

CURRICULUM VITAE TEMPLATE



Position/Designation: Assistant Professor
 Department: Physical and Mathematical Sciences
 College: Arts and Sciences
 University of Nizwa, Sultanate of Oman

Personal Information
Name: Muhammad Saeed Marital Status: Married Email Address: mohammad.saeed@unizwa.edu.cn Contact Numbers: 99335635
Academic Qualifications
PhD in Nuclear Science and Technology 2017, Tsinghua University, China MSc in Physics 2009, Kohat University of Science and Technology, Pakistan BSc in physics 2006, University of Peshawar, Pakistan
Teaching Activities, Current/Previous Experience
Shenzhen university, China East China University of Technology, China Yangtze Delat Region Institute, University of Electronic Science and Technology of China, Huzhou campus, China.
Research Activities
(includes but not limited to research interests, conference attendance, conference presentations and publications: refereed journal, articles, books, etc.)
Research Interests: Electrocatalys, water splitting, synthesis of nanomaterials, thermalhydraulics, condensed matter physics Conference Presentations: <ol style="list-style-type: none"> 1. Presented my research work in The Proceedings of the 24th International Conference on Nuclear Engineering, ICONE-24, ASME North Carolina, USA, 2016 2. Presented my research work in The Proceedings of the 25th International Conference on Nuclear Engineering, ICONE-25 ASME, Shanghai Conventional, China, 2017. Conference Attendance: <ol style="list-style-type: none"> 1. Attend the Project Review Meeting of IAEA Technical Cooperation Project 2019 Deploying Technology and Management of Sustainable Uranium Extraction Project 11-15Nov, 2019, Nanchang, China. 2. International conference on Cooperation and Integration of Industry, Education, Research and Application Strategic Mineral Exploration and Exploitation and Environmental Remediation Under the Dual Carbon goals 11th-13th October 2023, Nanchang, China.

3. International conference on International conference on Cooperation and Integration of Industry, Education, Research and Application **Strategic Mineral Exploration and Exploitation and Environmental Remediation Under the Dual Carbon goals** 23rd-25th October 2024, Nanchang, China.

Publications:

1. **Muhammad Saeed**, K. Batool, R. A. Alshgari, and M. S. S. Mushab, "Decoding electrochemical dynamics: Examining the potential of GO/Cu_{1-x}Sr_xCr₂O₄ nanocomposite for high-performance supercapacitor energy storage" *Diamond and Related Materials*, p. 111 635, 2024.
2. **Muhammad Saeed**, A. R. Chaudhry, and K. Batool, "Exploring the multifaceted properties of zinc doped nanocrystalline calcium chromite: A comprehensive investigation into structural, morphological, optical, and magnetic behavior," *Solid State Sciences*, vol. 154, p. 107 618, 2024.
3. **Muhammad Saeed**, M. A. Jehangir, G. Murtaza, et al., "Optical and transport properties of novel X₂BAgCl₆ (where X= K, Rb, Cs, and B= Sc, Y) double perovskites," *Materials Science and Engineering: B*, vol. 308, p. 117 556, 2024.
4. **Muhammad Saeed**, A. Ali, I. U. Haq, Awais Saleemi et al., "First-principles study of the structural and optoelectronic properties of ANbO₃ (A = Na, K and Rb) in four crystal phases" *Materials Science in Semiconductor Processing*, vol. 139, p. 106 364, 2022.
5. **Muhammad Saeed**, A. Ali, I. U. Haq, et al., "First-principles prediction of the ground-state crystal structure of double-perovskite halides Cs₂AgCrX₆ (X = Cl, Br, and I)" *Journal of Physics and Chemistry of Solids* 160, 110302, 2022.
6. **Muhammad Saeed**, M. A. Ali, S. Murad, et al., "Pressure induced structural, electronic, optical and thermal properties of CsYbBr₃, a theoretical investigation," *Journal of materials research and technology*, vol. 10, pp. 687–696, 2021.
7. **Muhammad Saeed**, I. A. Khan, A. S. Khan, et al., "A correlational study: Establishing the link between quantum parameters and particle dynamics around schwarzschild black hole," *Results in Physics*, vol. 26, p. 104 346, 2021.
8. **Muhammad Saeed**, Z. Noor, R. Ali, et al., "Prediction of novel x₂ZnZ₄ (X= Sc, Y; Z= S, Se) spinels materials for renewable energy applications," *International Journal of Energy Research*, vol. 45, no. 6, pp. 8307–8315, 2021
9. **Muhammad Saeed**, Z. Noor, A. Laref, H. Althib, T. H. Flemban, and G. Murtaza, "Insights into the structural, electronic and optical properties of MgA₂B₄ (A = Sc, Y; B = S, Se) spinel compounds: Direct energy band gap materials" *Materials Science in Semiconductor Processing*, vol. 127, p. 105 736, 2021.
10. **Muhammad Saeed**, M. Saeed, A. Qayyum, S. Azam, et al., "Structural, electronic, optical and thermodynamical properties of Cu₃Se₂ and [Cu₃Se₂]: Zn compounds: Using DFT," *Journal of Solid State Chemistry*, vol. 298, p. 122 125, 2021.
11. **Muhammad Saeed**, M. Rani, K. Batool, et al., "Synthesis and fabrication of Co_{1-x}Ni_xCr₂O₄ chromate nanoparticles and the effect of ni concentration on their bandgap, structure, and optical properties" *Journal of Composites Science*, vol. 5, no. 9, p. 247, 2021.
12. **Muhammad Saeed**, I. U. Haq, S. Ur Rehman, et al., "Optoelectronic and elastic properties of metal halides double perovskites Cs₂InBiX₆ (X = F, Cl, Br, I)," *Chinese Optics Letters*, vol. 19, no. 3, p. 030004, 2021.
13. **Muhammad Saeed**, M. Rani, K. Batool, et al., "Effect of Li concentration on the structural and optical properties of Co_{1-x}Li_xCr₂O₄ chromate nanoparticles prepared by sol-gel method" 2021.
14. **Muhammad Saeed**, W. Uddin, A. S. Saleemi, et al., "Optoelectronic properties of MoS₂-ReS₂ and ReS₂-MoS₂" *Physica B: Condensed Matter*, vol. 577, p. 411 809, 2020.
15. **Muhammad Saeed**, X. Zhong, J. Yu, X. Zhang, and A. A. A. Abdalla, "Sensitivity analysis of some key factors on turbulence models for hydrogen diffusion using hydragon code," *Frontiers in Energy Research*, vol. 8, p. 12, 2020.

16. **Muhammad Saeed**, B. Khan, I. Ahmad, et al., "Theoretical investigations of thermoelectric phenomena in binary semiconducting skutterudites," RSC advances, vol. 9, no. 43, pp. 24 981–24 986, 2019.
17. **Muhammad Saeed**, B. Khan, I. Ahmad, et al., "Theoretical investigations of thermoelectric phenomena in binary semiconducting skutterudites," RSC advances, vol. 9, no. 43, pp. 24 981–24 986, 2019.
18. **Muhammad Saeed**, A. Mahmood, A. S. Saleemi, X. Zeng, and S.-L. Lee, "Supramolecular self-assembly: Molecular polymorphs and their transitions triggered electrically via water assistance at the liquid/graphite interface," The Journal of Physical Chemistry C, vol. 124, no. 1, pp. 829–835, 2019.
19. **Muhammad Saeed**, Y. Chan, A. S. Saleemi, J. Guo, and S.-L. Lee, "Synergic effect: Temperature-assisted electric-field-induced supramolecular phase transitions at the liquid/solid interface," Langmuir, vol. 35, no. 24, pp. 8031–8037, 2019.
20. **Muhammad Saeed**, J. Yu, A. A. A. Abdalla, B. Hou, G. Hussain, and X. Zhong, "The effect of turbulence modeling on hydrogen jet dispersion inside a compartment space using the hydragon code," Journal of Nuclear Science and Technology, vol. 54, no. 7, pp. 725–732, 2017.
21. **Muhammad Saeed**, J.-Y. Yu, A. A. A. Abdalla, X.-P. Zhong, and M. A. Ghazanfar, "An assessment of k-Epsilon turbulence models for gas distribution analysis," Nuclear Science and Techniques, vol. 28, pp. 1–8, 2017.
22. A. S. Saleemi, A. Abdullah, K. Batool, and **Muhammad Saeed***, "Advanced composite material for high-performance supercapacitors: Integrating graphene oxide and barium chromate," Physica Scripta, vol. 99, no. 5, p. 055 933, 2024.
23. A. S. Saleemi, S. Mohammad, A. Abdullah, and **Muhammad Saeed***, "A comprehensive examination of structural modifications, optical characteristics, and electrochemical analysis of magnesium-doped dysprosium chromite," Journal of the Chinese Chemical Society, vol. 71, no. 6, pp. 566–575, 2024.
24. Xingnong Wu, Shuang Zhang, **Muhammad Saeed***, Yonghui Liu, "Spatial microenvironment enhanced photocatalytic reduction of uranyl ions under solar light irradiation" Journal of Hazardous Materials 484 (2025) 136708.
25. B. Khan, **Muhammad Saeed**, A. R. Chaudhry, et al., "Analysis of the electronic nature and transport properties of Co_2CrGe , Co_2FeGe , and Co_2NiGa by computational electronic structure calculations," Journal of the Chinese Chemical Society, pp. 1–11, 2024.
26. A. Khan, **Muhammad Saeed**, A. R. Chaudhry, M. A. Jehangir, M. Ibrar, and G. Murtaza, "Exploring $\text{Rb}_2\text{YCuCl}_6$ and $\text{Cs}_2\text{YCuCl}_6$ double perovskites: Structural, electronic, optical, elastic, and thermoelectric properties via density functional theory" Solid State Communications, p. 115 698, 2024.
27. W. Saeed, **Muhammad Saeed**, A. R. Chaudhry, A. Iqbal, S. Khan, and G. Murtaza, "Computational investigation of the structural, mechanical and acoustic characteristics of rare earth based Heusler compounds," Computational Condensed Matter, 00969, 2024.
28. Q. Wu, **Muhammad Saeed**, J. Wang, X. Ma, S. Tong, and Z. Mei, "Single atom electrocatalysts for water splitting in acidic media," ACS Sustainable Chemistry and Engineering, 2024.
29. A. S. Saleemi, **Muhammad Saeed**, M. Hussain, et al., "Anomalous non-linear to linear shift in magnetoresistance of amorphous carbon films," Crystals, vol. 9, no. 12, p. 618, 2019.
30. Y. Chan, **Muhammad Saeed**, S.-L. Lee, and J. J. Wylie, "A continuum study of layer analysis for single species ion transport inside double-layered graphene sheets with various separations," Scientific Reports, vol. 9, no. 1, p. 11 712, 2019.
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32. N. Israr, F. Alresheedi, **Muhammad Saeed**, A. R. Chaudhry, M. A. Jehangir, and G. Murtaza, "First principles calculations to investigate electronic, optical, mechanical, and transport

- characteristics of novel A_2BAuCl_6 (A= K/Rb/Cs; B= Sc/Y),” Results in Physics, p. 108 017, 2024.
33. A. Ullah, Chaudhry, **Muhammad Saeed**, and G. Murtaza, “Frist principles study of elastic and acoustic properties of new chloride perovskites,” International Journal of Modern Physics C, 2024.
 34. T. Zaman, M. Ullah, A. R. Chaudhry, **Muhammad Saeed**, M. Haneef, and G. Murtaza, “Optoelectronic, thermoelectric, and elastic properties of Cu_6Pse_5x (x= br, i) argyrodites using density functional theory,” Physica Scripta, 2024.
 35. M. V. M. Nitou, Pang, **Muhammad Saeed**, et al., “LiFePO₄ as a dual-functional coating for separators in lithium-ion batteries: A new strategy for improving capacity and safety,” Journal of Energy Chemistry, vol. 86, pp. 490–498, 2023.
 36. M. Tang, Y. Niu, **Muhammad Saeed**, et al., “Advances in solid oxide fuel cell electrolyte fabrication by pulsed laser deposition,” International Journal of Hydrogen Energy, 2023.
 37. S. U. Rehman, A. Samad, **Muhammad Saeed**, B. Amin, M. Hafeez, I. A. Mir, et al., “Computational insight of ZrS₂/graphene heterobilayer as an efficient anode material,” Applied Surface Science, vol. 551, p. 149 304, 2021.
 38. A. S. Saleemi, M. Hafeez, **Muhammad Saeed**, A. Abdullah, M. A.-u. Rehman, and S.-L. Lee, “Substrate impact on MR characteristics of carbon nano films explored via afm and raman analysis,” Materials, vol. 14, no. 13, p. 3649, 2021.
 39. X. Zhong, J. Yu, **Muhammad Saeed**, et al., “Development of a lumped parameter dynamic degassing model for spray-heating degasser and its application in the pressurizer of a pressurized water reactor,” Nuclear Technology, vol. 207, no. 2, pp. 228–246, 2021.
 40. X. Zhong, X. Zhang, **Muhammad Saeed**, Z. Li, and J. Yu, “Comparative study on water thermodynamic property functions of trace code,” Annals of Nuclear Energy, vol. 147, p. 107 754, 2020.
 41. Hafeez, S. ur Rehman, A. S. Saleemi, **Muhammad Saeed**, and L. Zhu, “Role of substrate interface energy in the synthesis of high quality uniform layered ReS₂,” Applied Surface Science, vol. 493, pp. 1215–1223, 2019.
 42. Y. Jia, Z. Li, **Muhammad Saeed**, J. Tang, H. Cai, and Y. Xiang, “Kerr nonlinearity in germanium selenide nanoflakes measured by z-scan and spatial self-phase modulation techniques and its applications in all-optical information conversion,” Optics Express, vol. 27, no. 15, pp. 20 857–20 873, 2019.
 43. Y. Jia, Z. Li, H. Wang, **Muhammad Saeed**, and H. Cai, “Sensitivity enhancement of a surface plasmon resonance sensor with platinum diselenide,” Sensors, vol. 20, no. 1, p. 131, 2019.
 44. K. Khan, A. K. Tareen, **Muhammad Saeed**, et al., “Fe-doped mayenite electrified composite with 2d reduced graphene oxide: As a non-platinum based, highly durable electrocatalyst for oxygen reduction reaction,” Scientific Reports, vol. 9, no. 1, p. 19 809, 2019.
 45. K. Khan, A. K. Tareen, **Muhammad Saeed**, et al., “Single step synthesis of highly conductive room temperature stable cation-substituted mayenite electrified target and thin film,” Scientific Reports, vol. 9, no. 1, p. 4967, 2019.
 46. S. U. Rehman, Hafeez, **Muhammad Saeed**, et al., “Orientation dependent electronic and optical properties of zns nanowires and zns—si core shell nanowires,” Applied surface science, vol. 486, pp. 539–545, 2019.
 47. A. Saleemi, M. Anis-ur-Rehman, A. Mahmood, **Muhammad Saeed**, M. Kiani, and S.-l. Lee, “Structural and magnetoresistance properties of transfer-free amorphous carbon thin films,” Crystals, vol. 9, no. 3, p. 124, 2019.
 48. C. Zhang, J. Yu, X. Zhong, and **Muhammad Saeed**, “A numerical investigation on gaseous stratification break up phenomenon of air fountain experiment by code saturne,” Frontiers in Energy Research, vol. 7, p. 57, 2019.
 49. X. Zhang, J. Yu, T. Huang, G. Jiang, X. Zhong, and **Muhammad Saeed**, “An improved method for hydrogen deflagration to detonation transition prediction under severe accidents in nuclear

power plants,” International Journal of Hydrogen Energy, vol. 44, no. 21, pp. 11 233–11 239, 2019.

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51. K.-Y. Cheng, C.-H. Lin, **Muhammad Saeed**, , et al., “Superstructure manipulation and electronic measurement of monolayers comprising discotic liquid crystals with intrinsic dipole moment using STM/STS,” Chemical Communications, vol. 54, no. 58, pp. 8048–8051, 2018.
52. X. Zhong, J. Yu, S. Yan, **Muhammad Saeed**, and Y. Li, “Analysis of wall temperature jump of china generation iv SFR steam generator,” Annals of Nuclear Energy, vol. 114, pp. 510–517, 2018.
53. X. Zhang, P. Tseng, **Muhammad Saeed**, and J. Yu, “A cfd-based simulation of fluid flow and heat transfer in the intermediate heat exchanger of sodium-cooled fast reactor,” Annals of Nuclear Energy, vol. 109, pp. 529–537, 2017.

Faculty Administrative Experience

Community Services

Consultancy

Membership in Professional Bodies

Associate Editor: Frontier in energy research, Micro Nano Letters

Reiewer: Micro and Nano Letters, The European Physical Journal Plus, Frontier in energy research, Materials Innovation, PhilosophicalMagazine Letters, Bulletin of Electrical Engineering and informatics, International Journal of Modern Physics, Frontiers in Physics, NANO. Scientif Letter

Awards and Recognitions

Winner of the Chinese Government Scholarship for doctoral studies, Tsinghua University, China. 2013