Dr. A. Jegatha Christy

Assistant Professor of Physics

Jayaraj Annapackiam College for Women (Autonomous)

Periyakulam – 625 601, Theni Dt, Tamilnadu, INDIA

+91 - 9578991403

jegathaphy@annejac.ac.in

ACADEMIC QUALIFICATION:

S.No	Degree	University/Institution	Year of Passing
1.	B.Sc	Jayaraj Annapackiam College for Women (Autonomous), Periyakulam.	2004
2.	M.Sc	Fatima College, Madurai.	2006
3.	PGDCA	Manipal Institute of Computer Education.	2006
4.	M.Phil	Mother Teresa Women's University, Kodaikanal.	2007
5.	Ph.D	Mother Teresa Women's University, Kodaikanal.	2013

AREA OF SPECILIZATION: Spectroscopy, Materials Science, Nano Science & Nanotechnology

Ph.D DETAILS :

Title	Guidance	Period	Date of Degree Awarded
Photocatalytic and antimicrobial investigations of nanoparticles synthesized by combustion method.	Dr.M. Umadevi Professor and Head Department of Physics Mother Teresa Women's University, Kodaikanal, Tamilnadu, India.	July 2008 to July 2013	22.07.2013

WORK EXPERIENCE :

S.No	Positions held	Name of the Institute	From	To
1.	Lecturer	Jayaraj Annapackiam College for Women, Periyakulam.	13th Jun '07	31st Jan '08
2.	Lecturer	Mother Teresa Women's University, Kodaikanal.	4th Feb '08	2nd Jun '09
3.	Assistant Professor (Aided)	Fatima College, Madurai.	15th Jun '09	5th Nov '12
4.	Assistant Professor (Aided)	Jayaraj Annapackiam College for Women, Periyakulam.	16th Jun '14	Till date

TOTAL EXPERIENCE : UG – 14 years ; PG – 14 years ; M.Phil – 5 years ; Ph.D – 2 years

RESEARCH GUIDANCE: M.Phil – 06 (completed); Ph.D – 01 (ongoing)

PROFESSIONAL RECOGNITION:

S.No	Recognition	Institution	Year
1.	Ph.D Guideship	Mother Teresa Women's University, Kodaikanal.	2017
2.	External Evaluator	Bharathidasan University, Tiruchirappalli.	2019
3.	Doctoral Committee University Nominee	Fatima College - Madurai Kamaraj University. Madurai.	2022
4.	External Examiner for M.Phil and M.Sc viva voce	Mother Teresa Women's University, Kodaikanal.	2021,2022
5.	Assessor for Academic and Administrative Audit	Xavier Board Member Colleges, Tamilnadu.	2023

ACADEMIC AFFILIATIONS:

- Project Development Officer - 2022 -till date
- Research Committee Member– 2022 -till date
- Institution Innovation Council Member– 2022 -till date
- Research Consultancy Cell Member- 2017- till date
- Fine Arts Coordinator – 2019 -2022
- Discipline Committee – 2017 -2021
- Press Incharge – 2018 – 2019
- IQAC staff in charge – 2015 -2019
- OSA staff incharge – 2014- 2019

PROFESSIONAL AFFILIATIONS:

- Board of Studies Member in Physics of Jayaraj Annapackiam College for Women (Autonomous), Periyakulam since 2014.
- Board of Studies Member in Physics of Mother Teresa Women's University, Kodaikanal during 2018 – 2019 and 2019-2020
- Board of Studies Member in Fatima College, Madurai during 2018 – 2021

RESOURCE PERSON:

- Guest lecture on "Photocatalytic and antimicrobial investigations of nanoparticles" at Fatima College, Madurai on 29.01.2014.
- External Examiner for Major Practical at Fatima College, Madurai on 25.03.2019.
- Judge for zonal wide temperance contest conducted by Seventh-Day Adventist Matric. Hr. Sec. School, Periyakulam on 22.08.2019.
- External Evaluator for the synopsis submission and presentation for Ph.D Scholar at Department of Medical Physics, Bharathidasan University, Tiruchirappalli on 16.10.2019
- Guest Lecture on "Photocatalytic activity of metal oxide nanoparticles" at Mary Matha College of Arts and Science, Periyakulam on 11.03.2020.
- External Examiner for Major Practical at Fatima College, Madurai on 14.11.2022.

- External Examiner for II-M.Sc Physics Practicals at Mother Teresa Women's University, Kodaikanal on 18.11.2022.
- External Examiner for Major Practical at Fatima College, Madurai on 05.04.2023.

PUBLICATIONS:

S.No	Title	Name of Journal	Volume	Page	Year
1.	Photo-triggered antibacterial and catalytic activities of solution combustion synthesized CeO_2/NiO binary nanocomposite	Inorganic Chemistry Communications, Elsevier.	153	110860	2023
2.	Novel solution combustion synthesis of CeO_2/CuO nanocomposite for photocatalytic and biological applications.	Optical Materials, Elsevier.	139	113756	2023
3.	Antibacterial activities and photocatalyzed degradation of textile dyeing waste water by Mn and F co-doped TiO_2 nanoparticles.	Advances in Natural Sciences: Nanoscience and Nanotechnology, IOP Publishing.	13	045005 (1-11)	2022
4.	Structural, magnetic and gas sensing activity of pure and Cr doped In_2O_3 thin films grown by pulsed laser deposition.	Coatings, MDPI.	11	588 (1-14)	2021
5.	Evaluation of Physicochemical characterisitics and antimicrobial activities of copper oxide nanoparticles formed by solution combustion method.	Conference paper 2021 IEEE Regional Symposium on Micro and Nanoelectronics (RSM)	--	--	2021
6.	Enhanced antibacterial and photocatalytic activities of nickel oxide nanostructures.	Optik, Elsevier.	237	166731 (1-11)	2021

7.	Photocatalytic and antibacterial performance of iron oxide nanoparticles formed by the combustion method.	Chemical Physics Letters, Elsevier.	771	138524 (1-6)	2021
8.	Fabrication of Magnesium oxide nanoparticles using combustion method for a biological and environmental cause.	Chemical Physics Letters, Elsevier.	763	138216 (1-8)	2021
9.	Study on the synergistic effect of terbium-doped SnO_2 thin film photocatalysts for dye degradation.	Journal of Nanoparticle Research, Springer.	22:359	1-14	2020
10.	Significance of Ni doping on structure-morphology-photoluminescence, optical and photocatalytic activity of CBD grown ZnO nanowires for opto-photocatalyst applications.	Inorganic Chemistry Communications, Elsevier.	119	108082	2020
11.	Enhanced Photocatalysis and anticancer activity of green hydrothermal synthesized Ag@TiO2 nanoparticles.	Journal of Photochemistry & Photobiology, B:Biology, Elsevier.	202	111636 (1-10)	2020
12.	Green hydrothermal synthesis of gold and palladium doped titanium oxide nanoparticles for multifunctional performance.	Journal of Materials Science: Materials in Electronics, Springer.	30, Issue 13	12812 - 12819	2019
13.	Green approach synthesis of $Pb@TiO_2$ nanoparticles : Characterization, visible light active picric acid degradation and anticancer activity.	Process Biochemistry, Elsevier.	87	83-88	2019

14.	Physical properties evaluation of nebulized spray pyrolysis prepared Nd doped ZnO thin films for opto-electronic applications.	Journal of Materials Science: Materials in Electronics, Springer.	30, Issue 8	7257 - 7267	2019
15.	Effect of neodymium doping on the structural, morphological, optical and electrical properties of copper oxide thin films.	Journal of Materials Science: Materials in Electronics, Springer.	29, Issue 13	10921 - 10923	2018
16.	Visible light photocatalyst: Hydrothermal green synthesized TiO_2 NPs for degradation of picric acid.	Materials Letters, Elsevier.	222	45-49	2018
17.	Solvatochromic spectral investigations of acridine.	International Journal of Chem Tech Research.	8	383 - 390	2015
18.	Synthesis, characterization and photocatalytic activity of ZnO nanoflakes.	Journal of Nano Energy and Power Research.	2	1-7	2014
19.	A novel combustion method to prepare CuO nanorods and its antimicrobial and photocatalytic activities.	Powder Technology, Elsevier.	235	783 - 786	2013
20.	Characterization and photocatalytic activity of CuO nano flowers.	Spectrochimica Acta Part A, Elsevier.	109	133 - 137	2013
21.	Optical, structural and morphological properties of silver nanoparticles and its influence on the photocatalytic activity of TiO_2.	International Journal of Chem Tech Research.	111	80-85	2013
22.	Novel combustion method to prepare octahedral NiO nanoparticles and its photocatalytic activity.	Materials Research Bulletin, Elsevier.	48	4248 - 4254	2013
23.	Synthesis and characterization of mono				

	dispersed silver nanoparticles.	Adv. Nat. Sci: Nanosci. Nanotechnol. IOP Publishing.	3	035013 (1-4)	2012
24.	Preferential solvation of acridine in binary mixtures.	Spectrochimica Acta Part A, Elsevier.	71	773 - 778	2008

BOOKS/REPORTS/CHAPTERS/GENERAL ARTICLES etc:

S.No	Title	Author's Name	Publisher	Year of Publication
1.	**Book :** Metal oxide powder technologies: Fundamentals, Processing Methods and Applications **Chapter 16:** "Metal oxides powder technology in membranes"	Dr. A. Jegatha Christy	Elsevier	2020
2.	**Book :** Green Photocatalytic Semiconductors **Chapter 18:** Photocatalysis Degradation of Dye Using P-Type Nanoparticles in the book	Dr. A. Jegatha Christy	Springer	2022

PROJECTS COMPLETED:

S.No	Title of the Project	Duration		Total Cost	Funding Agency
		From	To		
1.	Tailoring the surface morphology of metal oxide nanoparticles and its influence on dye effluent treatment.	30th June 2017	30th June 2019	4,90,000/-	UGC – SERO No.F.F.MRP-6823/16 (SERO/UGC) dated 30 June 2017

PATENTS:

S.No	Title of the Patent	Design No	Date of Publication	Level
1.	Nanotechnology based dipping system for water purification	353512 - 001	13th January 2022.	Indian
2.	A Blockchain-based interface for secret remote communication through a smartphone using wireless sensor network	202241003575	04th February 2022	Indian

CONFERENCES ORGANIZED:

- Organizing committee member for International Conference on "Material Science Research and Nano Technology" organized by Department of Physics, Mother Teresa Women's University, Kodaikanal during 27th – 29th Feb 2008.
- Organizing committee member for International conference on "Nanomaterials & Nanocomposites - Synthesis, Properties & Application" organized by Department of Physics, Mother Teresa Women's University, Kodaikanal on 28th -29th Feb 2012.
- Organizing committee member for UGC Sponsored National Seminar on "Recent Trends in Physics & Materials Research" at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam.
- **Convener** for UGC Sponsored National Seminar on "Recent Advancement in Materials Science" organized by Department of Physics, Jayaraj Annapackiam College for Women, Periyakulam on 10th Feb 2017.
- **Convener** for One Day Seminar on "Energy Conservation" organized by PG & Research Department of Physics, Jayaraj Annapackiam College for Women, Periyakulam in collaboration with Petrol Conservation Research Association, on 15th Sep 2017.
- **Organizing secretary** for National Level Conference on "Recent Trends in Physics" organized by PG and Research Centre of Physics, Jayaraj Annapackiam College for Women, Periyakulam on 9th Feb 2018.
- **Convener** for One Day Seminar on "Energy Conservation" organized by PG & Research Department of Physics, Jayaraj Annapackiam College for Women, Periyakulam in collaboration with Petrol Conservation Research Association, on 30th Sep 2019.
- **Organizing secretary** for the International Webinar on "Functional Properties and Bandgap Engineering of ZnO – GaN Alloys" organized by PG & Research Department of Physics, Jayaraj Annapackiam College for Women, Periyakulam on 8th June 2020.
- **Organizing secretary** for the International Webinar on "Exoplanets" organized by PG & Research Department of Physics, Jayaraj Annapackiam College for Women, Periyakulam on 2nd Sep 2021.
- **Convenor** for "Transdisciplinary Research & Global Opportunities for Women", organized by PG and Research Department of Physics, Jayaraj Annapackiam College for Women, Periyakulam on 05th Aug 2022.

- **Convenor** for the International Virtual Conference on “Recent Trends in Physics (ICRTP – 2023)” organized by PG and Research Centre of Physics, Jayaraj Annapackiam College for Women, Periyakulam on 16th & 17th March 2023.

HONOURS:

- Chairperson for Paper Presentation session in the UGC Sponsored National Conference on "Recent Trends in Physics & Materials Research" at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam during 4th & 5th Feb 2016.
- Chairperson for “International Conference on Advanced Materials for Energy and Environment” organized by Department of Physics, Mother Teresa Women’s University, Kodaikanal from 10th – 11th Jan 2022.

MEMBERSHIPS:

- Life time member in Indian Physics Association. TIFR, Mumbai.
- Member in American Chemical Society, Newyork.