

Faculty Profile

Name : **Dr.M.NIRMALA**
Qualification : M.Sc., M.Phil., Ph.D., CIC
Designation : Assistant Professor of Physics
Date of Birth : 01.05.1980
Date of joining : 05.02.2014
Experience : 10 years
Mail id : m.nirmala@gvgvc.ac.in
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Research:

Area of Interest: Nano Science, Dye sensitized Solar Cells

Papers Published in International Journals : 23

1. S. Rajendran, M. Sivakumar, R. Subadevi, **M. Nirmala** Characterization of PVA– PVdF based solidpolymer blend electrolytes Physica B 348 (2004) 73–78.
2. K.Rekha, **M.Nirmala**, ManjulaG.Nair, A.Anukaliani Structural, Optical, Photocatalytic and antibacterial activity of zinc oxide and manganese doped zinc oxide nanoparticles Physica B, 405(2010)3180-3185.
3. **M. Nirmala** , Manjula G Nair, K. Rekha, A. Anukaliani , S.K. Samdarshi, Ranjith G Nair, Photocatalytic activity of ZnO nanoparticles synthesized by dc thermal plasma, African Journal of Basic and Applied Sciences 2(5-6):161-166, 2010, IDOSI Publications.
4. **M.Nirmala**, A.Anukaliani, Structural and optical properties of Undoped and Mn doped ZnO nano crystalline thin film, Photonics letters of Poland, Vol2(4), 189-191,(2010)
5. **M.Nirmala**, A.Anukaliani, Characterization of undoped and Co doped ZnO nano particles synthesized by DC thermal plasma method, Physica.B 406(2011)911-915.
6. **M.Nirmala**, A.Anukaliani Structural and optical properties of Co doped and Undoped ZnO nano crystalline thin films, Suranaree Journal of Science and Technology, 18(1):81-88, 2011.
7. Manjula G Nair, **M. Nirmala**, K. Rekha A. Anukaliani, Structural, optical, photo catalytic and antibacterial activity of ZnO and Co doped ZnO nanoparticles, Materials letters, 65(2011)1797-1800.

8. **M.Nirmala**, A.Anu kaliani, Synthesis and characterization of undoped and Tm (Co, Mn) doped ZnO Nanoparticles. *Materials letters* 65(2011) 2645-2648.
9. **M.Nirmala**,P.Smitha, A.Anukaliani, Optical and electrical properties of undoped and(Mn, Co) co-doped ZnO nanoparticles synthesized by DC thermal plasma method, *Superlattices and Microstructures*, 50(2011)563-571.
10. B. Kavitha, **M.Nirmala**, and A.Pavithra, Annealing effect on Nickel Oxide Nanoparticles synthesized by sol-gel method, *World Scientific News*, 52(2016)118-129.
11. B.Kavitha, **M.Nirmala**, S.Poornachandra, M.Pavithra “ Preparation and Characterization of CdO Thin films by Chemical Method” *J. Environ. Nanotechnol.* Volume 6, No.1(2017) pp. 59-66 ISSN (Print): 2279-0748 ISSN (Online): 2319-5541.
12. **M. Nirmala** & A. Anukaliani, “Annealing Effects On Undoped and Co Doped ZnO Pellets Synthesized By DC Thermal Plasma Method”, *International Journal of Advanced Trends in Engineering and Technology*, Page Number 101-110, Volume 2, Issue 1, 2017.
13. **M. Nirmala** & A. Anukaliani, “Synthesis of Pure and (Mn, Co) Co-Doped ZnO Nanoparticles by DC Thermal Plasma Method for Ethanol Sensor Fabrication”, *International Journal of Engineering Research and Modern Education*, Volume 2, Issue 1, Page Number 132-138, 2017.
14. **M.Nirmala**, B.Kavitha,P.B.Deepti and R.Abarna, Synthesis and Characterization Of Copper Oxide Nanoparticles, *International Journal of Advance Engineering and Research Development **National Conference On Nanomaterials, (NCN-2017)*** Volume 4, Special Issue 6, Dec.-2017
15. **M.Nirmala** , B.Kavitha, G.Nanadhini and C.prema , Preparation and Characterization of ZnO Thin Films By SILAR Method, *International Journal of Advance Engineering and Research Development National Conference On Nanomaterials, (NCN-2017)* Volume 4, Special Issue 6, Dec.-2017.
16. B. Kavitha, **M. Nirmala**, K.Meenakshi priya and A.Keerthana, Structural and Optical Properties Of Cdo Thin Films Prepared By Chemical Method, *International Journal of Advance Engineering and Research Development, National Conference on Nanomaterials, (NCN-2017)* Volume 4, Special Issue 6, Dec.-2017.
17. **M.Nirmala**, S.Sahana, B.Iswarya, K.Maruvarasi, A.Adline Jenita and B.Kavitha Fabrication of Dye Sensitized Solar Cell based on Natural Photosensitizers, *World Scientific News*, 149(2020)128-139.
18. **M.Nirmala**, B.Kavitha, S. Nasreen, S. Kiruthika, B. Divya and E. Manochitra, Green Synthesis of Copper Nanoparticles Using Ocimum Sanctum (Tulsi) and Piper Nigrum (Pepper Seed) for Pollution Free Environment, *World Scientific News*, 150 (2020) 105-117.
19. B.Kavitha, **M.Nirmala**, Synthesis and characterization of SnO₂ nanoparticles by Co- Precipitation method, *International Journal of Nano Dimension* Volume 12, Issue 1 2021 (76-82)2021.

20. **M.Nirmala**, B.Kavitha, Augmentation of functional properties on Cotton Fabric using milled TiO₂ nanopowders Int. J. Nano Dimens. 14 (1), (2023) 41-49.
21. B.Kavitha, **M.Nirmala**, Structural, morphological, optical and antimicrobial studies on green synthesized copper nanoparticles, World Scientific News 179, (2023)27-40.
22. Kavitha Balakrishnan, Gayathri Thangavel, **M.Nirmala**, Structural, morphological, optical and electrochemical aspects of novel synthesized Nickel Oxide and Cobalt doped Nickel Oxide nanoparticles–An alternate electrode material for Energy Storage Devices, Int. J. Nano Dimens. 14 (2), (2023) 191-202.
23. **M.Nirmala**, B.Kavitha, A.Anupriya and J.Sree sudha, Annealing Effect on Structural and Morphological properties of MnS/MnO₂ Nanocomposite, Science and Technology Asia, 28(2), (June 2023)1-8.

PRESENTATION – National Conference : 2

- (i) **M.Nirmala**, A.Anukaliani “Annealing Effect Of ZnO Nanorods Grown By Aqueous Solution Growth Method”National Conference On Nano Materials For Energy Harvesting, December 2-4,2009, Department Of Physics, Thiagarajar College Of Engineering, Madurai, (Oral)
- (ii) **M.Nirmala**, A.Anukaliani, August 19-21, 2009, National Level Workshop On Solid State Physics To Material Science, Department Of Physics, Pondicherry University, Pondicherry, (Poster)..

Published ABSTRACT/PAPERS in Proceedings : 10

1. S.Rajendran, M.Sivakumar, R.Subadevi and **M.Nirmala**, Ionic conductivity studies of polymer blend electrolytes, National Seminar on Chemical Physics, Annamalai University, Chidambaram. India. 10-11, March (2003).
2. **M.Nirmala**, A.Anukaliani “Annealing Effect Of ZnO Nanorods Grown By Aqueous Solution Growth Method” National Conference On Nano Materials For Energy Harvesting, December 2-4,2009, Department Of Physics, Thiagarajar College Of Engineering, Madurai.
3. **M.Nirmala**, A.Anukaliani, Structural and optical properties of undoped and transition metals (TM=Mn,Co) doped ZnO nanocrystalline thin films, National Conference on Advanced Materials, Sri GVG Visalakshi College for Women, Udumalpet.
4. K.Iswarya, A.Pavithra, R.Vanitha, and **M.Nirmala**, The effect of Milling on ZnO Powders, National Conference on Advanced Materials, Sri GVG Visalakshi College for Women, Udumalpet.
5. M.Kaleeswari, G.Nandhini, A.Santhiya and **M.Nirmala**, Structural, Optical and Surface morphological Analysis of ZnO nanopowders synthesized by oxidation method, National Conference on Advanced Materials, Sri GVG Visalakshi College for Women, Udumalpet.

6. **M.Nirmala**, A.Anukaliani, Antibacterial activity of pure and Transition metals (TM=Mn,Co) doped ZnO nanoparticles synthesized by chemical and plasma assisted methods, National level Seminar on Eco-waste Management and Nanobiology, Sri GVG Visalakshi College for Women, Udumalpet.
7. **M.Nirmala**, B.Kavitha, K.Iswarya and A. Firose Banu, “ Preparation and Characterization of ZnO Thin films by Chemical Method” DRDO Sponsored National Conference on Emerging Sensor Devices, Materials & Technologies (NCESDMT – 2017) 19 & 20 January 2017, Department of Physics, Chikkanna Govt. Arts College, Tiruppur.
8. B.Kavitha, **M.Nirmala**, S.Poornachandra, M.Pavithra “ Preparation and Characterization of CdO Thin films by Chemical Method” DRDO Sponsored National Conference on Emerging Sensor Devices, Materials & Technologies (NCESDMT – 2017) 19 & 20 January 2017, Department of Physics, Chikkanna Govt. Arts College, Tiruppur.
9. N.Pavithra , **M.Nirmala**, D.Keerthana, Biosynthesis Of Tio₂ Nanoparticles Using Nerium Oleander Leaf Extract For Photocatalytic Activitnational Conference On Scientific Input, Technological Advancement And Women Empowerment For Sustainable Development, 2nd and 3rd February, 2023, Kongunadu Arts And Science College (Autonomous) College of Excellence (UGC) Coimbatore – 641 029, Tamil Nadu
10. N.Pavithra , **M.Nirmala**, G.Nithyasri Gayatri, B.Kavitha, Biomolecular Interactions of Pure and Co, Ni doped Iron Oxide Nanoparticles from Catharanthus Roseus and Its In Vitro Cytotoxic Effect on MCF-7 Cell, 7th International Conference on Nanoscience and Nanotechnology, 27 - 29 March 2023, Department of Physics and Nanotechnology SRM Institute of Science and Technology Kattankulathur, India

CONFERENCES / SEMINARS – Attended : 13

1. March 14-15, 2005, National Level Workshop on Instrumentation and Measurement Techniques, Bharathidasan University, Trichy.
2. December 1, 2006, IUAC Acquaintance Programme on Accelerator based Research, Kongunadu Arts and Science College, Coimbatore.
3. March 7-8, 2007, National Level Seminar on Issues and Challenges in Higher Education, Kongunadu Arts and Science College, Coimbatore.
4. June 2-5,2009, National Workshop On Plasma Technology In Surface Engineering And Mineral Processing, School Of Technolgy And Applied Sciences, Mahatma Gandhi University, Kerala.
5. August 19-21, 2009, National Level Workshop On Solid State Physics To Material Science, Department of Physics, Pondicherry University, Pondicherry.
6. Feb 19, 2014, State Level Physics Symposium ALBEDO’14, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore.

7. December 30th 2014, One day National Level Seminar on Emerging Trends In Frontiers Of Chemistry, Dept.of Chemistry, Sri GVG Visalakshi College for Women, Udumalpet.
8. January 12th 2015 UGC Sponsored One Day Workshop on MATLAB, Government Arts College, Udumalpet.
9. October 19-20, 2016, Two Day National Workshop on “Consultation and Discourse on Teaching for the Fresh Teachers in Colleges and Universities” Christ University, Bengaluru, Karnataka.
10. 16 th February 2018, DBT Sponsored One Day national Seminar on Green Chemistry and Sustainable Technologies, Dept.of Chemistry, Sri GVG Visalakshi College for Women, Udumalpet
11. 28 th December 2018, DBT Sponsored One Day International Seminar on Fronteirs in Nanotechnology and Computational Chemistry, Dept.of Chemistry, Sri GVG Visalakshi College for Women, Udumalpet.
12. 30th June & 1st July 2020, participated in International Virtual Conference on “High-Performance Materials for Energy, Environment & Healthcare in the Digital Era” organized by Centre for Materials Technology, School of Advanced Sciences, VIT, Vellore, India..
13. 17-19 Feb 2021, Participated in 3 Day International Interdisciplinary Virtual Conference on “Breakthroughs and Approaches in Contempoaray Scientific Research, PSGR Krishnammal College for Women, Coimbatore

Resource Person

- ✚ Invited talk on the topic “Introduction to Nanotechnology and its Applications" to Physics and Chemistry Department, SREE SARASWATHI THYAGARAJA COLLEGE, POLLACHI on 03.04.2019.
- ✚ Resource person in Workshop on “Office Documentation Procedures & Maintenance of Laboratory Registers” to UGC Paramarsh Mentee Colleges organized by IQAC under UGC Paramarsh Scheme, GVGVC, Udumalpet
- ✚ Invited talk on the topic “Basics of Astronomy “ Shaanthi School, Udumalpet on 17.07.2023.

Memberships in Professional bodies

- ✚ Life time member of Indian Science Congress Association (ISCA)
- ✚ Member of Indian Association of Physics Teachers (IAPT)
- ✚ Member of the Expert Committee
- ✚ Member of Board of Studies
- ✚ Convenor of Institutions Innovation Council(IIC)

National /International conferences /Workshops organized:

- ✚ Coordinator of IAPT Examination(NGPE)
- ✚ Coordinator of National Level Virtual Workshop on “Figment of Imagination in Physics Via Simulations” conducted on 29.05.2020 & 30.05.2020.
- ✚ Convenor of Webinar series conducted from 24.05.2021 to 28.05.2021.

OTHERS

- ✚ Certificate In Computing (CIC), IGNOU, 2002
- ✚ Act as judge in Science exhibition organized by Pudhiya Thlaimurai at Park College.
- ✚ Act as judge in Science exhibition at Srinivasa Matriculation School, Udumalpet