:

Confidently working with

- Growth of thin film using Magnetron Sputtering, Pulse laser deposition and spin coater.
- Expert in Solid state and wet chemical synthesis routes.
- X-ray Diffractometer (XRD).
- Rietveld Refinement.
- Structure Plotting using Diamond & Vesta Software.
- Scanning Probe Microscopy (AFM, c-AFM, SEM and TEM).
- Zeta Sizer and Zeta potential measurements.
- I-V measurements.
- Raman Spectroscopy.
- Mössbauer Spectroscopy.
- X-ray Photoelectron Spectroscopy (XPS).
- Fourier Transform Infrared Spectroscopy (FTIR).
- Physical Property Measurement System (PPMS).
- Vibrating Sample Magnetometer (VSM).
- Impedance Spectroscopy.
- UV-VIS Spectroscopy.
- He Closed Cycle Refrigerator Systems.
- Vector Network Analyzer.
- Ball Mill Machine.
- Vacuum systems.
- Furnaces.
- LCR Meter.
- Oscilloscope

Projects:

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| 2023 | Research grant of Rs. 0.6 million PKR (as PI) for the project entitled “Synthesis and Characterization of (2D) Titanium Carbide Ti_3C_2 for Optoelectronic Applications. (Funding NESCOM) |
| 2019 | Research grant of Rs. 0.5 million PKR (as Co-PI) for the project entitled “Study of Structural, Electrical, Magnetic, and Magnetoelectric Properties of (Ba, Sr) (Ti, Sn) $O_3-NiFe_2O_4$ based Composites and Thin Films” (Funding Agency HEC:). |
| 2017 | Research grant of Rs. 0.2 million PKR for the project entitled “Li-ion battery cathode material development for better electrochemical performance.” (Funding Agency CUI; No: 16-52/CRGP/CIIT/IBD/16/1113). |
| 2016 | Research grant of Rs. 0.5 million PKR for the project entitled “Study of Structural, Electronic, Optical, and Multiferroic Properties of $BiFeO_3$ Based system” (Funding Agency HEC; NO: 21-922/SRGP/R&D/HEC/2016). |

Awards and Distinctions:

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| 2022 | Appreciation letter from COMSATS University on my services |
| 2021 | Incharge BS Physics Program 2021-23. |
| 2019 | HEC PhD Approved Supervisor. |
| 2019 | Travel grant from Higher Education Commission of Pakistan for the 6 th International Conference on Multifunctional, Hybrid and Nanomaterials, Sitges, Spain (2019). |
| 2017 | Travel grant from Higher Education Commission of Pakistan for the “9 th international conference on Materials for Advanced Technologies (ICMAT 2017)” held in Suntec Singapore. |
| 2016 | Research productivity award for the year 2016 by COMSATS Institute of Information Technology Islamabad, Pakistan. |
| 2013 | Visited Bangladesh University of Engineering and Technology (BUET) in 2013 as research scientist funded by International Science Programs (ISP), Uppsala University, Sweden through its regional network support program with BUET, Dhaka, Bangladesh. |
| 2012 | Received 5000 Indigenous Scholarship during PhD from 2011-15. (PIN # PS7-071) |
| 2012 | International Research Support Initiative Program of Higher Education Commission of Pakistan. (PIN: IRSIP 20 Ps 21 (2012); NO:1-8/HEC/HRD/2012/2607). |
| 2008 | 3 rd position in M-Phil, Physics department, 2008. |

- 2007 Won merit scholarship from World Federation of Scientist during M-Phil research work in 2007.
 2004 1st position in college in BSc examination, 2004.
 2001 1st position in college in FSc examination, 2001.

Research Publications (total impact factor of the publications = 180):

#	Publication Details (e.g., Title, Author(s), Journal, Publisher, Country where published, Vol. No., Page No., Year, etc.)	Impact Factor	Web-link (Mandatory)
01	Investigation of electronic, ferroelectric and electrical conduction behavior of RF sputtered BiFeO ₃ thin films Shahzad Hussain, SU Awan, A Mumtaz, M Siddique, M Aftab, SK Hasanain Nanotechnology, 35, 295704 (2024)	3.5	https://pubmed.ncbi.nlm.nih.gov/38631111/ Category: W (As corresponding author)
02	Effect of carbon allotropes and thickness variation on the EMI shielding properties of PANI/NFO@CFO/PANI/NFO@RGO ternary composite systems Shahzad Hussain Phys. Chem. Chem. Phys, 26, 10168-10182 (2024)	3.5	https://pubs.rsc.org/en/content/articlelanding/2024/cp/d4cp00028e Category: W (As corresponding Author)
03	PANI/CFO@CNTs ternary composite system for EMI shielding applications Syeda JavariaKazmi, M. Nadeem, Adnan Younis, Uraraj Loomba, Babar Shabbir, Sadia Manzoor, Shahzad Hussain Journal of Alloys and Compounds, 563, 11209 (2022)	6.371	https://www.sciencedirect.com/science/article/pii/S0304885322009222 Category: W (As corresponding Author)
04	Exploring the Structural, Morphological and Multiferroic Properties of Al ³⁺ Modified BCZT-(x) CFO Ceramic Composites shahzad hussain, H Dilpazir, M Naveed-ul-Waseem, T Ali Physica Scripta, 99, 075938 (2024)		https://iopscience.iop.org/article/10.1088/1361-6633/ab4896/ad4c13 Category: W (As corresponding Author)
05	Inducing a magnetic morphotropic boundary in (0.7) BiNd _x FeO ₃ -(0.3) BaTiO ₃ (0.05) system S Hussain, IA Bhatti, R Siddique, M Aftab, M Waseem, SU Awan Physica B: Condensed Matter 674, 415530 (2023)	2.8	https://www.sciencedirect.com/science/article/pii/S0921452623008979 Category: W (As corresponding author)
06	The structural, optical, and antibacterial properties of Cd/Co co-doped TiO ₂ B Rafi, M Arif, S. Hussain, R Ahmad, A Shahzad Hussain, Siddiqui, A Hussain, Inorganic Chemistry Communications, 11209 (2022)	3.8	https://www.sciencedirect.com/science/article/pii/S1387700324000765 Category: W (As co-author)
07	PANI/CFO@CNTs ternary composite system for EMI shielding applications Syeda JavariaKazmi, M. Nadeem, Adnan Younis, Uraraj Loomba, Babar Shabbir, Sadia Manzoor, Shahzad Hussain Journal of Alloys and Compounds, 563, 11209 (2022)	6.371	https://www.sciencedirect.com/science/article/pii/S0304885322009222 Category: W (As corresponding Author)
08	Novel Approach to Grow Nanosized NiCo ₂ O ₄ and NiFe ₂ O ₄ on Amberlyst MB3 Mixed Bed Ion Exchange Resin for Efficient Sorption of Cd ²⁺ ions Z Khalid, S Hussain, F Bibi, N Iqbal, S Haq, K M Waseem Separation and Purification Technology, 151, 124666 (2023)	8.6	https://www.sciencedirect.com/science/article/pii/S1383586623015745 Category: W (As co-author)

09	Azadirachta indica Mediated Functionalized MWCNTs by Ferrites of Nickel and Cobalt for Remediation of As (III) Ions A Sattar, S Hussain, F Bibi, S Arif, RA K Waseem Journal of Inorganic and Organometallic Polymers and Materials 34, 5313 (2024)	3.5	https://link.springer.com/article/10.1007/978-94-024-03160-x Category: W (As co-author)
10	Green synthesis of Ag-CoFe ₂ O ₄ nanocomposites by Taxus wallichiana leaf extract for adsorption of Pb ²⁺ ions from aqueous solution H Tasqeen, M Waseem, S Hussain, A Majeed Chemical Papers, 78, 4517 (2024)	2.2	https://link.springer.com/article/10.1007/978-94-024-03415-4 Category: X (As co-author)
11	Organic and inorganic acids-functionalized MWCNTs for the adsorption of Cu ²⁺ and Ni ²⁺ ions from aqueous solution M Gull, S Hussain, A Tariq, Z Khalid, F Waseem Chemical Papers 77, 6519-6531 (2023), 77, 6519	2.2	https://link.springer.com/article/10.1007/978-94-023-02955-5 Category: X (As co-author)
12	Influence of rare earth ions (Dy ³⁺ , Eu ³⁺ , La ³⁺) on the ultraviolet-light photocatalytic activity and magnetic properties of BiFeO ₃ Shahzad Hussain, Tehseen Ali Anjum, Babar Shabbir, Muhammad Waseem, Naveed-Ul-Haq, Adnan Younis Materials Chemistry and Physics, 299, 106501 (2022)	4.778	https://www.sciencedirect.com/science/article/pii/S0254058422008872 Category: W (As corresponding Author)
13	Synthesis and characterization of Ag ₂ O, CdO, and their ternary composite for antibacterial activity Komal Aftab, Taiba Naseem, Shahzad Hussain, Sirajul Haq, Muhammad Waseem Environmental Science and Pollution Research 30, 4079-4093 (2023)	5.053	https://link.springer.com/article/10.1007/978-94-022-22516-9 Category: W (As Co-author)
14	Grafting the ferrites of cobalt and zinc onto MWCNTs for adsorption of crystal violet A Tariq, M Gull, AJ Shaikh, S Hussain, R Hussain, M Waseem International Journal of Environmental Research and Technology, 01 March (2023)	8.067	https://link.springer.com/article/10.1007/978-94-023-04857-1 Category: W (As co-author)
15	PVDF/CFO-anchored CNTs ternary composite system with enhanced EMI shielding and absorption properties. Syeda Javeria Kazmi, M.Nadeem, Muhammad Warsi, Sadia Manzoor, Babar Shabbir, S Hussain Journal of Alloys and Compounds, 903, 164113 (2022)	5.316	https://www.sciencedirect.com/science/article/pii/S0925838822003292 Category: W (As corresponding Author)
16	Effects of Cobalt doping on structural, electrical, and electrochemical properties of Li ₄ Ti ₅ O ₁₂ anode Humaira S. Bhatti, Shamsa Jabeen, Arif Majeed, Ghulam Ali, Sara Qaisar, Shahzad Hussain Journal of Alloys and Compounds, 890, 161113 (2022)	5.316	https://www.sciencedirect.com/science/article/pii/S0925838821031005?via%3Dihub Category: W (As Co-author)
17	Metal-organic framework derived functionalized and co-doped nanocomposites for excellent visible light photocatalytic activity	8.067	https://www.sciencedirect.com/science/article/pii/S1005030221006010

	photocatalysis. Mian Zahid Hussain, ZhuxianYang, M.E.Khalil, Shahzad Hussain, Saif Ullah Awa Journal of Materials Science & Technology, (2022)		Category: W (As co-author)
18	Structural, optical and antimicrobial charact of ZnO green nanoparticle Tabassam, Muhammad Jawad Khan, S Hussain, Shaikat Ali Khattak, Said Shah & Arshad Saleem Bhatti Journal of Science and Technology, 32 (2022)	2.326	https://link.springer.com/article/10.1007-022-05726-y Category: X (As Co-author)
19	Pressure-induced structural, electronic magnetic evolution in cubic inverse NiFe ₂ O ₄ , an ab-initio study M Naveed-UI-Haq, Shahzad Hussain Applied Physics A, 128, 30 (2022)	2.584	https://link.springer.com/article/10.10079-021-05176-3 Category: X (As Co-author)
20	On the Structure-Property relationships of (A In ³⁺)-Doped Spinel Cobalt Ferrite Ceram Combined Experimental and DFT Study. M. Naveed-UI-Haq, Shahzad Hussain*, Webers, Soma Salamon, Ibisam Ahmad, T Bibi, Amna Hameed Phys. Chem. Chem. Phys., 23, 18112 (2021)	3.676	https://pubs.rsc.org/en/content/article/2021/cp/d1cp02625a Category: W (As Corresponding Author)
21	Study of structural, electronic, and con properties of Cu _{2-x} Mn _x O (0 ≤ x ≤ 0.07) syste Akbar Ali, Shahzad Hussain, Humaira Safdar Babar Shabbir Results in Physics, 25, 104224 (2021)	4.476	https://www.sciencedirect.com/science/pii/S2211379721003685 Category: W (As Corresponding Author)
22	Evaluation of structural, electrical, and m properties of nanosized unary, binary, and particles of Fe ₃ O ₄ , SnO ₂ and TiO ₂ . Mahfooz-ur-Rehman, Muhammad Waseem Rehman, Razaq Hussain, Shahzad Hussain Haq & Muhammad Anis-ur-Rehman Chemical Papers, 75, 2625–2638 (2021)	2.097	https://link.springer.com/article/10.1007-020-01444-3 Category: X (As co-author)
23	Effect of Annealing Temperature on Structural Phase Transformations and Band Gap Reduction for Photocatalytic Activity of Mesopores TiO ₂ Nanocatalysts Sirajul Haq, Wajid Rehman; Muhammad Waseem, Saif Awan, Vera Meynen, Shahzad Hussain, Naseem Iqbal Journal of Inorganic and Organometallic P and Materials, 31, 1312–1322 (2021)	3.543	https://link.springer.com/article/10.10074-020-01810-4 Category: X (As co-author)
24	Structural, ferromagnetic, electrical, and die relaxor properties of BaTiO ₃ and CoFe ₂ O ₄ b nanoparticles, and nanocomposites materia electronic devices Syed Raza, Saif Awan, Shahzad Hussain, Professor S. K. Hasanain Journal of Applied Physics 128, 124101 (2020)	2.546	https://aip.scitation.org/doi/full/10.1063/67 Category: W (As co-author)
25	Analyses of Structure, Electronic and Mult Properties of Bi _{1-x} Nd _x FeO ₃ (x = 0, 0.05, 0.1 0.20, 0.25) System. Tehseen A. Anjum, M. Naveed-UI-Haq, S Hussain, Mohsin Rafique Journal of Alloys and Compounds, 820, (2020).	4.175	https://www.sciencedirect.com/science/pii/S0925838819343415 Category: W (As Corresponding Author)
26	Improving the methotrexate	1.449	https://iopscience.iop.org/article/10.108

	loading/release of magnetite by coating with silica of various thicknesses Muhammad Waseem, Awais Aleem, Rifaqat Hussain, Shahzad Hussain; Shaikat Saeed Materials Research Express, 6, 12 (2019).		1591/ab5392/meta Category: X (As Co-author)
27	Enhanced Multiferroic Response in New Bimetallic Solid Solution $(0.5) \text{Bi}_{0.70}\text{A}_{0.30}\text{FeO}_3-(0.5) \text{PbTi}_{0.5}\text{Fe}_{0.5}\text{O}_3$ (A = Sr, Pb, and Ba) Systems Mehak Shariq, Shahzad Hussain*, Mohsin Rafique, M. Naveed-UI-Haq, Azizur Rehman Journal of Magnetism and Magnetic Materials, 492, 165685 (2019).	3.046	https://www.sciencedirect.com/science/pii/S0304885319306705 Category: W (As Corresponding Author)
28	Structure-Property Correlations, Defect Driven Magnetism and Anomalous Temperature Dependence of Magnetic Coercivity in $\text{PbTi}_{1-x}\text{Fe}_x\text{O}_3$ ($0 \leq x \leq 0.5$) System. Shahzad Hussain*, Muhammad Asim, M. Naveed-UI-Haq, Mohsin Rafique, Lubna Tabassam, Arif, Samira Webers and Azizur Rehman Daltons Transactions, 48, 10275 (2019).	4.052	https://pubs.rsc.org/en/content/articlelanding/2019/dt/c9dt00992b/unauth#!divAbstract Category: W (As Corresponding & 1 st Author)
29	Adsorption Mechanism of Pb^{2+} ions by SnO_2 , and TiO_2 nanoparticles. Mahfooz-ur-Rehman, Wajid Rehman, Muhammad Waseem, Shahzad Hussain, Sirajul Haq, Muhammad Asam Raza Environmental Science and Pollution Research, 26, 19968 (2019).	2.914	https://link.springer.com/article/10.1007/s11356-019-05276-x Category: W (As Co-author)
30	Effects of Structural Modification on Vibrational Modes, Electronic Transitions, and Bandgap of $\text{Ba}_x\text{Fe}_{1-x}\text{O}_3$ ($0 \leq x \leq 0.30$) system. Shahzad Hussain, F. A. Khan, S. K. Hasanain, Saif Ullah Awan Journal of Electronic Materials, 48, 4273 (2019).	1.676	https://link.springer.com/article/10.1007/s11356-019-07186-7 Category: W (As Corresponding & 1 st Author)
30	Magnetic and Dielectric Properties of NiCr_2O_4 Nanoparticles. M. Kamran, W. Shaikat, K. Nadeem*, S. Hussain, F Zeb, and Shahzad Hussain Materials Research Express, 6, 7 (2019).	1.151	https://iopscience.iop.org/article/10.1088/1751-8113/ab13f0/pdf Category: X (As Co-author)
32	Investigation of dielectric and complex impedance spectroscopic studies of $\text{Bi}_{1-x}\text{Ba}_x\text{FeO}_3$ ($0 \leq x \leq 0.30$) system. Shahzad Hussain, F. A. Khan, S. K. Hasanain, Saif Ullah Awan, S. Adnan Raza Journal of Materials Science: Materials Electronics, 29, 01 (2018).	2.019	https://link.springer.com/article/10.1007/s10854-018-8842-5 Category: X (As Corresponding & 1 st Author)
33	Structural, optical, electronic, and magnetic properties of multiphase $\text{ZnO}/\text{Zn}(\text{OH})_2$ nanocomposites and hexagonal prism shaped nanoparticles synthesized by pulse laser ablation in Heptanes. Saif Ullah Awan, S. K. Hasanain, Jamshaid Jamshaid, Shahzad Hussain. Materials Chemistry and Physics, 211, 510 (2019).	2.084	https://www.sciencedirect.com/science/pii/S025405841830155X Category: W (As Co-author)
34	Improved Magnetic, Dielectric and Dielectric Properties of $\text{PbTi}_{1-x}\text{Fe}_x\text{O}_3$ ($0 \leq x \leq 0.60$) System M. Irfan Ullah, S. K. Hasanain, Shahzad Hussain, Saif Ullah Awan, Jamshaid Jamshaid, and Saif Ullah Awan Journal of Materials Science: Materials Electronics, 29, 01 (2018).	1.579	https://link.springer.com/article/10.1007/s10854-017-6054-z

	Usman Journal of electronic materials, 47, 229 (2018).		Category: W (As Co-author)
35	Structural, magnetic, and dielectric properties of multiferroic $\text{Co}_{1-x}\text{Mg}_x\text{Cr}_2\text{O}_4$ nanoparticles. M. Kamran, A.Ullah, S. Rahman, A. Taha Nadeem, Shahzad Hussain. Journal of magnetism and magnetic materials 433, 178-186 (2018).	2.63	https://www.sciencedirect.com/science/abs/pii/S0304885316322892 Category: W (As Co-author)
36	Anomalous temperature dependence of magnetic coercivity and structure property correlation in $\text{Bi}_{0.75}\text{A}_{0.25}\text{FeO}_3$ (A = Sr, Pb, and Ba) system Shahzad Hussain, S. K. Hasanain, G. H. Jaffari, Naveed Zafar Ali, M. Siddique and S. Ismat Shah. Journal of material chemistry C, 5, 945 (2017).	5.256	http://pubs.rsc.org/en/content/articlelanding/2017/tc/c7tc02956j#!divAbstract Category: W (As Corresponding & 1 st Author)
37	Strain driven structural phase transformation correlation between structural, electronic and magnetic properties of $\text{Bi}_{1-x}\text{Ba}_x\text{FeO}_3$ (0 < x < 1) system. Shahzad Hussain, F. A. Khan, Naveed Zafar Ali, K. Hasanain, M. Siddique, Mohsin Rafique, Abaas Journal of Alloys and Compounds, 701, 301 (2018).	3.014	http://www.sciencedirect.com/science/abs/pii/S0925838817301536 Category: W (As Corresponding & 1 st Author)
38	Structural, magnetic, and dielectric properties of Multiferroic $\text{Co}_{1-x}\text{Mg}_x\text{Cr}_2\text{O}_4$ nanoparticles. M. Kamran, A. Ullah, S. Rahman, A. Taha Nadeem, M. Anis Ur Rehman, Shahzad Hussain Journal of Magnetism and Magnetic Materials 433, 178 (2017).	2.357	http://www.sciencedirect.com/science/abs/pii/S0304885316322892 Category: W (As Co-author)
39	Chemical Pressure Induced Red Shift in band gap and d-d transition energies in Sr doped BiFeO_3 . Shahzad Hussain, S. K. Hasanain. Journal of Alloys and Compounds 688, 1151 (2016).	3.014	http://www.sciencedirect.com/science/abs/pii/S0925838816321922 Category: W (As Corresponding & 1 st Author)
40	Synthesis and induced multiferroicity of perovskite PbTiO_3 ; a review Humaira Safdar Bhatti, Syed Tajammul Hussain, Feroz Alam Khan, Shahzad Hussain Applied Surface Science, 367, 291 (2016)	4.5	https://www.sciencedirect.com/science/abs/pii/S0169433216300137 Category: W (As Co-author)
41	Thickness dependent magnetic and ferroelectric properties of LaNiO_3 buffered BiFeO_3 thin film Shahzad Hussain, S.K. Hasanain, G. Hassnain, Jaffari, S. Ismat Shah Current Applied Physics, 15, 194 (2015)	2.2	https://www.sciencedirect.com/science/abs/pii/S1567173914003976 Category: W (As Co-1 st and Corresponding author)
42	Effect of A and B-site substitution with Pb, La and Ti on phase stabilization and multiferroic properties of BiFeO_3 G Hassnain Jaffari, Abdus Samad, Asad M Iqbal, Shahzad Hussain, Arif Mumtaz, Mohammad Awan, M Siddique, S Ismat Shah Journal of Alloys and Compounds 644, 893 (2015)	3.8	https://www.sciencedirect.com/science/abs/pii/S0925838815013584 Category: W (As Co-author)
43	Correlation between structure, oxygen content and the multiferroic properties of Sr doped BiFeO_3	3.8	https://www.sciencedirect.com/science/abs/pii/S0925838814024499

	Shahzad Hussain, SK Hasanain, G Hassnain Naveed Zafar Ali, M Siddique, S Ismat Shah Journal of Alloys and Compounds 622, 08 (2013)		Category: W (As -1 st and Corresponding author)
44	Size and Lone Pair Effects on the Multiferroic Properties of $\text{Bi}_{0.75}\text{A}_{0.25}\text{FeO}_{3-\delta}$ (A = Sr, Pb, Ba) Ceramics Shahzad Hussain, S. Khurshid Hasanain, Jaffari, Sabeen Farid Rehman, Turab Ali Abbas, S. Ismat Shah Journal of the American Ceramic Society (2013)	3.5	https://ceramics.onlinelibrary.wiley.com/doi/10.1111/jace.12458 Category: W (As -1 st and Corresponding author)
45	Polaronic transport and magnetic dependence of conduction parameters in BiFeO_3 nanocomposites Journal of Physics D: Applied Physics	3.5	https://ceramics.onlinelibrary.wiley.com/doi/10.1111/jace.12458 Category: W (As Corresponding author)
46	Functional $\text{Ti}_3\text{C}_2\text{Tx}$ (Tx = O, F, Cl, OH) Thin Films and Coated Cotton Fabric with Excellent Electromagnetic Interference Shielding: Effect of Surface Chemistry, Flake Size, Microstructure Thickness, and Loading Journal: Materials Today Communications	3.5	https://track.elsevier.com/track-uri/doi/10.1016/j.matcom.2023.101111 Category: W (As Corresponding author)

Courses taught:

#	Course Title	Credit Hours	PhD/Master /Undergrad	Students Feedback in %age
01	Solid State Physics-II, Fall 2024	03	Undergrad	In progress
02	Advanced Statistical Physics, Fall 2024	03	Graduate	In progress
03	Solid State Physics-I, Spring 2024	03	Undergrad	94
04	Advanced Statistical Physics, Spring 2024	03	Graduate	100
05	Advanced Statistical Physics, Fall 2023	03	Undergrad	Not available
06	Statistical Physics-II, Fall 2023	03	Undergrad	Not available
07	Statistical Physics-I, Spring 2023	03	Undergrad	Not available
08	Statistical Physics-II, Fall 2022	03	Undergrad	Not available
09	Statistical Physics-I, Spring 2022	03	Undergrad	Not available
10	Graduate Lab, Spring 2022	01	Graduate	Not available
11	Physics of Magnetism, Fall 2021	03	Graduate	Not available
12	Quantum Mechanics-II, Fall 2021	03	Undergrad	Not available
13	Physics of Magnetism, Spring 2021	03	Graduate	Not available
14	Statistical Physics-II, Spring 2021	03	Undergrad	Not available
15	Statistical Physics-I, Fall 2020	03	Undergrad	Not available
16	Physics of Magnetism, Spring 2020	03	Graduate	Not available
17	Statistical Physics-II, Spring 2020	03	Undergrad	97
18	Statistical Mechanics, Fall 2019	03	Undergrad	Not available
19	Statistical Physics-I, Fall 2019	03	Undergrad	Not available
20	Graduate Lab, Fall 2019	01	Graduate	Not available
21	Graduate Lab, Fall 2019	01	Graduate	Not available
22	Quantum Mechanics-II, Spring 2019	03	Undergrad	95
23	Graduate Lab, Spring 2019	01	Graduate	Not available
24	Electricity, Magnetism and Optics Lab, Fall 2018	01	Undergrad	Not available
25	Quantum Mechanics-I, Fall 2018	03	Undergrad	91
26	Graduate Lab, Fall 2018	01	Graduate	Not available
27	Applied Physics for Engineers, Spring 2017	03	Undergrad	93
28	Applied Physics for Engineers Lab, Spring 2017	01	Undergrad	Not available
29	Applied Physics for Engineers, Fall 2017	03	Undergrad	89
30	Statistical Mechanics, Fall 2017	03	Undergrad	89
31	Mathematical Methods of Physics Spring 2017	03	Undergrad	80
32	Physics of Magnetism, Spring 2017	03	Graduate	93

33	Mathematical Methods of Physics, Fall 2016	03	Undergrad	Not available
34	Nuclear Physics, Spring 2016	03	Undergrad	Not available

PhD/MS/BS thesis supervised/co-supervised:

#	Student Name	Thesis Title	MS/PhD	Supervisor/Co-Supervisor	Status:
01	Ms. Tooba	MXene/Polymer based composite system for technical applications	PhD	Supervisor	Registered
02	Ms. Syeda Javaria Kazmi	Synthesis and Characterization of Carbon Nano Composites for Electromagnetic Absorption (1-x) Bi _{0.7} A _{0.3} FeO ₃ - xPbTi _{0.5} Fe _{0.5} O ₃ (Pb, and Ba) System	PhD	Supervisor	Completed
03	Huzaifa Hanif	Surface Functionalization of Magnetic Nanoparticles: Targeted Delivery and Molecular Modeling for Breast Cancer Treatment	PhD	Co-Supervisor	Registered
04	Abdul Sattar	Nanoporous Magnetic Carbon-Based Materials for Arsenic Removal from Aqueous Solution (MXene based)	PhD	Co-Supervisor	Thesis Submitted
05	Anosha Saif	Synthesis and Characterization of (2D) Ti Carbide Ti ₃ C ₂ for Optoelectronic Applications	MS	Supervisor	Completed
06	Aima Asghar	MXene/Fe ₃ O ₄ /PANI Ternary Composite Films for Performance EMI Shielding	MS	Supervisor	Registered
07	Aboubakar Nasir P22-RPH-001	Polymer Composites with Diverse Nanofillers for Efficient Electromagnetic Interference Shielding (MXene based)	MS	Supervisor	Registered
08	Amir-ul-Nisa FA-21/RPH-002	Flexible 2D/1D/0D and MXene-Based Nanocomposites thin films for Technical Applications	MS	Supervisor	Registered
09	Resham Siddiqi Sp21-RPH-039	Functional MXene thin films with Tunable Electromagnetic Interference Shielding Performances.	MS	Supervisor	Completed
10	Rimsha Toor CUI, Islamabad)	Calcium/Magnesium Ferrites Incorporated MXene for Arsenic (As) Removal from Aqueous Solution	MS	Co-Supervisor	Registered
11	Ms. Mehak Shah	Study of Structure Property Correlations in (1-x) Bi _{0.7} A _{0.3} FeO ₃ - xPbTi _{0.5} Fe _{0.5} O ₃ (A = Sr, Pb, Ba) System	MS	Supervisor	Completed
12	Ms. Hira Dilpaz CIIT/SP17-RPH-003/ISB	Search of New Composite Multiferroic System with Enhanced Magnetolectric Properties	MS	Supervisor	Completed
13	Mr. Tehseen Ali Anjum 16PCL01589	Study of Structure, Electronic and Multiferroic Properties of Rare Earth Ion Doped BiFeO ₃	MS	Supervisor	Completed
14	Ms. Ujala Ghous FA18-RPH-063	Synthesis and Characterization of BiFeO ₃ -Reduced Graphene Oxide Nanocomposites as Potential Candidate for Future Devices	MS	Supervisor	Completed
15	Ms. Abroo Zain CIIT/SP19-RPH-004	Study of Microstructural, Magnetic, and Microwave Absorption Properties of MWCNT/Polystyrene Nanocomposite	MS	Supervisor	Completed
16	Ms. Iqra Asif Bhatti FA18-RPH-032	Inducing a Magnetic Morphotropic Phase Boundary in (0.7) BiFeO ₃ -(0.3) BaTiO ₃ System to Enhance Magnetolectric Coupling.	MS	Supervisor	Completed
17	Zubaah Khalid	Surface Functionalization of Amberlyst-15 by NiFe ₂ O ₄ , BiFe ₂ O ₄ and CoFe ₂ O ₄ for the uptake of Cd ²⁺ ions from aqueous solution	MS	Co-Supervisor	Completed
18	Faiza Afzal	Green Synthesis of Mn Doped NiFe ₂ O ₄ Nanoparticles for the Sorption Properties of Crystal Violet	MS	Co-Supervisor	Completed

19	Muhammad Ali	Anticancer Drug Loading and Release Properties of Silica Coated Magnetic Nanoparticles of Controlled Thicknesses	MS	Co-Supervisor	Completed
20	Ayesha Tariq	Grafting of CoFe ₂ O ₄ and ZnFe ₂ O ₄ on CNTs for Photodegradation of Crystal Violet Dye.	MS	Co-Supervisor	Completed
21	Maheen Gull	Organic and Inorganic acids functionalized CNTs for the adsorption of Cu ²⁺ and Ni ²⁺ ions	MS	Co-Supervisor	Completed
22	Saleha Jabeen	Chitosan-Polyethylene Glycol Functionalized Magnetite Nanoparticles for Lung Cancer Cell Line	MS	Supervisor	Completed
23	Ramsha Umar	Intercalation of Magnetic Nanoparticles into Multilayers: A Promising Approach for EMI Shielding Properties	BS	Supervisor	Completed
24	Romasa Noor	MXene/Polymer Nanocomposites for Efficient Shielding	BS	Supervisor	Completed
25	Omamah Komar	Optimizing Ti ₃ C ₂ T _x (T _x : O, OH, F, Cl) Shielding Properties for Better EMI Protection	BS	Supervisor	Registered
26	Amna Amjad	Ti ₃ C ₂ T _x MXene Polymer composites for EMI Shielding	BS	Supervisor	Completed
27	Arwa Hassan	Carbon Based Nanocomposites for Electromagnetic Shielding Properties	BS	Supervisor	Completed
28	Ibrahim Yousaf FA19-BPh-023 Aleena Rehman FA19-BPh-006	Flexible and light weight Ti ₃ C ₂ T _x based composites thin films for EMI shielding properties	BS	Supervisor	Completed
29	Iram Shaheen SP19-BPH-093	Study of Multiferroic Properties of CoFe ₂ O ₄ (Zr _x Ti _{1-x}) O ₃ Composite System	BS	Supervisor	Completed
30	Emaan Zafar SP19-BPH-025	Highly Conductive Nanocomposite System for Electromagnetic Interference Shielding Applications	BS	Supervisor	Completed
31	Mr. Muhammad CU/FA14-BPH-012/ISB	Correlation between Structural, Multiferroic and Optical Properties of Iron Doped Lead Titanate System	BS	Supervisor	Completed
33	Ms. Resham Siddique CU/SP15-BPH-012/ISB	Improving the Conductivity of LiFePO ₄ for Better Electrochemical Performance	BS	Supervisor	Completed
34	Ms. Iqra Nisar CIIT/SP15-BPH-043/ISB	Study of Structural and Multiferroic Properties of CoFe ₂ O ₄ -PbTiO ₃ Composite System	BS	Supervisor	Completed
35	Ms. Misbah Shaheen	Synthesis and characterization of potential multiferroic composites	BS	Supervisor	Completed
36	Mr. Ahmad Hassan	Fabrication and Characterization of PVP Encapsulated CoFe ₂ O ₄ -rGO Nanocomposites for Electromagnetic waves Absorber Applications	BS	Supervisor	Completed
37	Mr. Mahmood Mehmood (CIIT/SP15-BPH-031/ISB) Mr. Abdul Rauf Khalid (CIIT/SP15-BPH-003/ISB)	Effect of Silica Coating on Structural, Thermal and Spectral Properties of Nanoparticles	BS	Co-Supervisor	Completed

Conferences, Symposium, Seminars & Workshops:

- 2023 Workshop on “Science Communication and Community Engagement” February 01-03 (Participant)
- 2019 6th International Conference on Multifunctional, Hybrid and Nanomaterials, Sitges, Spain 2019 (Poster Presentation).
- 2019 1st National Symposium on General Chemistry: A Platform from Academia to Industry, July 17, 2019 (Participant).

- 2019 44th International Nathiagali Summer College on Physics and Contemporary Needs, Jul 15-20, 2019 (Participant).
- 2017 9th international conference on Materials for Advanced Technologies (ICMAT 2017) held in Suntec Singapore from 18-23 June 2017 (Oral Presentation).
- 2017 42nd International Nathiagali Summer College on Physics and Contemporary Needs, Jul 17-29, 2017 (Participant).
- 2015 Workshop on Contemporary Topics in Nanomagnetism, Feb. 23-26, 2015 (Oral Presentation).
- 2014 39th International Nathiagali Summer College on Physics and Contemporary Needs, Aug 04-16, 2014 (Participant).
- 2011 36th International Nathiagali Summer College on Physics and Contemporary Needs, June 27 to 08th July 2011, Islamabad, Pakistan (Participant).
- 2010 35th International Nathiagali Summer College on Physics and Contemporary Needs, June 2010, Islamabad, Pakistan (Participant).
- 2008 Workshop on Nanoscience and Catalysis, 24-25 March, 2008 (Participant).
- 2007 International Symposium on Contemporary Physics, March 26-30, 2007 (Participant).

Role as Reviewer:

I am a member of the departmental review committee for the evaluation of synopsis.

- Journal of Alloys and Compounds
- Ceramics International
- Physica E: Low dimensional systems and nanostructures
- Journal of magnetism and magnetic materials
- Applied Physics: Condense Matter
- And many other well reputed journals

External & Internal Examiner

- Riphah International University, Islamabad
- University of Azad, Jammu, and Kashmir, Muzaffarabad, and many other universities.

Additional Services: (International, Institutional or Social Services)

- i) Preparation and checking of PhD Comprehensive Examination.
- ii) MS entrance examination paper preparation.
- iii) Program team member for preparation of Self-Assessment report of MS program.
- iv) Departmental Coordinator for "COURSEERA PROGRAM".
- v) Secretary of Committee for Allocation/Issuance of Equipment/Apparatus/Parts.
- vi) Member-Secretary of Management Committee of Departmental Research Resources.
- vii) Member of departmental synopsis review committee (30 synopsis reviewed).
- viii) Member of supervisory committee for PhD student Program team member for preparation of Self-Assessment report of MS program (Report submitted during the reporting period).
- ix) MS synopsis reviewed (10 synopsis reviewed).
- x) Member of supervisory committee for PhD student.
- xi) Internal Examiner in many BS and MS Vivas.
- xii) Active reviewer of many international scientific journals.

Further details regarding membership, academic responsibilities and references can be provided when required.