

Profile

Name of the Faculty	Dr Raju Panthagani	
Designation	Associate Professor	
Department	Physics	
Area of Interest	Nanomaterials, Polymer nanocomposites, Materials for EMI shielding	
Subjects Taught	Applied Physics, Semiconductor Devices	
JNTUH Registration Id	7878-170912-145949	
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Educational Qualifications:

S. No.	Degree	Specialization	University/College	Year
1	PhD	Materials Science	Osmania University	2017
2	M.Sc	Nanoscience	Osmania University	2010
3	B.Sc	M.P.C	APRDC. N Sagar Acharya Nagarjuna University	2008

PUBLICATIONS DETAILS - #47



(SCI Indexed – #23, Scopus Indexed - #24)

SCI Indexed – #23

- 1. Structural, Dielectric, and EMI Shielding Characterization Studies of Aluminum Doped Magnesium Zinc Ferrite-Polypyrrole Composites for Green EMI Shielding Materials**
Kanaka Durga Mallavarapu, Neeraja Rani G. and **Raju Panthagani**
ECS J. Solid State Sci. Technol, 2025. <https://iopscience.iop.org/article/10.1149/2162-8777/adedb5>
- 2. Ceramics for energy harvesting, sensors, and actuator applications**
B Mamatha and **P. Raju**
Functional Materials Letters, 2025, <https://doi.org/10.1142/S1793604725510580>
- 3. Influence of Calcium Doping on the Physical, Microstructural, and Electrical Characteristics of Sr_{1-x}Ca_xTiO₃ Ceramics**
Jakkula Shankara, Paramesh Donta and **Raju Panthagani**
Physics of the Solid State, 2025, <https://doi.org/10.1134/S1063783425600220>
- 4. Investigations on Structural and Ferroelectric Characteristics of Ba(1-x)Ca(x)TiO₃ Ceramics (x=0.1-0.5) for High Frequency Applications**
Sakuntala P, Vinodini S.E.Naina, Pradyutha A.Ch., Sirisha Bandi, Suneetha Thota and **Raju Panthagani**
ECS J. Solid State Sci. Technol, 2025. <https://doi.org/10.1149/2162-8777/ade564>
- 5. Effect of Temperature on Dielectric, Impedance, and Optical Properties of Al-Doped ZnO by Wet-Chemical Process**
C. Kalyani, I. V. Subba Reddy & **P. Raju**
Physics of the Solid State, 2025, <https://doi.org/10.1134/S1063783425600372>
- 6. The electronic properties of GeC mono layer for deep ocean and aerospace environments: A plasmon approach and frst-principles study**
R. Santosh, M. Jogendra Prasad, M. Rajanbabu, N. Suman, **P. Raju**, Y. Suresh Kumar
Journal of Materials Research, 2025, <https://doi.org/10.1557/s43578-025-01606-7>
- 7. Structural, electric, dielectric properties of NiCuZn Ferrite-SWCNT nanocomposites**
Raju Panthagani, M. Kanaka Durga, G. Neeraja Rani
Ceramics International, 2025, <https://doi.org/10.1016/j.ceramint.2025.02.384>
- 8. Study of structural, optical properties and band structure analysis of zinc oxide substituted with manganese**
C. Kalyani, I.V. Subba Reddy, **P. Raju**, P. Missak Swarup Raju
Ceramics International, 2025, <https://doi.org/10.1016/j.ceramint.2025.01.411>
- 9. Physical and microstructural properties of Ba_{1-x}Sr_xTiO₃ ceramics with heat treatment**
Jakkula shankar, A. Shiva Kumar, **P. Raju**, S. Rajesham, S.K. Mahammad Ali
Ceramics International, 2024, <https://doi.org/10.1016/j.ceramint.2024.12.094>
- 10. Role of Pb(Zr_{0.52}Ti_{0.48})O₃ on Electric, Dielectric, Electromagnetic Wave Absorption Characteristics of Multiferroic Nanocomposites for Magnetoelectric Devices**
Kanaka Durga Mallavarapu, **Raju Panthagani** and Neeraja Rani G.
ECS J. Solid State Sci. Technol, 2024. <https://doi.org/10.1149/2162-8777/ad80c9>
- 11. Investigation of the structural and electrical behaviour of Mn-substituted ZnO**
Ch Kalyani, I. V. Subba Reddy, **P. Raju** & P. Missak Swarup Raju
Phase Transitions, Volume 97, 2024 - Issue 3, Pages 145-158, DOI: [10.1080/01411594.2023.2300975](https://doi.org/10.1080/01411594.2023.2300975)
- 12. Structural, Optical, Magnetic and Dielectric Properties of Ce-Doped MgFe₂O₄ Prepared by Microwave Hydrothermal Method**
T. Suresh Kumar, G. Sriramulu, **P. Raju**, T. Ramesh, K. Praveena and S. Katlakunta
ECS J. Solid State Sci. Technol. 12 093014, 2023, DOI: [10.1149/2162-8777/acf7ef](https://doi.org/10.1149/2162-8777/acf7ef)
- 13. Microwave Attenuation Studies of Polypyrrole-SWCNT Nanocomposite Films for Improved EMI Shielding**

P. Raju, M. Kanaka Durga, S. Udaya Kumar, and G. Neeraja Rani,
ECS Journal of Solid State Science and Technology, 2022 11 091007; [10.1149/2162-8777/ac90eb](https://doi.org/10.1149/2162-8777/ac90eb)

14. **Influence of rare-earth ion doping on dielectric properties of lithium zinc borate glasses**
J. Anjaiah, C. Laxmikanth, Stanley Ferdinand Mwanga, **P. Raju**, S.K. Mohammad Ali, J. Shankar, G. Neeraja Rani, Benard Mwankemwa
Optical Materials 131 (2022) 112718, <https://doi.org/10.1016/j.optmat.2022.112718>
15. **PANI-SWCNT Blends with PVA Nanocomposite Films: Structural, Morphological and Electrical Properties for Effective EMI Shielding Applications**
Neeraja Rani G, Kanaka Durga M, and **Raju P**
ECS Journal of Solid State Science and Technology, 2022 11 073005; [10.1149/2162-8777/ac7f57](https://doi.org/10.1149/2162-8777/ac7f57)
16. **Ni_{0.48}Cu_{0.12}Zn_{0.4}Fe₂O₄+ paraformaldehyde nanocomposites as microwave absorbent dominant materials**
P. Raju, A. Thirupathi, P. Neelima, M. Kanakadurga
Solid State Communication, 2022, 114790, <https://doi.org/10.1016/j.ssc.2022.114790>
17. **Synthesis, Structural, Microscopic, and Electrical Properties Studies of Neodymium Chromite Perovskite Nanoparticles**
Jada Shanker, J. Ananthaiah, N. Pavan Kumar, Kasarapu Venkataramana, **P. Raju**, M. Anand pandarinath, E. Meher Abhinav, and Ujwal U P
ECS Journal of Solid State Science and Technology, 2022 11 043011: DOI: [10.1149/2162-8777/ac611b](https://doi.org/10.1149/2162-8777/ac611b)
18. **Ultrasonically induced in situ polymerization of PANI-SWCNT nanocomposites for Electromagnetic shielding applications.**
P. Raju, G. Neeraja Rani, S.Udaya Kumar, Andrews Joseph and K. C. James Raju
J Mater Sci: Mater Electron (2022) <https://doi.org/10.1007/s10854-022-07702-2>
19. **Effect of BaTiO₃ phase on frequency dispersion characteristics of Mg_{0.48}Cu_{0.12}Zn_{0.4}Fe₂O₄ + BaTiO₃ nanocomposites.**
M. Kanaka Durga, **P. Raju**
Materials Science and Engineering B 272 (2021) 115340 <https://doi.org/10.1016/j.mseb.2021.115340>
20. **Enhanced Microwave Absorption Properties of Ni_{0.48}Cu_{0.12}Zn_{0.4}Fe₂O₄ + Polyaniline Nanocomposites**
P. Raju, P. Neelima, G. Neeraja Rani, M. Kanaka Durga
Journal of Physics and Chemistry of Solids 154 (2021)110048, <https://doi.org/10.1016/j.jpcs.2021.110048>
21. **Structural and Microwave Behavior of Dy³⁺ substituted Ni_{0.5}Zn_{0.5}Dy_xFe_{2-x}O₄ Ferrites.**
P. Neelima, ramesh thotakura, **P. Raju**, S R Murthy
J Mater Sci: Mater Electron (2021). <https://doi.org/10.1007/s10854-020-04941-z>
22. **Multiferroic properties of microwave sintered BaTiO₃-SrFe₁₂O₁₉ composites**
Sadhana Katlakunta, **Pantagani Raju**, Sher Singh Meena, Sanyadanam Srinath, Reddigari Sandhya, Praveena Kuruva, Sarabu Ramana Murthy
Physica B 448 (2014)323–326, <https://doi.org/10.1016/j.physb.2014.04.073>
23. **Preparation and characterization of BaTiO₃+MgCuZnFe₂O₄ nanocomposites**
M. Kanakadurga, **P. Raju**, S.R. Murthy
JMMM, 341 (2013) 112–117, <https://doi.org/10.1016/j.jmmm.2013.04.037>

Scopus Indexed – #24

24. **Influence of Sintering Temperature on Microstructure and Dielectric Properties of Strontium Calcium Titanate (Sr_{0.9}Ca_{0.1}TiO₃) Ceramics**
J. Shankar, S.K. Mahammad Ali, and P. Raju
Key Engineering Materials, 2024, <https://doi.org/10.4028/p-B3j9LQ>
25. **Influence of SWCNT on shielding and tensile properties of polyurethane nanocomposites**
G. Neeraja Rani, **Raju Panthagani** & M. Kanaka Durga

MATERIALS RESEARCH INNOVATIONS, Aug 2024, <https://doi.org/10.1080/14328917.2024.2389352>

26. **Study of Structural and Optical Properties of ZnO Doped with Aluminum for Solar Cell Applications**
C.H. Kalyani, I.V. Subba Reddy, **P. Raju** and P. Missak Swaroop Raju
NanoWorld Journal, 2024, DOI: <https://doi.org/10.17756/nwj.2024-s1-074>
27. **Ultrasonic Velocity Studies in Pure and Adulterated Edible Oils**
SK Mahammad Ali, **P. Raju**, T V Prashanthi, J. Shankar, J. Anjaiah, SK.Nuslin Bibi and S. Rajesham
AIP Conf. Proc. 2764, 040005-1–040005-9; <https://doi.org/10.1063/5.0145830>
28. **Synthesis and thermal stability of ferrites added polymers nanocomposites**
P. Raju, A Thirupathi, Ch. Kalyani, Sk. Mahammed Ali, J. Shankar, G. Neeraja Rani, J. Anjaiah, M. Kanaka Durga
Materials Today: Proceedings, <https://doi.org/10.1016/j.matpr.2023.06.303>
29. **Effect of sintering temperature on physical and dielectric properties of SrTiO₃ ceramics**
S.K. Muhammad Ali, J. Shankar, A. Shiva Kumar, **P. Raju**
Materials Today: Proceedings, <https://doi.org/10.1016/j.matpr.2023.04.587>
30. **Permittivity and permeability studies of multiferroic nanocomposites: Comparison of experimental results with theoretical models**
M. Kanaka Durga, G. Neeraja Rani, **P. Raju**
Materials Today: Proceedings, <https://doi.org/10.1016/j.matpr.2023.03.590>
31. **Synthesis, microstructure and ferroelectric properties of PbO-TiO₂-B₂O₃-based glass ceramics**
J. Shankar, A. Shiva Kumar, **P. Raju**, J. Anjaiah, Sk. Mahammad Ali, G. Neeraja Rani, V.K. Deshpande
Materials Today: Proceedings, <https://doi.org/10.1016/j.matpr.2022.05.120>
32. **Effects of Al³⁺ concentration on the structural, dielectric and conductivity properties of Al-doped ZnO**
CH. Kalyani, I.V. Subba Reddy, **P. Raju**, P. Missak Swarup Raju
Materials Today: Proceedings, <https://doi.org/10.1016/j.matpr.2022.12.005>
33. **Giant dielectric behavior in NdCrO₃ perovskite**
Jada Shanker, J Ananthaiah, N Pavan Kumar, Kasarapu Venkataramana, M Anand pandarinath, Ujwal U P, **P. Raju**, E Meher Abhinav and D Suresh babu
IOP Conf. Series: Materials Science and Engineering 1233 (2022) 012011 doi:[10.1088/1757-899X/1233/1/012011](https://doi.org/10.1088/1757-899X/1233/1/012011)
34. **Study of microstructure and thermal properties of PbTiO₃ based glass ceramics.**
J. Shankar, **P. Raju**, A. Shiva Kumar, J. Anjaiah, G. Neeraja Rani, and V. K. Deshpande
AIP Conf. Proc. 2269, 030077-1–030077-4 (2020); <https://doi.org/10.1063/5.0019493>
35. **Quenching effect of co-dopant Pr³⁺ on red emitting yttrium vanadate phosphor doped with Eu(III)**
G. Neeraja Rani, J. Shankar, **P. Raju**, J. Anjaiah, B. Mamatha, and N. H. Ayachit
AIP Conf. Proc. 2269, 030063-1–030063-6 (2020); <https://doi.org/10.1063/5.0019645>
36. **Complex permittivity and permeability properties analysis of NiCuZn Ferrite-Polymer nanocomposites for EMI suppressor applications.**
P Raju, J Shankar, J Anjaiah, Ch Kalyani and G Neeraja Rani
J. Phys.: Conf. Ser. 1495 012001 (2020) doi:[10.1088/1742-6596/1495/1/012001](https://doi.org/10.1088/1742-6596/1495/1/012001)
37. **Solid State Root Preparation, Characterization and Electrical Properties of NiCuZnFe₂O₄ / Paraformaldehyde Nanocomposites**
P Raju, S Rajesham, J Shankar, J Anjaiah and G Neeraja Rani
J. Phys.: Conf. Ser. 1495 012004 (2020) doi:[10.1088/1742-6596/1495/1/012004](https://doi.org/10.1088/1742-6596/1495/1/012004)
38. **Microstructure, Frequency & Temperature dependent dielectric properties of nanocrystalline Zinc Ferrite**
P. Raju, S.R.Murthy
AIP Conf. Proc. 2115, 030113-1–030113-4 (2019); <https://doi.org/10.1063/1.5112952>
39. **Shielding effectiveness studies of NiCuZn ferrite – Polyaniline nanocomposites for EMI suppression Applications**
P. Raju, J. Shankar, J. Anjaiah, and S. R. Murthy
AIP Conf. Proc. 2162, 020027-1–020027-7 (2019); <https://doi.org/10.1063/1.5130237>

40. **Study of Microstructure and Dielectric Properties of PbTiO₃ based Glass Ceramics**
J. Shankar, G. Neeraja Rani, J. Anjaiah, P. Raju, and V. K. Deshpande
AIP Conf. Proc. 2162, 020045-1–020045-6 (2019); <https://doi.org/10.1063/1.5130255>
41. **Thermoluminescence Characteristics and Dosimetric Aspects of Li₂O-CaO-B₂O₃ Glasses Doped with Rare Earth Ions**
J. Anjaiah, G. Neeraja Rani, J. Shankar, and P. Raju
AIP Conf. Proc. 2162, 020043-1–020043-8 (2019); <https://doi.org/10.1063/1.5130253>
42. **MgCuZnFe₂O₄ + PbZrTiO₃ Nanocomposites for EMI Applications**
M. Kanakadurga, P. Raju, S.R. Murthy
Materials Today: Proceedings 3 (2016) 1398–1408, <https://doi.org/10.1016/j.matpr.2016.04.021>
43. **Ferrite + Polymer nanocomposites for EMI applications**
P. Raju, T. Ramesh and S.R. Murthy
Int.J. ChemTech Res. 2014-2015, 7(3), pp 1343-1350
44. **Microwave Hydrothermal Synthesis and Electromagnetic properties of Nanocrystalline Y_{3-x}Dy_xFe₅O₁₂ garnets for microwave antenna applications**
T. Ramesh, P. Raju, R.S. Shinde and S.R. Murthy,
Int.J. ChemTech Res. 2014-2015, 7(2), pp 539- 546
45. **Preparation and characterization of Ni–Zn ferrite + polymer nanocomposites using mechanical milling method**
P. Raju and S.R. Murthy.
Appl Nanosci (2013) 3:469–475, <https://doi.org/10.1007/s13204-012-0163-z>
46. **Microwave-hydrothermal synthesis of CoFe₂O₄- TiO₂ nanocomposites**
P. Raju and S.R. Murthy (2012)
Adv. Mat. Lett. 2013, 4(1), 99-105, DOI [10.5185/amlett.2012.icnano.130](https://doi.org/10.5185/amlett.2012.icnano.130)
47. **Electromagnetic properties of microwave sintered xTiO₂ + (1-x)CoFe₂O₄ nanocomposites**
K. Sadhana. K. Praveena. P. Raju. S. R. Murthy
Appl Nanosci (2012) 2:203–210, <https://doi.org/10.1007/s13204-012-0084-x>

BOOK CHAPTERS -#4

1. **Multifunctional Multiferroic Nanocomposites for Novel Device Applications**
M. Kanaka Durga, G. Neeraja Rani, J. Anjaiah, P. Raju
Multifunctional Inorganic Nanomaterials for Energy Applications, 1st Edition, 2024, Imprint CRC Press, Pages 10, eBook
ISBN 9781003479239,
DOI: <https://doi.org/10.1201/9781003479239>
2. **Ferrite-polymer nanocomposites: structural, electrical, magnetic and EMI shielding properties**
P. Raju, CH. Kalyani, G. Neeraja Rani, M. Kanaka Durga, J. Anjaiah, S. Katlakunta
Futuristic Trends in Chemical, Material Sciences & Nano Technology
e-ISBN: 978-93-5747-745-1, 2024, IIP Series, Volume 3, Book 21, Part 9, Chapter 1
DOI: <https://www.doi.org/10.58532/V3BECS21P9CH1>
3. **SYNTHESIS AND CHARACTERIZATION OF ZN1-X ALXO OXIDE NANOMATERIALS**
C.H. Kalyani, I.V. Subba Reddy, P. Raju and P. Missak Swaroop Raju
Futuristic Trends in Chemical, Material Sciences & Nano Technology
e-ISBN: 978-93-5747-825-0, 2024, IIP Series, Volume 3, Book 13, Part 1, Chapter 5
DOI: <https://www.doi.org/10.58532/V3BECS13P1CH5>
4. **Preparation of Polymer + Ferrite Nanocomposites for EMI Applications**
P. Raju & S. R. Murthy,
Advanced Polymeric Materials, From Macro- to Nano-Length Scales, Chapter 6, (2017) pg 99-118.
e-ISBN: 9780429183300, DOI: <https://doi.org/10.1201/b18943>

EDITOR for the books -#3

1. *Materials for Advanced Applications*

Editors: Dr. Raju Panthagani, Dr. G. Neeraja Rani, Anjaiah Juluru , Dr. J. Shankar

ISBN- 978-93-6252-500-0, I I P Iterative International Publishers, <https://www.iipseries.org/view-pub-book.php?bookid=361&bookname=materials-for-advanced-applications>.

2. *American Institute of Physics (AIP) Conference Proceedings : International Conference on Multifunctional Materials (ICMM-2019) (19-21, December, 2019). Volume 2269, ISBN: 978-0-7354-2032-8, ISSN: 0094-243X, 010001 (2020);*

<https://doi.org/10.1063/12.0001002>, Published Online: 12 October 2020

Editors: G. Neeraja Rani, J. Anjaiah, P. Raju

3. *Book of Abstracts “International Conference on Multifunctional Materials (ICMM-2019)”*

Editors: G. Neeraja Rani, J. Anjaiah, P. Raju and M. Aruna Bharathi

ISBN:9789353962067

Experience:

Teaching	10+ Years
Industry	Nil
Research	15+ Years
Total Experience	15+ Years