

## **PROFILE**



Name : Dr. **R. MARY MATHELANE**  
Designation : Associate Professor  
Department : PHYSICS  
Date of Birth : 12.03.1964  
Date of Appointment : 06.11.1987

## **CONTACT DETAILS**

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## **ACADEMIC**

S. No.	Degree	University / Institution	Year of Completion
1.	M.Sc.	Holy Cross College	1986
2.	M.Phil.	Alagappa University	2001
3.	M.Ed.	Madurai Kamaraj University	2002
4.	Ph.D.	Mother Teresa Women's University	2014

5	M. Sc (Yoga)	Bharathidasan University	2019
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**Total**

**Experience**                      UG                      35

PG                      18

**Area of**

**Specialization/Interest**                      : THIN FILM SOLAR CELLS

**Academic Affiliation :**

- ☐ Placement Officer (2022 onwards)
- ☐ Vice – Principal (2019 – 2022)
- ☐ HOD, Discipline Committee (2013-2018)
- ☐ Academic Council Member (2013-2018)
- ☐ Planning and Evaluation committee Member (2013-2018)
- ☐ Member of Staff Council (2013-2018)
- ☐ Member of Research Committee (2013-2018)
- ☐ Finance committee member (2013-2016)
- ☐ Staff Council Secretary (2015- 2016)
- ☐ Staff Club Secretary (2016-2018)

**RESEARCH EXPERIENCE**

**Projects Undertaken : Minor Project**

1. Title of the Project                      : State of the art technology of Solar Air Heaters  
Funding Agency : UGC  
Period    : 2007-2009  
Amount Sanctioned                      : Rs. 60,000/-
2. Title of the Project                      : Comparative study of Aluminum and Silver Thin films  
Funding Agency : UGC  
Period    : 2013-2015  
Amount Sanctioned                      : Rs. 2,00,000/-
3. Title of the Project                      : Preparation and characterization of Aluminum thin films  
Funding Agency                              : TNSCST  
Period    : 2012-2013  
Amount Sanctioned                      : Rs. 10,000

4. Title of the Project : Domestic waste water management removal of fluoride  
 Funding Agency : TNSCST  
 Period : 2017-2018  
 Amount Sanctioned : Rs. 10,000

## RESEARCH GUIDANCE :

M.Phil. (guided) – 4

## PUBLICATIONS :

- <sup>1</sup>. Paper entitled, Characteristics of CdTe Nano crystalline thinfilm, International Journal of applied Engineering, 1(2011), 125-128.
- <sup>2</sup>. Optical properties of CdS<sub>x</sub>Te<sub>1-x</sub> nanocrystalline thin films, International Journal of Engineering Sciences, 2 (2013), ISSN 2319-1813.
- <sup>3</sup>. Design Development and deployment of Distributed Solar Dryer, International Journal of power Engineering, 2.1(2010) P-89-93 ISSN 2161-6442.
- <sup>4</sup>. Synthesis and Characterization of Cadmium Sulfide nano particles, International Journal of Engineering Sciences, 2 (2013), 108-110, ISSN 2319-1813.
- <sup>5</sup>. Characteristics of Brush electrodeposited CdS films, Chalcogenide letters, Vol.6, No.9, p.483-490, 2009.
- <sup>6</sup>. Photo electrochemical Properties of Brush plated CdSTe films, doi: 10.1149/1.4718395 ECS Trans.2012 Vol.41, Issue 44, 87-92.
- <sup>7</sup>. Effect of Annealing temperature on the Structural, Morphological, Optical and Electrical properties of Co<sub>3</sub>O<sub>4</sub> thin films by nebulizer spray pyrolysis technique, Journal of Materials science (ISSN:0957-4522), 2016, Volume 27, Issue 4, page no:3860-3866.
- <sup>8</sup>. Preparations, Characterizations and Oligodynamic effect of robust silver nano particles over bacterial pathogens, 2016, Vol.3, No.1, ISSN:2347-9868, Page 64-71.

## Seminars/Conferences/Workshops Participated: - 19

### PRESENTATIONS

- **Optical properties of materials of components and their influence of thermal performance of solar thermalgadgets** in the National Seminar at PSN College of engineering & Technology, Tirunelveli in 2010-11.
- **Characteristic studies of potassium penta borate single crystals** in the International Seminar at Navarasam Arts and Science College for Women on 18-08-2011.
- **Influence of potassium penta borate single crystals** in the National Conference at Jayaram College of engineering and technology on 19 & 20-08-2011.
- **Optical studies of Potassium penta borate single crystals** in the National Conference at N.P.R. Arts and Science College, Natham on 30-09-2011.
- **Characteristics of CdTe nano crystalline thin films** in the International Conference at M.T.Women's University, Kodaikanal on 28 & 29.02.2012.
- Presented a paper on "Synthesis and Ultrasonic characterization of Copper Nano fluid by one step method " in a two day national level conference on Nanoscience and Nanotechnologies in the Livelihood Enhancement of common man sponsored by BRNS and TNSTC ,Chennai and organized by Department of Physics, Arul Anandar College, Karumathur, Madurai on 8<sup>th</sup> & 9<sup>th</sup> Feb.2017.
- Presented a paper on "Synthesis and Experimental Technique for the study of Acoustical, Mechanical, Electrical and Optical studies of Copper Nanofluid using a novel one step method" in the International Conference at M.T.Women's University, Kodaikanal on 4.07.2017 .
- Presented a paper on "A Study of Physiochemical Parameters to evaluate the drinking water quality Vaigaidam" in the UGC Sponsored National conference on "Recent Advancements in Materials science " at PG and Research centre of Physics, J.A.College for Women ,Periyakulam on 10<sup>th</sup> Feb.2017.
- Presented a paper on "A Study of water pollution in Varaga river at periyakulam" in the UGC Sponsered National conference on "Recent Advancements in Materials science " at PG and Research centre of Physics,J.A.College for Women ,Periyakulam on 10<sup>th</sup>

Feb.2017.

- Presented a paper on “Synthesis and Experimental Technique for the study of Acoustic, Mechanical, Electrical and optical studies of Copper nano fluid using a novel one-step method” in the International conference on “Materials Science and Technology (ISMST – 2017)” at Mother Teresa Women’s University, Kodaikanal.
- Presented a paper on “**Structural Spectroscopic Studies on  $\text{Eu}^{3+}$  Doped Borophosphate Glasses**” in the International conference on “**Advanced Nanomaterial for Energy, Environment and Healthcare Applications (ANEH -2018)**” at **K.S.R. College of Arts and Science for Women** **31<sup>st</sup> August & 1<sup>st</sup> September 2018**

#### **RESOURCE PERSON:**

- Delivered a special lecture on “THIN FILM TECHNIQUES AND APPLICATIONS OF SOLAR ENERGY” in the Department of Physics, Sri Adi Chunchanagiri Women’s College, Cumbum on 07.09.2011.
- Delivered a special lecture on “THIN FILM AND SOLAR APPLICATIONS” in the Department of Physics, Arul Anandhar College, Karmathur on 10.02.2011.
- Delivered a special lecture on “THIN FILM AND SOLAR APPLICATIONS” in the Department of Computer Science, Mother Teresa Women’s University , Kodaikanal on 22.09.2011.
- Delivered a special lecture on “PREPARATION AND APPLICATIONS OF THIN FILMS” in the Department of Physics, Sri Adi Chunchanagiri Women’s college, Cumbum on 25.09.2015.
- Presented a guest lecture on “Solar Physics and its Applicatons” in the Department of Physics, M.V.Muthiah Government Arts College for Women”on 27.01.2016.

- Delivered a guest lecture on “PREPARATION AND APPLICATIONS of THIN FILMS” in the Department of Physics, Thiravium college of Arts and Science for Women ,Kailasapatty on 30.01.2016.
- Delivered a guest lecture on “Exploration on Digital Electronics” in the Department of Physics, Nadar Saraswathi college of Arts and Science, Theni on 11.02.2017.
- Delivered a guest lecture on “Applications of Solar energy” in the JACEP, Jayaraj Annapackiam College for Women, Periyakulam on 13.07.2017.
- Delivered a guest lecture on “**Thermal Conduction**” in **In-service Training Programme for Science Teachers at J. A. College for Women ,Periyakulam on 18<sup>th</sup> Feb 2019.**
- Delivered a guest lecture on “**Solar Energy and its impacts**” for the Physics and Chemistry students of Nadar Saraswathi College of Arts and Science, Theni on 14<sup>th</sup> August 2019.
- Delivered a guest lecture “**Self Esteem for Youth Development**” organized by Youth Red Cross Club at JAC on 28<sup>th</sup> August 2019.
- Delivered a talk on Innovative applications of Nanotechnology on 3<sup>rd</sup> October 2020 at V.V.V College for women (Autonomous), Virudhunagar.

#### **SUBJECT EXPERT**

- Served as the subject expert in BOS in the Department of Physics at Arul Anandhar College (Autonomous), Karmathur on 9th January 2019.
- Served as the subject expert for the BOS for PG physics on 23<sup>rd</sup> April 2019 at V.V.V College for women (Autonomous), Virudhunagar.
- Attended the confidential work at Tamilnadu Public Service Commission’s office on 25<sup>th</sup> & 26<sup>th</sup> January 2019.
- Served as the subject expert in BOS in the Department of Physics at V.V.V College for Women, Virudhunagar on 16<sup>th</sup> June 2023.

#### **BOOK PUBLISHED**

- Practical Physics, ACCA Publication, Periyakulam in 2007.

#### **ANY OTHER:**

1. Convener of the Awareness workshop on “Neutrinos and India Based Neutrino observation” in collaboration with I MSc, Chennai on 16<sup>th</sup> September 2013.

2. Convener of the UGC sponsored national conference on “Latest trends in Physics for interdisciplinary advancements” on 6<sup>th</sup> & 7<sup>th</sup> Feb 2014.
3. Coordinator of the Science Exhibition for School Students in collaboration with TEEDAP on 28<sup>th</sup> Feb 2015.
4. Convener of the One day seminar on Energy Conservation sponsored by PCRA on 7<sup>th</sup> September 2016.
5. Convener of the One day seminar on Nuclear Energy – A Source of Safe, Clean, and Green Energy on 27<sup>th</sup> September 2016.
6. Convener of the TNSCST sponsored (“Inservice Training Programme for secondary grade science teachers on 28.08.2017 to 01.09.2017).
7. Convener of the Two days International workshop on Statistics Using EXCEL and SPSS on 17<sup>th</sup> to 19<sup>th</sup> January 2018.
8. Convener of the IAPT sponsored one day workshop on Learning Physics through experiments on 15.10.2018.
9. Convener of the one day seminar on “Emerging Trends in Physics” sponsored by IAPT on 13<sup>th</sup> December 2019.
10. Life member of IAPT – Life membership number-11835L7804.
11. Life member of Global Initiative of Academic Networks.
12. Attended The Big Hope2 Young Leader Congress at Liver Pool Hope university On 13<sup>th</sup> to 20<sup>th</sup> June 2018.
13. Dr. R. Mary Mathelane, Associate Professor of Physics acted as the Chief Superintendent of Tamilnadu Teacher Education University conducted the B.Ed./M.Ed. Degree Examination, May 2019 from 29<sup>th</sup> May 2019 to 13<sup>th</sup> June 2019 at Jayaraj Annapackiam College , Periyakulam.
14. Completed online Course on LAWS OF THERMODYNAMICS (Jan to FEB 2020) conducted by NPTEL.

