Dr. S. Rajendran

Emeritus Professor

Contact

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Academic Qualifications: M.Sc., Ph.D.

Teaching Experience: 31 Years

Research Experience: 35 Years

Additional Responsibilities

Areas of Research

1. **Solid State Ionics**
2. **Materials science**
3. **Spectroscopy**

Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	**Ph.D.**	**18**	**1**
	M.Phil.	**50**	**-**

Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
128	52	10	105	5

h-index : 35
i10 index : 71
Total Citations : 3372

Book published :

1) Contributed one chapter in the book entitled "Polymers for Energy Storage and Conversion". Edited by Vikas Mittal. Published by JohnWiley & Sons, NewJersey, and Scrivener Publishing LLC, Massachusetts. MAY 2013. pg 27.
2) Contributed one chapter in the book entitled "Scanning Electron Microscope". Edited by Dr.Viacheslav Kazmiruk. Russia. March 2012;ISBN 978-953-51-0092-8.
3) Contributed one chapter in the book entitled "Photo/Electrochemistry & Photobiology in the Environment, Energy and Fuel 2004". Edited by Prof. Santoshi Kaneco, Japan.
4) 'Solid State Physics' proceedings of the DAE Solid State Physics Symposium. Vol 41, 1998. pg 181-182. Edited by R Mughopadhyay, A K Shaikh and B K Godwal. University press (India) ltd Hyderabad.
5) Resource material for PG diploma in Digital Instrumentation for Alagappa University Karaikudi. 1998.

Funded Research Projects

Completed Projects

S. No	Agency	Project Title	Budget (Rs. In lakhs)
1.	UGC	Solar control coatings for radiative cooling and their properties.	0.05 lakhs
2.	DST	Gel ionics for lithium battery applications: Development and characterization of PAN based gel type polymer electrolytes.	7 lakhs
3.	AICTE	Development and characterization of MEEP based polymer electrolytes for battery applications.	3 lakhs
4.	DST	Study of laser induced acoustic signals of relaxation process in condensed matter.	10 lakhs

5.	DST	Development and characterization of PVC-PEMA based solid polymer blend electrolytes for battery applications.	21 lakhs

Ongoing Projects (As PI)

S. No	Agency	Project Title	Budget (Rs. In lakhs)
1	UGC	Investigations on Poly(vinylidene chloride-co-acrylonitrile) based polymer electrolyte with Lithium salts and ceramic oxides.	6.1 lakhs

Combined Department Projects: (Completed)

S. No	Agency	Period		Budget (Rs. In lakh)
		From	To	
1.	UGC-SAP (DRS II)	2009	2014	70.50

Patents

1. Nil

Distinctive Achievements / Awards

1. UGC Fellow, University Grants Commission, Govt. of India, 1979-1983
2. Post Doctoral Fellowship, Yonsei University, South Korea, May 2001-October 2001
3. Brain Pool Fellow, Korea Advanced Institute of Science and Technology, Korea, 2003-2005.
4. Certificate of Achievements and cash award for the academic performances, Alagappa University, Karaikudi, 2007.
5. Travelling Grant for participating International conference at Singapore, DST, New Delhi, 2013.

Events organized in leading roles

Number of Seminars / Conferences / Workshops / Events organized: **5**

List of Seminar/Conference/Workshop conducted

1. One day seminar on Recent Advancement in Thrust Areas of Materials Sciences sponsored by DST on March 20th, 2006.
2. Tamil Nadu Science Congress in Tamil organized by Alagappa University and Pondicherry University, Dec 24-26, 1994, at Alagappa University.

3. National Seminar on New Trends in Electro chemical sciences –Organized by SAEST, Department of Physics and Department of Industrial Chemistry held at AlagappaUniversity on 23 rd December 1994.
4. A workshop in Physics for Higher Secondary teachers-sponsored by Tamilnadu State council for Science and Technology was organized on 27.3.91 at AlagappaUniversity.
5. A Seminar on "Energy crisis and Energy alternatives" sponsored by the Madras Refineries was conducted on 24th January 1991 at AlagappaUniversity.

Events Participated

Conferences / Seminars / Workshops: 96

Other Training Programs: 05

Membership in

Professional Bodies

1. Solid State Ionics Society-Member, India, Member
2. Materials Research Society of India (MRSI)-Member, Bangalore.
3. Laser and Spectroscopic Society of India-Member, India

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Innovations/Contributions in Teaching:

(a) Teaching methods: A workshop in Physics for high school teachers sponsored by Tamilnadu State Council for Science and Technology organised on 27th March 1991

(b) Laboratory experiments:

1. Preparation of polymer electrolyte thin film
2. Conductivity measurement set-up

(c) Preparation of resource material:

1. Laboratory manual first edition
2. Laboratory manual Revised edition

Acted as Referee for many journals.

1. Ionics
2. Indian Journal of Physics
3. Solid State Ionics
4. Solid State Sciences
5. Surface and Coating Technology
6. Journal of Polymer Research
7. European Polymer Journal
8. Materials Chemistry and Physics

Academic Bodies (such as Board of Studies etc.,)

1. Chairman & BOS of Department of Physics, Alagappa University Karaikudi. 2013-till date.
2. Member, Academic Council, Alagappa University Karaikudi, 2013-till date.
3. Member, BOS/Question setting Board/Valuation Board of Physics of Bharathiar University, Annamalai University, Bharathi dasan University, Periyar University, etc. in various periods.
4. Board of Study meeting at Mother Teresa Women's University, Kodaikanal. 13/08/2013.
5. Selection Committee member for the post of Professor at Bharathidasan University, Trichy. 23/01/13.
6. Selection Committee member for the post of UGC Project Fellow at M.K. University, Madurai. 23/11/12
7. Selection Committee member for the post of Assistant Professor in Medical Physics at Bharathiar University Coimbatore. 23/02/2011.
8. Selection Committee member for the post of Assistant Professor in Physics at Bharathiar University Coimbatore. 17/02/2011.
9. Selection Committee member in Bharathiar University Coimbatore. 20/01/2009
10. Board of Study meeting at Sri Pushpam Colege Poondi. 10/4/2007.

Resource persons in various capacities

Number of Invited / Special Lectures delivered: **20**

<u>Details of the Chaired Session</u> (Invited speakers)

1. Invited Lecture KLN Engineering college, Sept 19, 2014.
2. Chaired a session in "International workshop on Adanvced Materials-2014" (IWAM-2014) in Department of Physics, Alagappa University Karaikudi, March20-21, 2014.
3. Chaired a session in International workshop on "Frontier Areas in chemical technologies-2014" (FACTs-2014) in Department of Industrial Chemistry, Alagappa University Karaikudi, February 21-22, 2014.
4. Lecture to the participants of refresher course in Department of Physics M.K. University Madurai. 23/11/2012.
5. Invited Lecture in Third International Multi component Polymer Conference IMPC 2012, Mahatma Gandhi University, Kottayam, March 23-25, 2012.
6. Presented a paper in the International Conference at VIT, Vellore 20-22 Feb 2012.
7. Lecture to P.G students of National College, Trichy. 16/02/2012.

8. Chaired a session in International workshop on Advanced Energy Materials (IWAEM-2012) Department of Physics, Alagappa University Karaikudi, February 9-10, 2012.

9. Lecture to the participants of refresher course in Department of Physics M.K. University Madurai. 22/11/2010.

10. Lecture to the participants of refresher course in Dept. of Physics Bharathiar University Coimbatore. 12/11/2010.

11. Presented a paper in the conference at S.V. University Tirupati. 24-25 Feb 2009

12. Invited Lecture in "Recent advances in spectroscopy" RAINS-2009 Kandaswami Kandar's College Velur, 23- 24 January 2009.

13. Invited Lecture in International conference on polymer blends, composites, IPNS, Membranes, Polyelectrolytes and Gels: micro to nano scale (ICBC -2008) Mahatma Gandhi University Kottayam, September 22-24, 2008.

14. Presented a paper in National Conference on Emerging materials…India 2020 at NIT Trichy. 24-25 June 2008.

15. Presented a paper in the International Conference on Nano Science and Technology at Chennai. 27-29 Feb 2008.

16. Lecture to the participants at Academic Staff College, Bharathiar University, Coimbatore. 08/09/2006.

17. 7th National Conference on Solid State Ionics, June 6-8, 2006, Bharathiar University, Coimbatore.

18. Seminar on 'Advances in materials Science' at MS University, Tirunelveli. 27-28 March 2006.

19. Lecture to the participants of refresher course in Department of Physics Bharathiar University Coimbatore. 23/01/06.

20. Sixth Int. Conf. on New Energy systems and conversions, Nov 9-13, 2003Busan, Korea.

Others

1. No. of PhD Thesis evaluated : 20

External Thesis evaluated:

1) Preparation and characterization of pure and doped Zinc Oxide nanocrystalline films by chemical bath deposition technique, Mrs. N. Nithya, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore.

2) Ultrasonic investigations on three component liquid mixtures and glass specimen, Ms. K.Jetruth Mary Alphonsa, Annamalai University 608 002.

3) Development of novel biodegradable polymers modified silver nano structure for photocatalytic response by chemical reduction synthesis, Mrs. S.Kavitha, Annamalai University 608 002.

4) Studies on structural, optical and electrical properties of undoped and doped In_2O_3 thin films deposited by Spray pyrolysis Mr. M. JOTHIBAS, Annamalai University 608 002.

5) Preparation and characterization of proton conducting pva polymer complexed with dicarboxylic acids. K. Alakanandana,Osmania University.

6) Optical characterization of rare –earth ions doped tellurite based glasses and yttrium tungstate powder ceramics. K. Vema Sevana Raju under the guidance of Dr.B.Sudhakar Reddy, Dept. of Physics, Sri Venkateswara Colege, Kadapa, Andhra Pradesh. 516 003. April 2013.

7) Optoelectronic Properties of Pulse plated $AgGa_xIn_{1-x}Se_2$ thin films. S. Murugan under the guidance of Dr.S.Dhanapandian, Dept. of Physics, Annamalai University 608 002. March 2013.

8) Preparation and characterization of Sb_2S_3 thin films by chemical bath deposition, spray pyrolysis and vacuum evaporation technique. Srikanth S., under the guidance of Dr.N.Suriyanarayanan, Dept. of Physics, Anna University of Technology, Coimbatore 641 047. March 2012.

9) Solvation, Acoustical and thermodyanamical study of polyvinylidene fluoride in polar aprotic solvents through ultrasonic and viscometric measurements. A. Inigomary Rita under the guidance of Dr.K. Maria Eugenie Pia, Dept. of Physics, Holy cross College (Autonomous), Trichy 620 002. February 2012.

10) Synthesis of certain semi conductor nano structured materials and study of their structural, optical and electrical properties. M. Soosen Samuel under the guidance of Dr.K.C.George, Dept. of Physics, St. Berchmans College, Changanassery, Kerala. 686 101. October 2011.

11) Studies on structural, thermal and dielectric properties of host PVP polymer film and optical characterization of certain transition metal & rare-earth ions containing PVP polymer films. K. Sivaiah, under the guidance of Dr.S.Buddhudu, Dept. of Physics, Sri Venkateswara University Tirupati, Andhra Pradesh. September 2011.

12) Interaction studies of anticancer drugs and metal ions with DNA base pairs. P. Deepa, under the guidance of Dr.P.Kolandaivel, Dept. of Physics, Bharathiar University Coimbatore 641 046. August 2011.

13) Characterization of magnetic CoMnP thin films synthesized by electrodeposion technique. Krishnappa M. RM. under the guidance of Dr.S.Ganesan, Dept. of Physics, Anna University Chennai. August 2011.

14) Scaled quantum chemical calculations and FTIR, FT-Raman spectral analysis of some poly atomic molecules. N. Jayamani under the guidance of Dr.V.Krishnakumar, Dept. of Physics, Periyar University, Salem 636 011. October 2010.

15) Quantum Chemical studies of reaction mechanisms and metal ion co-ordination complexes. R. Shankar under the guidance of Dr.P.Kolandaivel, Dept. of Physics, Bharathiar University Coimbatore 641 046. August 2010.

16) Modification of polymer surfaces using glow discharge DC plasma. P.Anuradha under the guidance of Dr. A.Anu Kaliani, Dept. of Physics, Mother Teresa Women's University, Kodaikanal 624 102. April 2010.

17) Mullite glass ceramic production by high temperature plasma techniques and characterization. Kannan Nithin K.V. under the guidance of Dr.N.Suriyanarayanan, Dept. of Physics, Anna University Chennai 600 025. May 2010.

18) Molecular orbital studies on different tactomeric forms of few biomolecules. V. Sathyabama under the guidance of Dr.R.Kanakaraju, Dept. of Physics, NGM Collge Pollachi 642 001. April 2010.

19) A study of hot wall evaporation system and characterization of CdTe and $CdSn_3Te_4$ thin films. T. Venkatachalam under the guidance of Dr.S.Ganesan, Dept. of Physics, Anna University Chennai 600 025. December 2007.

20) Studies on properties of spray deposited Cadmium Seleno Telluride films. T. Elango under the guidance of Dr. K.R.Murali, Central Electrochemical Research Institute Karaikudi, Submitted to M.K. University Madurai. December 1998.

Recent Publications (Last 5 Years)

LIST OF PUBLICATION

1. Structural and Electrochemical Analysis of PMMA Based Gel Electrolyte Membranes, Chithra M. Mathew, K. Kesavan, **S. Rajendran**, *International Journal of Electrochemistry* (2015) doi.org/10.1155/2015/494308.
2. Electrochemical analysis on Poly(ethyl methacrylate) based electrolyte membranes. Chithra M. Mathew, B. Karthika, M. Ulaganathan, **S. Rajendran**. *Bulletin of Material Sciences* 38 (2015)151-156 (Accepted) (2014). (IF 0.87).
3. Dielectric and thermal response of poly(vinylidene chloride-co-acrylonitrile) / poly(methyl methacrylate) blend membranes. Chithra M. Mathew, K. Kesavan, S. Rajendran. Polymer International (2014)doi: 10.1002/pi.4846. (IF 2.247)
4. Solid polymer blend electrolyte based on poly(ethylene oxide) and poly(vinyl pyrrolidone) for lithium secondary batteries, K.Kesavan, Chithra M. Mathew, **S. Rajendran**,C. Subbu, M. Ulaganathan. *Brazilian Journal of Physics* 45 (2015)19-27(IF 0.683).
5. Effect of nano composite on Poly vinyl alcohol based proton exchange membrane for direct methanol fuel cell applications, P. Bahavan Palani, R. Kannan, S. Rajashabala, **S. Rajendran**, G. Velraj. *Ionics* (2014) DOI: 10.1007/s11581-014-1193-1.
6. Influence of Barium Titanate on poly (vinyl pyrrolidone) based composite polymer blend electrolytes for lithium battery applications,K.Kesavan, **S.Rajendran**, Chithra M. Mathew. *Polymer composites*36 (2015) 302-311(IF 1.482).
7. Lithium ion conduction and ion-polymer interaction in poly(vinyl pyrrolidone) based electrolytes blended with different plasticizers, K. Kesavan, Chithra M. Mathew, **S.Rajendran**. *Chinese Chemical letters*25 (2014) 1428–1434 (IF 1.210).

8. Electrochemical, Structural and Optical Studies on Poly(vinylidene chloride-co-acrylonitrile) Based Polymer Blend Membranes. C. Subbu, Chithra M. Mathew, K.Kesavan, **S. Rajendran**. *Int. J. Electrochem. Sci.,* 9 (2014) 4944 – 4958. (IF 3.729).
9. Transport and optical studies of PEO/PVP/$LiClO_4$ based polymer blend electrolytes. K Kesavan, Chithra M Mathew, C Subbu, **S Rajendran**, *International Journal of ChemTech Research*, 6 (2014) 1810-1812. (IF : NA)
10. Studies on poly (vinyl pyrrolidone) based solid polymer blend electrolytes complexed with various lithium salts,K.Kesavan, **S.Rajendran**, Chithra M. Mathew. *Polymer Science Series B*56(4) (2014) 520-529. (IF 0.669)
11. Synthesis of Bendable Plasticized Nanocomposite Polymer Electrolyte Using Poly(Acrylonitrile)/Poly (Methyl Methacrylate) Polymer Blends, Xavier Helan Flora, Mani Ulaganathan, Karuppiah Kesavan,**Somasundaram Rajendran**, *Z. Phys. Chem.* 228(2014)673-684. (IF 1.128)
12. Analysis of plasticizer influence in Poly(vinyl acetate)/Poly(vinylidene fluoride) polymer blend electrolyte. Chithra M. Mathew, K. Kesavan, **S. Rajendran.** *Ionics*20:3 (2014) 439-443. (IF 1.673)
13. Study of electrochemical behaviour on synthesized nano-composite polymer electrolyte, Chithra M. Mathew, K. Kesavan, M. Mumoorthi, **S. Rajendran**. *Journal of NanoScience and NanoTechnology* 2(1) (2014) 12-14. ISSN 2279– 0381.
14. Influence of Lithium Perchlorate on the Optical Properties of Poly (vinyl pyrrolidone) Based Solid Polymer Blend Electrolytes, K.Kesavan, **S.Rajendran**, Chithra M. Mathew, C.Subbu, *Journal of NanoScience and NanoTechnology* 2(1) (2014) 5-7. ISSN 2279–0381.
15. Structural, Functional and Optical Studies on Ce Doped ZnO Nanoparticles, T.Marimuthu, N.Anandhan, G.Ravi, **S. Rajendran**, *Journal of NanoScience and NanoTechnology* 2(1) (2014) 62-65. ISSN 2279– 0381.
16. Preparation and characterization of novel solid polymer blend electrolytes based on poly (vinyl pyrrolidone) with various concentrations of lithium perchlorate. K. Kesavan, Chithra M. Mathew, **S. Rajendran,**M. Ulaganathan.*Materials Science and Engineering B* 184 (2014) 26–33. (IF 1.884)
17. Thermal and Impedance Studies of Poly(Vinylidene chloride-co-Acrylonitrile) Based Gel Polymer Electrolyte. Chithra M. Mathew, M. Shanthi, **S. Rajendran**. *Journal of Thermoplastic Composite Materials* (2013)*(IF 0.75)*
    doi: 10.1177/0892705713503670
18. Role of different plasticizers in Li-ion conductingPoly(acrylonitrile) -Poly(methyl methacrylate) hybrid polymer electrolyte. X. Helan Flora,M. Ulaganathan, **S.Rajendran**. *International Journal of Polymeric Materials and Polymeric Biomaterials* 62 (2013) 737-742.*(IF 1.865)*.
19. Conductivity Study on PVDF-HFP/PMMA Electrolytes for Lithium Battery Applications. M. Usha Rani, Ravishanker Babu, **S. Rajendran**. *International Journal of ChemTech Research* 5(4) (2013) 1724-1732.
20. Investigations on PVC/PMMA Blends with Various Iithium Salts. M. Ramesh Prabhu, K. Sudalaimuthu, **S. Rajendran**. *Indian Journal of Research*2 (2013) 307-309.*(IF 0.32)*
21. Li Ion Conducting Gel Polymer Electrolytes Based on Poly(vinyl acetate), **S.Rajendran**, Chithra M. Mathew, T. Marimuthu, K. Kesavan. *AIP Conf. Proc*. 1536 (2013) 775-776.
22. Structural and Morphological behaviour of PVdC-AN gel polymer electrolyte for lithium battery application. Chithra M. Mathew, M. Shanthi, **S. Rajendran**, T.Mahalingam. *Int. J. Advanced Material Science*4 (2013) 45-51.

23. FT-IR and DSC Studies of Poly(Vinylidene Chloride-co-Acrylonitrile) complexed with $LiBF_4$. M. Shanthi, Chithra M. Mathew, M. Ulaganathan, **S. Rajendran**. *Spectrochimica Acta Part A.*109 (2013) 105-109.*(IF 2.098)*
24. Highly porous Lithium-Ion Conducting Solvent-Free Poly(vinylidenefluoride-co-hexafluropropylene)/Poly(ethyl methacrylayte) Based Polymer Blend Electrolytes for Li battery applications. M. Ulaganathan, Chithra M. Mathew, **S. Rajendran**. *Electrochim. Acta* 93 (2013) 230 – 235.*(IF 3.832)*
25. Conductivity studies on PEMA based polymer electrolyte system with $LiClO_4$ salt, **S. Rajendran**, K. Senthil, K. Kesavan, Chithra M. Mathew, and T. Mahalingam.*AIP Conf. Proc.* 1512 (2013) 1212-1213.
26. Influence of Lithium Salt Concentration on PAN-PMMA Blend Polymer Electrolytes. X. Helan Flora, M. Ulaganathan, S. Rajendran. *Int. J. Electrochem. Sci.,* 7 (2012) 7451 – 7462.*(IF 3.729)*
27. Li-ion conduction on nanofiller incorporated PVdF-co-HFP based composite polymer blend electrolytes for flexible battery application.M. Ulaganathan, R.Nithya, **S. Rajendran**, S. Raghu. *Solid State Ionics* 218 (2012) 7–12.*(IF 2.046)*
28. Evaluation of lithium ion conduction in PAN/PMMA-based polymer blend electrolytes for Li-ion battery applications. X. Helan Flora, M. Ulaganathan, Ravi Shanker Babu, **S. Rajendran**. *Ionics*,18:(2012) 731–736.*(IF 1.288)*
29. Transport, structural and thermal studies on nanocomposite polymer blend electrolytes for Li-ion battery applications.**S.Rajendran**, K. Kesavan, R. Nithya, M. Ulaganathan.*Current Applied Physics*,12 (2012) 789-793.*(IF 1.9)*
30. Development and characterizations of PVdF-PEMA gel polymer electrolytes. Rengapillai Subadevi, Marimuthu Sivakumar,**Somasundaram Rajendran**, Hung-Chun Wu, Nae-Lih Wu., *Ionics*,18: (2012) 283–289.*(IF 1.288)*
31. Electrodeposition of CdSe Thin Films from Aqueous Solution. T. Mahalingam, V. Dhanasekaran, **S. Rajendran**, G. Ravi, P.J. Sebastian. *Journal of New Materials for electrochemical systems*, 15(2012) 057-062.
32. Annealing effects on the properties of electrodeposited CdSSe thin films. T. Mahalingam, V. Dhanasekaran, **S. Rajendran,** G. Ravi, P.J. Sebastian. Journal of New Materials for electrochemical systems 15(2012) 043-048.
33. Electrosynthesis and studies on CdZnSe thin films. T. Mahalingam, V. Dhanasekaran, **S. Rajendran**,R. Chandramohan, P.J. Sebastian. Journal of New Materials for electrochemical systems 15(2012) 037-042.
34. Electroplated CuO thin films from high alkaline solutions. V. Dhanasekaran, T. Mahalingam, **S. Rajendran,** Jin-Koo Rhee and D. Eapen. Journal of New Materials for electrochemical systems 15(2012) 49-55.
35. Effect of complexing salt on conductivity of PVC/PEO polymer blend electrolytes. **S Rajendran**, Ravi Shanker Babu, M Usha Rani. Bull. Mater. Sci., 34:7 (2011) 1525–1530. Indian Academy of Sciences.
36. Novel Li-ion conduction on poly (vinyl acetate) based hybrid polymer electrolytes with double plasticizers, M.Ulaganathan and **S.Rajendran**, J.Appl.Electrochem., 41 (2011)83-88.
37. Li ion conduction in PVAc based polymer blend electrolytes for lithium battery applications. Ulaganathan M, Pethaiah S.S., **Rajendran S**, Material Chemistry and Physics 129 (1-2) (2011)471-476. *(Ranked 23rd place in the Science Direct top 25 hottest articles, July – September 2011).*

38. Studies on the effect of Anions of various Lithium salts in PEMA gel polymer electrolytes. R. Subadevi, M. Sivakumar, **S. Rajendran**, H.-C. Wu, N.-L. Wu, Journal of Applied Polymer Science, 119 (2011) 1–6.
39. Studies on MWCNT-incorporated composite polymer electrolytes for electrochemical applications, **S.Rajendran** and M.Ulaganathan, Soft materials, 8:4 (2010) 358-369.
40. Effect of different salts on PVAc/PVdF-co-HFP based polymer blend electrolytes, M. Ulaganathan and **S. Rajendran**, J.App.Polym. Sci., 118(2) (2010) 646 – 651.
41. Li ion conduction on plasticizer-added PVAc-based hybrid polymer electrolytes. M. Ulaganathan and **S. Rajendran**, Ionics 16(7) (2010) 667-672.
42. Preparation and characterizations of PVAc/P(VdF-HFP)-based polymer blend electrolytes, M. Ulaganathan and **S. Rajendran**, Ionics 16(6) (2010) 481-575.
43. Effect of different plasticizer on structural and electrical properties of PEMA based polymer electrolytes, **S.Rajendran**, M.Ramesh Prabhu, J. Appl. Elect. Chem., 40 (2) (2010) 327-332
44. A study on the effect of various plasticizers in poly (vinyl acetate)- poly (methyl methacrylate) based gel electrolytes.**S. Rajendran**, V. Shanthi Bama, Journal of Non-Crystalline Solids 356 (2010) 2764–2768
45. Preparation and characterization of PVAc–PMMA-based solid polymer blend electrolytes **S. Rajendran**, V. Shanthi Bama and M. RameshPrabhu, Ionics 16 (3) (2010) 283-287.
46. Effect of Lithium salt concentration in PVAc/PMMA-based gel polymer electrolytes, **S.Rajendran,** V. Shanthi Bama, M. Ramesh Prabhu, Ionics 16 (1) (2010) 27-32.
47. Ion conduction behavior in PVC-PEG blend polymer electrolytes upon the addition of TiO_2, **S.Rajendran**, Ravi shanker Babu, K. Renuka devi, Ionics 15 (2009) 61.
48. Ionic conduction in Poly(vinyl chloride) /Poly(ethyl methacrylate) based polymer blend electrolytes complexed with different lithium salts, **S.Rajendran**, M. Ramesh Prabhu, M. Usha Rani, J. Power sources, 180(2008) 880.
49. Characterization of PVC/PEMA based polymer blend electrolytes**, S.Rajendran**, M. Ramesh Prabhu, M. Usha Rani, Int. J. Electrochem. Sci., 3 (2008) 282.
50. Li ion conduction behavior of hybrid polymer electrolytes based on PEMA, **S.Rajendran**, M. Ramesh Prabhu, M. Usha Rani, J. Appl. Polym. Sci., 110 (2008) 2802.
51. An investigations of PVdF/PVC-based blend electrolytes with EC/PC as plasticizers in Lithium battery applications, **S.Rajendran**, P. Sivakumar, Physica B Condensed matter, 403 (4) (2008) 509.
52. Investigations on PVC/PAN composite polymer electrolytes, **S. Rajendran**, Ravi shanker babu, P. Sivakumar, J. Memb. Sci., 315 (2008) 67.
53. Ionic conduction in plasticized PVC/PAN blend polymer electrolytes, **S. Rajendran**, Ravi shanker Babu, P. Sivakumar, Ionics 14 (2008) 149.
54. Compositional effect of PVdF-PEMA blend gel polymer electrolytes for lithium polymer batteries, M. Sivakumar, R. Subadevi, **S. Rajendran**, H.-C. Wu, N.-L. Wu, European Polymer Journal, 43 (2007) 4466–4473.

55. Effect of ceramic oxide on the ionic conductivity of polymer electrolytes, **S. Rajendran,** Ravi shanker babu, T. Sathiya Prabha, Materials Science an Indian J. 3 (2007) 195-199.
56. Effect of salt concentration on poly (vinyl chloride)/poly (acrylonitrile) based hybrid polymer electrolytes, **S. Rajendran,** Ravi shanker Babu, P. Sivakumar, J. Power Sources 170 (2007) 460-464.
57. Studies on solid polymer electrolyte based on PEO/PVC blends, **S. Rajendran**, Ravi shanker babu, K. Kanimozhi, Studies on solid polymer electrolyte based on PEO/PVC blends, **S. Rajendran**, Ravi shanker babu, K. Kanimozhi, Indian J. Physics 81 (2007) 1.
58. Studies on the salt concentration of PVdF-PVC polymer blend electrolytes, **S.Rajendran,** P.Sivakumar, Ravi shanker babu, J. Power Sources 164 (2) (2007) 815.
59. Electrochemical investigations on the effect of dispersoid in PVA based solid polymer electrolytes**S.Rajendran,** M.Sivakumar, R.Subadevi, N.-L.Wu and Jai Young Lee J. Appl. Polymer Sci., 103(2007) 3950-3956.
60. Electrochemical studies on [(1-x)PVA-xPMMA] solid polymer blend electrolytes complexed with $LiBF_4$, M.Sivakumar, R.Subadevi, **S.Rajendran**, N.L.Wu, J.Y.Lee, Materials Chem. and Phys 97 (2006) 330-336.
61. Investigation on poly (vinylidene fluoride) based gel polymer electrolytes, **S.Rajendran,** P.Sivakumar, Ravi shanker babu, *Bull. Mater. Sci*., Vol. 29, No. 7 (2006) 673-678.
62. Effects of substrate morphology and ageing on cycle performance of a Sn-anode fabricated by electroplating, JungWon Park, **S. Rajendran**, HyukSang Kwon. Journal of Power Sources 159 (2006) 1409–1415.
63. Electrochemical Insertion of Lithium into Multiwalled Carbon Nanotube/Silicon Composites Produced by Ballmilling. J. Y. Eom, J. W. Park, H. S. Kwon,S. Rajendran*. J. Electrochem. Soc.* 153(2006) A1678-A1684.
64. Si/Ni alloy-graphite composite synthesized using arc-melting and high energy mechanical milling for use as anode in lithium ion batteries, Min-Sik Park,**S. Rajendran**, Yong-Mook Kang, Kyu-Sung Han, Hyuk-Sang Kwon, Jai-Young Lee *J.Power Sources*158 (2006) 650-653.
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International seminars, Conferences, Symposia attended/contributed

1. Studies on SWCNT Incorporated Blend Electrolytes for Battery Applications, 59th DAE Solid State Physics Symposium (DAE-SSPS 2014), VIT University, Vellore, Tamilnadu, 16-20 December, 2014. K.Kesavan, Chithra M. Mathew, **S. Rajendran**, C.Subbu.
2. FTIR and photoluminescence studies on synthesized polymer blend electrolyte,International Conference on Advances in New materials (ICAN 2014), University of Madras, Chennai. 20 & 21, June, 2014. K.Kesavan, Chithra M. Mathew, C.Subbu, **S. Rajendran.**
3. Enhancement of ionic conductivity on poly(ethylene oxide) and poly (vinyl pyrrolidone) based solid polymer blend electrolytes, International conference on light, NIT, Calicut, Kerala. 19-21, March, 2014. K.Kesavan, Chithra M. Mathew, **S. Rajendran**.
4. Transport and optical studies of PEO/PVP/$LiClO_4$ based polymer blend electrolytes, International Conference on Materials and Characterization Techniques (ICMCT-2014), VIT, Vellore, Tamilnadu. 10-12, March, 2014. K.Kesavan, Chithra M. Mathew, C.Subbu, **S. Rajendran**.
5. Studies on synthesized nano-composite polymer electrolyte for energy storage devices, International Conference on Materials and Characterization Techniques (ICMCT-2014), VIT, Vellore, Tamilnadu. 10-12, March, 2014. Chithra M. Mathew, K. Kesavan, **S. Rajendran**.
6. Ionic conductivity studies on PEO based solid polymer blend electrolytes, International Conference on Advanced Functional Materials (ICAFM-2014), National Institute for Interdisciplinary Science and Technology, Thiruvanandapuram, Kerala, India. Feb. 19-21, 2014.K.Kesavan, **S.Rajendran**, Chithra M. Mathew.
7. Influence of lithium perchlorate on the optical properties of poly (vinyl pyrrolidone) based solid polymer blend electrolytes, International Conference on Nano Electronic Science & Technology - (ICNEST-2014), PG & Research Department of Electronics, Sri Vasavi College, Erode, Tamilnadu. 14th and 15th Feb. 2014. K. Kesavan, **S.Rajendran**, Chithra M. Mathew, C.Subbu.
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9. Structural, Functional and Optical Studies on Ce Doped ZnO Nanoparticles, International Conference on Nano Electronic Science & Technology - (ICNEST-2014), PG & Research Department of Electronics, Sri Vasavi College, Erode, Tamilnadu.14th and 15th Feb. 2014.T.Marimuthu, N.Anandhan, G.Ravi, **S. Rajendran**,
10. Ionic Transport and Morphological Studies on Gel Polymer Electrolyte for Lithium Battery Applications,7th International Conference on Materials for Advanced Technologies (ICMAT 2013), Materials Research SocietySingapore.30 June - 4July, 2013. **S Rajendran**, K Kesavan, Chithra Mathew, M. Ulaganathan.
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12. Effect of salt concentration on PVAc based solid polymer electrolyte for secondary battery applications,International Conference on Recent Advances in Textile and Electrochemical Sciences-2013(RATES-2013), Department of Industrial Chemistry,Alagappa University, Karaikudi-630003, Tamilnadu.March 21-23, 2013.K.Kesavan, Chithra M. Mathew, **S.Rajendran** , M.Ulaganathan.
13. Li Ion Conducting Gel Polymer Electrolytes Based on Poly(vinyl acetate), International Conference on Recent Trends in Applied Physics & Material Science (RAM-2013)Govt. College of Engineering & Technology, Bikaner-334004, Rajasthan, India. Feb. 01-02, 2013. **S. Rajendran**, Chithra M. Mathew, T. Marimuthu, K.Kesavan.
14. Conductivity Studies on PEMA Based Polymer Electrolyte System with $LiClO_4$ Salt, 57th DAE Solid State Physics Symposium (DAE-SSPS 2012) held at IIT Bombay, Powai, Mumbai 03rd – 07th December, 2012. **S.Rajendran**, K.Senthil, K.Kesavan, Chithra M. Mathew, T.Mahalingam.
15. Synthesis and Conductivity study on TiO_2 incorporated PVCAC based polymer electrolyte system, International SymposiumOn Macro-And Supramolecular Architectures And Materials MAM-12, Le MERIDIEN Coimbatore, R&D and Centre for Nano Science and Technology K.S.Rangasamy College of Technology K.S.R.Kalvinagar – 637 215, Tiruchengode (Tk.) Namakkal (Dt.) Tamil Nadu, India,21–25 November 2012; T. Subbu Lakshmi, **S. Rajendran**.
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23. Ionic conductivity studies on PAN/PMMA gel polymer electrolytes, 6th Asian conference on Electrochemical Power Sources (ACEPS-6), CSIR-Central Electrochemical Research Institute, Karaikudi, Indian Institute Of Science, Bengaluru, INDIA. January 5-8, 2012.**S.Rajendran,** X.Helan Flora, M.Ulaganathan
24. Development of polymerCNT composite materials, International Conference on Advanced Materials ICAM 2012, Department of Physics, Loyola College Chennai, India. January 5-7, 2012.**S. Rajendran**, M.Ulaganathan, Chithra MMathew, K. Kesavan.
25. Studies on the effect of Li-Salt concentration on polymer electrolyte, International Conference onAdvanced Materials ICAM 2012, Department of Physics, Loyola College Chennai, India. January 5-7, 2012.**S.Rajendran**, M.Shanthi.
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36. Investigations on PAN-PEO plasticized polymer blend electrolytes, Junior EUROMAT, 4th – 8th September 2006, Lausanne, Switzerland.
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40. New trends in polymer composite materials, Int. Conf. on Recent advances in composite materials, 17-19 Dec 2004, Banaras Hindu University, India
41. Studies on PVA-PVdF based solid polymer blend electrolytes , 6 th Int. Conf. New Energy systems and conversions, Nov 9-13, 2003 Busan, Korea
42. Investigations on plasticized PVA-$LiClO_4$/$LiCF_3SO_3$ solid polymer electrolytes, Int.Conf. on Ionic devices-2003, Nov 28-30,2003, Anna university, Chennai, India
43. Studies on plasticized solid polymer electrolytes based on poly (vinyl alcohol) Materials week 2002, ICM int. congress; Centre Munich, European congress on Advanced Materials, their processes and applications, 30 Sept.-2 Oct. 2002, Germany
44. Blend optimization of PVA-PMMA based solid polymer electrolyte, Int. Conf. on Fuel cell systems, 25-26 Sept 2002, Amsterdam
45. Investigations on PVA-PMMA blend based hybrid polymer electrolyte, 8th Asian conf. on Solid state ionics Dec 15-19 2002, Langkawi, Malaysia
46. Electrochemical investigations of blended polymer electrolytes with lithium salts, Int. conf. on Solid State Ionics, July 8-13, 2001, Cairns, Australia.
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1. Lithium ion transport in PEO/PVP based solid polymer blend electrolytes, National Conference on Materials for Energy storage and Conversion (MESCon-2014), PSN College of Engineering and Technology, Tirunelveli. 4 and 5 Sep, 2014. K.Kesavan, S.Rajendran, Chithra M. Mathew, C. Subbu.
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3. Effect of $LiClO_4$ on poly (vinyl pyrrolidone) based solid polymer blend electrolyte, National conference in Advanced Materials and its Applications (NCAMA-2014), Engineering Physics Section, Annamalai University, Annamalainagar-608 002. 4 & 5, April, 2014.K.Kesavan, Chithra M. Mathew, S. Rajendran.
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