

Name : Dr. S. ALWIN
Designation : Assistant Professor
Department : Chemistry
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EDUCATIONAL QUALIFICATIONS

Degree	Subject	College/University	Year
Ph.D	Science	Anna University, Chennai	2018
M.Sc	Chemistry	The American College, Madurai	2006
B.Sc	Chemistry	St. Xavier's College, Palayamkottai	2004

EXPERIENCE (TEACHING& RESEARCH)

Institution	Position	Period	Nature of work
VSB Engineering College, Karur	Assistant Professor	June 2019 – October 2020	Teaching
Sri Shakthi Institute of Engineering and Technology, Coimbatore	Assistant Professor	June 2017 – Dec. 2017	Teaching
PSN College of Engineering and Technology, Tirunelveli	Senior Research Fellow	June 2013 – March 2017	Research
CECRI-Madras Unit	Project Fellow	Feb. 2008 – March 2013	Research

Specialisation in Teaching: Organic Chemistry

Research Interest:

- Fuel Cells
- Dye-Sensitized Solar Cells
- Energy Materials

Fellowship:

- Junior Research Fellow-Board of Research in Nuclear Sciences(DAE)
- Senior Research Fellow- Board of Research in Nuclear Sciences(DAE)

PROJECTS WORKED ON

1. DAE-BRNS Project : June 2013 – March 2017

Project Title : Fabrication of solid state dye sensitized solar cells (DSSCs) based on plasma surface modified titania aerogels

2. CSIR-New Millenium Indian Technology Leadership Initiative (NMITLI) – April 2012 to March 2013

Project Title : Development and demonstration of polymer electrolyte fuel cell stacks for stationary Applications

3. CSIR-Net Work Project (NWP) – August 2010 to March 2012

Project Title : Hydrogen energy initiative overcoming material challenges for the generation storage and conversion of hydrogen using fuel cells

4. CSIR-Supra Institutional Project (SIP) - February 2008 to August 2010

Project Title : Energy for cleaner and greener environment

ARTICLES PUBLISHED IN INTERNATIONAL JOURNALS

1. **S Alwin**, X Sahaya Shajan, Aerogels: promising nanostructured materials for energy conversion and storage applications, *Materials for Renewable and Sustainable Energy* (2020) 9:7. **(IF:2.98)**
2. R.J. Swikker, K.H. Kanagasabapathy, I. Neethi Manickam, N. Vijay Ponraj, **S. Alwin**, Effect of sintering temperature on grain growth and mechanical properties of Copper/Graphene nanosheet composite, *Diamond and Related Materials* (2020) 110, 108111. **(IF:3.31)**
3. **S Alwin**, V Ramasubbu, X Sahaya Shajan, TiO₂ aerogel-metal organic framework nanocomposite: a new class of photoanode material for dye-sensitized solar cell applications, *Bulletin of Materials Science* (2018) 41:27. **(IF:1.78)**
4. G. Sahaya Dennish Babu, X. Sahaya Shajan, **S. Alwin**, V. Ramasubbu & Gopal M. Balerao, Effect of Reaction Period on Stoichiometry, Phase Purity and Morphology of Hydrothermally Synthesized Cu₂NiSnS₄ Nanopowder, *Journal of Electronic Materials* (2017) 1-11. **(IF:1.93)**

5. **S Alwin**, X Sahaya Shajan, K Karuppasamy, K.G.K. Warriar, Microwave assisted synthesis of high surface area TiO₂ aerogels: A competent photoanode material for quasisolid dye-sensitized solar cells, *Materials Chemistry and Physics*, 196 (2017) 37-44. **(IF:4.09)**
6. V. Ramasubbu, **S. Alwin**, E.M. Mothi, X. Sahaya Shajan, "TiO₂ aerogel–Cu-BTC metal-organic framework composites for enhanced photon absorption" *Materials letters*, 197 (2017) 236–240. **(IF:3.4)**
7. **S Alwin**, X Sahaya Shajan, "Facile synthesis of 3-D nanostructured zinc oxide aerogel and its application as photoanode material for dye-sensitized solar cells" *Surfaces and Interfaces* 7 (2017) 14–19. **(IF:4.83)**
8. **S Alwin**, X Sahaya Shajan, Ranjini Menon, P.Y Nabhiraj, P.V Ananthapadmanabhan, "Plasma treated TiO₂ aerogel nanostructures as photoanode material and its influence on the performance of quasi-solid dye-sensitized solar cells" *Materials Research Bulletin* 86 (2017) 201–208. **(IF:4.64)**
9. **S Alwin**, X. Sahaya Shajan, Ranjini Menon, P.Y. Nabhiraj, K.G.K. Warriar, G. Mohan Rao, "Surface modification of titania aerogel films by oxygen plasma treatment for enhanced dye adsorption" *Thin Solid Films* 595 (2015) 164–170. **(IF:2.18)**
10. Karuppasamy K, Antony R, **Alwin S**, Balakumar S, Sahaya Shajan X, A Review on PEO based Solid Polymer Electrolytes (SPEs) complexed with LiX (X=Tf, BOB) for Rechargeable Lithium Ion Batteries, *Materials Science Forum*, Vol. 807 (2015) pp 41-63. **(IF: 0.35)**
11. S.Meenakshi, S.D.Bhat, A.K.Sahu, **S Alwin**, P.Sridhar, S.Pitchumani, "Natural and synthetic solid polymer hybrid dual network membranes as electrolytes for direct methanol fuel cells" *Journal of Solid State Electrochemistry*, 16 (2012) 1709-1721. **(IF:2.64)**
12. **S.Alwin**, S.D.Bhat, A.K.Sahu, A.Jalajakshi, P.Sridhar, S.Pitchumani, A.K.Shukla, "Modified pore-filled PVDF membrane electrolytes for direct methanol fuel cells" *Journal of the Electrochemical Society*, 158 (2011) B91-B98. **(IF:4.31)**

CONFERENCES

- Attended an international webinar-IV 2021 organized by the Department of Chemistry, The American College, Madurai on 14.08.2021.
- Organized an international webinar-III 2021 at the Department of Chemistry, The American College, Madurai on 28.06.2021 as Co-convenor
- Presented a poster in the “International Conference on Functional Materials (ICFM-2016)” organized by PSN College of Engineering and Technology, Tirunelveli.
- Presented a poster in the “International Conference on Nanomaterials for Energy, Environment, Catalysis and Sensors (ICNEECS-15)” organized by Madurai Kamaraj University.
- Participated in the “National Conference on Materials Science and Technology (NCMST-2015)” organized by IIST, Thiruvananthapuram.
- Presented a poster in the “National Conference on Materials Science and Technology (NCMST-2014)” organized by IIST, Thiruvananthapuram.
- Presented a paper in the “International Conference on Advanced Functional Materials (ICAFM-2014)” at Thiruvananthapuram Organized by CSIR-NIIST.
- Presented a poster in the “9th International Symposium on Advances in Electrochemical Science and Technology (ISAEST-9)” at Hotel Green Park, Chennai
- Participated in the “6th Asian Conference on Electrochemical Power Sources (ACEPS – 6) organized by IISc, Bangalore and CECRI, Karaikudi at Chennai.

WORKSHOP/TRAINING

- ❖ Attended a “Hands-on-Training workshop” on NANOABRICATION TECHNOLOGIES OF PHOTOVOLTAICS conducted by **Center for Nano Science and Engineering (CeNSE), Indian Institute of Science (IISc)**, Bangalore in CLEAN ROOM FACILITY between 3 -12 February 2015.
- ❖ Trained to fabricate catalyst coated membranes (CCM) by Decal Transfer Method for proton exchange membrane (PEM) fuel cells in **Physical and Materials Chemistry Division, National Chemical Laboratory**, Pune between 17 - 27 August 2011.