

Khalid Sultan

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Education

Ph. D:	Physics, National Institute of Technology Srinagar, India	2015
	Advisors 1. Dr. Mohd Ikram (NIT Srinagar) 2. Dr. K. Asokan (IUAC New Delhi)	
M. Sc:	Physics, University of Kashmir Srinagar, India	2010
B. Sc:	University of Kashmir Srinagar, India	2008

Professional Background

Assistant Professor Physics, Central University of Kashmir, India 31st Aug.2016– till now

Fellowships and Awards

- **Junior Research Fellowship (JRF)** Jointly conducted by CSIR **June 2014** and UGC with all India.Ranking 132.
 - **National Eligibility Test (NET)** Jointly conducted by CSIR **Dec. 2014** and UGC with all IndiaRanking 33.
 - **Bharat Vikas Award-2017** organized by Institute of Self Reliance on 19th Nov. 2017 at Bhubaneswar Orissa.
 - Selected one among Six Ph. D outstanding students from all over India to meet **Honorable president of India** on president's invitation at Rashtrapati Bhavan and wasfelicitated by **Honorable president of India Shri Pranab Mukherjee**.
 - **Best Paper Award** Received Best Oral Presentation Award at Science Congress in 2013 at University of Kashmir.
 - **INSA Visiting Scientist Programme** Awarded by Indian National Science Academy, New Delhi for the FY 2023-24.
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Research Interests

1. Synthesis, Characterization of Rare Earth Transition Metal Oxide Systems and Their Irradiation Study.
 2. Electric, Transport, Dielectric and Magnetic measurements.
 3. X-ray absorption measurements, Atomic force microscope, SEM – EDAX and Raman Spectroscopy.
 4. Swift Heavy Ion Irradiation Study.
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Collaborations

National

1. **Dr. K. Asokan** Scientist-F Materials Science Division Inter University Accelerator Centre (IUAC) New Delhi-110067.

2. **Dr. Mohd Ikram** Professor Department of Physics National Institute of Technology Srinagar Hazratbal, Srinagar-190006.
3. **Dr. Ram Janay Choudhary** Scientist (In-charge, Thin Film Magnetism Laboratory), UGC-DAE consortium for Scientific Research, Khandwa Road, Indore- 452001, Madhya Pradesh, India.

International

1. **Konstantin Novoselov** (Nobel Laureate), National University of Singapore, 21 Lower Kent Ridge Road, Singapore-119077.
2. **Sanjeev Gautam** Advanced Analysis Center, Korea Institute of Science and Technology (KIST), Seoul 136-791, South Korea
3. **Han-Koo Lee**, Beamline Research Division, Pohang Accelerator Lab (POSTECH), Pohang 790-834, South Korea
- 3 **Keun Hwa Chae** Advanced Analysis Center, Korea Institute of Science and Technology (KIST), Seoul 136-791, South Korea

Research Project.

1. *“Swift Heavy Ion Irradiation Studies on the Double Perovskite Oxide Materials”* sanctioned by UGC, India under “UGC-FRPS Scheme” of 10 Lac (2017-2020 completed).
 2. *“Investigation of irradiation induced modifications in thin films of $R\text{Fe}_{1-x}\text{Mn}_x\text{O}_3$ system ($R=\text{rare earth}$)”* by IUAC (UGC) India, of 8.5 Lac (2021-2023).
 3. *“Exploring the doping based enhancement in electrical and magnetic properties of $R_2\text{NiMnO}_6$ ($R=\text{rare earth}$) system”* CRS by UGC-DAE Consortium for Scientific Research, India (2023-2025)
 4. *“Synthesis of eco-friendly Quantum Dot for efficient photo Electrochemical water splitting”* by JKST&IC, of 5.8 lac (2024-2026)
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Refresher Course

- Participated and Completed **General Orientation course** (04 week) at UGC-HRDC Jawaharlal Nehru University New Delhi w.e.f 04-02-2019 to 01-03-2019
 - Participated and Completed **Refresher course** (02 week) at UGC-HRDC Jawaharlal Nehru University New Delhi w.e.f 18-11-2019 to 30-11-2019.
 - Participated and Completed **Refresher course** (02 week) at MMTTC, University of Hyderabad w.e.f 26-02-2024 to 09-03-2024.
 - Participated and Completed **Professional Development Programme** on “Implementation of NEP-2020 for University and College Teachers” through IGNOU w.e.f 12-06-2023 to 20-06-2023.
 - Participated and Completed **Nurturing Future Leadership Programme** hosted by Malviya Mission Teacher Training Centre, IIT (ISM) Dhanbad, Jharkhand w.e.f 24-06-2024 to 28-06-2024.
 - Participated and Completed UGC sponsored online **Refresher course** in Physics (Interdisciplinary) hosted by Malviya Mission Teacher Training Centre, University of Mumbai w.e.f 04-11-2024 to 16-11-2024.
 - Participated in the **Pre-Conference Workshop** organized as part of the 2026 International Conference on Applied Artificial Intelligence (2AI-2026), held on 17 June 2026 at the Central University of Kashmir.
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Book/Chapter Published

- Khalid Sultan, Practical Guide to Materials Characterization: Techniques and Applications, Wiley USA (2022), ISBN: 978-3-527-35071-1
- Shohaib Abass, Khalid Sultan, “Rare Earth Oxide based High K di-electrics” in Metal Oxide-based High-K Dielectrics: Fundamentals and Applications, CRC Press, Taylor & Francis Group (2024), ISBN:978-1032402956.

Patents Filed

- Patent on System, Design, Development and Orbital Analysis Using Smart Virtual Tools of 3D Printed CubeSat Structure for Class Room 1U CubeSat and Pocket Cube Satellites: Experiments and Applications, has been filed on 24-11-2023 under application number 202341081278.
- Patent on Novel System, Design and Development of Battery Thermal Management System (BTMS) for Electric Vehicles has been filed on 30-12-2023 under application number 202341090101
- Patent on Novel System, Design and Development of Efficient E-Commerce: Haar Cascade and Adaboost for Instant Production Recognition has been filed
- Patent on Novel System, Design and Development of Early Detection and Prediction of Pneumonia Disease Using Deep Learning Technique VGG16 has been filed on 30-12-2023 under application number 202341090100.
- Patent on System, Method and Analysis of Spring Boot Framework Based on REST API has been filed on 30-12-2023 under the application number 202341090102
- Patent on System, Design, Development and Method of Planning Cube Satellite Constellation over Equatorial Region for Earth Observations has been filed on 12-08-2024 under the application number 202441060785

M.Phil Awarded

S. No	Name	Year of Admission	Year of Award	Specialization	Topic	Grade
1.	Shohaib Abass	2019	2021	Solid State Physics	Study of Structural, Electrical, and Magnetic Properties of Pure and Doped Double Perovskites $\text{Nd}_2\text{NiMnO}_6$	O
2.	Mudasir Rashid Rather	2019	2021	Solid State Physics	Electric and Magnetic Properties of Pure and doped nickel ferrites	A
3.	Saima Jahan	2019	2021	Solid State Physics	Dielectric and Ferroelectric properties of pure and doped titanates	A
4.	Farooz Ahmad Najar	2019	2021	Solid State Physics	Effect of rare earth doping on structural, magnetic and electrical properties of $\text{La}_2\text{NiMnO}_6$	A

Ph. D Scholar Supervised

S. No	Name	Year of Admission	Programme	Research Topic of Ph. D	Status
1.	Shohaib Abass	2019	Integrated M. Phil-Ph. D.	Effect of Doping on Structural, Electronic and Dielectric Properties of Rare Earth based Double Perovskites of the form R_2NiMnO_6	Awarded
2.	Mudasir Rashid Rather	2019	Integrated M. Phil-Ph. D.	Electric, Magnetic and Magnetoelectric properties of Pure and Transition Metal/Rare-Earth Doped PZT-NFO Multiferroic Composites	Awarded
3.	Saima Jahan	2019	Integrated M. Phil-Ph. D.	Magneto-electric Properties of Pure and Rare-Earth Doped Multiferroics Composites of Barium based Perovskite and Nickel based Ferrite	Awarded
4.	Farooz Ahmad Najar	2019	Integrated M. Phil-Ph. D.	Determination and augmentation of optical and electronic properties of substitutionally doped (A-site) R_2NiMnO_6/R_2FeMoO_6 double perovskites	Awarded
5.	Rufeen Ahmad	2022	Ph. D.	Exploring the Structural, Electronic and Electrical Properties of Pristine and Doped Gd_2NiMnO_6 Double Perovskites	Enrolled
6.	Musadiq Qadir	2025	Ph.D. (Part-Time)	NA	Enrolled

B.Sc./M. Sc. Projects Supervised

1. Spontaneous polarization in ferromagnetic La_2NiMnO_6 double perovskite: A first Principle Study (Batch 2016).
2. Estimation of structural and optical properties of La_2NiMnO_6 (Batch 2017)
3. Exploring the structural, electronic and electrical properties of Pr_2NiMnO_6 through B-site doping (Batch 2018).
4. Investigating the A-site doping based changes in structural, electronic and electrical properties of Pr_2NiMnO_6 (Batch 2018).
5. B-Site doping based variations in low temperature electrical properties of Pr_2NiMnO_6 (Batch 2019).
6. First principle study of Sr_2FeMnO_6 for the multifunctional role in spintronic and thermoelectric applications (Batch 2019).
7. Influence of Sr doping on Structural and Morphological Properties of Nd_2MnFeO_6 (Sadiya Shafi, Batch 2020).
8. Investigating Structural and Morphological Properties of Nd_2MnFeO_6 (Insha Farooq, Batch 2020).
9. Some Basic Characterization Techniques in Materials Science (Umar Yousuf Hajam, Batch 2022).
10. Ion Beam Interaction (Haziq Rasheed, Batch 2022).
11. Various Synthesis Techniques/Methods in Materials Science (Muneeb Ahmad Wani,

- Batch 2022).
12. Computational Study of Electronic, Thermal and Transport Properties of Sr_2VTaO_6 (Ilham Fayaz, Batch 2022).
 13. Synthesis, Structural, Morphological and Magnetic Studies of Cerium Doped $\text{La}_2\text{ZnMnO}_6$ Double Perovskite for various Applications (Iqra Sidiq, Batch 2023)
 14. Influence of Sr Doping on Structural and Morphological properties of $\text{La}_2\text{FeNiO}_6$ (Enrollment No: 2117CUKmr26)
 15. Influence of Sr Doping on Structural and Morphological properties of $\text{Nd}_2\text{MnFeO}_6$ (Enrollment No: 2117CUKmr33)

Publications in International (Peer reviewed) journals

1. Aaqib Rashid, Showket Ahmad Bhat, Aarif Ul Islam Shah, Khalid Sultan, Edson L. Meyer and Mohd Ikram, “Nd-induced defect engineering in $\text{Ba}_3\text{Fe}_2\text{WO}_9$ triple perovskite: controlling phase competition, magnetic crossover, and visible-light photocatalysis” **RSC Adv**, (2026).
2. Shohaib Abass, **Khalid Sultan**, Rubiya Samad, Prabhakar Singh, G Nag Bhargavi, “Doping-Induced Charge State Evolution and Microstructural Modifications Impacting the Magnetic Interactions and Dielectric Response of $\text{Nd}_2\text{NiMnO}_6$ ” **Journal of Physics and Chemistry of Solids**, 219 (2026) 114061.
3. Aaqib Rashid, Showkat Ahmad Bhat, **Khalid Sultan**, Mohd Ikram, “Structural, chemical composition, optical and magnetic studies of pulse laser deposited Ni-doped $\text{La}_2\text{SrFe}_2\text{TiO}_9$ triple perovskite thin films” **Next Materials**, 12, (2026) 102019.
4. Shohaib Abass, **Khalid Sultan**, Mohammad Imran Bhat, Mir Adil Raja, Arif Rashid, Mehraj ud Din Mir, Adil Yousuf, “B-Site Doping-Based Variations in Low-Temperature Electrical Properties of $\text{Pr}_2\text{NiMnO}_6$ ” **Physica Status Solidi (b)**, 263, (2026) e202500198.
5. Rufeen Ahmad Khan, Khalid Sultan, “Studies on the dielectric, structural, and electronic properties of barium-doped $\text{Gd}_2\text{NiMnO}_6$ double perovskite” **Physica Scripta**, 100, (2025) 095956.
6. Junaid Ul Ahsan, Mudasir Rashid Rather, **Khalid Sultan**, Sanae Zriouel, El-kebir Hlil, “In-depth study of double perovskite $\text{Sr}_2\text{NiTaO}_6$: Structural, electronic, thermoelectric, and spintronic properties for sustainable and high-performance applications” **Computational Condensed Matter**, 43, (2025), e01026.
7. Mudasir Rashid Rather, Fauqia Bilal, Aashiq Mushtaq, Arqum Parvaiz, Tawseef Hassan, Sukanya Ghosh, **Khalid Sultan**, “Investigating the Multifunctional Role of $\text{Sr}_2\text{FeMnO}_6$ Double Perovskite in Spintronic and Thermoelectric Properties”, **Physica Status Solidi b**, NA, (2025), 2400562.
8. Shohaib Abass, Mudasir Rashid Rather, **Khalid Sultan**, Salma Shahni, “Valence Band Spectra and Doping Based Alterations in Band Gap and Electric Modulus of $\text{Nd}_2\text{NiMnO}_6$ ”, **Physica Scripta**, 99 (2024) 055948.
9. Mudasir Rashid Rather, Shohaib Abass, **Khalid Sultan**, Rubiya Samad, “Optimizing energy storage and magnetoelectric performance through core-shell engineering: A study on $\text{Ni}_{0.5}\text{Co}_{0.5}\text{Fe}_2\text{O}_4\text{-BaTiO}_3$ multiferroic composite materials”, **Journal of Magnetism and Magnetic Materials**, 596 (2024) 171994.
10. **Khalid Sultan**, Shohaib Abass, Faizan Shafi Ahanger, Suhail Farooq Najar, Rahi Manzoor, Aaqib Ahmad Shah, Wasim Akram, Sajid Gulzar, Ishtiyah Ahmad, Faizan Shafi, “Temperature dependent dielectric studies of pure and Sr doped $\text{Pr}_2\text{NiMnO}_6$ ”,

Physica B: Condensed Matter, 682 (2024) 415877.

11. Mudasir Rashid Rather, M Abushad, **Khalid Sultan**, Shohaib Abass, Rubiya Samad, "Effect of ytterbium on the structural, optical, magnetic and temperature dependent dielectric properties of nickel ferrite nanoparticles", **Journal of Sol-Gel Science and Technology**, 116, (2025) 264.
12. Shohaib Abass, Fauqia Bilal, **Khalid Sultan**, Mudasir Rashid Rather, Mohd Ikram, "Understanding the impact of Ca doping on structural, morphological and low temperature transport properties of $\text{Nd}_2\text{NiMnO}_6$ ", **Ceramics International**, 50 (2024) 10216.
13. Mudasir Rashid Rather, Nahida Hassan, Shohaib Abass, Feroz A. Najar, Rubiya Samad, Saima Jahan, Basharat Want and **Khalid Sultan**, "Electric and magnetic properties of $0.9\text{PbZr}_{0.52}\text{Ti}_{0.48}\text{O}_3-0.1\text{CoR}_{0.02}\text{Fe}_{1.98}\text{O}_4$ ($R = \text{Sm}, \text{Y}, \text{and Pr}$) multiferroic composites", **Indian Journal of Physics**, (2023)
14. Shohaib Abass, **Khalid Sultan**, Sujay Chakravarty, R.J. Choudhary, "Role of structural, morphological, and electronic characteristics in investigating the low temperature transport and magnetic behavior of Sr doped $\text{Sm}_2\text{NiMnO}_2$ ", **Journal of Alloys and Compounds**, 968C (2023) 172191.
15. Saima Jahan, Mudasir Rashid Rather, Rubiya Samad, **Khalid Sultan**, "Enhancement of magneto-dielectric properties of $\text{BaTiO}_3\text{-NiFe}_2\text{O}_4$ multiferroic composite induced by lattice strain of Pr^{3+} doping", **Journal of Materials Science: Materials in Electronics**, 34 (2023) 2175.
16. Saima Jahan, Mudasir Rashid Rather, Shohaib Abass, Feroz A. Najar, Nahida Hassan, Rubiya Samad, **Khalid Sultan**, and Basharat Want, "Electric, magnetic, and magneto-dielectric properties of bilayered multiferroic $\text{Pb}_{0.95}\text{R}_{0.05}\text{Zr}_{0.52}\text{Ti}_{0.48}\text{O}_3/\text{CoPr}_{0.1}\text{Fe}_{1.9}\text{O}_4$ ($R = \text{Pr}, \text{Yb}$) thin films", **J Mater Sci: Mater Electron**, 34 (2023) 1668.
17. Mudasir Rashid Rather, Saima Jahan, Rubiya Samad, R.C. Meena and **Khalid Sultan**, "Structural, electric, magnetic, and magneto-dielectric properties of $(1-x)\text{Ba}_{0.95}\text{Yb}_{0.05}\text{TiO}_3\text{-}(x)\text{NiFe}_{1.95}\text{Yb}_{0.05}\text{O}_4$ multiferroic composites" **Journal of Materials Science: Materials in Electronics**, 34, 1084, 2023
18. Nahida Hassan, Mudasir Rashid, Rubiya Samad, Saima Jahan, Basharat Want, Muntazir Gull, **Khalid Sultan**, "Enhancement in the magneto-dielectric and ferroelectric properties of $\text{BaTiO}_3\text{-CoFe}_{1.9}\text{Yb}_{0.1}\text{O}_4$ core-shell multiferroic nanocomposite" **Journal of Alloys and Compounds**, 941 (2023) 168841
19. Shohaib Abass, Anita Bagri, **Khalid Sultan**, "Modifications induced in structural, electronic and dielectric properties of $\text{Nd}_2\text{NiMnO}_6$ double perovskite by Sr doping" **Journal of Alloys and Compounds**, 930 (2023) 167463
20. Feroz A Najar, **Khalid Sultan** "From halfmetallicity to dielectric tensor: Atomistic study of phase stability and optical spectrum of $\text{Sr}_2\text{FeMoO}_6$ double perovskite and its potential applications" **Journal of Physics and Chemistry of Solids**, 171 (2022) 111039
21. Nazir Ahmad Mala, Mohd Arif Dar, S. Sivakumar, **Khalid Sultan**, Gudipati Neeraja Sinha and Khalid Mujasam Batoo "Electrochemical supremacy of cobalt-doped nickel oxide and its supercapacitor applications with its mesoporous morphology" **Journal of Materials Science: Materials in Electronics**, 33, 11582, 2022
22. Feroz A Najar, Rubiya Samad, **Khalid Sultan**, Hilal Ahmad, Irshad Qaudir, Shams Un Nisa, Bushra Batool, Shanas Fatima "Dielectric Behavior and Spontaneous Polarization as a Consequence of Berry Quantum Phase Effect: The case of $\text{La}_2\text{NiMnO}_6$ Double Perovskite—A New Approach to Polarization" **Physica Status Solidi b**, 259, 2100587, 2022.
23. Shohaib Abass, Feroz A. Najar, Rubiya Samad, **Khalid Sultan** "Electronic and Optical behaviour of Anisotropic $\text{Nd}_2\text{NiMnO}_6$ double perovskite: A First Principle Study" **Solid State Communications**, 338, 114463, 2021.
24. Feroz A. Najar, Shohaib Abass, **Khalid Sultan**, Mubashir A. Kharadi, Gul Faroz A.

- Malik, Rubiya Samad “*Comparative Study of Optical Properties of Substitutionally doped $\text{La}_2\text{NiMnO}_6$ Double Perovskite Ceramic: A potential candidate for Solar Cells and dielectrics*” **Physica B: Condensed Matter**, 621, 413311, **2021**.
25. **Khalid Sultan**, Rubiya Samad, Feroz A Najar, Shohaib Abass, Saima Jahan, Mudasar Rashid Rather and M. Ikram “*Structural, Optical and dielectric properties of Sr doped LaVO_4* ” **Adv. Mater. Lett.**, 12(06), 21061640, **2021**
 26. Shah Aarif Ul Islam, Farooq Ahmad Andrabi, Fida Mohmed, **Khalid Sultan**, Mohd Ikram, K. Asokan “*Ba doping induced modifications in the structural, morphological and dielectric properties of double perovskite $\text{La}_2\text{NiMnO}_6$ ceramics*” **Journal of Solid State chemistry**, 290, 121597, **2020**.
 27. Shah Aarif Ul Islam, **Khalid Sultan**, Sheeraz Ahmad Bhat, Nazima Nazir and Mohd Ikram “*Structural, morphological and cryogenic magnetic behaviour of double perovskite $\text{La}_{1.9}\text{Sr}_{0.1}\text{NiMnO}_{6-\delta}$ thin film*” **SN Applied Sciences** 2:728 (**2020**).
 28. **Khalid Sultan**, Rubiya Samad, Shah Aarif Ul Islam, Mir Zubaida Habib, And M. Ikram “*Effect of Rare Earth Ions ($R = \text{Pr}, \text{Eu}$ and Ho) on The Structural and Electrical Properties of Orthoferrites*” **Journal of Electronic Materials** 48, 6003–6007 (**2019**)
 29. **Khalid Sultan**, Shah Aarif Ul Islam, Zubida Habib, M. Ikram & K. Asokan “*Ion-beam- induced ferromagnetism in Ca-doped LaMnO_3 thin films grown on Si (100)*” **Radiation Effects & Defects in Solids** (**2018**), **173**, 3–4.
 30. Zubida Habib, Mohd. Ikram, **Khalid Sultan**, Abida, Sajad A. Mir, Kowsar Majid and K. Asokan “*Electronic excitation-induced structural, optical, and magnetic properties of Ni-doped HoFeO_3 thin films*” **Appl. Phys. A** (**2017**) **123**:442
 31. Zubida Habib, Kowsar Majid, Mohd Ikram, **Khalid Sultan**, Sajad Ahmad Mir, K. Asokan “*Influence of Ni Substitution at B-site for Fe^{3+} ions on morphological, optical and magnetic properties of HoFeO_3 ceramics*” **Appl. Phys. A** (**2016**) **122**:550
 32. **Khalid Sultan**, M. Ikram, Sajad Ahmad Mir, Zubida Habib, Shah Aarif, Yasir Ali and K. Asokan “*Ion beam induced ferromagnetism in Mn doped PrFeO_3 thin films grown on Si (100)*” **Appl. Phys. A** (**2016**) **122**:44
 33. **Khalid Sultan**, M. Ikram and K. Asokan “*Effect of Mn doping on Structural and Dielectric properties of EuFeO_3* ” **RSC Advances** **2015**, 5, 93867.
 34. **Khalid Sultan**, M. Ikram, Sanjeev Gautam, Han -Koo Lee, Keun Hwa Chae, and K. Asokan “*Electrical and magnetic properties of the pulsed laser deposited Ca doped LaMnO_3 thin films on Si (100) and their electronic structures*” **RSC Advances** **2015**, **5**, 69075.
 35. **Khalid Sultan**, M. Ikram, Sanjeev Gautam, Han -Koo Lee, Keun Hwa Chae and K. Asokan “*Structural, magnetic and electronic structure studies of $\text{PrFe}_{1-x}\text{Mn}_x\text{O}_3$ ($x=0.0, 0.1, 0.3, 0.5$) thin films grown on Si (100)*” **Journal of Alloys and Compounds** 628 (**2015**) 151–157.
 36. **Khalid Sultan** and M. Ikram “*An investigation of Electrical, Magnetic and Optical, Properties of $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ ($x= 0.0, 0.3, 0.5$ and 0.7) system*” **Adv. Mater. Lett.** **2015**, **6**(8), 749-755
 37. Sajad Ahmad Mir, M. Ikram, **Khalid Sultan**, Z. Habib, H. Kausar, K. Asokan “*Correlative exploration of structural, optical and electric properties of colossal dielectric Ni doped orthoferrites*” **Adv. Mater. Lett.** **2015**, **6**(12), 1081-1087
 38. **Khalid Sultan**, Zubida Habib, Asima Jan, Sajad Ahmad Mir M. Ikram and K. Asokan

- “Temperature dependent Raman spectroscopy of $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ ($x = 0.0$, and 0.3)” *Advanced Materials Letters* 5(1) 2014, 9-13.
39. **Khalid Sultan**, M. Ikram, K. Asokan “Structural, optical and dielectric study of Mn doped PrFeO_3 ceramics” *Vacuum* 99 (2014) 251-258.
 40. **Khalid Sultan**, M. Ikram and K. Asokan “Structural, electrical and magnetic study of $\text{La}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$ ceramics” *Magnetic Materials* 61 (2013) 16757-16760.

Conference Proceedings

1. **Khalid Sultan**, M. Ikram and K. Asokan “Effect of Gamma Ray Irradiation on the Structural and Electrical Transport Properties of $\text{PrFe}_{1-x}\text{Mn}_x\text{O}_3$ ” AIP Conference Proceedings 1591,1278(2014) with ISSN/ISBN 0094-243X
2. **Khalid Sultan** et al. “Effect of Rare Earth Size on the structural, Dielectric and ac Conductivity Studies of Orthoferrites” *AIP Conference Proceedings* (2015) with ISSN/ISBN 0094-243X.
3. **Khalid Sultan**, M. Ikram, Sajad Ahmad Mir, Zubida Habib and K. Asokan “Effect of SHI irradiation on various physical properties of Mn doped PrFeO_3 ceramics” *Proc. Of Intl. Conf. on Nanotechnology on better living*, 2016, Vol. 3, No.1.
4. Shah Aarif Ul Islam, Sajad A. Mir, **Khalid Sultan**, Mushtaq Ahmad Magray, Zubida Habib, Nazima Nazir and Mohd Ikram Effect of Sr Doping on Electrical and Optical Properties of Double Perovskite $\text{La}_2\text{NiMnO}_6$, *Proc. Of Intl. Conf. on Nanotechnology on better living* 2016 Vol3, No.1 page 27.

Papers Presented in National/International Conferences.

1. Shohaib Abass, **Khalid Sultan** “Structural and dielectric properties of $\text{Nd}_{1.5}\text{Sr}_{0.5}\text{NiMnO}_6$: A comparison with Pristine $\text{Nd}_2\text{NiMnO}_6$ ”, 66th DAE Solid State Physics Symposium, India (Dec 18-22, 2022).
2. **Khalid Sultan** and Shohaib Abass “Oxygen Vacancies Based Modifications in Properties of Sr doped $\text{Nd}_2\text{NiMnO}_6$ ”, 4th edition of International Conference on Materials Science And Engineering (Materials 2023), organised by Magnus Group at Singapore from March 13-15, 2023.
3. Shohaib Abass, **Khalid Sultan** “A review on the magnetic properties of bulk $\text{Nd}_2\text{NiMnO}_6$ and dependence of magnetic properties on thickness of $\text{Nd}_2\text{NiMnO}_6$ thin film”, World Nano Congress on Advanced Science and Technology (WNCST-2021), organized by Centre for Nanotechnology Research (CNR) at Vellore Institute of Technology, Vellore, from 8th to 13th March 2021.
4. Shohaib Abass, **Khalid Sultan**, “A review on structural and experimental dielectric properties of $\text{Nd}_2\text{NiMnO}_6$ and its First Principle study of dielectric properties”, 7th edition of International Conference on Nanotechnology for Better Living (NBL-21), organized by National Institute of Technology Srinagar, from 7th to 11th September 2021.
5. Shohaib Abass, **Khalid Sultan**, “Electrical properties of Sr doped $\text{Nd}_2\text{NiMnO}_6$ double Perovskite”, Virtual National Seminar on Advanced materials & Characterizations-2022 (NSAMC-2022) jointly organised by Department of Physics of Government Nagarjuna P.G. College of Science, Raipur (C.G), Government Pt. Shyamacharan Shukla College, Dharsiwa (C.G) and Government Rajeev Lochan PG College, Rajim (C.G), on 26th and 27th August 2022.
6. Shohaib Abass, **Khalid Sultan**, “A-site doping based Tuning of Structural and Electrical Properties of $\text{Nd}_2\text{NiMnO}_6$ Double Perovskite”, National Seminar on ferroelectrics and Dielectrics (XXII NSFD-2022), organized by the Department of Physics, School of Advanced Sciences, VIT-AP University, India, from 17th to 19th December 2022.
7. Shohaib Abass and **Khalid Sultan**, “X-ray Photoemission spectroscopy and electrical properties of A-site doped rare earth based R_2NiMnO_6 double perovskites”, 8th edition of International Conference on Nanotechnology for Better Living (NBL-23) organised by

National Institute of Technology Srinagar, from 25th to 29th May 2023.

8. Mudasir Rashid Rather, **Khalid Sultan**, “Brief Review on the synthesis and properties of pure and doped Nickle ferrite”, 7th edition of International Conference on Nanotechnology for Better Living (NBL-21)" organized by National Institute of Technology Srinagar, from 7th to 11th September 2021.
9. Mudasir Rashid Rather, Rubiya Samad and **Khalid Sultan**, “Effect of Ytterbium on the structural and magnetic properties of Nickle ferrite nanoparticles”, 66th DAE Solid State Physics Symposium, India (Dec 18-22, 2022).
10. Mudasir Rashid Rather, Rubiya Samad and **Khalid Sultan**, “Structural, electric, magnetic, and magneto-dielectric properties of $(1-x)\text{Ba}_{0.95}\text{Yb}_{0.05}\text{TiO}_3-(x)\text{NiFe}_{1.95}\text{Yb}_{0.05}\text{O}_4$ multiferroic composites”, 8th edition of International Conference on Nanotechnology for Better Living (NBL-23) organised by National Institute of Technology Srinagar, from 25th to 29th May 2023.
11. Saima Jahan and **Khalid Sultan**, “Trends in dielectric and ferroelectric properties of rare earth doped barium titanate: a review”, 7th edition of International Conference on Nanotechnology for Better Living (NBL-21) organised by National Institute of Technology Srinagar, from 7th to 11th September 2021.
12. Saima Jahan, Rubiya Samad and **Khalid Sultan**, “Ferroelectric and magnetic characterization of ferroelectric-ferrite composite: PZT-Nd doped Ni-Co Ferrite”, 8th edition of International Conference on Nanotechnology for Better Living (NBL-23) organised by National Institute of Technology Srinagar, from 25th to 29th May 2023.
13. Saima Jahan, Rubiya Samad and **Khalid Sultan**, “Magnetic and ferroelectric properties of PZT-Ni-Co Ferrite: Multiferroic composite”, International Hybrid Conference on Nano structured materials and polymers organised by Mahatma Ghandi University Kottayal Karela, Gdansk University of Technology Poland, Wreclaw University of Technology Wreclaw Poland, University of Johannesburg, South Africa and University of Lorraine France, from 12-14 May 2023.
14. **Khalid Sultan**, M. Ikram and K. Asokan “Effect of Gamma Ray Irradiation on the Structural and Electrical Transport Properties of $\text{PrFe}_{1-x}\text{Mn}_x\text{O}_3$ ” *AIP Conference Proceedings* 1591, 1278 (2014).
15. **Khalid Sultan**, S.A. Mir, Zubida Habib and M. Ikram “Structural and Dielectric Studies of RFeO_3 (R = Pr, Eu and Ho)” *Conference Proceedings* in International conference on advances in COMMUNE-2015 held at university of Kashmir from 16-18 march, 2015.
16. **Khalid Sultan**, M. Ikram, Sajad Ahmad Mir, Zubida Habib and K. Asokan “Effect of SHI irradiation on various physical properties of Mn doped PrFeO_3 ceramics” *Proc. Of Intl. Conf. on Nanotechnology on better living, 2016, Vol. 3, No.1*.
17. **Khalid Sultan**, Sajad A. Mir, Zubaida Habib, M. Ikram and K. Asokan “Structural electrical and optical study of Mn doped PrFeO_3 system prepared by Ceramic method” Presented in the 8th JK Science Congress, September 2012 at university of Kashmir, J&K Srinagar 190006 India.
18. **Khalid Sultan** and M. Ikram “Effect of Mn doping on AC conductivity and Dielectric Constant of PrFeO_3 ” presented at in the 9th JK Science Congress, September 2013 at university of Kashmir, J&K Srinagar 190006 India.
19. **Khalid Sultan**, Sajad A. Mir, Zubaida Habib and M. Ikram “Synthesis, Characterization and Analogous Metal to Insulator Transition in Borocarbonitride” in the national conference from Sept.3-5, 2012 on Recent Trend in Materials Science Research (RTMSR-12) held at National Institute of Technology Srinagar, Kashmir-190006, India.
20. **Khalid Sultan**, Sajad Ahmad Mir, Zubida Habib and M. Ikram presented in the in the national conference on microscopy and advances in material science held at university of Jammu march 2-4 2014.
21. Rubiya Samad, S.A. Mir, **Khalid Sultan**, Zubida Habib and M. Ikram “Structural, Optical and Dielectric Studies of Sr doped LaVO_4 ” presented in National Seminar on Electronic devices, Systems and Information Security (SEED-2015) held at University of Kashmir 16-17 march 2015.

22. Zubaida Habib, **Khalid Sultan**, Sajad A. Mir, and M. Ikram “Sol-Gel Synthesis, Characterization of Titanium Dioxide Doped with Iron Nanoparticles” in the National Conference from Sept.3-5, 2012 on Recent Trend in Materials Science Research (RTMSR-12) held at National Institute of Technology Srinagar, Kashmir-190006, India.
 23. Sajad Ahmad Mir, **Khalid Sultan** Zubaida Habib, M. Ikram and K. Asokan “Effect of Ni substitution on the dielectric properties of Perovskite rare earth based Orthoferrites” Presented in the national conference on microscopy and advances in material science held at university of Jammu march 2-4 2014.
 24. Zubaida Habib, **Khalid Sultan** Sajad Ahmad Mir, Kowsar Majid, M. Ikram and K. Asokan “Frequency and temperature dependent dielectric properties of HoFeO₃ and Ni doped HoFeO₃” presented in the national conference on microscopy and advances in material science held at university of Jammu march 2-4 2014.
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Invited Talks

1. Delivered an invited talk on *Effect of SHI irradiation on Ca doped LaMnO₃ thin films*, in 7th edition of **International Conference on Nanotechnology for Better Living**, at NIT Srinagar during 7-11 September 2021.
 2. Delivered an invited talk on *Pulsed Laser Deposition*, in **Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI)** organized by University of Kashmir and Shivaji University, Kolhapur Maharashtra and supported by DST New Delhi during 23rd-29th May 2022.
 3. Delivered an invited talk on *Pulsed Laser Deposition*, in **Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI)** organized by PG Department of Physics, National Institute of Technology Srinagar in Collaboration with Banasthali Vidyapeeth, Rajasthan and Sponsored by DST New Delhi during May 20-26th 2022.
 4. Delivered an invited talk on *Low temperature electrical characteristics of Mn doped RFeO₃ (R= Pr and Eu) systems*, in 8th edition of **International Conference on Nanotechnology for Better Living**, at NIT Srinagar during 25-29 May 2023.
 5. Delivered an invited talk in **5 days Capacity Building Programme for the faculty of SCERT and DIETs** held at SCERT, Bemina, Srinagar during 18-23 March 2024.
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