




ARULMIGU PALANIANDAVAR COLLEGE OF ARTS AND CULTURE
(Reaccredited With 'A' Grade by NAAC)
(Run by Arulmigu Dhandayuthapani Swamy Thirukkoil, H.R & C.E (Admin) Dept. Government of Tamilnadu)
(A Government Aided College – Affiliated to Madurai Kamaraj University, Madurai)
DINDIGUL ROAD, PALANI - 624601

Department of Physics		
Name	Captain. Dr. K.PAKIYARAJ	
Designation	Associate Professor Associate NCC Officer	
Qualification	M.Sc., M.Phil.,D.G.T.,Ph.D.,	
Email id	kpakiyaraj@gmail.com	
Alternative email id		
Experience	20 Years	
Date of joining	13.02.2009	
No. Of Journal Publication (International)	20	
No. Of Journal Publication (National)	--	
No. Of Conference Attended (International)	28	
No. Of Conference Attended (National)	20	

Academic Credentials

Level	Degree	Specialization	University	Year of Completion
UG	B.sc. Physics	General Physics	Madurai Kamaraj University, Madurai.	2001
PG	M.sc. Physics	General Physics	Bharathiar University, Coimbatore.	2003
M.Phil.,	Physics	Solar Energy	Bharathiar University, Coimbatore.	2005
Ph.D.,	Physics	Thin Film	Madurai Kamaraj University, Madurai.	2017
Other1				
Other2				

Research Guideship : Madurai Kamaraj University, Madurai.

Specialization : Thin film Nanotechnology, Solar Energy

Ph.D on going : 02

Publications:

List of Publications in International Journals

1. **K.Pakiyaraj**(2022): “Green Synthesized Carbon Quantum Dots from Curcuma Longa for Ascorbic Acid Detection” Journal of Advanced in Science and Technology,2022-08-29, DOI: 10.4028/p-7t5606, Part of ISSN: 1662-0356.
2. **K.Pakiyaraj**(2022): “TiO₂-Cu₂O Based Nano composites for Photo catalytic Degradation of Dye Pollutants from Aqueous Industrial Waste Solutions” Journal of Key Engineering Materials,2022-08-16, DOI: 10.4028/p-v43y98, Part of ISSN: 1662-9795.
3. **K.Pakiyaraj** (2021): “Annealing Effect in Nanocrystalline SnO₂ Thin Films Prepared by Spray Pyrolysis Technique” Journal of Nanoscience and Technology, 2021-12-13, Journal-article, DOI: 10.30799/jnst.330.21070301, Part of ISSN: 2455-0191.
4. **K.Pakiyaraj** (2020): “Preparation and characterization of Al doped SnO₂ Nanocrystalline thin films by Spray Pyrolysis Technique” International Journal for Research in Applied Science and Engineering Technology 2020-02-29, journal-article DOI: 10.22214/ijraset.2020.2027, Part of ISSN: 2321-9653.
5. **K.Pakiyaraj** (2020): “Growth and Characterization of Pure and Al-Zn Co-doped conducting SnO₂ thin film for Gas Sensors” Recent Trends in Chemistry Chemical Spectroscopy, Environmental Energy Conservation, 2020-01-23 Conference Paper Part of ISBN: 978-81-937152-1-5.
6. **K.Pakiyaraj** (2020): “Bioengineered metal and metal oxide nanoparticles for photo catalytic and biological applications” Physics and Chemistry of Solid State -2020 Journal-article, DOI: 10.15330/PCSS.21.4.571-583, EID: 2-s2.0-85099608930, Part of ISSN: 23098589 17294428
7. **K.Pakiyaraj** (2019): “Effect of annealing on the structural, Optical and Electrical Properties of Al-Zn Co-doped SnO₂ thin films” Materials Research Innovations 2019-06-10, Journal-article, DOI: 10.1080/14328917.2019.1628498,Part of ISSN: 1432-8917
8. **K.Pakiyaraj** (2018): “The Influence of Al and Zn Co-Doping on Optical and Structural Properties of Transparent and Conducting SnO₂ Thin Films Prepared by Spray Pyrolysis Technique” Journal of Thin Films Research, 2018-03-26, Journal-article, DOI: 10.30799/jtfr.007.17010102, Part of ISSN: 2581-3811.
9. **K.Pakiyaraj** (2018): “Annealing Effect on Al doped SnO₂ Nano Structure Thin films Prepared by Spray Pyrolysis Technique” Journal of Nanoscience and Technology, 2018-03-02, Journal-article, DOI: 10.30799/jnst.097.18040105, Part of ISSN: 2455-0191.
10. **K.Pakiyaraj**(2018): “Investigation of different dopant elements(Al and Zn) on Structural, Optical and Electrical Properties of SnO₂ thin films Prepared by Spray Pyrolysis” International Conference on Modern Trends in Chemistry (MTC-25), 2018-02-23, Conference-abstract, Part of ISBN: 978-81-933998-6-6.
11. **K.Pakiyaraj** (2017): “Characterization of Al:SnO₂ Nanostructure Thin film Prepared by Spray Pyrolysis Technique” International seminar on Materials Science and Technology (ISMST-2017), Journal-article, ISBN: 81-86520-31-7.

12. **K.Pakiyaraj** (2016): “Synthesis characterization and gas sensing performance of Al and Zn Co-doped SnO₂ thin films prepared by Spray Pyrolysis, International Journal of Advanced Research in Management, Architecture, Technology and Engineering (IJARMATE),2016-02,Journal-article,DOI-10.20256/IJARMATE.2016.S12040034.
13. **K.Pakiyaraj** (2016): “Electrochromic Investigations on pure and nickel doped TiO₂ thin films deposited by spray pyrolysis method for display devices” International Journal of Advanced Research in Management, Architecture, Technology and Engineering (IJARMATE), Architecture, Technology and Engineering (IJARMATE), DOI-10.20256/IJARMATE.2016.S12040034 2016, Journal-article, ISSN: 2454-9762.
14. **K.Pakiyaraj** (2016): “Preparation and Characterization of pure and Al-Zn Co-Doped Tin Oxide thin films by Spray Pyrolysis Technique” Journal of Nanoscience and Technology, 2016, Journal-article, ISSN: 2455-019.
15. **K.Pakiyaraj** (2016): “Structural and optical behavior of cerium doped TiO₂ thin films Prepared by Spray Pyrolysis method” Journal of Materials Science: Materials in Electronics, 2016,| Journal-article, DOI: 10.1007/s10854-016-5282-y, EID: 2-s2.0-84978153481.
16. **K.Pakiyaraj** (2016): “Temperature dependence of general Properties of CdO thin films prepared by nebulized spray pyrolysis technique” International Journal of Advanced Research in Management, Architecture, Technology and Engineering (IJARMATE), DOI-10.20256/IJARMATE.2016.S12040034. 2016. Journal-article Part of ISSN: 2454-9762.
17. **K.Pakiyaraj** (2015): “Nanostructure Al doped SnO₂ thin films grown onto glass substrate by Spray Pyrolysis technique, Advanced Materials, 2015-02, Journal-article Part of ISBN: 978-93-84743-38-3.
18. **K.Pakiyaraj** (2015): “Effect of Al concentration on SnO₂ Nanostructured thin films Prepared by Spray Pyrolysis Technique” International Journal of Applied Physics, 2015, Journal-article, ISSN: 2249-317.
19. **K.Pakiyaraj** (2015): “Formation and Investigation of copper doped TiO₂ thin films Prepared by Spray Pyrolysis method” Journal of Chemical and Pharmaceutical Sciences, (2015) 73-76, ISSN: 0974-2115, Journal-article, EID: 2-s2.0-84949959916.
20. **K.Pakiyaraj** (2015): “Zn doped SnO₂ Nano Structure Thin films Prepared by Spray Pyrolysis Technique” Journal of Chemical and Pharmaceutical Sciences, 2015, ISSN: 0974-2115, Journal-article, EID: 2-s2.0-84949975560.

Paper Presented International / National Conferences

1. One day International seminar on Emerging Trends in chemistry & Energy Science, Presented a Paper on SnO₂ Physical and Chemical Properties due to the Zn doping” in

PG & Research Department of Chemistry, Saraswathi Narayanan College, Madurai, on 07.02.2020.

2. International Conference on Recent Innovation in Nanoscience and Technology, Presented a Paper on “Gas sensing performance of Zn doped SnO₂ thin films Prepared by Spray Pyrolysis technique” in Department of Physics, A.P.A.College of Arts College for women, Palani, on 25.01.2020.
3. Two days National Level seminar on Recent Trends in Chemistry – Chemical Spectroscopy, Environmental, energy Conservation (RTC-2k20) Sponsored by Tamilnadu State Council for Science and Technology Chennai, Presented a Paper on “Growth and Characterization of Pure and Al-Zn Co-doped conducting SnO₂ thin film for Gas Sensors” in PG Department of Chemistry, Arulmigu Palaniandavar College of Arts & Culture, Palani, on 23.01.2020 and 24.01.2020.
4. One day national Seminar on Material Science and Applications (NSMSA – 2018), in Presented a Paper on “ The role of Al and Zn on SnO₂ thin films Prepared by Spray Pyrolysis deposition” in Department of Physics, Mother Teresa Women’s University, Kodaikanal, on 30.7.2018.
5. National Seminar on Advanced Materials and Applications (NSAMA-2018), Presented a paper on “Gas sensing performance of Al doped SnO₂ nanocrystalline thin films prepared by spray pyrolysis technique” in Department of Physics, Karpagam Academy of Higher Education (Deemed to be University), Coimbatore, on 15.02.2018 and 16.02.2018.
6. International Conference on Recent Innovation in Engineering, Presented a Paper on “Electro Chromic Investigation on Pure and Nickel Doped TiO₂ Thin Films Deposited by Spray Pyrolysis Method for Display Devices”, in Sri Subramanya College of engineering and Technology, Palani, on 02.04.2016.
7. International Conference on Recent Innovation in Engineering, Presented a Paper on “Temperature Dependence of General Properties of CDO Thin films Prepared by Nebulized Spray Pyrolysis Technique”, in Sri Subramanya College of engineering and Technology, Palani, on 02.04.2016.
8. International Conference on Recent Innovation in Engineering, Presented a Paper on “Synthesis Characterization and gas sensing performance of Al and Zn Co-doped SnO₂ thin films Prepared by Spray Pyrolysis”, in Sri Subramanya College of engineering and Technology, Palani, on 02.04.2016.
9. International Conference on Frontiers in Materials Science & Technology, Presented a Paper on “Investigation of different dopant elements (Al and Zn) on Microstructural,

Optical and Electrical properties of SnO₂ thin films Prepared by Spray Pyrolysis”, in National Institute of Science and Technology, Berhampur, Odisha, Tamil Nadu, India, on 12.12.2015.

10. International Conference on Frontiers in Materials Science & Technology, Presented a Paper on “Preparation And Characterization Of TiO₂ Thin Films Deposited By Spray Pyrolysis Method”, in National Institute of Science and Technology, Berhampur, Odisha, Tamil Nadu, India, on 12.12.2015.
11. International Conference on Nanomaterials and Nanotechnology (NANO-2015), Presented a Paper on “Electrochromic Studies of Nickel Doped TiO₂ Thin Films Nano Structures Deposited by Spray Pyrolysis Method”, in Centre for Nano Science and Technology, KSR, Thiruchengode, from 07.12.2015 to 10.12.2015.
12. UGC sponsored International Conference on Nanomaterials for Frontier Applications (ICNFA-2015), Presented a Paper on “Structural Electrical Optical Properties of Al and Zn Co-Doped SnO₂ Thin Films Prepared by Spray Pyrolysis Method” in CIT, Coimbatore in collaboration with Bergen University College, Bergen, Norway, during 02.12.2015 to 04.12.2015.
13. UGC sponsored International Conference on Nanomaterials for Frontier Applications (ICNFA-2015), Presented a Paper on “Structural and Optical Behavior of Cerium Doped TiO₂ Thin Films Prepared By Spray Pyrolysis Method” in CIT, Coimbatore in collaboration with Bergen University College, Bergen, Norway, during 02.12.2015 to 04.12.2015.
14. UGC sponsored International Conference on Recent Advancements in Materials (ICRAM-2015), presented a Paper on “Zn Doped SnO₂ Nano Structure Thin Films Prepared by Spray Pyrolysis Technique”, in Department of Physics, Anna University, Tiruchirappalli, on 16.10.2015 and 17.10.2015.
15. UGC sponsored International Conference on Recent Advancements in Materials (ICRAM-2015), Presented a Paper on “Formation and Investigation of Copper Doped TiO₂ Thin Films Prepared by Spray Pyrolysis Method”, in Department of Physics, Anna University, Tiruchirappalli, on 16.10.2015 and 17.10.2015.
16. One day National seminar on semiconductor materials and device Processing for energy Applications, Presented a paper on “Preparation and Characterization of Al:SnO₂ thin film Gas sensor by Spray Pyrolysis Technique”, in Department of Physics, A.P.A College for Women, Palani, on 25.03.2015.
17. One day National seminar on semiconductor materials and device Processing for energy Applications, Presented a paper on “Characterization of Zn:SnO₂ Nanostructure Thin

- film prepared by Spray Pyrolysis Technique”, in Department of Physics, A.P.A College for Women, Palani, on 25.03.2015.
18. UGC Sponsored National Level Conference on Advanced Materials (NCAM-2015), Presented a Paper on “Nanostructure Al Doped SnO₂ Thin films Grown onto Glass Substrate by Spray Pyrolysis Technique” in Department of Physics Sri G.V.G Visalakshi College for Women, Udumalpet, on 18.02.2015 and 19.02.2015.
 19. UGC sponsored International Conference on Recent Trends in Materials (ICRTM-2014), Presented a Paper on “Preparation and Characterization of TiO₂ Thin Films Deposited by Spray Pyrolysis Method”, in Department of Physics, Devanga Arts College, Aruppukottai, on 22.12.2014 and 23.12.2014.
 20. UGC Sponsored National Seminar on Hundred Years of Supercontivity and its Applications, Presented a Paper on “Preparation and Characterization of TiO₂ thin film by Spray Pyrolysis technique” in Department of Physics, Vellalar College for Women, Erode, Tamilnadu on 01.03.2012 and 02.03.2012.
 21. National Conference and Renewable Energy Technology, Presented a Paper on “Thermal analysis of inner sloped single basin type solar still with Charcoal absorber” in Department of Physics, V.H.N. Senthikumar Nadar College, Virudhunagar on 26.08.2011 and 27.08.2011.
 22. National Conference on Advanced Trends in IT – 2010, Presented a Paper on “GPS in Disaster Management System” in Arulmigu Palaniandavar College of Arts & Culture, Palani on 05.02.2010.
 23. National Conference on Recent Advances in Molecular Interactions - NCRAMI – 2004, Presented a Paper on “Optical and Structural Characterization of copper oxide thin film under Spray Pyrolysis” in PSG College of Arts & Science, Coimbatore on 26.3.2004 and 27.3.2004.
 24. UGC Sponsored National Seminar on Emerging Trends in Molecular Physics NASETMP - 2004, Presented a Paper on “Optical and Structural Characterization of Copper oxide thin film under Spray Pyrolysis, in Department of Physics, Animalia University, Annamalainagar on 08.3.2004 and 09.3.2004.
 25. National Seminar on Emerging Trends in Science and Technology - ETSAT – 2004, Presented a Paper on “Preparation and thermal analysis of CUO selective surface” in Karunya Institute of Technology, Coimbatore on 30.01.2004 and 31.01.2004.
 26. National Seminar on Emerging Trends in Science and Technology - ETSAT – 2004, Presented a Paper on “Preparation analysis of Inner Sloped Single Basin type solar still

with charcoal absorber” in Karunya Institute of Technology, Coimbatore on 30.01.2004 and 31.01.2004.

Participated In International / National / State level Seminars/ Workshops

1. One Day State level Seminar on “Mathematical Modeling and Applications of Differential Equations” organized by Department of Maths, A.P.A.College of Arts & Culture, Palani, on 04.02.2020.
2. One Day State level Seminar on “Business Planning and Project Preparation” organized by Department of Commerce, A.P.A.College of Arts & Culture, Palani, on 29.01.2020.
3. One Day State level Seminar on “Padipalikalin Parvayell Anmaikala tamilpunaivugal” organized by Department of Tamil, A.P.A.College of Arts & Culture, Palani, on 27.01.2020.
4. International Research Journal of Arts and Culture (E-ISSN-2582-2063) orientation Programme on “Quality Publications in Academic Research” organized by Nelam International Journal of Arts and Culture on 16.11.2019.
5. UGC – Autonomy Grand Sponsored National Conference on “Recent Trends in Solar Energy and Nanoscience (SENS-2019)” organized by GTN Arts College, Dindigul on 08.03.2019.
6. National Science day (NSDC-2019) on organized by Department of Physics, A.P.A.College of Arts & Culture, Palani, on 29.02.2019.
7. TNSCST Sponsored One – day National Seminar on “Recent Advances in Nano phase Materials” organized by Department of Physics, Government Arts College for Women, Nilakottai, on 12.10.2018.
8. National level Seminar on “Applications of Quantum Mechanics and Nanomaterials for Energy Storage” on 24th January 2018 organized by Department of Physics A.P.A.College of Arts & Culture, Palani on 24.01.2018.
9. Muta IV Academic Conference and Seminar on the theme “Towards Democratic Secular and Inclusive Higher Education” on 6th January 2018 at Angala Easwari hall, Palani, on 6.01.2018.
10. State level Seminar on “Resent Trends in Advanced Physics” organized by IAPT and Department of Physics, A.P.A.College of Arts & Culture, Palani on 10.03.2017.
11. National level Seminar on Recent Advances in Chemistry, organized by Department of Chemistry, A.P.A. College of Arts & Culture, Palani, on 11.08.2014.

12. Tamilnadu Government water management on “Awareness on Environmental Conservation” organized by Tamilnadu State Government and Water Board, Coimbatore, on 17.03.2014.
13. National Science day(NSDC-2014) on “Awareness Programme on Fostering Scientific Temper” organized by Department of Physics, A.P.A.College of Arts & Culture, Palani, on 28.02.2014.
14. National Science day(NSD-APEEC-2013) on “Awareness Programme on Energy and Environmental Conservation” organized by Department of Physics, A.P.A.College of Arts & Culture, Palani, on 28.02.2013.
15. National Seminar on “Materials Research” organized by Department of Physics, VHNSN College, Virudhunagar, on 8.02.2013 and 09.02.2013.
16. One Day State level Seminar on “Recent Developments in Nanomaterials and device Applications” organized by Department of Physics, A.P.A.College of Arts & Culture, Palani, on 24.01.2012.
17. National Science day(NSD-APEEC-2012) on “Awareness Programme on Energy and Environmental Conservation” on organized by Department of Physics, A.P.A.College of Arts & Culture, Palani, on 28.02.2012.
18. State level Seminar on “Eco Friendly Energy Sources” organized by Ministry of non-conventional energy Sources and Department of Physics, PSGR Krishnammal College for women, Coimbatore, on 15.02.2002.
19. Indian Science Academies Science Academies Lecture workshop on “Recent Trends in Applied Physics for Technology” organized by Vivekananda College, Thiruvudakam West, Madurai, on 29.12.2017 and 30.12.2017.
20. Indian Science Academies A Two day Science Academies Lecture workshop on “Recent Trends in Advanced Material Science” organized by A.P.A.College of Arts & Culture, Palani, on 01.10.2017 and 02.10.2017.
21. UGC Sponsored One Day National level Workshop on Nano Science and Technology in Sri G.V.G. Visalakshi College for Women, Udumalpet, Coimbatore on 07.03.2012.
22. BRNS Sponsored Workshop on Electron Microscopy in National Institute of Technology, Tiruchirappalli on 04.11.2011 and 05.11.2011.
23. Three Day Workshop on Quantum Physics through Mat Lab in Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore from 19.12.2005 to 21.12.2005.