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Designation : Senior Scientist

Qualification : Ph.D.



Research areas of interest: Hydrogen technologies, PEMFC, DMFC, Polymer electrolyte membranes, Hydrogen generation, Regerative fuel cells, Electrochemical Carbon dioxide conversion, Hydrogen purification, Metal-Air batteries

Publications

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- 47. "Studies on development of Polymer Electrolyte Membrane (PEM) based Electrochemical hydrogen purification Process" N.Manjula, R. Balaji, K.**Ramya**, N.Rajalakshmi a poster presentation at International Conference on Advances in Chemical Sciences and Technologies (ACST-2019) at NIT Warangal (23-25th Sep 2019)

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- 49. Hydrogen Production by Electrochemical Methanol Reformation using Alkaline anion exchange membrane based cell, Majula N, Balaji R, **Ramya** K and Rajalakshmi N, at Advanced Energy Materisl, University of Surrey, England, Sept 10-12 2018, UK
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- 63. Polymer Electrolyte Membrane based Humidity Sensors for Fuel Cells, Ranjani L S & Ramya K, National Symposium on Electrochemical Science and Technology (NSEST 2011) conducted by Electrochemical Society (ECS), Indian Institute of Science Bengaluru, India
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- 71. Electrochemical properties of as produced and copper encapsulated TiMn2 alloy electrodes in alkaline solution, **K.Ramya**, N.Rajalakshmi, P.Sridhar and B.Sivasankar, Paper presented at the National Symposium on Electrochemical Science and Technology, NSEST-2001, July 20-21 hels at I.I.Sc, Bangalore, India

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Invited Lectures

- 75. PEMFC Trends and Technology, K.**Ramya** at the Faculty development program on Non-conventional Energy Sources: Technologies and Trends(Virtual) organized by Government Engineering College, Kozhikode ,26-31 July 2021
- 76. Fuel Cells Materials and Technology, K.**Ramya** at the Faculty development program organized by NIT Rourkela, 21-25 June 2021
- 77. "Polymer-assisted fabrication of inorganic nanoparticles for electrochemical devices", K.**Ramya** at the 12th International conference on Advancements in Polymeric materials, Mar 9-13,2021, Organized by CIPET: SARP-LARPM, Bhubaneswar.
- 78. "PEMFC development for hybrid electric vehicle" at the International Virtual Conference on "Electric Mobility 2020" organized by TIFAC-CORE centre of VIT, Vellore on June 25, 2020.
- 79. Ordered support materials and catalysts for oxygen reduction reaction in electrochemical systems, K.**Ramya** and N.Rajalakshmi at 7th National conference on hierarchically structured materials (NCHSM 2019), 22 & 23 Feb at SRM IST, Ramapuram, Chennai 600089
- 80. Synthesis, characterization and applications of quarternized poly(phenylene oxide) based anion exchange membranes, K.Ramya and N.Rajalakshmi

- International conference on Advancements in Polymeric materials, Jan 22-23, 2019, Organized by CIPETat Chennai
- 81. Thermal management of Fuel Cells, K.Ramya, Faculty development Program on "Recent Advances in renewable Energy Technologied for Sustainable development" at Department of Mechanical Engineering, SRM Institute of Science and Technology, Chennai, 26-30 Nov 2018.
- 82. HTPEMFC stack development and analysis using AC impedance spectroscopy, K.Ramya and K.S.Dhathathreyan, International conference on Advancements in Polymeric materials, Feb 12-14,2016, Organized by CIPETat Ahmedabad.
- 83. Polymer Electrolyte Membrane Based Electrochemical Conversion of Carbon Dioxide from Aqueous Solutions, P. Suresh, K. Ramya*, K. S. Dhathathreyan, Fourth International Conference on Natural Polymers, Bio-Polymers, Bio-Materials, their Composites, Nanaocomposites, Blends, IPNs, Polyelectrolytes and Gels: Macro to Nano Scales (ICNP 2015), April 10, 11 & 12, 2015, Kottayam, Kerala, India organised by Mahatma Gandhi University, Kottayam Kerala
- 84. Polymer electrolytes in electrochemical devices

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- 67. Electrochemistry applications in Fuel cells DST SERB school on "Fundamental electrochemical principles applied to problems in science and engineering" from 10-14 Aug, conducted in the Dept. Chem. Engg. IIT Madras.
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- 69. Polymer electrolyte membranes in sensor applications
 K.Ramya and K.S.Dhathathreyan, International conference on Advancements in Polymeric materials, innovation in materials and product developments, March 1-3,2013, Organized by CIPET, Lucknow.
- 70. Ionic conducting Materials- Solid Polymer electrolytes, K.**Ramya** at Two day Program on Fuel Cell Education and Training 4-5 April 2011 organized by TIFAC-CORE in Automotive Infotronics, VIT University, Vellore

71. Nafion / PTFE Composite Membranes for Fuel Cell Applications, K.**Ramya** and K.S.Dhathathreyan, International conference on Advancements in Polymeric materials, innovation in materials and product developments, March 25-27,2011, Organized by CIPET, Chennai.

Patents

- 72. A grid independent fuel cell system with a unitized (dc & ac) power conditioner filed on 20th February 2019. Appl No. 201911006700.
- 73. High temperature polymer electrolyte membrane fuel cells with exfoliated graphite based bipolar plate 494/DEL/2014 dated 20.2.14
- 74. Exfoliated graphite separator based electrolyzer for hydrogen generation 3073/DEL/2013.
- 75. Polymer Electrolyte Membrane (PEM) cell and a method of producing hydrogen from aqueous organic solutions in pulse current mode3313/DEL/2012.
- 76. An improved method for the generation of hydrogen from a metal hydrogen compound and a device therefor Patent granted no. 285257.
- 77. A hydrophilic membrane based humidifier useful for fuel cells. Patent application No. 95/DEL/2007 filed on 16.01.2007.
- 78. An Improved hydrophilic membrane useful for humidification of gases in fuel cells and a process for its preparation. Patent application number 1207/DEL/2006 dated 17.05.06.
- 79. A Blend Membrane- Application 303/MAS/2001 published 2005-07-29, filed 2001-04-09
- 80. A composite membrane for use in electrochemical apparatuses and processes, Application 975/MAS/2002 published 2005-05-20, filed 2002-12-12

Book Chapter

81. Polymer electrolyte membrane based electrochemical conversion of carbon dioxide from aqueous solutions, D. Suresh, K. **Ramya**, and K. S. Dhathathreyan in Polymeric and Nanostructured Materials, Ed. A.Thankappan, N.Kalarikkal, S.Thomas and A.Padinjakkara, Apple Academic Press, Dec 2018

82. A book chapter on "High Temperature PEM: An Insight" S Ramakrishnan, K Ramya, N Rajalakshmi as part of "PEM Fuel cells: Fundamentals, advanced technologies and practical applications", ISBN: 978-0-12-823708-3, Elsevier Publications, p223 – 242, 2021