CURRICULAM VITAE

Dr. S. MARY MARGARET, M.Sc, Ph.D.,

Email: marymargarets_el2@mail.sjctni.edu Google Scholar: <u>https://scholar.google.com/citations?user=h6p41OgAAAAJ</u>



To pursue a dynamic career as a researcher, experimentalist and educator, leveraging my passion for scientific exploration and innovation.

WORK EXPERIENCE

SRM TRP Engineering College, TiruchirappalliJune 2022 – June 2023(Assistant Professor in Physics)

St. Joseph's College (Autonomous), Tiruchirappalli	June 2023 — Till date
(Assistant Professor in Electronics)	

INTERNSHIPS

- Project at the Centre for Research in Science and Technology (CRIST), Stella Maris College, Prepared a dissertation on "Exploring Nanoscience: Synthesis and characterization of Nanoparticles.
- Internship at science city, Chennai. (May 2015), I was a part of the research team which was involved in the research on astronomy.

EDUCATIONAL QUALIFICATIONS

Ph.D. Physics	
Specialization	: Physics - Material Science
Course period	: 20 th October 2016 – 24 th November 2022
Department	: Department of Physics
Institution	: Loyola College (Autonomous), Chennai
University	: University of Madras

Ph.D Thesis Title	e : DEVELOPMENT OF TERNARY METAL OXIDE	
CuOZnO/CuOMn3O4/ZnOMn3O4-TiO2 ANCHORED WITH rGO		
AND ITS ENHANCED ELECTROCHEMICAL PROPERTIES FOR		
SUPERCAPACITOR APPLICATIONS"		
Supervisor	: Dr. P. Sagayaraj, Associate Professor,	
	Department of Physics, Loyola College, Chennai.	
M.Sc. Physics		
Class	: First class	
Course period	: June 2014 to May 2016	
Department	: Department of Physics	
Institution	: Loyola College (Autonomous), Chennai	
University	: University of Madras	
B.Sc. Physics		
Class	: First class	
Course period	: June 2011 to May 2014	
Department	: Department of Physics	
Institution	: Stella Maris College (Autonomous), Chennai	
University	: University of Madras	

FIELD OF SPECIALIZATION: Material Science

INTERPERSONAL & COMMUNICATION SKILLS:

Fast learner, Optimistic, Practical analyst, Colloquial teacher, Team worker, Organization Interpersonal, Leadership, Sharing.

RESEARCH INTERESTS:

Electrochemical Studies, Supercapacitor, Photo catalysis, Sensors Fabrication, Dye Sensitized Solar Cells, Graphene based Composites.

KNOWLEDGE IN SYNTHESIS METHODOLOGIES:

- ✓ Wet Chemical methods such as Hydrothermal, Co-Precipitation, Sol-gel auto combustion method to prepare the nanopowders
- ✓ Preparation of nanopowders using thermal decomposition method
- ✓ Preparation of nanopowders using anodization method

- ✓ Fabrication of nanocomposites by using ultrasonication method
- ✓ Electrode preparation for supercapacitor application
- ✓ Fabrication of dye sensitized solar cells

INSTRUMENTS HANDLED:

- ✓ VSP-Biologic electrochemical work station
- ✓ LCR meter
- ✓ Fourier Transform Infrared (FT-IR) spectrometer
- ✓ UV visible spectrometer
- ✓ TG-DTA
- ✓ Maintenance and troubleshooting of lab equipments: High temperature furnace (upto 1400 °C), Water cooler unit, and Gas annealing equipment
- ✓ Ultrasonicator
- ✓ Hydraulic press for making pellets

RESEARCH PACKAGES/SOFTWARE's:

- ✓ XRDA 3.1
- ✓ IMAGE J Software
- ✓ Origin Lab- for data analysis and representation
- ✓ MENDELEY for managing research database
- ✓ Gaussian09 Software Programme
- ✓ Proteus
- ✓ Arduino IDE
- ✓ Open Broadcast Software (OBS)
- ✓ Adobe Photoshop, Blender, Canva

ACADEMIC ACHIEVEMENTS AND AWARDS:

- Participated in National conferences on Recent Advancements in Nanotechnology (RAN-2018), National Institute of Pondicherry (NIT) and presented a poster.
- Won district level first prize in Quiz competitions on nuclear physics conducted by Indira
- Gandhi Center for Atomic Research (IGCAR), Kalpakkam.
- Won state level third prize in Quiz competitions on nuclear physics conducted by IGCAR,
- Kalpakkam.
- Participated and won many intercollegiate cultural programs.
- Runner-up district level competition in Basket Ball and Won district level boxing.

ROLES AND RESPONSIBILITIES UNDER TAKEN:

- ✓ Micro Quality Cell Member
- ✓ Association President

PROGRAMMES ORGANIZED:

- Organized an International Conference on "Emerging Trends in Electronics and its Application" Organized by Department of Electronics, St. Joseph's college Trichy on 8-9th February 2024.
- Organized a "Workshop on Drone Assembly" Organized by Department of Electronics, St. Joseph's college, Trichy on 12th September 2024.
- Handled a "Bridge Course Classes for 1st UG Students" Organized by Bridge Course Committee, St. Joseph's college Trichy from July to August 2023.
- Organized a "One Day Workshop on 3D Printing" Organized by Department of Electronics, St. Joseph's college, Trichy on 19th December 2023.
- Convenor on "Special Invited Talk on Women's Day Special" Organized by Department of Physics, SRM TRP Engineering College, Trichy on 8th March 2023.

 Organized an "Eight days International FDP on Advanced Functional Materials: Energy, Environment & Sustainable Development" Organized by Department of Physics, SRM TRP Engineering College, Trichy on 28th – 9th March 2023.

LIST OF RESEARCH PUB LICATIONS I N INTERNATIONAL JOURNALS:

- Margaret, S.M., Paul Winston, A.J.P., Muthupandi, S., Shobha, P. and Sagayaraj, P., 2021. Enhanced Photocatalytic Degradation of Phenol Using Urchin-Like ZnO Microrod-Reduced Graphene Oxide Composite under Visible-Light Irradiation. *Journal of Nanomaterials*, 2021(1), p.5551148.
- Margaret, S.M., Paul Winston, A.J.P., Muthupandi, S., Shobha, P. and Sagayaraj, P., 2021. A comparative study of nanostructures of CuO/Cu₂O fabricated via potentiostatic and galvanostatic anodization. *Journal of Nanomaterials*, 2021(1), p.5533845.
- Joseph, S., Paul Winston, A.J.P., Muthupandi, S., Shobha, P., Margaret, S.M. and Sagayaraj, P., 2021. Performance of Natural Dye Extracted from Annatto, Black Plum, Turmeric, Red Spinach, and Cactus as Photosensitizers in TiO2NP/TiNT Composites for Solar Cell Applications. *Journal of Nanomaterials*, 2021(1), p.5540219.
- Shobha, P., Paul Winston, A.J.P., Sunil, S., David, T.M., Margaret, S.M., Muthupandi, S. and Sagayaraj, P., 2021. Facile Synthesis of rGO/Mn₃O₄ Composite for Efficient Photodegradation of Phenol under Visible Light. *Journal of Nanomaterials*, 2021(1), p.5576048.
- Shobha, P., Paul Winston, A.J.P., Margaret, S.M., Muthupandi, S. and Sagayaraj, P., 2023, May. Hydrothermal synthesis of reduced graphene oxide decorated Co₃O₄ nanocomposite as a high-performance supercapacitor material. In *AIP Conference Proceedings* (Vol. 2770, No. 1). AIP Publishing.
- Shobha, P., Winston, A.J.P.P., Sunil, S., David, T.M., Margaret, S.M., Muthupandi, S. and Sagayaraj, P., 2021. Research Article Facile Synthesis of rGO/Mn.
- Joseph, S., Paul Winston, A.J.P., Muthupandi, S., Shobha, P., Margaret, S.M. and Sagayaraj, P., 2021. Performance of Natural Dye Extracted from Annatto, Black Plum, Turmeric, Red Spinach, and Cactus as Photosensitizers in TiO₂NP/TiNT Composites for Solar Cell Applications. *Journal of Nanomaterials*, 2021(1), p.5540219.
- Antony, P., Sundaram, S.J., Mahesh, R., Margaret, S.M. and Sagayaraj, P., 2017. Synthesis, Structural and Optical Properties of an Organic Stilbazolium Single Crystal of 4-(4-Hydroxy Styryl)-1-Methylpyridinium 4-Styrene Sulfonate.

• Antony, P., Raj, A.A., Sundaram, S.J., Margaret, S.M., Dominique, S., Lawrence, N. and Sagayaraj, P., Growth and Characterization of a Novel Organic Stilbazolium Family Single Crystal: 4-(4-Methoxystyryl)-1-Methylpyridinium 4-Chlorobenzenesulfonate.

WORKSHOPS, WEBINARS AND SCIENCE TALKS PARTICIPATED:

- One day Webinar series on "Asteroid Bennu: A Glimpse into What Lies Beyond" Department of Physics, Loyola College, Chennai held on December 18th, 2023.
- One day Webinar series on "Brain inspired Computing- Non-Volatile Memories" Department of Physics, Loyola College, Chennai held on January 29th, 2024.

FACULTY DEVELOPMENT PROGRAMMES PARTICIPATED:

- Attended FDP on "Student-Centric Teaching Practices" jointly organized by JHL & FDC, St. Joseph's College (Autonomous), which is held on 27th -29th January, 2025.
- Attended FDP on "Research Funding Opportunities" organized by the Department of Physics, SRM TRP Engineering College, Tiruchirappalli held on 23rd June, 2023

DECLARATION

I do hereby declare that the particulars given above are true to the best of my Knowledge and belief.

Dr. S. Mary Margaret