

Faculty Profile



Dr. M.Dhilip, M.Sc., M.Tech., Ph.D.
Associate Professor, Department of Physics

HIGHLIGHTS:

- Number of Journal Publications : 25
- H-Index : 12
- Patents Published : 01

PROFESSIONAL LINKS:

- Scopus ID : 5719348782
- Scopus Link : <https://www.scopus.com/authid/detail.uri?authorId=57193487827>
- Google Scholar ID : <https://scholar.google.com/citations?user=WZ2vrZkAAAAJ&hl=en>
- AICTE Faculty ID : 1-45826453212
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PROFESSIONAL BACKGROUND:

- Research Experience : 9 Years
- Teaching Experience till date: 2 Years

AREA OF SPECIALIZATION:

- Multiferroic
- Double perovskite Materials
- Opto-Electronic Devices
- Advanced Ceramic Materials

SELECTED RECENT PUBLICATIONS IN INTERNATIONAL JOURNALS:

1. Efficient Deep Violet-Blue Emission and Lattice vibrational characteristics of $\text{Nd}_2\text{CoFeO}_6$ Double Perovskite for Multifunctional Applications. Journal of Materials Science: Materials in Electronics 37:945, (2026), **M. Dhilip**. <https://doi.org/10.1007/s10854-026-17386-7>
2. Multifunctional insights into the $\text{Dy}_2\text{FeMnO}_6$ double perovskite: interplay of structural distortion, spin-polarized electronic structure, and optical properties. Materials Advances, 2026 (2026) 7 (17): 8646-8661. **M.Dhilip**, S.Rameshkumar, Ashwin Sudhakaran, RameshKumar Raji. <https://doi.org/10.1039/d6ma00683c>
3. Comprehensive structural insights into Disordered $\text{Tb}_2\text{CoFeO}_6$ Double Perovskites for optoelectronic functionality. Vacuum 115207, (2026), **M. Dhilip**, Ashwin Sudhakaran, S. Rameshkumar, A. Santhia Carmel, <https://doi.org/10.1016/j.vacuum.2026.115207>
4. Tailoring structural, optical, and electrochemical properties of Mn-doped SnS nanoparticles via a facile Co-precipitation route. Materials Science in Semiconductor Processing 205 (2026) 110374, Veerapandiyan Arumugam, P. Elaiyaraja, **M. Dhilip**, I. Devadoss, A. Krishnamoorthy, P.Sakthivel. <https://doi.org/10.1016/j.mssp.2025.110374>
5. Defect-state engineering in Mn-doped SnS: Urbach tail-driven synergy of optical absorption and electrochemical charge transfer. Journal of Alloys and Compounds 1047 (2025), 185002, Veerapandiyan Arumugam, P. Elaiyaraja, **M. Dhilip**, I. Devadoss, A. Krishnamoorthy, <https://doi.org/10.1016/j.jallcom.2025.185002>
6. Influence of Pr^{3+} Substitution on the Structural, Optical, Magnetic, and Dielectric Properties of $\text{Sr}_2\text{FeTiO}_{6-\delta}$ Double Perovskites. Solid State Sciences (2025), 107825, J.Stella Punitha, RameshKumar Raji, Tholkappiyan Ramachandran, K.Saravana Kumar, **Muthu Dhilip**, Fathalla Hamed, A.Nataraj. <https://doi.org/10.1016/j.solidstatesciences.2025.107825>
7. Integrating Experimental and Computational Insights: A Dual Approach to Ba_2CoWO_6 Double Perovskites. Ceramics (2024), 7(4), 2006-2023, Ramesh Kumar Raji, Tholkappiyan Ramachandran, **Muthu Dhilip**, V.Aravindan, J.StellaPunitha, Fathalla Hamed. <https://doi.org/10.3390/ceramics7040125>
8. Combined experimental and theoretical investigation on the structural, electronic, magnetic and optical properties of $\text{Pr}_2\text{CoFeO}_6$ double perovskite. Materials Today Communications

38 (2024) 108120, **M. Dhillip**, Sundaramurthy Rameshkumar, Ramesh Kumar Raji, Tholkappiyan Ramachandran, J. Stella Punitha, F. Regan Maria Sundar Raj, K. Saravana Kumar, V. Anbarasu, Nandakumar Sekar, Rajivganthi Chinnathambi, AymanA.Ghfar, <https://doi.org/10.1016/j.mtcomm.2024.108120>

9. Synthesis, growth, optical, mechanical, thermal, dielectric, and SHG properties of Triethylaminium picrate (TEAP) single crystal for nonlinear optical applications. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 308 (2024) 123680, K. Elangovan, Kapil E. Ingle, R. Dhanasekaran, M. Mahadevan, **M. Dhillip** <https://doi.org/10.1016/j.saa.2023.123680>
10. Influence of La^{3+} substitution on the structural, magnetic and electrical characteristics of $\text{Sr}_2\text{FeTiO}_6$ double perovskites. *Journal of Materials Science: Materials in Electronics*, (2023) 34:1462. J.Stella Punitha; A Nataraj; V Anbarasu; **M Dhillip**; M Manikandan; K Saravana Kumar. <https://doi.org/10.1007/s10854-023-10793-0>
11. A novel double perovskite oxide $\text{Sm}_2\text{CoFeO}_6$ Phosphor for orange LED's: Structural, magnetic and luminescence properties. *Applied Physics A* (2022) 128:324, **M.Dhillip**, J.Stella Punitha, R.Rameshkumar, S.Rameshkumar, P.Karuppasamy, Muthu Senthil Pandian, P.Ramasamy, K.Saravana Kumar, V.Anbarasu, K.Elangovan. <https://doi.org/10.1007/s00339-022-05446-8>
12. Dual-phase formation in LaFeO_3 upon doping of rare-earth Dy^{3+} ; struct-Opto-Dielectric-Magnetic characteristics. *Journal of Materials Science: Materials in Electronics*,(2022) 33:10626–10644; Ramesh Kumar Raji, Tholkappiyan Ramachandran, M. Muralidharan, R. Suriakarthick, **M.Dhillip**, A.Raja, K.Aravinth, S.Karthikeyan, Fathalla Hamed, P.Ramasamy, Abdel-Hamid I.Mourad, <https://doi.org/10.1007/s10854-022-08047-6>
13. Twitching the inherent properties: the impact of transition metal Mn-doped on LaFeO_3 -based perovskite materials. *Journal of Materials Science: Materials in Electronics*, (2021) 32:25528–25544, Ramesh Kumar Raji, Tholkappiyan Ramachandran, M. Muralidharan, R. Suriakarthick, **M. Dhillip**, A. Raja, Vishista Kurapati, Fathalla Hamed, P. Ramasamy, Abdel-Hamid I. Mourad. <https://doi.org/10.1007/s10854-021-07018-7>
14. Conventional synthesis of perovskite structured $\text{LaTi}_x\text{Fe}_{1-x}\text{O}_3$: A comprehensive evaluation on phase formation, opto-magnetic, and dielectric properties. *International Journal of Materials Research*, 112(9):753-765, (2021), Ramesh Kumar Raji, Vishista Kurapati, Tholkappiyan Ramachandran, M Muralidharan, R Suriakarthick, **M Dhillip**, Fathalla Hamed, <https://doi.org/10.21203/rs.3.rs-44211/v1>

15. Synthesis and characterization of phase stabilized $\text{Gd}_2\text{FeMnO}_6$ double Perovskite compound, Journal of Materials Science: Materials in Electronics, 32 (2021), 10266 -10276. J.Stella Punitha, A.Nataraj, V.Anbarasu, **M.Dhilip**, K.Saravana Kumar. <https://doi.org/10.1007/s10854-021-05682-3>
16. Tweaking the red emission, magneto, and dielectrical properties of perovskite type- LaFeO_3 in the presence of Co substitution. Journal of Materials Science: Materials in Electronics, 31 (2020), 7998 - 8014. Ramesh Kumar Raji, Vishista Kurapati, Tholkappiyan Ramachandran, M. Muralidharan, R. Suriakarthick, **M.Dhilip**, Fathalla Hamed. <https://doi.org/10.1007/s10854-020-03340-8>
17. Synthesis of SrCoO_3 perovskite as W-based double perovskite and its structural properties. Journal of Materials Science: Materials in Electronics, 30 (2019), 4, 4270 - 4278. **M. Dhilip**, M. Manikandan, S. RameshKumar, V. Jayalakshmi, V. Anbarasu, K. Saravana Kumar. <https://doi.org/10.1007/s10854-019-00718-1>
18. Conventional Synthesis and Characterization of Cubically Ordered $\text{La}_2\text{FeMnO}_6$ Double Perovskite Compound. Vacuum, Vol.167, pp.16 - 20, (2019). **M. Dhilip**, N. Aparna Devi, J. Stella Punitha, V.Anbarasu, K.SaravanaKumar. <http://dx.doi.org/10.1016/j.vacuum.2019.05.028>
19. Intrinsic Magnetic and Ferroelectric Behaviour of Non-magnetic Al^{3+} Ion Substituted Dysprosium Iron Garnet Compounds. Journal of Electronic Materials, Vol.48, pp. 8243 - 8253, (2019), **M. Dhilip**, K. Saravana Kumar, R. Ramesh Kumar, V. Anbarasu. <http://dx.doi.org/10.1007/s11664-019-07675-9>
20. Effect of Trivalent Transition Metal Ion Substitution in Multifunctional Properties of Dy_2O_3 System. Journal of Materials Science: Materials in Electronics. 28 (2017), 8976 – 8985. V.Anbarasu, **M.Dhilip**, K.SaravanaKumar, K.Sivakumar, <https://link.springer.com/article/10.1007/s10854-017-6628-9>
21. Effect of transition metal ion substitution on structural and magnetic properties of Eu_2O_3 sesquioxide system. Journal of Materials Science: Materials in Electronics, 28 (2017), 12197–12206. V.Anbarasu, **M.Dhilip**, K.SaravanaKumar, K.Sivakumar. <https://link.springer.com/article/10.1007/s10854-017-7035-y>

PATENTS PUBLISHED/GRANTED:

- Synthesis of SrCoO_3 perovskite as W-based double perovskite and its structural properties. International Centre for Diffraction Data, (ICDD), PDF-4+ 2023. **M. Dhilip**, M. Manikandan, S. RameshKumar, V. Jayalakshmi, V. Anbarasu, K. Saravana Kumar. (Published)

ACHIEVEMENTS AND AWARDS:

- Department of Science and Technology - Science and Engineering Research Board (DST-SERB) Research Fellowship, India.
- Defence Research and Development Organisation (DRDO) Research Fellowship, India.
- University Grants Commission (UGC) Fellowship for Post Graduate Science Students, India.
- Post Doctoral Fellow (PDF) - Sri Sivasubramaniya Nadar (SSN) College of Engineering, Anna University, Chennai, Tamilnadu, India.
- Best Paper award in the International Conference on Materials for Electronic, Energy, Biomedical Technologies, Quantum, and Computing (MQUBIT-2026), Thiagarajar College of Engineering, Madurai, Tamilnadu, India. From 12th to 13th March 2026.

EVENTS ORGANIZED:

S.No	Name of the Event	Responsibility	Venue/Organizer	Date
1	Five Days Hands-on Workshop “Materials Insight: From Structural Refinement to Quantum Modelling”.	Coordinator	Centre of Excellence in Materials Research and Energy Solutions, Department of Physics, Thiagarajar College of Engineering, Madurai, India.	25 th to 29 th May 2026.

CONTACT FOR RESEARCH COLLABORATIONS:

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