Dr. M. SAPPANI MUTHU, M.Sc., B.Ed., Ph.D.,
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EDUCATIONAL QUALIFICATIONS: M.Sc., B.Ed. Ph.D. (PHYSICS)

S.No	Degree	Name of Institution	Board/University	Year of passing	Percentage
1	Ph.D.	St. Xavier's College (Autonomous), Palayamkottai	M.S. University, Tirunelveli.	2023	Highly Commended
2	M.Sc.	St. Xavier's College (Autonomous), Palayamkottai	M.S. University, Tirunelveli.	2019	73.00%
3	B.Ed.	St. Xavier's College of Education. (Autonomous), Palayamkottai	Tamil Nadu Teachers Education University, Chennai.	2017	78.00%
4	B.Sc.	St. Xavier's College (Autonomous), Palayamkottai	M.S. University, Tirunelveli.	2015	61.00%
5	H.S.C	St. John's Hr. Sec. School, Palayamkottai.	State Board	2012	66.00%
6	SSLC	Govt. Hr. Sec. School, Savalaperi.	State Board	2010	82.00%

PhD. TITLE:

"Preparation and characterization Studies of Nano Graphene Oxide/ Metal Oxide Nano Composite for Super capacitor Application"

FIELD OF RESEARCH:

My Major part of Current research activity involves the development of Nano-scale structured metal oxide based graphene composite material in supper capacitor application and Li-Ion batteries development high energy electrode.

- ❖ Super capacitor and Li-Ion Batteries development of high energy electrode preparation
- ❖ Energy conversion and storage based on Nano Material
- ❖ Material Science and Nano material Catalysis

TEACHING EXPERIENCES:

1. Worked as an Assistant Professor in Physics at St. Xavier's College (Autonomous), Palayamkottai from 23-11-2021 to 15-05-2023. Handling both UG and PG.

2. Worked as an Assistant Professor in Physics at Loyola College of Arts and Science, Mettala from 10-06-2023 to 30-07-2024. Handling UG.

3. Worked as an Assistant Professor in Physics at Infant Jesus college of Engineering, Thoothukudi. From 10-08-2024 to 14-06-2025. Handling UG.

4. Working as an Assistant Professor in Electronics at St. Joseph's College, (Autonomous), Trichy from 16-06-2025 to till date Handling both UG and PG.

Project Guidance

M.Sc.:05 M. Phil: Nil Ph. D: Nil

Number of Published in the Research Paper UGC & Elsevier, Scopus & web of Science Journals

Author name and year of Publication	Title of the Paper	Journal Name (Impact factor)	Volume(Issue) article number
Muthu, M. S., Ajith, P.M.Ambrose, S.A.Ravi,F.Patrick (2025**).**	Preparation and characterization studies of Nano Graphene Oxide/ Manganesh Oxide Nanocomposite suitable for supercapacitor application	Journal of Material Science and Material Electronics (3)	https://doi.org/:10.1007/s10854-025-14644-y **36**, 785 (2025).
Ambrose PM,, MS **Upadhya**,V **Sharon**, MS **Muthu** (2025**).**	Investigation on third-order nonlinear optical properties, XRD, FTIR,energygap,photoluminescence and scanning electron microscope of metal oxide/V2O5/SrTio3	Journal of Material Science and Material Electronics (3)	https://doi.org/:10.1007/s10854-025-15165-4 (2025)
Muthu, M. S., Ajith, P., Agnes, J., Selvakumar, M. S., Presheth, M., & Anand, D. P. (2023**).**	Hydrothermal synthesis and characterization studies of Nano Graphene Oxide/ Cobalt Oxide Nanocomposite suitable for supercapacitor application	Journal of Material Science and Material Electronics (3)	**https://doi.org/:10.1007/s10854-023-11085-3,** *34*(25), 1766.
Muthu, M.S, Ajith, P.,Agnes, J., Selvakumar, M. S., Presheth, M., & Anand, D. P. (2023).	Structural, Optical, Electrochemical Properties of Nano Graphene Oxide/ Nickel Oxide Nano composite suitable for supercapacitor application	Materials Today Proceeding (4.6)	https://doi.org/10.1016/j.matpr.2023.05.61 ,
Muthu, M. S., Ajith, P., Agnes, J., Selvakumar, M. S., Presheth, M., & Anand, D. P. (2023).	Hydrothermal synthesis and characterization studies of nano graphene oxide / copper oxide (cuo) nanocomposites suitable for supercapacitor applications	Rasayan Journal of Chemistry (4.2)	http://doi.org/10.31788/RJC.2023.1618190 Vol.16, 2023.
Ajith, P., Agnes, J., **Muthu, M. S.,** & Selvakumar, M. S (2022).	Optical, and electrochemical performance of selenium decorated reduced graphene oxide assisted (CoSe2) nanoparticles for oxygen reduction reaction	Materials Today: Proceedings (4.6)	https://doi.org/10.1016/j.matpr.2022.05.287
Agnes, J**., Muthu, M. S.,** Ajith, P., Selvakumar, M. S., Presheth, M., & Anand, D. P. (2023)	Preparation and Characterization of Chitosan-Encapsulated Cobalt Oxide Nanoparticles Modified with Folic Acid	Journal of Inorganic and Organ metallic Polymers and Materials (6)	https://doi.org/10.1007/s10904-022-02521-8
Agnes, J., Ajith, P., **Muthu, M.S,** Prem Anand, D., Maria Packiam, S., & Balthazar, J. D. (2023**)**	Preparation and characterization studies of chitosan encapsulated ZnO nanoparticles modified with folic acid and their antibacterial activity against selected bacterial species.	Particulate Science and technology (6.2)	https://doi.org/10.1080/02726351.2022.2145587

Muthu, M. S., Agnes, J., Ajith, P., & Anand, (2022)	One pot synthesis, Structural, morphological, Optical Properties ofGraphene Oxid/ NiO Nano compositesuitable or super capacitor Applications	Journal of YMER(2.5)	ISSN: 0044-0477, Vol: 21, ISSUE:11, 202,pp-2931-2941
Ajith, P., Agnes, J., **Muthu, M. S., &** Anand, D. P. (2022).	Solvothermal synthesis and characterization studies of selenium decorated reduced graphene oxide supported $CuSe_2$ nanoparticles as efficient electrochemical catalyst for oxygen reduction reaction	Indian Journal of Chemical Technology (6)	ISSN: 0975-0991Vol.28. pp.558-667, 2022
Muthu, M. S., Ajith, P., Agnes, J., Kesh, A., Sahu, A. K., Xavier, S. S. J., & Anand, D. P.	Preparation and characterization studies of Mn_3O_4 Nanoparticles/Graphene sheet composites	Journal of Xi'an ShiyouUniversity, Natural Science Edition (4)	ISSN: 1673-064x, Vol,17, Issue 12, pp, 404-413, 2021
Muthu, M. S., Rejith, S. G., Ajith, P., Agnes, J., & Anand, D. P. (2022).	Antibacterial activity of Copper oxide Nano particles against gram positive and negative bacterial strain synthesized by precipitation Technique	international journal of zoology and applied biosciences (4.5)	https://doi.org/10.55126/ijzab.2022.v07.i01.004,, pp-17-22, 2022
Muthu, M. S., Ajith, P., Agnes, J., Ramkumar, R., Raja, P., & Anand, D. P. (2022).	Synthesis, characterizations Antibacterial Studies of Chromiumtrioxide Nanoparticles	International Journal for Modern Trends in Science and Technology (3.5)	https://doi.org/10.46501/IJMTST0801044, ISSN: 2455-3778, pp-252-258, 2022
Muthu, M. S., Ajith, P., Agnes, J., Kesh, A., Sahu, A. K., Xavier, S. S. J., & Anand, D. P	preparation and Characterization studies of Graphene Oxide And its Antimicrobial activity	Wutan Huatan JisusanJishu (2)	IISN: 1001-1749, PP-36-44, 2022
Agnes, J., **Muthu, M.S** Ajith, P., & Premanand, D. (2022**).**	Synthesis and Characterization studies of Mesostructured Chitosan coatedCuO Nanoparticles with Folic Acid	Journal of Xi'an Shiyou University Natural Science Edition (4)	ISSN: 1673-064x, Vol,17, Issue 12, pp, 274-285, 2022
Ajith, P., Agnes, J., **Muthu, M. S.,** & Selvakumar, M. S. (2022**)**	Synthesis and Characterization Studiesof Selenium Decorated Reduced Graphene Oxide AssistedCobalt Acetate($Co(AC_2)4H_2O$) Nanoparticles	Journal of Xi'an ShiyouUniversity, NaturalScience Edition (4)	ISSN: 1673-064x, Vol,17, Issue 14, pp, 11-40, 2021
Ajith, P., Agnes, J., **Muthu, M. S.,** Rajkumar, M. A., & Anand, D. P. (2021).	Synthesis and Characterization Studiesof Pure ZnO and Bentonite Doped ZnONanocrystals	International Journal of Emerging and innovative Research (4.2)	ISSN: 2349-5162, vol 8, issue-9, pp,784-794, 2021
Agnes, J. **Muthu, M.S**, Ajith, P., & Premanand, D. (2022).	Synthesis and Characterization Studiesof Mesostructured Chitosan Coated Fe_3O_4 Nanoparticles with Folic Aci	International Journal of Engineering Advanced Technology (5)	https://doi.org/10.21203/rs.3.rs-1262551/ Vol-11 Issue-4. Pp.135-141. 2021.

Muthu, M.S, Ajith, P., Agnes, J., Selvakumar, M. S., Presheth, M., & Anand, D. P. (2023).	Structural, Optical, Electrochemicalproperties of Nano Graphene Oxide/NiO Nano composite suitablefor super capacitor applications	International Journal of Physics and Research (IJPR) (4.8)	https://doi.org/10.1016/j.matpr.2023.05.615, ISSN: 2250-0030, Vol. 13, pp.1-13

Number of Presented Research Paper National and International Conferences:

1. Presented Paper entitled **"Dielectric properties of Nano graphene oxide/ Copper Oxide Nanocomposite materials**" international Conference cum workshop on the techniques of nanomaterials and fuel cells. (ICWNF-2025). Organized by Department of Physics, St. Xavier's College (Autonomous) Palayamkottai, held on 18,19st February 2025.
2. Presented Paper entitled **"Structural, Optical, Electrochemical Properties of Nano Graphene Oxide/ Nickel Oxide Nanocomposite suitable for super capacitor application"** international Conference on Recent Advancement in Materials science and Nuclear Energy Research (ICRAMNR-2024) in Association with Indian Crystal Growth(IACG). (ICWNF-2025). Organized by Department of Physics, Govt.Arts and Science College Thoothukudi, held on 16st February 2024.
3. Presented Paper entitled **"Dielectric properties of Nano graphene oxide/ Manganese Oxide Nanocomposite materials**" international Conference on Recent Trents in Materials Science (ICRTMS-2023).Organized by Department of physics Kristujayanti college. Bengaluru.
4. Presented a paper entitled **"Preparation and characterization studies of silica Tin Nanospheres from indian rice Husk for suitable Photocatalytic application"** International conference on Advanced Technologies in chemical construction and mechanical sciences (ICATHOME 2023). Organized by KPR Institute of engineering and technology Coimbatore, Tamilnadu.
5. Presented a research paper entitled. **"Preparation and characterization studies of nano graphene oxide"** International conference in "recent advances in engineering materials (ICRAEM 2022. Organized by Avva's institute of engineering & technology, Karnataka-03-05 march-22.
6. Presented a research paper entitled**. "Optical, and electrochemical performance of selenium decorated reduced graphene oxide assisted (CoSe2) nanoparticles for oxygen reduction reaction"**. International conference in "recent advances in engineering materials (ICRAEM 2022) Organized by Avva's institute of engineering & technology, Karnataka-03-05 march-22.
7. Presented paper entitled **"Optical, Thermal, Electrochemical, Properties of Nano Graphene Oxide/ Nickel Oxide nanocompsoite suitable for supercapacitor applications".** Fourth

International Conference on Recent Advances in Materials and Manufacturing (ICRAMM-2022). Organized by department of mechanical engineering and technology, Erode,Tamilnadu.

8. Presented a paper entitled **"Synthesis and Characterization Studies of Copper Oxide Nanoparticles by Co-Precipitation Method"** at One day International Conference on Emerging Materials and its Applications (ICEMA 2022), Organized by Department of Physics, St. Xavier's College (Autonomous) Palayamkottai, held on 1st March 2022.
9. Presented a paper entitled **"Structural, electrochemical properties of nanographene oxide/ NiO nano composite suitable for supercapacitor application"** at One day International Conference on Impact of science , Engineering and technology advancement Sciences.(ICIETS 2022), Organized by Department of Physics, Trans stellar research consulting Chennai. November 19, 2022.
10. Presented a paper entitled **"Synthesis and Biomedical application of CuO nanoparticles-antimicrobial activity."** Two days national Conference on Recent trends in Materials Science and Technology" (NCMST 2019), organized by Department of Chemistry, Indian Institute of Space Science and Technology. Kerala held on December 18-20. 2019.