



Sri SAI RAM INSTITUTE OF TECHNOLOGY

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DEPARTMENT OF CHEMISTRY



Name : **Dr. S. Neelakandan**
Designation : **ASSOCIATE PROFESSOR**
Email : **neelakandan.chem@sairamit.edu.in**
Qualification : **M.Sc,M.Phil.,Ph.D., Post- Doc (China)**
Specialization : **Chemistry**
Research Interest : **Polymer electrolytes for energy applications**

Experience in years : **Teaching UG** **PG** **Industry**

No. of Workshop/Conferences/
FDP attended : **Workshop** **Conferences** **FDP**

No. of Workshop/Conferences/
FDP Organized : **Workshop** **Conferences** **FDP**

Professional Membership	
Publications	National :
	International:24
	Book :
Research Funded Projects	-
Patents	-

Achievements	<ul style="list-style-type: none"> ❖ Visiting Scholar at Southern University of Science and Technology (SUSTech), PR China, (2019 -2020) ❖ Shenzhen University Postdoctoral fellowship (2017-2019). ❖ Obtained university third Rank in MPhil at Alagappa university.
Any Other Information	-

List of Publications:-

1. **S. Neelakandan**, Li Wang, Meishao Hu; Lei Wang et al, Branched polymer materials as proton exchange membranes for fuel cell applications, **Polymer Reviews**, 2021, 3: 1-35, **Impact factor: 14.536**
2. **S. Neelakandan**, Dong Liu, Li Wang, Meishao Hu; Lei Wang, Highly branched poly(arylene ether)/surface fictionalized fullerene based composite membrane electrolyte for DMFC applications- “**International Journal of Energy Research**” 43(8), 2019: 3756-3767, **Impact factor: 4.672**
3. **S. Neelakandan**, Ramachandran, R., Fang, M. and Wang, L., 2020. Improving the performance of sulfonated polymer membrane by using sulfonic acid functionalized hetero-metallic metal-organic framework for DMFC applications. **International Journal of Energy Research**, 44(3), 2020; 1673-1684. **Impact factor: 4.672**
4. **S. Neelakandan**, A. Muthumeenal, D. Rana, N.J. Kaleekkal, A. Nagendran, Sulfonated poly(phenylene ether ether sulfone) membrane tailored with layer-by-layer self-assembly of poly(diallyldimethylammonium chloride) and phosphotungstic acid for DMFC applications. **Journal of Applied Polymer Science**, 136 (16), 2019: 47344, **Impact factor: 3.057**
5. **S. Neelakandan**, P. Kanagaraj, A. Nagendran, D. Rana, T. Matsuura, A. Muthumeenal. Enhancing proton conduction of sulfonated poly (phenylene ether ether sulfone) membrane by charged surface modifying macromolecules for H₂/O₂ fuel cells. **Renewable Energy** 78 (2015) 306-313. **Impact factor: 8.634**
6. **S. Neelakandan**, P. Kanagaraj, RM. Sabarathinam, A. Nagendran. Polypyrrole layered SPEES/TPA proton exchange membrane for direct methanol fuel cells. **Applied Surface Science** 359 (2015) 272-279. **Impact factor: 7.392**
7. **S. Neelakandan**, N.J. Kaleekkal, P. Kanagaraj, RM. Sabarathinam, A. Muthumeenal, A. Nagendran. Effect of sulfonated graphene oxide on the performance enhancement of acid-base composite membranes for direct methanol fuel cells. **RSC Advances** 6 (2016) 51599-51608. **Impact factor: 4.036**
8. **S. Neelakandan**, D. Rana, T. Matsuura, A. Muthumeenal, P. Kanagaraj, A. Nagendran. Fabrication and electrochemical properties of surface modified sulfonated poly (vinylidene fluoride-co-hexafluoropropylene) membranes for DMFC application. **Solid State Ionics** 268 (2014) 35-41, **Impact factor: 3.699**
9. **S. Neelakandan**, P. Kanagaraj, RM. Sabarathinam, A. Muthumeenal, A. Nagendran. SPEES/PEI-based highly selective polymer electrolyte membranes for DMFC

application. [Journal of Solid State Electrochemistry](#) 19 (6) (2015) 1755-1764. **Impact factor: 2.747**

10. M. Hu, J. Ni, B. Zhang, **S. Neelakandan**, L. Wang, Crosslinked polybenzimidazoles containing branching structure as membrane materials with excellent cell performance and durability for fuel cell applications. [Journal of Power Sources](#) 389 (2018) 222-229. **Impact factor: 9.794**
11. Hu, M., Li, T., **Neelakandan, S.**, Wang, L., & Chen, Y. (2020). Cross-linked polybenzimidazoles containing hyperbranched cross-linkers and quaternary ammoniums as high-temperature proton exchange membranes: Enhanced stability and conductivity. [Journal of Membrane Science](#), 593, 117435. **Impact factor: 10.53**
12. H. Li, B. Zhang, W. Liu, B. Lin, Q. Ou, H. Wang, M. Fang, D. Liu, **S. Neelakandan**, L. Wang, Effects of an electrospun fluorinated poly(ether ether ketone) separator on the enhanced safety and electrochemical properties of lithium ion batteries. [Electrochimica Acta](#) 290 (2018) 150-164. **Impact factor: 7.336**
13. Fang, M., Liu, D., **Neelakandan, S.**, Xu, M., Liu, D., & Wang, L. (2019). Side-chain effects on the properties of highly branched imidazolium-functionalized copolymer anion exchange membranes. [Applied Surface Science](#), 493, 1306-1316. **Impact factor: 7.392**
14. A. Muthumeenal, **S. Neelakandan**, P. Kanagaraj, A. Nagendran. Synthesis and properties of novel proton exchange membranes based on sulfonated polyethersulfone and N-phthaloyl chitosan blends for DMFC applications. [Renewable Energy](#) 86 (2016) 922-929, **Impact factor: 8.634**
15. A. Muthumeenal, **S. Neelakandan**, D. Rana, T. Matsuura, P. Kanagaraj, A. Nagendran. Sulfonated Polyethersulfone (SPES)-Charged Surface Modifying Macromolecules (cSMMs) Blends as a Cation Selective Membrane for Fuel Cells. [Fuel Cells](#) 14 (6) (2014) 853-861. **Impact factor: 2.934**
16. A. Uma Devi, **S. Neelakandan**, A. Nagendran, Highly selective sulfonated poly (vinylidene fluoride-cohexafluoropropylene)/poly (ether sulfone) blend proton exchange membranes for direct methanol fuel cells. [Journal of Applied Polymer Science](#) 133 (36) 2016. **Impact factor: 3.057**
17. P. Kanagaraj, **S. Neelakandan**, A. Nagendran, Preparation, characterization and performance of cellulose acetate ultrafiltration membranes modified by charged surface modifying macromolecule, [Korean Journal of Chemical Engineering](#) 31(2014) 1057-1064. **Impact factor: 3.146**
18. P. Kanagaraj, **S. Neelakandan** and A. Nagendran, Poly (ether imide) membranes modified with charged surface modifying macromolecule-Its performance characteristics as ultrafiltration membranes. [Journal of Applied Polymer Science](#) 131 (2014) 40320. **Impact factor: 3.057**
19. P. Kanagaraj, A. Nagendran, D. Rana, T. Matsuura and **S. Neelakandan**, Separation of macromolecular proteins and rejection of toxic heavy metal ions by PEI/cSMM blend UF membranes. [International Journal of Biological Macromolecules](#) 72 (2015) 223-229. **Impact factor: 8.2**
20. P. Kanagaraj, A. Nagendran, D. Rana, T. Matsuura, **S. Neelakandan**, T. Karthikkumar, A. Muthumeenal. Influence of N-phthaloyl chitosan on poly (ether imide) ultrafiltration membranes and its application in biomolecules and toxic heavy metal ion separation and their antifouling properties. [Applied Surface Science](#) 329 (2015) 165-173. **Impact factor: 7.392**

21. P. Kanagaraj, **S. Neelakandan**, A. Nagendran, D. Rana, T. Matsuura, A. Muthumeenal. Performance studies of PEI/SPEI blend ultra-filtration membranes via surface modification using cSMM additives. **RSC Advances** 5 (35) (2015) 27594-27602. **Impact factor: 4.036**
22. P. Kanagaraj, A. Nagendran, D. Rana, T. Matsuura, **S. Neelakandan**, K. Malarvizhi. Effects of Poly (Vinyl Pyrrolidone) on the Permeation and Fouling-Resistance Properties of Poly (Ether Imide) Ultra-Filtration Membranes. **Industrial & Engineering Chemistry Research** 54 (2015) 4832-4838. **Impact factor: 4.2**
23. P. Kanagaraj, A. Nagendran, D. Rana, T. Matsuura, **S. Neelakandan**, R. Revathi, N. Pandiyarajan. Performances of poly (vinylidene fluoride-co-hexafluoropropylene) ultrafiltration membranes modified with poly (vinyl pyrrolidone). **Polymer Engineering & Science** 55 (11) (2015) 2482-2492. **Impact factor: 2.573**
24. P. Kanagaraj, **S. Neelakandan**, A. Nagendran, D. Rana, T. Maturra, M. Shalini. Removal of BSA and HA Contaminants from Aqueous Solution Using Amphiphilic Tri-block Copolymer Modified Polyetherimide UF Membrane and Their Fouling Behaviors. **Industrial & Engineering Chemistry Research** 54 (2015) 11628-11634. **Impact factor: 4.2**

Workshop/Conferences/ FDP attended

FDP

1. **Essential industrial chemistry for engineers** Conducted by Applied Science Department from 05/09/2022 to 09/09/2022 (One Week) at Sathyabama Institute of Science and Technology, deemed to be University, Chennai (Tamil Nadu)
2. **Recent research in Material Physics, Conducted by Department of Physics and IQAC** from 21/11/2022 to 25/11/2022, at Rajapalayam Raju's College.
3. **2D Nanomaterials: Potential & Applications through ICT**, conducted by Applied Science Department from 17.10.2022 to 21.10.2022 (One Week) at Sathyabama Institute of Science and Technology (Deemed to be University), Chennai (Tamil Nadu)
4. **Spectroscopy and chromatographic Techniques**, Conducted by Shri Vaishnav institute of Science from 24/04/2023 to 28/04/2023 at Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indoor

Workshop and conferences

1. **S. Neelakandan**, K. Malaivizhi, A. Nagendran. Preparation, characterization and performance of Cellulose acetate/Pvdf-Hfp blend ultrafiltration membranes. "International Conference on Recent advances in textile and electrochemical sciences-2013" (RATES-2013), 21-23 March, Karaikudi, India.
2. **S. Neelakandan**, A. Nagendran. Poly (ether sulfone)/sulfonated poly (ether imide) blend UF membranes: Preparation, characterization, performance and anti-fouling properties, National seminar on "Advances in membrane process & materials" (AMPM-13), 6th April-2013, Baroda, India.
3. **S. Neelakandan**, A. Nagendran. Development of surface-modified PEM blends on SPEES/cSMM for H₂/O₂ fuel cell application. National conference on "Emerging

trends in electrochemical engineering, science and technology” (NCE-18), 23-24 July 2014, Madurai, India.

4. **S. Neelakandan**, M. Kavitha rani, A. Nagendran, Polymer electrolyte based on sulfonated poly(1,4-phenylene ether ether sulfone)/cSMM for H₂/O₂ application. National seminar “Frontier areas in chemical technologies-2015” (FACTs-2015), 6-7 March 2015, Karaikudi, India.
5. **S. Neelakandan**, A. Nagendran. Effect of PPy layer on SPEES/HPA composite membranes for DMFC application. International conference on “Membrane-based separations” (MEMSEP 2015), 21-23 March 2015, Baroda, India.