

Prof. Dr. Adnan Ali-CV

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Current position (20/08/2025-)

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- **Professor, Department of Physics, Government College University Faisalabad, Pakistan**
- **Director Central Hi-Tech Lab, GC University Faisalabad (11-2023- To date)**
- **Visiting Research Fellow, London South Bank University, London, UK (2023 – To Date)**
- My research interests are in semiconductors materials and devices, especially in renewable energy (thermoelectric & solar cells) and biosensors.
- I have been working on instruments R&D, related to the semiconductor materials and device characterization.
- I have supervised 34 M. Phil and three PhD students. Most projects involve materials development, their characterisation and application in solar cells, biosensors (using Surface Enhanced Raman Spectroscopy (SERS) for rapid detection of Tuberculosis and E. Coli bacteria.
- I have published **194** peer-reviewed journal papers, and my h-index is 30.
- I have 11 years of teaching experience (I give lectures, tutorials, practical classes, supervise undergraduate and postgraduate research projects).
- I have contributed to curriculum development for undergraduate and postgraduate (M.Phil and PhD)
- I have won several research grants and fellowships from Higher Education Commission (HEC) of Pakistan, British Council (UK), DAAD (Germany).
- **Major Research achievements** since 2020
 - 71 high-quality publications with an average impact factor of ~5
 - 40 publications in the first quartile (Q1) Journals (according to Thomson-ISI Web of Science). These papers can contribute to **REF 2028**.
 - 10 invited/plenary talks at international conferences and organised and chaired six international conferences.
- **Supervision of PhD students**
 - Carbonization and Doping in Waste Organic Material Derived Carbon For Urban Waste Water Treatment, Usman ul Ghani, ***in Progress***
 - Device Design Of Lead-Free Mixed Cation Perovskite Based Tandem Solar Cells By Computer Simulation, Muazma Jamil, 2023
 - “Surface Enhanced Raman Spectroscopy of Tuberculosis and E. Coli bacteria for rapid detection”, Ali Zohaib, 2022.
 - “Understanding the Optical and Electrical Losses in Silicon Solar Cells for Improved Performance”, Sofia Tahir, 2018
- **Supervision of M.Phil students**
 - Correlation Of Seebeck Coefficient And Selenization Temperature In CuSe Thin Films Grown On Si Substrate, Muhammad Tahir, 2022
 - Surface Functionalization of Molybdenum/Tin Chalcogenide Nanostructures via Covalent Bonding for SERS Applications, Zainab Bibi, 2020
 - Investigation of structural and morphological properties of Molybdenum selenide nanostructure for surface enhanced Raman spectroscopy applications, Ammara Malik, 2020
 - Rapid Identification Of Mycobacterium Tuberculosis Bacteria Using Hybrid Plasmonic Platform By Surface Enhanced Raman Spectroscopy, Abdul Mateen, 2020

- Investigation of Structural and optical characteristics of CZTS thin films sulphurized in Sulphur rich atmosphere. Aftab, 2019.
- Optimization of sulphurization temperature of CZTS thin films grown on n-Silicon substrate. Muhammad Noman, 2019.
- Modulating the Thermoelectric properties of CZTS thin films grown on multi crystalline Silicon substrate. Muhammad Sajjad, 2019.
- Tuning the light transmission properties of $\text{Cd}_{1-x}\text{Zn}_x\text{S}/\text{Se}$ thin films with and without chemical treatment method. Muhammad Yasir Ali, 2019
- Study of the effects of Zinc and Sulphur concentrations on structural and optical properties of CZTS thin films. Muhammad Tamseel, 2019.
- Effect of different Copper and Tin concentrations on optical and structural properties of CZTS thin films. M. Salman Ahmad, 2019
- Aging Effect of Precursor Solution on Structural and Optical Properties of Sulfurized CZTS Thin Film, Waqas Ahmad, 2018.
- Effect of Annealing Temperature on CZTS Thin Films Grown on Silicon Substrate, Tariq Mahmood Shahid, 2018.
- Fabrication and Characterization of CZTS/ TiO_2 PN Junctions, Muhammad Hassan Bashir, 2018.
- “Comparative Study of Structural and Optical Properties of Molybdenum Oxide Thin Films Grown by Physical Vapour Deposition and Chemical Solution Method”, Ayesha Razzaq, 2018.
- “Investigation of Electrical and Optical Properties of Graphene Oxide Coated on Different Metal Substrates”, Waseem Ul Islam, 2018.
- “Study of Secondary Phases of CZTS Based Thin Film Solar Cells Using Computer Simulations”, Mehreen Javed, 2018.
- “Role of Different Substrates on the growth of CZTS Thin Films”, Arslan Ashfaq, 2017.
- “Design and Simulation of Thin Film Solar Cells based on CZTS absorber layer”, Muazma Jamil, 2018.
- “Investigation of Anti-reflection Coatings on the Efficiency of Silicon Solar Cells”, Muhammad Waqas, 2016
- “Modeling of High Efficiency GaAs/Si Solar Cell for Concentrated Photovoltaic”, Sundas Sardar, 2016.
- “Device Simulation of high Efficiency $\text{In}_x\text{Ga}_{1-x}\text{N}/\text{Si}$ Tandem Solar Cell”, Adil Javed, 2016.
- “SPICE modeling of Si solar cells for the optimum performance”, Umair Razi, 2015.
- “Modelling the Cost Analysis of Silicon Solar Cells and Photovoltaic Modules”, Muhammad Tahir, 2015.
- “Design Analysis of Thin Film Silicon Solar cells”, Shazia Parveen, 2014.
- “Modeling of temperature effects on the performance of Thin Film Silicon solar cells”, Asif Javaid, 2013

Assistant Professor (2012-2019), Government College University Faisalabad, Pakistan

- I taught Micro-Nano Fabrication, Photovoltaics, Semiconductor materials and Devices, Advanced Experimental Techniques and Instrumentation, Modern Physics etc.
- I present the research at different conferences, meetings and workshops.

Visiting Researcher (2015)-Solar Energy Research Institute, University of Kebangsaan, Bangi, Malaysia

- Obtained hands on training and learning on the vacuum system including rotary pumps, Diffusion pump and troubleshooting the vacuum leakage in vacuum system etc. I learned the PV module manufacturing, tabbing and the lamination process.

Visiting Researcher (2011)- Department of Electrical and Computer Engineering, University of North Carolina Charlotte, NC, USA.

- Gained skills in the device fabrication using Photolithography in clean room class 100 and 1000, Epitaxial Growth of Germanium and Metal Induced Crystallization of Amorphous Germanium, Physical Vapor Deposition (e-beam and Thermal evaporation) and wet chemical

etching, HF Anodization to form porous Silicon and used different tools for materials characterization includes but not limited to XRD & SEM etc.

Education/Qualifications

- 2008- 2012 **PhD in Physics: “Simulation and Characterization of Conventional, Bifacial and Back-Contact Crystalline Silicon Solar Cells”.**
The Islamia University of Bahawalpur (IUB), Bahawalpur, Pakistan
- 2006- 2008 **M.Phil in Physics**, The Islamia University of Bahawalpur (IUB), Bahawalpur, Pakistan
Thesis title: “Capacitance measurements of MOCVD grown TiO_2 layers on n-Silicon substrate”

Awards, Grants and Fellowships

- 2023 Pak-UK Mobility Gateway Grant by British Council and HEC, Project Lead, **10.1 million PKR**, 2023.
- 2021 “The Bifacial Field Effect Passivation of Dielectric AlO_x/SiN_x stacks in PERC Solar Cells for Improved Performance”, Funded by British Council, as Co-PI, **100 million PKR**, 2021 (3 years).
- 2020 “Interfacial Study of Cu_2O/ZnO Solar Cells through Impedance Spectroscopy”, Funded by HEC – As Co-PI - ~ **4 million PKR**, 2020.
- 2019 “Growth and Characterization of Ge epilayers on nanostructured Silicon Surface for enhanced absorption for Solar Cell applications”, Funded by HEC - As PI - **10 million PKR**, 2019.
- 2015 Research Grant by **Higher Education Commission** of Pakistan for Collaborative Research work with SOLAR ENERGY RESEARCH INSTITUTE (SERI), UKM, Malaysia, 2015.
- 2013 **BEST RESEARCH PAPER AWARD** by Government of Pakistan and Higher Education Commission, 2013
- 2013 **DAAD** (Deutscher Akademischer Austausch Dienst) Post Doc Award – 2013
- 2011-date **Member Technical Program Committee** for Conference series on “HONET: High-Capacity Optical Networks and Emerging/Enabling Technologies and Photonics” – 2011 to date
- 2011 Fellowship (IRSIP) by Higher Education Commission of Pakistan for six months research at UNC-Charlotte, USA- 2011
- 2006-2010 Fellowship by Higher Education Commission of Pakistan, Indigenous Fellowship (MPhil leading to PhD), 2006 – 2010

Administrative Experience

- 2023 – to date **Director, Central Hi-Tech Lab**, GC University Faisalabad.
- 2013 - to date **Member, Board of Studies**, Department of Physics, GC University Faisalabad,
- 2022 - to date **Member Board of Studies**, Department of Physics, Allam Iqbal Open University, Islamabad.
- 2023 - to date **Member Board of Studies**, Department of Physics, Women University Multan
- 2012 - to date
- 2023 - to date **Coordinator** for BS(H) Physics program, GC University Faisalabad, 2012.
- 2022 – to date

2022 – to date	Program Coordinator BS/MS Physics evening program, 2023 to date.
2017 – to date	QEC focal person of Department of Physics, GCUF, 2022 – to date. Member , Directorate of Procurement and Inventory, GC University Faisalabad, 2022 to date.
2019 – to date	Member, Purchase Committee , Department of Physics, GC University Faisalabad, 2017 to date. Member, Purchase Committee , Central Hi-Tech Lab, GC University Faisalabad, 2019 to date.

Editorial experience and conference chairing

2025	Guest Editor , Journal of Electronic Materials, 2025
2023	Guest Editor , CRYSTAL, MDPI, 2022 – 2023
2020	Guest Editor , Journal of Superconductivity and Novel Magnetism, 2020
2020	Guest Editor , Physics B, Condensed Matter Physics, 2020
2023	Chaired 6 th MSNANO-23 conference, three-day conference on Materials Science and Nanotechnology
2022	Chaired 5 th MSNANO-22 conference, two-day conference on Materials Science and Nanotechnology
2020	Chaired 4 th MSNANO-20 conference, two-day conference on Materials Science and Nanotechnology
2019	Chaired 3 rd MSNANO-19 conference, two-day conference on Materials Science and Nanotechnology
2018	Chaired 2 nd MSNANO-18 conference, two-day conference on Materials Science and Nanotechnology.
2017	Chaired 1 st MSNANO-17 conference, three-day conference on Materials Science and Nanotechnology

Technical Skills and knowledge

Semiconductor material characterization

- ❖ Spectroscopy: Deep Level Transient Spectroscopy
- ❖ Confocal Micro Raman/PL mapping
- ❖ UV-Vis-NIR, Fourier Transform Infrared Spectroscopy
- ❖ Electrical Transport: Current-Voltage measurements, Capacitance-Voltage measurements, Admittance Spectroscopy
- ❖ Microscopy: Scanning Electron Microscopy
- ❖ Growth and Deposition: Electron-beam deposition
- ❖ Surface Science and Structural Techniques: X-Ray Diffraction

Modelling/Simulation Software

- ❖ Python
- ❖ Arduino
- ❖ Photovoltaic Modeling software: SENTAURUS (DESSIS), LTSpice IV, PC1D and PC2D, AFORS-HET, AMPS-1D and Quokka

Equipment Maintenance

I am maintaining the research tools available in my lab and designing and developing small instruments for the research purpose. I have installed various research instruments and have trainings on the list of these below.

- ❖ VSM
- ❖ Training on Instrumentation of Confocal Raman Spectroscopy System Korea

- ❖ Pulsed Laser Deposition System
- ❖ PVD (Physical Vapor Deposition) Lesker 75
- ❖ PanAlytical X'Pert Pro and Bruker D8 Advance XRD
- ❖ Confocal Micro Raman/PL Mapping
- ❖ SEM Hitachi 3000-S and JEOL 6460
- ❖ Wollam Ellipsometer
- ❖ FTIR TENSOR 27
- ❖ Deep Level Spectrometer (DLS 83-D)
- ❖ Keithley 6487 Pico-Ammeter
- ❖ Boonton Capacitance meter 7200
- ❖ LCR meter 4285A (75kHz-30MHz)
- ❖ Semiconductor Characterization System SCS-4200
- ❖ SOLARIS 150 Rapid Thermal Processing System
- ❖ LIV tester
- ❖ Spin Coaters
- ❖ E-beam Lithograph (Raith 150) as SEM
- ❖ Designed and made the muffle furnaces, CVD system, Thermal Evaporator
- ❖ Designed and Made the sample holder assembly for thermoelectric system.
- ❖ Established the protocols for the staining of bacteria for the purpose of SERS in my lab.

Publications

1. M. Yasir Ali, Ausaf Ahmad, **Adnan Ali**, Azhar Mahmood , Chun-Ming Wang, Khalid Mahmood, *Optimizing the power factor of FeSi₂ alloy by achieving flower like surface morphology using post growth annealing technique"*(2025), **Journal of Electronic Materials**, 54,09, <https://doi.org/10.1007/s11664-025-12312-9>
2. M. Yasir Ali, **Adnan Ali**, N. Abbas Khan, Khalid Mahmood, Sharafat Hussain, *Realization of high figure of merit (0.95) in Fe/Ni co-doped SnO₂ nanoparticles by the engineering of charge and phonon transport*, (2025), **Journal of Electronic Materials**, 54, 09.
3. M. Yasir Ali, **Adnan Ali**, Khalid Mehmood, Arslan Ashfaq, Meznah M. Alanazi, Manar fahad albarak, Ahmed H. Ragab, *Enhancing thermoelectric performance in AgBiTe alloys through band modification and localized lattice engineering*, **Journal of Materials Science**, 2025, <https://link.springer.com/article/10.1007/s10853-025-11286-7>
4. Muhammad Yasir Ali, **Adnan Ali**, Khalid Mahmood, Arslan Ashfaq, Meznah M. Alanazi, Ahmed H. Ragab, *Strategies for Thermoelectric Power Factor: From Tin-based Materials to Device Applications*, **Emergent Materials**, (2025). <https://doi.org/10.1007/s42247-025-01131-7>
5. M. Yasir Ali, **Adnan Ali**, Khalid Mahmood, Ahmed H. Ragab, Meznah Alanazi, Tagreed Wael Alghamdi, A. Ashfaq, *Investigating the thermoelectric power factor of AlPbTe₂ thin film grown by thermal evaporation route*, (2025) **Applied Physics A** 131, 330, <https://link.springer.com/article/10.1007/s00339-025-08465-3>
6. M. Yasir Ali, S. Younus, N. Amin, **Adnan Ali**, Muhammad Isram, S. Ikram, K. Mahmood, M. Junaid Dilshad, *A two stage approach to antibacterial activity of wastewater using annealed Zn_{0.5}Mn_{0.5}O nano-composites*, (2025) **Results in Chemistry**, 15, 102192, <https://doi.org/10.1016/j.rechem.2025.102192>
7. Arslan Ashfaq, M.Yasir Ali, **Adnan Ali**, Khalid Mahmood, Shaimaa A.M. Abdelmohsen, Meznah M. Alanazi, Lana M. Sulayem, Ahmed H. Ragab, *High-performance thermoelectric properties of oriented and nonstoichiometric AgSnTe₂ thin film*, **Solid State Communications**, 404, 116116, <https://doi.org/10.1016/j.ssc.2025.116116>
8. Rasmiah S. Almufarij, Muazma Jamil, M. Yasir Ali, M. D. Alshahrani, Salhah Hamed Alrefae, Mohamed Abdelsabour Fahmy, Islam Ragab, A. R. Abdelwahed, **Adnan Ali** and Arslan Ashfaq, *Numerical Analysis of MASnI₃/CZT(Se_{1-x}S_x) Interface to Boost Performance*

- via Band Offset Engineering, **RSC Advances** (2025), 15, 16939–16946, <https://doi.org/10.1039/D5RA02248G>
9. Norah Salem Alsaieri, Jolly Jacob, **A. Ali**, S. Ikram, K. Javaid, M. Tamseel, K. Mahmood, M. Yasir Ali, Sultan Alomairy, M. S. Al-Buriahi, and Safa Ezzine, *Enhancing the thermoelectric properties of Ag-GeO₂ nanocomposites by controlling the Ag conducting phase*, (2025) **J Mater Sci.** 60, 4293–4300. <https://link.springer.com/article/10.1007/s10853-025-10698-9>
 10. Jolly Jacob, M.S. Al-Buriahi, **A. Ali**, Tahir Mahmood Akhtar, MImran Arshad, Salma Ikram, K. Javaid, M. Yasir Ali, K. Mahmood, Norah Salem Alsaieri, Sultan Alomairy, Yongbo Kuan g, *Correlation of seebeck coefficient and salinization temperature in CuSe thin films grown on glass substrate*. (2025) **Journal of Physics and Chemistry of Solids**, 196, 112399. <https://doi.org/10.1016/j.jpcs.2024.112399>
 11. Danish Arifl, Adeel Younas Abid, Tabinda Ishtiaq, Kashif Safeen, Gaber A. M. Mersal, Sufaid Shah, **Adnan Ali**, Atta Ullah Shah, Akif Safeen, *Effects of Multi-dimensional Defects on Optical and Thermoelectric Properties of Cerium-Doped ZnO Nanoparticles*, (2025), **Brazilian Journal of Physics**, 55, 159.
 12. Danish Arif, Rajwali Khan, Adeel Younas Abid, Kashif Safeen, **Adnan Ali**, Mohammed A. Amin, Khizra Akram, Kamal Hussain Khan, Zulfiqar Ali and Akif Safeen, Influence of defects on the enhancement of thermoelectric properties in Sn-doped ZnO nanostructure synthesized via hydrothermal rout, (2025), **Frontiers in Chemistry**, 13:1598509, doi: 10.3389/fchem.2025.1598509
 13. Zainab Ishfaq, Layla A. Almutairi, M. Yasir Ali, Salhah Hamed Alrefaee, Mohamed Abdelsabour Fahmy, Elsammani Ali Shokralla, Lamiaa G. Alharbe, **Adnan Ali**, Arslan Ashfaq, and A. R. Abd-Elwahed. "Enhanced surface functionalization of 2D molybdenum/tin chalcogenide nanostructures for effective SERS detection of Escherichia coli." **RSC advances** 14, no. 47 (2024): 35021-35034.
 14. Lamiaa G. Alharbe, M. Yasir Ali, Rasmiah S. Almufarij, Islam Ragab, Eddie Gazo-Hanna, Salhah Hamed Alrefaee, Mohamed Abdelsabour Fahmy, Romulo R. Macadangdang Jr., M. Musa Saad H.-E, **Adnan Ali**, and Arslan Ashfaq, Enhanced thermoelectric power factor in BiSnTe alloy thin films via post-annealing: a structural and electrical study. **Journal of Materials Science: Materials in Electronics**, 35(31), 2024
 15. Rasmiah S. Almufarij, M. Yasir Ali, **Adnan Ali**, Lamiaa G. Alharbe, Elsammani Ali Shokralla, Mohamed Abdelsabour Fahmy, Salhah Hamed Alrefaee, Ahmed H. Ragab, Arslan Ashfaq, and A. R. Abd-Elwahed. "High thermoelectric power factor of SbPbTe thin alloy film grown by thermal evaporation and post-annealing treatment." **Materials Chemistry and Physics** 323 (2024): 129645
 16. Rasmiah S. Almufarij, M. Jamil, Emaan Alsubhe, S.M. Alghamdi, Elsammani Ali Shokralla, Khushi Muhammad Khan, Arslan Ashfaq, **Adnan Ali**, Syed Asfar Ahmad Jafri, Mohd Shakir Khan "Enhancing solar cell efficiency through tandem structures utilizing lead-free mixed cation perovskites and CZTSe absorber layers" **Chemical Physics Impact, (IF 2.2)**
 17. **Adnan Ali**, M. Sharafat Hussain, Rasmiah S. Almufarij, M. Yasir Ali, Lamiaa G. Alharbe, H.H. Smaili, Elsammani Ali Shokralla, Salhah Hamed Alrefaee, Arslan Ashfaq, A.R. Abd-Elwahed "Enhancing light trapping efficiency: Germanium-coated porous silicon structures for optimal antireflection performance" **Ceramics International** in press **(IF 5.2)**
 18. Muhammad Haneef, Sofia Tahir, Haitham A. Mahmoud, **Adnan Ali**, Arslan Ashfaq, Optimizing Lead-Free MASnBr₃ Perovskite Solar Cells for High-Efficiency and Long-Term Stability Using Graphene and Advanced Interface Layers, **ACS Omega**: (2024), **(IF 4.1)**
 19. Arslan Ashfaq, Rasmiah S. Almufarij, Islam Ragab, Yasir Ali, Lamiaa G. Alharbe, Elsammani Ali Shokralla, S. M. Alghamdi, Emaan Alsubhe, Ohood Albeydani, Romulo R. Macadangdang Jr., **Adnan Ali**, Post-Selenization Induced Structural Phase Transition and Enhanced Thermoelectric Properties in AgBiSe₂ Alloy Thin Films, **Vacuum** 219 (2024): 112746 **(IF 4.0)**

20. Sofia Tahir, Rabia Saeed, Arslan Ashfaq, **Adnan Ali**, Khalid Mehmood, N. Almousa, Elsammani Ali Shokralla, Romulo R. Macadangdang Jr., Anastasia H. Soeriyadi, Ruy Sebastian Bonilla, Optical modelling and characterization of bifacial SiN_x/AlO_x dielectric layers for surface passivation and antireflection in PERC, **Progress in Photovoltaics: Research and Applications**, 2023 (IF 6.7)
21. Rasmiah S. Almufarij, Wajid Raza, Arslan Ashfaq, Elsammani Ali Shokralla, Hessa A. Alsalmah, Ubaid ur Rehman, **Adnan Ali**, Romulo R. Macadangdang Jr., Rey Y. Capangpangan, Arnold C. Alguno, Samia Akhtar, "Enhanced the thermoelectric power factor of n-type Bi₂Te₃ thin film via energy filtering effect." **Inorganic Chemistry Communications** (2023): 111439. (IF 3.8)
22. M. Yasir Ali, Rasmiah S. Almufarij, Arslan Ashfaq, Elsammani Ali Shokralla, Hessa A. Alsalmah, Rey Y. Capangpangan, Arnold C. Alguno, Romulo R. Macadangdang Jr., Ahmed H. Ragab, Youssef Trabelsi, **Adnan Ali**, Enhancing thermoelectric properties of CuNiO thin films through post-annealing: effect on Seebeck coefficient and power generation, **Materials Letters**, 353, 2023, 135155 . (IF 3.0)
23. Rasmiah S. Almufarij, Arslan Ashfaq, Sofia Tahir, Rania Saleh Alqurashi, Ahmed H. Ragab, D.E. El-Refaey, Shammash Mushtaq, Elsammani Ali Shokralla, **Adnan Ali**, Rey Y. Capangpangan, Arnold C. Alguno, Improving performance and recombination losses in lead free formamidinium tin based perovskite solar cells, *Materials Chemistry and Physics*, 307 (2023) 128150. (IF 4.6)
24. Arslan Ashfaq, Rasmiah S. Almufarij, M. Yasir Ali, **Adnan Ali**, Sofia Tahir, Michael M. Sabugaa, Mohamed Abdelsabour Fahmy, Elsammani Ali Shokralla, Ahmed H. Ragab, D.E. El-Refaey, Khalid Mehmood "High thermoelectric power factor of n-type Bi₂(Se,S)₃ via synergetic influence on the charge carrier concentration and energy filtering effect" **International Communications in Heat and Mass Transfer**, (2023) 146, 106870 (IF 7.0)
25. M. Jamil, Rasmiah S. Almufarij, **Adnan Ali**, Arslan Ashfaq, Khalid Mahmood, Mohamed Abdelsabour Fahmy, Michael M. Sabugaa, Rania Saleh Alqurashi, Elsammani Ali Shokralla, Obaidallah A. Algethami, "Improving the recombination losses by the inclusion of Bi-HTM (CuO/Silicon) layers for Formamidinium Tin-based perovskite solar cells" **Advanced Theory and Simulations**, 2300106 (IF 4.105)
26. Arslan Ashfaq, Elsammani Ali Shokralla, **Adnan Ali**, Michael M. Sabugaa, Mohamed Abdelsabour Fahmy, Shaimaa A. M. Abdelmohsen, M. Yasir Ali, Adnan Baig, Obaidallah A. Algethami, Mohamed Abboud, "Enhanced thermoelectric performance of P-type SnTe thin film through Sr doping and Post-Annealing treatment" **Inorganic Chemistry Communications**, (2023) 153, 110790. (IF 3.8)
27. Arslan Ashfaq, Lassaad K. SMIRANI, Mohamed Abboud, Ubaid ur Rehman, Mohammed M. Fadhal, H.H Hegazy, Md. Amzad Hossain, **A. Ali**, K. Mehmood, N. Amin "Enhancing the thermoelectric power factor of nanostructured SnO₂ via Bi substitution" **Ceramics International** 49 (2023) 10360–10364 (IF 5.2).
28. Ubaid ur Rehman, Khalid Mahmood, Muhammad Arshad Kamran, Rawaa M. Mohammed, H. H. Somaily, Arslan Ashfaq, Qeemat Gul, **Adnan Ali**, Muhammad Faisal Iqbal, Kashaf ul Sahar. "Enhanced thermoelectric power generation performance of mixed-phase FeS/FeS₂ nanostructures by controlling the reaction time duration." *Ceramics International* 49 (2023) 512–517 IF 5.2
29. InaamUllah, F.F.Al-Harbi, Aqrab ul Ahmad, K. Mahmood, **A. Ali**, Salma Ikram, N. Amin, K. Javaid, Mongi Amami, M. Arif Sajjad, M. Yasir Ali, M. Sharafat Hussain, Growth and characterization of GeSnO thin films for thermoelectric power generation applications, **Chemical Physics Letters** 801 (2022) 139717, (I.F 2.238)
30. Maha Abdallah Alnuwaiser Kashif Javaid, Jolly Jacob, Maleeha Saleem, Lingyan Liang, Hongtao Cao, Mongi Amami, K. Mahmood, **A. Ali**, N. Amin, Salma Ikram, Annealing induced morphology evolution and phase transition in SnO_x thin films grown by e-beam evaporation method, *Inorganic Chemistry Communications*, in press, I.F 2.495
31. Hafiz T. Ali, A. Ashfaq, M. Sharafat Hussain, K. Mahmood, Muhammad Yusuf, Salma Ikram, **A. Ali**, N. Amin, K. Javaid, M. Yasir Ali, J. Jacob, M. Amami, Enhancing the thermoelectric properties of CZTS thin films grown on multi-crystalline Si substrate by controlling the sulfurization time duration, *Optoelectronics and Advanced Materials-Rapid Communication*, 16 (2022) 164, I.F 0.587

32. InaamUllah, Jolly Jacob, F.F.Al-Harbi, K. Mahmood, **A. Ali**, M. Tamseel, Salma Ikram, N. Amin, K. Javaid, Lamia Ben Farhat, S. Hussain, M. Yasir Ali, Investigating the potential of AgZnO thin film composites for waste heat recovery using Seebeck data, *Optical Materials*, 127 (2022) 112318, I.F 3.08
33. Ubaid ur Rehman, Jolly Jacob, F.F. Al-Harbi, A. Ashfaq, K. Mahmood, **A. Ali**, N. Amin, Mongi Amami, S. Hussain, K. Javaid, Salma Ikram, Kashaf ul Sahar, Modulation of thermoelectric power generation performance of ZnO nanostructures by controlling the Mn atoms concentration, *Ceramics International*, 48 (2022) 16183, I.F. 5.2
34. Arslan Ashfaq, Sofia Tahir, Ubaid ur Rehman, **Adnan Ali**, Fareeha Ashfaq, Waqas Ahmad, Shammash Mushtaq, Rabia Saeed, M. Haneef, Khushi Muhammad Khan, Kainat shabbir, Structural, morphological and thermoelectric properties of copper deficient and excessive Cu_{2-x}S nanoparticles with (x=0-0.3), **Surface and Interface** (2022) 30, 101965 I.F 6.2
35. Arslan Ashfaq, SofiaTahir, Ubaid ur Rehman, **Adnan Ali**, Khalid Mehmood, Fareeha Ashfaq, Waqas Ahmad, Khushi Muhammad Khan, M. Haneef, H. M. Shammash Mushtaq, Nasir Amin, Rabia Saeed, Kainat shabbir, Enhanced thermoelectric properties of 2H–MoS₂ thin film by tuning post sulfurization temperature, *Ceramics International*, I.F 5.2
36. M. Imran Arshad, M.S Hasan, Atta ur Rehman, Maria Akhtar, LeDuc Tung, N. Amin, K. Mahmood, **A. Ali**, T. Trooklwilaiwan, N. Thi Kim Thanh, Structural, optical, electrical, dielectric, molecular vibrational and magnetic properties of La³⁺ doped Mg–Cd–Cu ferrites prepared by Co-precipitation technique, *Ceramics International*, in press, I.F 5.2
37. Arslan Ashfaq, Jolly Jacob, Mongi Amami, F.F.Al-Harbi, **A. Ali**, K. Mahmood, U. Rehman, N. Amin, S. Ikram, S. Tahir Akbar, S. Hussain, Effect of Al-doping on the thermoelectric properties of CZTS thin film grown by sol-gel method, *Solid State Sciences*, 345 (2022) 114701, I.F 3.059
38. Ubaid ur Rehman, Khalid Mahmood, Arsalan Ashfaq, **Adnan Ali**, Sofia Tahir, Salma Ikram, Abdul Rehman, Kashaf ul Sahar, Waqas Ahamd, Nasir Amin, Enhanced thermoelectric performance of hydrothermally synthesized CuFeS₂ nanostructures by controlling the Cu/Fe ratio, *Materials Chemistry and Physics*, 279 (2022) 125765, I.F 4.094
39. Salma Ikram, Jolly Jacob, F.F.Al-Harbi, K. Mahmood, **A. Ali**, N. Amin, Tariq Sikandar, Mongi Amami, S. Hussain, K. Javaid, Sulfurization temperature induced enhancement in thermoelectric properties of polycrystalline WS₂ nanomaterials, *Optical Materials*, 124 (2022) 112004, I.F 3.08
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Oral Presentations

Invited/Plenary Talks

1. Two-Day International workshop/Seminar on Semiconductor materials and Nano-Devices, 2-3 June 2008 The Islamia University of Bahawalpur, Pakistan.
2. NI-Lab View Hands on workshop, 19-20 May 2010 at School of Mechanical and Manufacturing Engineering (SMME), National University of Science and Technology (NUST), Islamabad, Pakistan
3. International Spring Scientific, National Center for Physics Islamabad, 2011, Pakistan.
4. International Conference on renewable Energy resources, 2013, The Islamia University of Bahawalpur, Pakistan.
5. International Conference on Applied Physics and Condensed Matter, 2012, BZU Multan Pakistan
6. VASSCAA-6, 2012 Pakistan Vacuum Society Islamabad, Pakistan
7. 12th High Capacity Optical Networks and Photonics (HONET), 21-23 December, 2015, NUST, Islamabad, Pakistan.
8. Workshop on Digital Library, 2015, Government College University Faisalabad.
9. Current Trends in Nano-Technology and Future Perspectives, 2016, Government College University Faisalabad
10. One-Day Workshop on Infrared Spectroscopy; Principle & Applications, 2016, Government College University Faisalabad.
11. International Conference on need based Solar Applications, The University of Lahore, 2017, Pakistan
12. Science for the betterment of Humanity, Government Sadiq College Women University Bahawalpur, 2017, Pakistan.
13. 5th International Conference on Semiconducting Materials and Nano-Devices, 2017, IUB, Bahawalpur
14. Emerging Trends in Physics, GCWUF, 2018, Faisalabad.
15. 6th International Conference on Semiconductor Materials and Nano-Devices, The Islamia University of Bahawalpur, Pakistan, 2018
16. Raman Spectroscopy Training at Dongwoo Optron, 2018, South Korea
17. SEM Training at Emcrafts, 2018, South Korea

18. 7th International Conference on Semiconductor Materials and Nano-Devices, Khawaja Farid Engineering University of Information Technology, Rahim Yar Khan, Pakistan, 2019
19. International symposium on new frontiers in Physics, UAF, 2018
20. 2nd International Conference on Nano-Materials Modeling and Simulation, AIOU, Islamabad, 2019
21. 3rd International Conference on Nano-Materials Modeling and Simulation, AIOU, Islamabad, 2020
22. National Conference on Materials Science, Department of Physics, Univerity of Ponch, Rawalakot, 2024.

Conferences/workshops Organizer

23. 8th International Conference on Materials Science & Nanotechnology, 2025, Istanbul Technical University, Istanbul, Turkiye
24. 7th Internation Conference on Materials Science & Nanotechnology, 2024, GC University Faisalabad, Faisalabad, Pakistan.
25. 6th International Conference on Materials Science and Nanotechnology, 2023, GC University Faisalabad, Faisalabad, Pakistan.
26. 5th International Conference on Materials Science and Nanotechnology, 2022, GC University Faisalabad
27. 4th International Conference on Material Science and Nanotechnology, 2020, GC University Faisalabad
28. 3rd International Conference on Material Science and Nanotechnology, 2019, GC University Faisalabad
29. 1st International Conference on Advances in Theoretical and Applied Physics-2019, GCWUF, Faisalabad
30. International symposium on modern trends in Physics, 2018, GC University Faisalabad
31. 2nd International Conference on Materials Science and Nano-Technology”, Feb 2018, Government College University, Faisalabad, Pakistan.
32. 1st International Conference on Materials Science and Nano-Technology”, Feb 2017, Government College University, Faisalabad, Pakistan.
33. “Seminar on Semiconductor materials for Optoelectronic Application”, March 2015, Government College University, Faisalabad, Pakistan.
34. “One Day workshop on Vacuum Science and Technology”, 17 January 2014, Government College University Faisalabad, Pakistan
35. “One Day Seminar on Nanotechnology: Future prospects and Pakistan”, 18 Dec, 2012, Government College University Faisalabad, Pakistan

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