

## Dr. D. AROCKIA JENCY

### ASSISTANT PROFESSOR

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#### ACADEMIC QUALIFICATION:

S.No	Degree	University/ Institution	Year of passing
1.	B. Sc	Jayaraj Annapackiam College for Women (Autonomous), Periyakulam.	2004
2.	M. Sc	Mother Teresa Women's University, Kodaikanal	2006
3.	Ph. D	Mother Teresa Women's University, Kodaikanal	2018

AREA OF SPECILIZATION: Nanoscience, Spectroscopy

#### Ph.D DETAILS:

Title	Guidance	Period	Date of Degree Awarded
Detection of organic pollutants by using SERS based sensors on functionalized metal nanoparticles.	Dr.M. Umadevi Professor and Head Department of Physics Mother Teresa Women's University, Kodaikanal, Tamilnadu, India.	2013-2018	October 2018

#### WORK EXPERIENCE:

S.No	Positions held	Name of the Institute	From	To
1.	Lecturer	Mother Teresa women's University, Kodaikanal	March 2007	April 2010
2.	Assistant Professor	Kodaikanal Institute of Technology, Kodaikanal.	November 2011	June 2013
3.	Assistant Professor	V.S.B. Engineering College, Karur.	June 2019	June 2021
4.	Assistant Professor	Jayaraj Annapackiam College for Women (Autonomous), Periyakulam.	2021 onwards	

**TOTAL TEACHING EXPERIENCE:** UG -12 years; PG - 4 years

**ACADEMIC AFFILIATIONS:**

- Press committee member - 2021 -2022
- Placement cell member - 2021 -2024
- Fine Arts member - 2022 -2025
- Eco club member - 2022 -till date
- Institution Innovation Council (IIC) - 2025 -till date
- Synergy cell member - 2025 - till date
- Placement officer - 2025 - till date

**PUBLICATIONS:**

S. No	Title	Name of Journal	Volume	Page	Year
1.	SERS detection of Polychlorinated Biphenyls using $\beta$ -cyclodextrin functionalized gold nanoparticles on agriculture land soil.	Journal of Raman Spectroscopy	46	377 - 383	2015
2.	Glutathione Functionalized Gold Nanoparticles as Efficient Surface Enhanced Raman Scattering Substrate for Poly Chlorinated Biphenyl Detection	Journal of Cluster Science	29	281 - 287	2017
3.	Detect, Remove: A New Paradigm in Sensing and Removal of PCBs from reservoir soil via SERS-Active ZnO triggered gold nanocomposites	Journal of Applied Surface Science	449	638 - 646	2018

4.	Au-TiO <sub>2</sub> core shell motif scavenger: facile synthesis, high SERS effect, Synergistic photocatalytic activity	Journal of Cluster Science	29	793 - 804	2018
5.	Colloidal design of Au@Pt nanoflowers with good catalytic activity and SERS Investigations on river soil	Journal of Colloids and Surface A	554	218 - 226	2018
6.	Built-in Electric Field Assisted Photocatalytic Dye Degradation and Photo-Electrochemical Water Splitting of Ferroelectric Ce Doped BaTiO <sub>3</sub> Nanoassemblies	ACS Sustainable Chemistry - Engineering	7	12032 - 12043	2019
7.	Enhanced Bioactivity of Fe <sub>3</sub> O <sub>4</sub> -Au nanocomposites- A comparative Antibacterial study	Materials Letters	258	126 - 795	2020
8.	Carboxymethyl Cellulose Grafted on Mesoporous Cobalt Oxide Millieu: Synthesis, Formation Mechanism and Electrochemical Features	Chemistry Select	7	2 of 12	2022
9.	Harnessing rGO-ZnS Nanocomposites for Effective Photocatalytic Degradation of Methylene Blue	Chemistry Select	1	1 of 10	2025

**BOOK CHAPTER PUBLICATION:**

S. No	Title	Author's Name	Publisher	Year of Publication
1.	Nanomaterials for soil Remediation	D. Arockia Jency	Elsevier, Technology and Engineering/Material Science	2020

**RESEARCH GUIDANCE: Ph. D - 01(ongoing)**

Degree	Ongoing	Completed
Ph. D	01	-

**Ph. D SCHOLARS DETAILS:**

S. No	Name of the Scholar	Scheme	Topic	Date of Registration	Date of Viva-voce
1.	R. Kavya (PHDPHY25F008)	Full time		05.03.2025	--

**RESEARCH PROJECTS COMPLETED:**

S. No	Title of the Project	Duration	Total Cost	Funding Agency
1.	Detection of organic pollutants by using SERS based sensors on functionalized metal nanoparticles	2014-2016	Rs.16,24,581/- Lakhs	DST-Women Scientist Scheme (WOS-A) Major Research Project, New Delhi. (Ref. No: SR/WOS-A/PS-40/2013)
2.	Decontamination of water by using bio synthesized graphene oxide coupled ZnS nanocomposite photocatalysts	2023-2024	Rs. 7500/-	TNSCST- Student Project Scheme (PS-182/2022-2023), Tamil Nadu.
3.	Biosynthesized graphene nanocomposites –based sensors for the detection of chemical pollutants in environment	2022-2023	Rs.25000/-	JACFRP (JAC/2022-23/JACFRP-Faculty/4)

4.	Solar Drying of Ingredients and Development of Value-Added Food Products: A Sustainable Entrepreneurship and Skill Development Initiative.	2025-2026	Rs.1,00,000/-	SEED-JAC/SEED-Faculty/2025-26/9
5.	Green Synthesis of AgVO <sub>3</sub> Nanoparticles Using Fenugreek Extract for SERS-Based Detection and Treatment of Environmental Water Pollutants.	2025-2026	Rs. 5000/-	RRF- Student Project Support Scheme

#### CONFERENCES/WORKSHOPS ORGANIZED:

- **Member of the organizing committee** during Physics Quest March 2005 organized by Mother Teresa Women's University, Kodaikanal.
- **Member of the organizing committee** during Science Meet February 2006 organized by Mother Teresa Women's University, Kodaikanal.
- **Member of the organizing committee** during Physics Quest February 2006 organized by Mother Teresa Women's University, Kodaikanal.
- **Organizing Secretary** for the International Conference on Recent Trends in Physics (ICRTP-2023), organized by PG & Research Centre of Physics, Jayaraj Annapackiam College for Women, Periyakulam.
- **Convener** for the International Conference on Interdisciplinary Perspectives of Nanomaterials '24 (ICIPN' 24), organized by PG & Research Centre of Physics, Jayaraj Annapackiam College for Women, Periyakulam.

#### RESOURCE PERSON:

- **Resource person** in the "Inservice Training to Science Teachers" supported by Tamil Nadu State Council for Science and Technology, Chennai.
- **Observer** for National Standard Examination (2025) conducted by IAPT.

#### CONFERENCE/ WORKSHOP PARTICIPATED:

- **Participated** in the workshop on "Research Methodology" held at Mother Teresa Women's University, Kodaikanal on August 2013.
- **Participated** in the workshop on "Research in crystal growth Processes and Methods" held at Mother Teresa Women's University, Kodaikanal organized by Department of physics on September 2013.

- **Participated** in the workshop on “Recent Trends in Physics” organized by Department of physics on September 2013.
- **Participated** in the workshop on “Bonding and Energetic, Theories and Applications” organized by Department of Chemistry on October 2013.
- **Participated** International Conference on “Perspectives on Vibrational Spectroscopy” held at Mar Ivanios College, Kerala organized by Department of Physics on July 2014.
- **Participated** in the workshop on “Elemental, compound and phase analysis by Powder X-ray diffraction” held at National Institute of Technology, Trichy organized by Department of Physics on September 2014.
- **Poster presentation** in the International conference on “7<sup>th</sup> Bangalore India Nano” organized by the Nano Hub of India on December 2014.
- **Poster presentation** in the International Symposium on “Photonics Application and Nanomaterials” organized by Sree Chitra Trinal Institute of Medical Sciences & Technology, Trivandrum on October 2015.
- **Participated** in the workshop on “Scanning Probe Microscopy and High Resolution Transmission Electron Microscopy” organized by Nanotech Research Innovation and Incubation Centre, PSG Institute of Advanced Studies, Coimbatore on August 2015.
- **Presented a Paper** in the International Workshop on “Advanced Functional Nanomaterials organized by centre for Nano science and Tech & centre for International Affairs” Anna University, Chennai on December 2015.
- **Participated** National seminar on “E-Resources for effective Research” organized by Internal Quality Assurance Cell, Mother Teresa Women’s University, Kodaikanal on April 2016.
- **Poster presentation** in the National Conference “Study of Matter using Intense Radiation Sources and Under Extreme Conditions” organized by UGC-DAE Consortium for Scientific Research, Indore on November 2016.
- **Participated** in the International Seminar on “Material Science & Applications” organized by department of Department of Physics, Mother Teresa Women’s University, Kodaikanal on November 2016.

- **Participated** in the one day lecture workshop on “Instrumentation Techniques” organized by Department of physics, Mother Teresa Women’s University, Kodaikanal on March 2017.
- **Participated** in the one day International Seminar on “Materials Science and Technology” organized by Department of Physics, Mother Teresa Women’s University, Kodaikanal on August 2017.
- **Paper Presented** in the Fourth International Conference on “Nanoscience and Nanotechnology” organized by SRM University, Chennai on August 2017.
- **Paper Presented** in the International Conference on “Advanced Nanomaterials for Energy, Engineering, Biological and Medical Applications”, Karur on December 2019.
- **Paper Presented** in the International Conference on “Recent Advances in Materials Science” organized by NIT, Trichy on May 2022.
- **Participated** in National Workshop on “Gamma ray Spectroscopy” held at Department of Physics, The American College, Madurai on August 2022.
- **Paper Presented** in the International Conference on “Topical Drifts in Nanoscience and Green Chemistry”, organized by Nadar Saraswathi College, Theni on September 2022.
- **Paper Presented** in the International Conference on “Advanced Functional Materials and Devices”, organized by SRM University, Chennai 2024.
- **Participated** one day National Conference on “Innovative Approaches to Quality Assurance in Higher Education For Sustainable Futures” organized by IQAC, Jayaraj Annapackiam College For Women(Autonomous) Periyakulam on January 2025.
- **Paper Presented** in the International Conference “Emerging Trends in Physics, Energy Storage Materials and Nanotechnology (ICEPEN 2025) organized by the PG & Research Department of Physics, Mannar Tirumalai College Naicker College (Autonomous), Madurai on February 2025.
- **Participated** in the Two Day Workshop on “Advancing Holistic Excellence: Leadership in Whole Person Education” organized by the IQAC, Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on September 2025.

#### **FACULTY DEVELOPMENT PROGRAMME (FDP):**

- **Participated** one day FDP on “The Future of Education, Employment & Entrepreneurship” organized by ICT Academy on May 2020.

- **Participated** five days FDP on “Faculty Awareness Program on NAAC Accrediation” Organized by RD’s Shri Chhatrapathi Shivajiraje College of Engineering, Pune on May 2020.
- **Participated** five days FDP on “Nanomaterials for Energy Harvesting and Biomedical Applications” organized by Godavari Institute of Engineering and Technology, Andhra pradesh on May 2020.
- **Participated** six days FDP on “ Material Technology Advancement in Current Scenario-MTACS2020” organized by Sathyabama Institute of Science and Technology, Chennai on July 2020.
- **Participated** six days FDP on “Deep Learning” organized by V.S.B. Engineering College, Karur on September 2020
- **Participated** five days FDP on “Sensors Technology” organized by ATAL Academy on September 2020.
- **Participated** five days FDP on “Theoretical & Experimental Physics” organized by GTN Arts College, Dindigul on June 2023.
- **Participated** five days FDP on “Advanced Materials for Energy Applications” organized by Sathyabama Institute of Science and Technology, Chennai on October 2023.
- **Participated** Three days FDP on “Teaching Learning process and prospects in 21<sup>st</sup> century class room” organized by AIACHE on June 2024.

#### **TRAINING PROGRAM:**

- **Participated a Training Programme** on “Preparation of Electric Circuit models organized by Department of physics on September 2013.
- **Participated in the Training Programme** on “The State-of-the-Art Analytical Equipments” organized by Department of Physics, Anna University, Chennai on February 2017.
- **Participated two days skill training programme** on “Preparation of a Nano Robot for Agriculture Fields and smart Irrigation” organized by MTW University, Kodaikanal on September 2017.
- **Participated Exposure camp** for Physics under the Olympiad Program at Homi Bhabha Centre for Science Education (TIFR), Mumbai on November 2023.
- **Participated Malavia Mission Teacher Training Programme** on STEM Education

(Physics) organized by Teaching Learning Centre (TLC), IIT Madras during November 2025.

**AWARDS/HONOURS:**

- **Best Coordinator award** from Cumbum Sathguru Sangeetha Natya Vidyalaya accredited by “**World Record Union**” (America).