



Dr. Radhakrishnan Machindranath Tigote

M. Sc. Ph. D. SET, NET & GATE

I/C, Head, Department of Mathematics

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NAAC
Reaccredited with
'A' grade

Research Highlights:

- Nanomaterials Sciences and Technology
- Study of structural, Magnetic, Optical, dielectric, and biological evaluation of new nanomaterials compounds
- Photocatalytic and supercapacitor applications

Teaching and Research Experience: 15 Years

Research Interests: Nano material Synthesis, Properties and applications

Subject Taught: Physical, Analytical Chemistry

Research Students Guided:

- 04 Student Awarded Ph.D. degree
- 05 Students are Working for Ph.D. degree

No. of Publications: Total 45 Publications

Total Citations(Last Five year 2020-2025):

- 130 (Google Scholar) ; h-index : 06; i10 index : 04

Patents:

- 01 Submitted

Grants Received:

- Minor Research Project Dr. B. A. M. U. Chhatrapati Sambhajinagar with total outlay of Rs. 2,80,000/- Ongoing
- Minor Research Project (Rs. 80,000/-) Dr. B. A. M. U. Chhatrapati Sambhajinagar completed (2018-2020)
- Minor Research Project Dr. B. A. M. U. Chhatrapati Sambhajinagar completed, UGC scheme 2L. (2015-17)

Awards and Honors:

- Cover page article in JCCS 2022
- Best research Awards at International level, 2022

Book: 02

- Synthesis of mesoporous Metal Oxide and their applications .ISBN NO. 978-620-7-46909-3, L. A. P., 2024
- DFT based study of Biological Active Heterocyclic Compounds, Rameshwar Dongare, Radhakrishnan Tigote*, Lambert Academic Publication, 2022

Other Responsibilities:

- Member of selection committee under UGC
- Research supervisor nominated by Vice-chancellor for Shri. Chhatrapati Shivaji College Osmanabad (Research Advisory Committee) since 2018
- Working as IQAC Coordinator, Dr. B. A. M. U. SubCampus, Dharashiv
- Worked as Custodian, D-CAS Centre, Dr. B. A. M. U. SubCampus Dharashiv
- Worked as Joint-Custodian, D-CAS Centre, Dr. B. A. M. U. SubCampus Dharashiv
- University Vigilance Squad, at UC and PG examination under Osmanabad (2016-2020)
- CBCS adopted from 2011 onwards
- Co-ordinator – Academic and Administrative Audit of Department, 2018-19
- Chairman, Ph.D. Viva Voce Examination, Sub-campus Osmanabad
- Head, Department of Chemistry from Nov. 2017 to Nov. 2020
- Organic chemistry started new specialization from 2019 and Curriculum designed.
- NEP adopted from 2023 and course content revised in curriculum also.
- Member of Academic Audit at PG colleges, Dharashiv

Guest Lecture at state level/

Conference(National/International)papers presented : 41

Selected Publications(last Five years 2019-2025):

1. Amarsinh R. Mainak, Vasanti B. Shabade, Pranjali S. Kewate, Vishnu V. Kutwade, **Radhakrishnan M. Tigote**, Netaji K. Desai, and Sidram R. Pujari, Investigation of Fluorescence Quenching of Phenanthrene Using Carbon Tetrachloride and Nitromethane in Various Solvents at Room Temperature, **ChemistrySelect**, **2025**, doi.org/10.1002/slct.202502261 IF:2.6
2. Amarsinh R. Mainak, Pranjali S. Kewate, · Vasanti B. Shabade, Vishnu V. Kutwade, **Radhakrishnan M. Tigote**, Netaji K. Desai, Sidram R. Pujari, Novel o-Terphenyl Luminophores for Optoelectronic Devices: Synthesis, Photophysical, Electrochemical, and Thermal Analysis, **Journal of Fluorescence**, **2025**, <https://doi.org/10.1007/s10895-025-04420-w> IF:3.1
3. Rajkanya M. Bhore, **Radhakrishnan M. Tigote***, Subiya K. Kazi, Sanjay R. Chavan, Rahul M. Khobragade, Gulab M. Puri, Girdharilal B. Tiwari Exploration of the structural, physical and antimicrobial properties of aluminium-doped nickel-strontium ferrite nanoparticles synthesised by the sol-gel route, **Applied Physics A**, **2024**, 130:683, <https://doi.org/10.1007/s00339-024-07842-8>, IF:2.98
4. Vandana A. Gaikwad, **Radhakrishnan M. Tigote***, Subiya K. Kazi, Shraddha C. Waghmare, Pradip B. Jagtap, Rahul M. Khobragade, Gulab M. Puri, Sanjeev M. Reddy, Investigation of the structural, optical, antimicrobial, and anticancer activities of tellurium oxide embedded in calcium borophosphate glass ceramic material, **BioNanoScience**, **2024**, <https://doi.org/10.1007/s12668-024-01517-7>, IF:3.5
5. Vandana A. Gaikwad, **Radhakrishnan M. Tigote***, Subiya K. Kazi, Rameshwar K. Dongare, Rahul B. Bhakte, **Rahul M. Khobragade**, Gulab M. Puri, Appasaheb W. Suryawanshi, Structural studies of aluminium-doped phosphate-embedded B₂O₃ or tellurium oxide Nanorods for antimicrobial and anticancer activities, **Chemical Papers**, **2024**, <https://doi.org/10.1007/s11696-024-03597-x>, IF:2.6
6. **Radhakrishnan M. Tigote***, Subiya K. Kazi, Rajkanya M. Bhore, Rameshwar K. Dongre, Sanjeev M. Reddy, Yuvaraj P. Sarnikar, Dhanraj P. Kamble, Yogesh D. Mane, Influence of Yttrium and Magnesium on the Optical-Magneto Properties of Ferrite Nanoparticles and Catalytic Study for Metal-Ligand Synthesis, **Journal of the Iranian Chemical Society**, **2024**, Vol.21, pages 71-85, <https://doi.org/10.1007/s13738-023-02906-7>, published online: 11 oct.2023, IF:2.5
7. Rajkanya M. Bhore, **Radhakrishnan M. Tigote***, Subiya K. Kazi, Sanjay R. Chavan, Rahul M. Khobragade, Girdharilal B. Tiwari, Investigation of structural and microbial properties of samarium-doped nickel-strontium ferrite nanoparticles prepared via the sol-gel route, **BioNanoScience**, **2023**, 13(3), pages 1-14, <https://doi.org/10.1007/s12668-023-01122-0>, publish online 19 June 2023. IM: 3.5
8. Rameshwar K. Dongare, **Radhakrishnan M. Tigote**, Mahadev P. Shinde, Adam A. Skelton, Shashikant P. Patole, Shaukatali N. Inamdar, DFT-based theoretical model for predicting the loading and release of pH-responsive paracetamol drug, **Materials Today: Proceedings**, Available online 28 April 2023, I. F.2.6. <https://doi.org/10.1016/j.matpr.2023.04.364>
9. Subiya K. Kazi, Shaukatali N. Inamdar, Yuvraj P. Sarnikar, Dhanraj P. Kamble, **Radhakrishnan M. Tigote***, Simple Co-precipitation synthesis and characterization of magnetic spinel NiFe₂O₄ nanoparticles, **2023**, **Materials Today: Proceedings**, <https://doi.org/10.1016/j.matpr.2022.09.590>, Volume 73, Part 3, Pages 448-454, I.F. 2.6
10. Subiya K. Kazi, **Radhakrishnan M. Tigote***, Vandana A. Gaikwad, Dhanraj P. Kamble, Pravin S. Bhale, Sadanand N. Shringar, Pramod G. Musrif, Shaukatali N. Inamdar, Effect of embedding aluminium and yttrium on the magneto-optic properties of lanthanum spinel ferrite nanoparticles synthesised for photocatalytic degradation of methyl red, **Journal of Sol-Gel Science and Technology**, **2022**, Vol.104(2), pages 354-363, <https://doi.org/10.1007/s10971-022-05951-5>, I.F. 2.606
11. M.M. Gurav, **R.M. Tigote**, and A.W. Suryawanshi, Magnetically Recoverable Fe_{0.02}Zn_{0.95-x}Cr_{0.05}O Iron doped Catalyst for Synthesis of Dihydropyrimidones, Thiones and their Derivatives, **Asian Journal of Chemistry**, Vol. 34, No. 12 (2022), 3247-3250, <https://doi.org/10.14233/ajchem.2022.24043>, ISSN: 0970-7077 I.F. 0.578
12. M.M. Gurav, **R.M. Tigote**, and A.W. Suryawanshi, Dielectric and Magnetic Studies of Cerium Substituted Nano crystalline Cu-Mg-Cr Spinel Ferrites, **Eur. Chem. Bull. (2023)**, 12(7), 2543-2570, Section A-Research paper ISSN 2063-5346, IF: 3.71

13. Subiya K. Kazi, Shaukatali N. Inamdar, Dhanraj P. Kamble, Kishan S. Lohar, Appasaheb W. Suryawanshi, **Radhakrishnan M. Tigote***, Structural Studies of Silica Supported Spinel Magnesium Ferrite Nanorods for Photocatalytic Degradation of Methylene Orange, **Journal of the Chinese Chemical Society**, 2022, Vol. 69, No.7, 1032-104, <https://onlinelibrary.wiley.com/doi/full/10.1002/jccs.202200010>, IF:1.8
14. S.D. Balsure, M. Gurav, R. H. Kadam, K. P. Haval, **R. M. Tigote**, A. B. Kadam, X-ray line profile analysis and magnetic and optical properties of $\text{Fe}_x\text{Zn}_{0.95-x}\text{Cr}_{0.05}\text{O}$ nanoparticles fabricated by sol-gel route, **Ceramica**, 2022, Vol.68, 24-32, ISSN: 0366-6911, IF:0.272
15. Pravin S. Bhale, Hemant V. Chavan, Sadanand N. Shringare, Vijay M. Khedkar, **Radhakrishna M. Tigote**, Design, synthesis of anticancer and anti-inflammatory 4-(1-methyl-1H-indol-3-yl)-6-(methylthio) pyrimidine-5-carbonitriles, **Synthetic Communications**, 2022, Volume 52, Issue 5, Pages 733-744, <https://doi.org/10.1080/00397911.2022.2048860>, IF:2.4
16. R.K. Dongare, S.N. Inamadar, **R. M. Tigote***, DFT Calculations of Thiourea Derivatives Containing a Thiazole Moiety for The Evaluation of Antifungal Activity, **Journal of Advanced Scientific Research**, 2022, ISSN: 0976-9595, 13(1), page-380-381, **IF:1.2**
17. R.K. Dongare, S.N. Inamadar, **R. M. Tigote**, DFT studies and Quantum Chemical Calculations of Benzoyl Thiourea Derivatives Linked to Morpholine and Piperidine for the Evolution of Antifungal Activity; **Current physical chemistry**; 2022, Vol. 12, page-29-36, **I.F.1.2, Bantham Sci. Publisher**
18. Yuvaraj P. Sarnikar, Yogesh D. Mane, Smita S. Patil, Santosh M. Surwase, **Radhakrishnan M. Tigote**, Bhimrao C. Khade, (C6F5)3B Catalyzed One-Pot Synthesis of Benzo[b]Cyclopenta[e][1,4]Oxazin-2(1H)-One and Thiazin-2(1H)-One Derivatives from Furan-2-yl(Phenyl) Methanol and 2-Aminophenol/Thiophenol, **Polycyclic Aromatic Compounds**, 2023, Vol.43, issue(5), Pages 4313-4321, <https://doi.org/10.1080/10406638.2022.2089173>, **IF:2.1**
19. R.K. Dongare, S.N. Inamadar, **R. M. Tigote***, DFT based investigation of antibiotic and antifungal activity of Allantofuranone and related γ -lactone compounds, **Journal of Advanced scientific research**, 2021, Sciencesage, 12(2), page-336-339,
20. DhanrajKamble, Anil Shankarwar, YuvrajSarnikar, **Radhakrishna Tigote**, Mubarak Shaikh, PravinChavan, One-Pot Synthesis of Substituted Benzimidazole Derivatives Under Ultrasonic Irradiation using ZnFe_2O_4 Reusable Catalyst, **Chemistry Journal Of Moldova. General, Industrial and Ecological Chemistry**. 2022, 17(2), 94-100 ISSN (p) 1857-1727 ISSN (e) 2345-1688 <http://ejm.ichem.md> <http://dx.doi.org/10.19261/ejm.2022.892>, I.F:1.03
21. Vaishali N Tidke, Shrikant M. Madhekar, Vilas A. Arsul, Swati S. Rawat, **R.M. Tigote**, A REVIEW ON MECHANICAL MICRONIZATION: A TOOL FOR INCREASING SOLUBILITY, **Journal of Emerging Technologies and Innovative Research (JETIR)** April 2021, Volume 8, Issue 4, page-278-291 (Review article) <http://www.jetir.org>.
22. K.A. Ganure, B.L. Shinde, U.M. Mandle, L.A. Dhale, **R.M. Tigote**, K.S. Lohar, Synthesis, structural and magnetic properties of Ni^{2+} and In^{3+} doped cobalt ferrite and application as catalyst for synthesis of Bis-(Indolyl) methane derivative, **Materials Today: Proceedings, Elsevier**, 2021, Vol.47, part 9, pages:1747-54, <https://doi.org/10.1016/j.matpr.2021.02.327>,
23. U.M. Mandle, **R.M. Tigote**, K.S. Lohar, B.L. Shinde, Microstructure, magnetic properties of Ho^{3+} substituted Ni-Cu-Zn spinel ferrites and application for one pot synthesis of dihydropyrimidinones, **Materials Today: Proceedings, Elsevier**, 2021 Vol.47, Part 9, page 1974-1981, <https://doi.org/10.1016/j.matpr.2021.04.027>,
24. U. M. Mandle, L. A. Dhale, **R. M. Tigote**, K. S. Lohar & B. L. Shinde, Synthesis, Microstructure and magnetic properties of Co^{2+} and Al^{3+} substituted La-Zn nano ferrite; in **Ferroelectrics**; 2021, volume 584, Issue -1, page no. 148-160
25. D. P. Kamble, A.G. Shankarwar, **R. M. Tigote**, Y.P. Sarnikar, M. Shaikh, P.Chavan, B.R. Madje, Synthesis, Characterization and Antimicrobial Evaluation of substituted N2 – ((1R, 4R) - 4 - Aminocyclohexyl) – N6 – (phenyl) – 9 – cyclopentyl – 9H- Purin – 2, 5 – Diamine Derivatives; **Journal of Advanced Scientific Research**; 2021, Vol.12, page no. 265-269, ISSN 0976 – 9595; <https://doi.org/10.55218/JASR.s2202112330>

26. D. P. Kamble, A.G. Shankarwar, Y. D Mane, **R. M. Tigote***, Y.P. Sarnikar, B.R. Madje Synthesis, characterization and antimicrobial evolution of New 3 -(Alkyl / Arylamino) benzo[d] isothiazole 1, 1 – Derivatives; **Oriental journal of Chemistry**, **2021**, ISSN: 0970-020 X, volume 37, No. (4), page no.797 – 804.
27. Md. AamerQuazi, NaziaKhanam, **Radhakrishnan Tigote***, Fabrication and characterization of metformin hydrochloride loaded microspheres by incorporating natural and synthetic polymers for comparative analysis, **International Journal of pharmaceutical sciences and research** , 2020; Vol. 11(12): 6539-6549.E-ISSN:0975-8232; P-ISSN:2320-5148
28. **R.M. Tigote***, S. K. Kazi, G. B. Tiwari, K. P. Haval, R.N. Adude, Novel Designed Processing Method for the synthesis of Silica Supported Manganese Ferrite Nanoparticles, **International Journal of Current Engineering & Scientific research**, **2019**, Vol.6, page no. 931-935, ISSN: 2394-0697