



# SRM Valliammai Engineering College


(An Autonomous Institution)

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## Department of Physics

### Personal Details

Name :	Dr. S.Gandhimathi		
Designation :	Assistant Professor (Sr.G)		
Educational Qualification :	M.Sc.,M.Phil., Ph.D.		
Experience:	14 years ,5 months		
Area of Specialization :	Fuel Cells , Polymer Nanocomposites		
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### Educational Details

S.No	Degree	Branch/ Specialization	Institution / University	Year
1	B.Sc.,	Physics	Sarah Tucker College, Manonmaniam Sundaranar University	2005
2	M.Sc.,	Physics	Sarah Tucker College, Manonmaniam Sundaranar University	2007
3	M.Phil	Physics	PRIST University, Tanjore.	2009
4	Ph.D	Physics	Anna University	2020

### Professional Society Memberships

1. Indian Science Congress Association
2. Indian Association of Crystal Growth
3. Indian Society for Technical Education

## Publication Details

### Conference/Workshop:

1. Participated Two days workshop on 'The principles and applications of analytical instruments for bioanalysis' during 18-19 December 2014 at SRM Institute of Science and Technology, Kattankulathur Campus.
2. Attended a 'National Conference on the Recent Trends in Physics of Materials [NCRTPM-2015] on 28 February 2015 at Post Graduate and Research, Department of Physics, Pachaiyappas College, Chennai.
3. Participated INUP Familiarization Workshop on 'Nanofabrication Technologies' during 25-27 May 2016 at Indian Institute of Technology (IIT) Bombay.
4. Presented a paper on the 'Proton conducting high performance polymer electrolyte membranes for fuel cell applications' during 27-28 July 2016 at C.Abdul Hakeem College of Engineering & Technology, Melvisharam, Vellore, TamilNadu.
5. Presented a paper on 'Sulfonated Poly(ether sulfone) and heteropoly acid composite membrane for fuel cell applications' 6<sup>th</sup> National Conference on Hierarchically Structured Materials' during 16-17 February 2018 held at SRM Institute of Science and Technology, Ramapuram Campus, Chennai and won the Best Poster presentation award.
6. Presented a paper on 'Novel materials for high efficiency polymer nanocomposite membrane' in the '2<sup>nd</sup> International Conference on Advances in New Materials' (ICAN 2018) during 8-9 June 2018 organized by Department of Inorganic Chemistry, University of Madras, Chennai.
7. Presented a paper on "Novel proton exchange polymer nanocomposite membranes for fuel cell applications" in National Conference on 'Recent Advances in Chemistry' (RAC-19) during 4-5 January 2019, organized by Department of Chemistry, Anna University, Guindy Campus, Chennai.
8. Presented the paper entitled "Unprecedented SPEEK -Tri metal oxide composites: Physicochemical and electrochemical performance" in the International Conference on Nanoscience and Nanotechnology (ICONN 2021), organized by Department of Physics and Nanotechnology, SRM Institute of Science and Technology, Kattankulathur Feb 1-3 ,2021.

### Publications:

1. "Development of proton exchange polymer nanocomposite membranes for fuel cell applications" in *Polymers and Polymer Composites* , **S.Gandhimathi**, H. Krishnan, & D. Paradesi, vol.28 (7), pp.492-501,2020.
2. "New series of organic–inorganic polymer nanocomposite membranes for fuel cell applications" in *High Performance Polymers* , **S.Gandhimathi**, H. Krishnan, D. Paradesi, , vol. 32(3), pp.296-305, 2020.
3. "Energy Material - The role of silicotungstic acid and fly ash in sulfonated poly (ether sulfone) composites for PEMFC applications," in *Journal of Macromolecular Science, Part A Pure and Applied Chemistry*, D.

- Paradesi, **S. Gandhimathi**, H. Krishnan, B. Baskar and Senthil Andavan GT, vol.56 (2) , pp. 146-152,2019.
4. “A novel proton conducting polymer electrolyte membrane for fuel cell applications”, in *High Performance Polymers*, **Paradesi D, Gandhimathi S**, Krishnan H, Jeyalakshmi R, vol.30(1), pp.116-125,2018.
  5. “High Performance SPEEK/SWCNT/fly ash Polymer Electrolyte Nanocomposite membranes for Fuel Cell Applications” in *polymer journal* , **Gandhimathi S**, Krishnan H, Paradesi D and Jeyalakshmi R, vol.49,pp.703-709,2017
  6. “Sulfonated Poly (Ether Ether Ketone) / Barium Strontium Titanium Oxide Polymer Nanocomposite Membranes for Fuel Cell Applications” in *Polymer-Plastics Technology and Materials*, Berlina Maria Mahimai, Poonkuzhali Kulasekaran , **Gandhimathi Sivasubramanian** & Paradesi Deivanayagam., 2020, 59 (16), 1791-1800.
  7. “Sulfonated Poly(Vinyl Alcohol) / Fly Ash Composite Membranes for Polymer Electrolyte Membrane Fuel Cell Applications” in *Polymer-Plastics Technology and Materials*, Gugan Punniakotti, **Gandhimathi Sivasubramanian**, Senthil Andavan Gurusamy Thangavelu, Paradesi Deivanayagam, , 2020, DOI: 10.1080/25740881.2020.1850782.
  8. “Unprecedented sulphonated poly(ether ether ketone) bismuth cobalt zinc oxide composites: physicochemical and electrochemical performance in fuel cell” in *Journal of Materials Science: Materials in Electronics* , **Gandhimathi Sivasubramanian**, Senthil Andavan Gurusamy Thangavelu, Berlina Maria Mahimai, Krishnan Hariharasubramanian, and Paradesi Deivanayagam.
  9. “Sulfonated polystyrene-*block*-poly(ethylene-ran-butylene )-*block*-polystyrene based membranes containing CuO@g-C<sub>3</sub>N<sub>4</sub> embedded with 2,4,6-triphenylpyrylium tetrafluoroborate for fuel cell applications” Berlina Maria Mahimai, **Gandhimathi Sivasubramanian**, **poonkuzhali kulasekaran** , and Paradesi Deivanayagam.