

Faculty Profile - Department of Applied Physics



Name: **Dr.A.SAKUNTHALA**

Designation: **ASSISTANT PROFESSOR**

Office Address: **Department of Applied Physics**
Karunya Institute of Technology and Sciences
Coimbatore 641 114, Tamil Nadu, India

E-mail: **sakunthala@karunya.edu**

Area of Specialization: **Solid State Ionics**

Professional Experience: 11 years

Title of the Profession	Employer	Duration
Programmer	Cognizant Technology and Solutions	2005-2006
Assistant Professor	Sriguru Institute of Technology, Coimbatore-10	2011-2012
Assistant Professor	Karunya Institute of Technology and Sciences Coimbatore 641 114	2012- till now

Academic qualification

Degree	Board/University	Year of passing	Class/Grade	Subjects
PhD	Bharathiar University	AUG 2011	Highly commendable	Physics
M.Sc	Bharathiar University	APR 2005	88.94 University I Rank Gold medalist	Physics
B.Sc	Bharathiar University	APR 2003	87.72 University IV rank	Physics

Projects Guided

Ph.D			
Name of the Scholar/Student	Title of the Project	Status (Completed/Pursuing)	Year of Ph.D Award
P.Senthil Kumar	Preparation and characterization of layered structured cathode materials for lithium ion battery applications	completed	October 2017
R Manjula Shenoy	Investigation on the role of morphology and the influence of h-BN on iron oxide for methylene blue degradation	completed	July 2020
Ms.Aswini Swaminathan	Polymer membranes for EDLC	Pursuing	
Mr.Rojin Varghese	Thin film materials for supercapacitors and batteries	Pursuing	
Ms.Pavithra	Novel layered materials for supercapacitor	Pursuing	
Mr.Gokul	Biopolymers for EDLC application	Pursuing	
Mr.P.Ranjithkumar	Electroadhesive clutches for wall climbing robots	Pursuing	
M.Phil			
Issac Nelson P	PVdF-HFP/TiO ₂ nanocomposite for battery applications	completed	March 2015

Details of the Publications

S.No.	Author(s) *corresponding authors	Title	Name of Journal	Volume	Page	Year
1.	V. Shobin Vijay Rojin Varghese A.Sakunthala* S.Rajesh* B.Vidhya	Highly crystalline V ₂ O ₅ and V ₆ O ₁₃ thin films by PLD and a study on morphology transition of V ₂ O ₅ by post annealing	Vacuum Letters Impact Factor:2.906 https://doi.org/10.1016/j.vacuum.2021.110097	187	110097	2021
2.	Manjula R. Shenoy, Sakunthala Ayyasamy*, Vidhya Bhojan, Rajesh Swaminathan, Nandhakumar Raju, P. Senthil Kumar, M. Sasikumar, Govindan Kadarkarai, Saravanakumar Tamilarasan, Selvaraju Thangavelu, Suryakanth J, M. V. Reddy	Visible light sensitive hexagonal boron nitride (hBN) decorated Fe ₂ O ₃ photocatalyst for the degradation of methylene blue	Journal of Materials Science: Materials in Electronics Impact Factor:2.195 https://doi.org/10.1007/s10854-020-05215-4			JAN 2021
3.	Rojin Varghese V Shobin Vijay S.Rajesha A.Sakunthala* P. Senthil Kumar Raman Sankar	Thin film LiV ₃ O ₈ nanorod formation through Pulsed Laser Deposition and the effect of heat treatment	Vacuum Impact Factor:2.906 DOI: https://doi.org/10.1016/j.vacuum.2020.109722	182	109722	DEC 2020
4.	Kumar, P Senthil Sakunthala, A* Reddy, M V Rao, R Prasada Chowdari, B V R Adams, S	Electrochemical and lithium-ion transport properties of layered Li-rich Li _{1.10} (Ni _{0.32} X _{0.01} Co _{0.33} Mn _{0.33})O ₂ (X = Dy/Gd/Ho) positive electrodes	International Journal of Pure and Applied Physics NOPR: Electrochemical and lithium-ion transport properties of layered Li-rich Li_{1.10}(Ni_{0.32}X_{0.01}Co_{0.33}Mn_{0.33})O₂ (X = Dy/Gd/Ho) positive electrodes (niscair.res.in)	58	864-876	DEC 2020

5.	Ashwini Swaminathan, Ranjithkumar Ravi M. Sasikumar, Mahadevaiah Dasaiah, G.Hiran Kumar, Sakunthala Ayyasamy*	"Preparation and characterization of PVA/PAM/NH ₄ SCN polymer film by ultrasound assisted solution casting method for application in electric double layer capacitor"	Ionics Impact Factor:2.354 DOI: https://doi.org/10.1007/s11581-020-03542-4	26	4113-4128	MAY 2020
6.	B Saravanakumar, SP Ramachandran, G Ravi, V Ganesh, Ramesh K Guduru, A Sakunthala, R Yuvakkumar	MnFe ₂ O ₄ Nanoparticles as an Efficient Electrode for Energy Storage Applications	Journal of nanoscience and nanotechnology Impact Factor:1.354 DOI: https://doi.org/10.1166/jnn.2020.17187	20	96-105	JAN 2020
7.	Pavithra Shanmugaraj, Ashwini Swaminathan, Ranjith Kumar Ravi, Mahadevaiah Dasaiah, P. Senthil Kumar A. Sakunthala*	Preparation and characterization of porous PVdF-HFP/graphene oxide composite membranes by solution casting technique	Journal of Material science: Materials in Electronics Impact Factor:2.19 DOI: https://doi.org/10.1016/j.solidstatesciences.2019.105939	30	20079-20087	SEP 2019
8.	Manjula R. Shenoy, Sakunthala Ayyasamy* , Mogalahalli Venkatesh Reddy Venkatasamy Reddy, Kadarkarai Govindan , T. Saravanakumar , T. Selvaraju , Arout Chelvan Jeyaramane , Stefan Adams	Preparation and characterization of porous iron oxide dendrites for photocatalytic application	Solid State Sciences Impact Factor:2.15 DOI: https://doi.org/10.1016/j.solidstatesciences.2019.105939	95	1293-2558	SEP 2019
9.	A Banu, A Sakunthala, M Thamilselvan, P Senthil Kumar, K Suresh, S Ashwini	Preparation, characterization and comparative electrochemical studies of MgM _x Mn _{2-x} O ₄ (x=0, 0.5; M= Ni/Co)	Ceramics International Impact Factor:3.450 DOI: https://doi.org/10.1016/j.ceramint.2019.03.240	45	13072-13085	JUL 2019
10.	B Saravanakumar, G Ravi, V Ganesh, S Ravichandran, A Sakunthala, R Yuvakkumar	Low Surface Energy and pH Effect on SnO ₂ Nanoparticles Formation for Supercapacitor Applications	Journal of nanoscience and nanotechnology Impact Factor:1.354 DOI: https://doi.org/10.1166/jnn.2019.16098	19	3429-3436	JUNE 2019

11.	B Saravanakumar, G Ravi, R Yuvakkumar, V Ganesh, S Ravichandran, M Thambidurai, A Sakunthala	Hydrothermal synthesis and electrochemical properties of ZnCo ₂ O ₄ microspheres	Ionics Impact Factor:2.354 DOI: https://doi.org/10.1007/s11581-018-2766-1	25	353-360	JAN 2019
12.	B Saravanakumar, SP Ramachandran, G Ravi, V Ganesh, A Sakunthala, R Yuvakkumar	Transition mixed-metal molybdates (MnMoO ₄) as an electrode for energy storage applications	Applied Physics A Impact Factor:1.784 DOI: https://doi.org/10.1007/s00339-018-2309-7	125	5-11	JAN 2019
13.	B Jansi Rani, G Ravi, R Yuvakkumar, V Ganesh, S Ravichandran, M Thambidurai, AP Rajalakshmi, A Sakunthala	Pure and cobalt-substituted zinc-ferrite magnetic ceramics for supercapacitor applications	Applied Physics A Impact Factor:1.784 DOI: https://doi.org/10.1007/s00339-018-1936-3	124	511	JUL 2018
14.	P Senthil Kumar, A Sakunthala* , MV Reddy, Moni Prabu	Structural, morphological, electrical and electrochemical study on plasticized PVdF-HFP/PEMA blended polymer electrolyte for lithium polymer battery application	Solid State Ionics Impact Factor:2.886 DOI: https://doi.org/10.1016/j.ssi.2018.02.022	319	256-265	JUN 2018
15.	B Jansi Rani, B Saravanakumar, G Ravi, V Ganesh, A Sakunthala* , R Yuvakkumar	Structural, Optical and Magnetic Properties of NiO Nanopowders	Journal of nanoscience and nanotechnology Impact Factor:1.354 DOI: https://doi.org/10.1166/jnn.2018.15301	18	4658-4666	JULY 2018
16.	T Priyadharshini, B Saravanakumar, G Ravi, A Sakunthala, R Yuvakkumar	Hexamine Role on Pseudocapacitive Behaviour of Cobalt Oxide (Co ₃ O ₄) Nanopowders	Journal of nanoscience and nanotechnology Impact Factor:1.354 DOI: https://doi.org/10.1166/jnn.2018.15011	18	4093-4099	JUN 2018
17.	P Senthil Kumar, Sakunthala Ayyasamy* , Eng Soon Tok Stefan Adams MV Reddy	Impact of Electrical Conductivity on the Electrochemical Performances of Layered Structure Lithium Trivanadate (LiV_{3-x}M_xO₈, M= Zn/Co/Fe/Sn/Ti/Zr/N	ACS omega Impact Factor:2.584 DOI: https://doi.org/10.1021/acsomega.7b01904	3	3036-3044	MAR 2018

		b/Mo, $x = 0.01-0.1$) as Cathode Materials for Energy Storage				
18.	B Saravanakumar, B Jansi Rani, G Ravi, A Sakunthala, R Yuvakkumar	Influence of reducing agent concentration on the structure, morphology and ferromagnetic properties of hematite (α-Fe₂O₃) nanoparticles	Journal of Materials Science: Materials in Electronics Impact Factor: 2.195 DOI: https://doi.org/10.1007/s10854-017-6515-4	28	8093-8100	FEB 2017
19.	P Senthil Kumar, A Sakunthala* , R Prasada Rao, S Adams, BVR Chowdari, MV Reddy	Layered Li_{1+x}(Ni_{0.33}Co_{0.33}Mn_{0.33})O₂ cathode material prepared by microwave assisted solvothermal method for lithium ion batteries	Materials Research Bulletin Impact Factor:3.355 DOI: 10.1016/J.MATERRESBULL.2017.05.035	93	381-390	SEP 2017
20.	B Saravanakumar, S Muthu Lakshmi, G Ravi, V Ganesh, A Sakunthala , R Yuvakkumar	Electrochemical properties of rice-like copper manganese oxide (CuMn₂O₄) nanoparticles for pseudocapacitor applications	Journal of Alloys and Compounds Impact Factor:3.799 DOI: https://doi.org/10.1016/j.jallcom.2017.06.249	723		NOV 2017
21.	SP Ramachandran, B Saravanakumar, V Ganesh, G Ravi, A Sakunthala , R Yuvakkumar	Hexamine, PEG-400 effect on α-MoO₃ nanoparticle synthesis for pseudo capacitance applications	Journal of Materials Science: Materials in Electronics Impact Factor:2.195 DOI: https://doi.org/10.1007/s10854-017-7223-9	28	13780-13786	2017
22.	B. Saravanakumar, S. Muthulakshmi, G. Ravi, V. Ganesh, A. Sakunthala R. Yuvakkumar	Surfactant effect on synthesis and electrochemical properties of nickel-doped magnesium oxide (Ni-MgO) for supercapacitor applications	Applied Physics A Impact Factor:1.78 DOI: https://doi.org/10.1007/s00339-017-1293-7	697		OCT 2017
23.	P Senthil Kumar, A Sakunthala* , MV Reddy, BVR Chowdari	Preparation and characterization of LiNi_{0.495}M_{0.01}Mn_{0.495}O₂ (M= Zn, Co, and Y) for lithium ion batteries	Ionics Impact Factor:2.354 DOI: https://doi.org/10.1007/s11581-017-2110-1	23	3013-3022	NOV 2017

24.	Saravanakumara.S. P.Ramachandran G.Ravi, V.Ganesh, A.Sakunthala , R. Yuvakkumar	Morphology dependent electrochemical capacitor performance of NiMoO ₄ nanoparticles	Materials Letters Impact Factor: DOI: 3.019 https://doi.org/10.1016/j.matlet.2017.07.095	209	1-4	DEC 2017
25.	B. Saravanakumar, T. Priyadharshini, G. Ravi, V. Ganesh, A. Sakunthala R. Yuvakkumar	Hydrothermal synthesis of spherical NiCO ₂ O ₄ nanoparticles as a positive electrode for pseudocapacitor applications	Journal of Sol-Gel Science and Technology Impact Factor:1.986 DOI: https://doi.org/10.1007/s10971-017-4504-y	84	297-305	NOV 2017
26.	P Senthil Kumar, A Sakunthala* , MV Reddy, S Shanmugam, M Prabu	Correlation between the structural, electrical and electrochemical performance of layered Li (Ni_{0.33}Co_{0.33}Mn_{0.33})O₂ for lithium ion battery	Journal of Solid State Electrochemistry Impact Factor:2.531 DOI: 10.1007/s10008-015-3029-y	20	1865-1876	JUL 2016
27.	P Senthil Kumar, A Sakunthala* , K Govindan, MV Reddy, M Prabu	Single crystalline TiO₂ nanorods as effective fillers for lithium ion conducting PVdF-HFP based composite polymer electrolytes	RSC Advances Impact Factor:3.049 DOI: https://doi.org/10.1039/C6RA20649B	6	91711-91719	SEP 2016
28.	P Senthil Kumar, A Sakunthala* , M Prabu, MV Reddy, R Joshi	Structure and electrical properties of lithium nickel manganese oxide (LiNi_{0.5}Mn_{0.5}O₂) prepared by P123 assisted hydrothermal route	Solid State Ionics Impact Factor:2.886 DOI: https://doi.org/10.1016/j.ssi.2014.09.002	267	1-8	2014
29.	MV Reddy, A Sakunthala , S.SelvashekarPandian BVR Chowdari	Preparation, Comparative Energy Storage Properties, and Impedance Spectroscopy Studies of Environmentally Friendly Cathode, Li (MMn_{11/6})O₄ (M= Mn_{1/6},Co_{1/6}, (Co_{1/12}Cr_{1/12}))	The Journal of Physical Chemistry C Impact Factor:4.309 DOI: https://doi.org/10.1021/jp309180k	117	9056-9064	2013

30.	D Arun Kumar, S Selvasekarapandian, H Nithya, A Sakunthala , M Hema	Dielectric, modulus and impedance analysis of LaF₃ nanoparticles	Physica B: Condensed Matter Impact Factor:1.874 DOI: https://doi.org/10.1016/j.physb.2010.06.004	405	3803-3807	2013
31.	P.Senthil Kumar A.Sakunthala* M.Prabu	Impact of Cerium on the structural and electrical properties of lithium nickel manganese oxide (LiNi _{0.5} Mn _{0.5} O ₂)	International Journal of Chem Tech Research ISSN: 0974-4290 Impact Factor:0.598 DOI: http://hdl.handle.net/20.500.11750/2137	6	5252-5255	2014
32.	P.Senthil Kumar, A.Sakunthala* , P.Issac Nelson, M.Prabu	The structural, vibrational and electrical properties of lithium ion conducting plasticized (PVdF-HFP)/PEMA	International Journal of Chem Tech Research: ISSN: 0974-4290 Impact Factor:0.598 DOI: http://hdl.handle.net/20.500.11750/2277	6	1870-1872	2014
33.	Subramanian, Selvasekarapandian; Ayyasamy , Sakunthala ; Selvin, P. Christopher; Reddy, M. V.; Chowdari, B. V. R.; Heller, Nithya; Dorai, Arunkumar; Muthusamy, Hema	Synthesis of Li _{1+x} V ₃ O ₈ by Chemical Route and Its Characterization	Journal of Nanoscience and Nanotechnology Impact factor:1.35 DOI: https://doi.org/10.1166/jnn.2012.5362	12	737-742	2012
34.	A Sakunthala , MV Reddy, S Selvasekarapandian, BVR Chowdari, P Christopher Selvin	Energy storage studies of bare and doped vanadium pentoxide,(V 1.95 M 0.05) O 5, M= Nb, Ta, for lithium ion batteries	Energy & Environmental Science Impact Factor:33.250 DOI: https://doi.org/10.1039/C0EE00513D	4	1712-1725	2011
35.	H Nithya, S Selvasekarapandian, D Arun Kumar, A Sakunthala , M Hema, P Christopherselvin, Junichi Kawamura, R Baskaran, C Sanjeeviraja	Thermal and dielectric studies of polymer electrolyte based on P (ECH-EO)	Materials Chemistry and Physics Impact Factor:2.781 DOI: https://doi.org/10.1016/j.matchemphys.2010.10.047	126	404-408	2011
36.	A Sakunthala , MV Reddy, S Selvasekarapandian, BVR Chowdari, P Christopher Selvin	Preparation, characterization, and electrochemical performance of lithium trivanadate	The Journal of Physical Chemistry C Impact Factor:4.309 DOI: https://doi.org/10.1021	114	8099-8107	2010

		rods by a surfactant-assisted polymer precursor method for lithium batteries	/jp1005692			
37.	A Sakunthala, MV Reddy, S Selvasekarapandian, BVR Chowdari, P Christopher Selvin	Synthesis of compounds, Li (MMn 11/6) O 4 (M= Mn 1/6, Co 1/6,(Co 1/12 Cr 1/12),(Co 1/12 Al 1/12),(Cr 1/12 Al 1/12)) by polymer precursor method and its electrochemical performance for lithium-ion batteries	Electrochimica Acta Impact Factor:5.383 DOI: https://doi.org/10.1016/j.electacta.2010.02.080	55	4441-4450	2010
38.	M Hema, S Selvasekarapandian, G Hirankumar, D Arunkumar, H Nithya	Laser Raman and ac impedance spectroscopic studies of PVA: NH ₄ NO ₃ polymer electrolyte	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy Impact Factor:2.931 DOI: https://doi.org/10.1016/j.saa.2009.11.012	75	474-478	2010
39.	M Prabu, S Selvasekarapandian, AR Kulkarni, G Hirankumar, A Sakunthala	Ionic conductivity studies on LiSmO ₂ by impedance spectroscopy	Ionics Impact Factor:2.354 DOI: https://doi.org/10.1007/s11581-010-0420-7	16	317-321	2010
40.	A Sakunthala, MV Reddy, S Selvasekarapandian, BVR Chowdari, H Nithya, P Chirstopher Selvi	Synthesis and electrochemical studies on LiV ₃ O ₈	Journal of Solid State Electrochemistry Impact Factor:2.531 DOI: https://doi.org/10.1007/s10008-010-1044-6	14	1847-1854	2010
41.	M Hema, S Selvasekarapandian, D Arunkumar, A Sakunthala, H.Nithya	FTIR, XRD and ac impedance spectroscopic study on PVA based polymer electrolyte doped with NH ₄ X (X= Cl, Br, I)	Journal of Non-crystalline solids Impact Factor:2.600 DOI: https://doi.org/10.1016/j.jnoncrysol.2008.10.009	355	84-90	2009
42.	M Hema, S Selvasekerapandian G Hirankumar A Sakunthala D Arunkumar H Nithya	Structural and thermal studies of PVA: NH ₄ I	Journal of Physics and Chemistry of solids Impact Factor:2.752 DOI: https://doi.org/10.1016/j.jpcs.2009.06.005	70	1098-1103	2009
43.	M Hema, S Selvasekarapandian	Structural and ionic conductivity studies	Ionics Impact Factor:2.354	15		

	H Nithya A Sakunthala, D Arunkumar	on proton conducting polymer electrolyte based on polyvinyl alcohol	DOI: https://doi.org/10.1007/s11581-008-0254-8		487-491	2009
44.	M Hema S Selvasekerapandian A Sakunthala D Arunkumar H Nithya	Structural, vibrational and electrical characterization of PVA–NH 4 Br polymer electrolyte system	Physica B: Condensed Matter Impact Factor:1.874 DOI: https://doi.org/10.1016/j.physb.2008.02.001	403	2740-2747	2008

Details of the funded projects

Title of the Project	Funding Agency	Duration	Status
Pulsed laser deposition grown thin/thick film of LiV ₃ O ₈ nanorods for lithium metal battery applications EMR/2017/003227 dated 16.7.2018	SERB-DST-EMR, Govt of India	Just completed 5.8.2018-5.8.2021 Three years	completed
Development of High Power lithium ion polymer battery SR/FTP/PS-192/2011 Dated 22.5.2012	SERB-DST, Govt of India	19.6.2013-22.11.2016 Three years and five months	completed
“Lithium ion dynamics in manganese based cathode materials for high power lithium ion battery”	DAE-BRNS, Govt of India	1.11.2012-31.10.2015 Three years	Completed

Awards and Fellowships received

1. **Dr.Abdul Kalam Teaching Excellence Award** as a renowned teacher for the dedicated service by Rotary Club of Chennai Serenity, 2020.
2. DEPARTMENT BEST RESEARCHER AWARD FOR YEAR 2014, from Karunya University
3. ACHEIVERS AWARD given by Karunya University for research works
4. **Junior** (May, 2006 – May, 2009) **and Senior Research Fellowships** (June, 2009 – December, 2010) from Defense Research and Development Organization (**DRDO**), India
5. Fellowship by National University of Singapore for the Internship Programme (SIPIIS-09), 18 May 2009, organized in Advanced Batteries Lab, National University of Singapore. <http://www.hindu.com/edu/2009/05/18/stories/2009051850100500.htm>)
6. **Best Oral Presentation Award** for Research presentation at the Fifteenth National Convention of electrochemists organized by Society for Advancement of Electrochemical Science and Technology (SAEST) in collaboration with Central Electrochemical Research Institute, Karaikudi and VIT University, Vellore
7. **Best Poster Award** for Research presentation at International symposium on Advances in Electro-Chemical Science & Technology organized by Society for Advancement of Electrochemical Science and Technology (SAEST) and CSIR-Central Electrochemical Research Institute, Karaikudi (CECRI)
8. Bharathiar University, Dr.K.M.Marimuthu Endowment **Gold Medal** for outstanding performance In M.Sc. Physics
9. Certificate of Academic excellence and Dr.N.S.Palaniappan Silver Medal for secured IV rank in B.Sc Physics in the university examinations, April 2003.
10. **Certificate of Appreciation** from Prof.BVR.Chowdari, President, ASSSIS, for actively contributing in organizing 11th Asian Conference on Solid State Ionics, in Defense Research & Development Organization-Bharathiar University-Centre for Life Sciences, Bharathiar University , Coimbatore-46, Tamilnadu, India during 9th to 11th June 2008.

Academic and Administrative responsibilities

1. PG lab in-charge
2. Admission co-ordinator
3. Mentoring
4. Academic co-coordinator
5. Internal Member in Board of studies member (BOS), Physics, 2020-2021

Workshop/Symposium/Conference/Seminars organized

National Webinar, “Future of Lithium based batteries in Indian Scenario- Thought provoking ideas by a physicist” Date: 18.6.2021, Friday, 6 to 7 pm

Speaker: Dr. Yogesh Kumar Sharma, Associate Professor, Department of Physics, Indian Institute of Technology, Roorkee

Invited Talk Delivered

Invited Talk in the **webinar** on “Research, Innovation and Ranking”, 9.8.2021, Organized by Rathinam College of Arts and Science, Pollachi, Coimbatore, India.

Invited talk in **International Conference** on Advanced Functional Materials for Energy, Environment and Health Care (AFMEEHC), 18.3.2019 to 20.3.2019, Centre for Materials Science and Technology, Vijnan Bhavan, University of Mysore, Mysuru, India.

Council for Scientific and Industrial Research (**CSIR**) sponsored **National Seminar** on “Advanced Materials for Energy Storage Devices” 14.12.2017, P.A. College of Engineering and Technology, Topic: Introduction to Lithium ion batteries

Resource person for the **IEEE sponsored** one day **National Workshop** on “Research Challenges in Smart Power and Energy Management System to Enhance Digital India-SPEMS’17” 7.2.2017, Karunya University, Coimbatore 641 114, Tamil Nadu.

Workshop Cum Hands-on-Training on “Material Synthesis & Characterization” Workshop Series-2016, 2.2.2016 to 10.5.2016, Department of Physics, Karunya University, Coimbatore 641 114, Tamil Nadu, Topic: An introduction to energy storage devices- lithium ion batteries”.

Certificate Programme on Characterization Techniques, 29.8.2016 to 2.9.2016, Department of Science and Humanities, Centre for Research in Nanotechnology, Karunya University, Coimbatore 641 114, Tamil Nadu.

Invited talk in the Second **Hands-on experimental workshop** on characterization techniques, 8.10.2015 to 9.10.2015, PSN College of Engineering and Technology, Melathediyoor, Tirunelveli 627 152

Participation/presentation in Workshop/Seminar/Conference/Symposium/Colloquium

Oral Presentation:

International Conference on Functional Materials, 7-10, September, 2016, Organized by Centre for Scientific and Applied Research, PSN College of Engineering and Technology, Tirunelveli 627 152, Tamilnadu, India.

Workshop on computational techniques for energy materials/National Conference on Materials for Energy Conversion and Storage (NCMECS 2015), organized by Energy Science Society of India (ESSI) and Division of Physics, School of Advanced Sciences, VIT Chennai. 19.3.2015 to 21.3.2015.

Poster Presentation:

Poster presentation in the poster presentation meet, 29.9.2017, organized by Department of Pre-Engineering Programme-Division of Physics.

Faculty Development Programme:

Participated in FDP conducted by Karunya Competency Development Cell (KCDC), entitled "Lecture Capturing", 24.8.2016.

Participation:

Workshop on Advanced Functional Materials (FUNMAT-2017) on Polymers for Electrochemical Applications, conducted by CSIR-Central Electrochemical Research Institute, Karaikudi, 22.5.2017.

Research Seminar on "Strain Driven Self-Assembled semiconductor nanostructures", organized by the Department of Science and Humanities, and Centre for Research in Nanotechnology on 2.11.2016.

Workshop on "Improving Effectiveness of Teaching and Quality of Education", 24.6.2016, Department of Science and Humanities, Karunya University, Coimbatore, Tamil Nadu, 24.6.2016.

National Level Workshop on "Thin film coating and characterization techniques", organized by Department of Physics, Karunya University, Coimbatore, 6.5.2015.

National Conference on Nanomaterials, 3-4 December, 2012, Department of Physics, Karunya University, Coimbatore, 641114.

Conference Proceedings with ISBN number:

I. BOOK NAME SOLID STATE IONICS (May 2010)
(FUNDAMENTAL RESEARCHES AND TECHNOLOGICAL APPLICATIONS)

PUBLISHED BY: Wuhan University of Technology Press, Wuhan, China

ISBN Number: 978-7-5629-3159-1

Title / Authors detail / Page Numbers

1. Thermal and Conductivity Studies on P(ECH-EO)-LiClO₄ Polymer Electrolyte Gelled with γ -Butyrolactone

H. Nithya, S. Selvasekarapandian, D. Arunkumar, **A. Sakunthala**, M. Hema and P. Christopher Selvin

Page Numbers: 16 - 22

2. Electrochemical Cycling and Impedance Studies of Compounds, Li(MMn_{11/6})O₄ (M = Mn_{1/6}, Co_{1/6}, (Co_{1/12}Cr_{1/12})) Prepared at 650 °C

A. Sakunthala, M. V. Reddy, S. Selvasekarapandian, B. V. R. Chowdari and P. Christopher Selvin

Page Numbers: 543 – 550

3. Ionic Conductivity Studies on LiSmO₂ by Impedance Spectroscopy

M. Prabu, S. Selvasekarapandian, A. R. Kulkarni, G. Hirankumar and **A. Sakunthala**

Page Numbers: 741 - 746

4. Synthesis and Conductivity Analysis of Cerium Fluoride Nanoparticles

D. Arun Kumar, S. Selvasekarapandian, H. Nithya, **A. Sakunthala**, M. Hema, N. Vidyanand Singh and BK Mehtha

Page Numbers: 880 – 887

II. BOOK NAME SOLID STATE IONICS (July 2012)

(IONICS FOR SUSTAINABLE WORLD)

PUBLISHED BY: World Scientific Publishing Co Pt e Ltd, Singapore

ISBN Number: 978-981-4415-03-3 (CD)

Title / Authors detail / Page Numbers

5. SYNTHESIS AND CHARACTERIZATION OF LITHIUM NICKELVANADATE NANOCRYSTALLITES

A. Sakunthala, S. Selvasekarapandian, M.V. Reddy, C. Sanjeeviraja

Page Numbers: 450 - 455

III. BOOK NAME SOLID STATE IONICS (June 2008)

(NEW MATERIALS FOR POLLUTION FREE ENERGY DEVICES)

PUBLISHED BY: MACMILLAN India Ltd, 2008

ISBN Number 10: 0230-63567-9

ISBN Number 13: 978-0230-63567-8

Title / Authors detail / Page Numbers

6. Characterization and electrical conductivity of LiMnVO₄ cathode material prepared by Sol-Gel method

D.Prakash, J.Malathi, **A.Sakunthala**, H.Nithya, M.Hema, C.S.Ramya, and S.Selvasekapandian

Page Numbers: 319-326

7. Conductivity and Dielectric Studies on Proton Conducting (PVDF-HFP) – NH₄SCN polymer electrolytes

A.Sakunthala, P.Christopher Selvin, H.Nithya, D.Arunkumar, M.Hema, C.Sanjeeviraja, and S.Selvasekarapandian

Page Numbers: 769-774

8.Vibrational, AC Impedance and Dielectric Spectroscopy studies on polyaniline doped LiClO₄

H.Nithya, P.Christopher Selvin, **A.Sakunthala**,D.Arunkumar, M.Hema, and S.Selvasekarapandian

Page Numbers: 775-780

9. Raman and DSC studies on PVA doped with NH₄Br

M.Hema, S.Selvasekarapandian, **A.Sakunthala**, D.Arunkumar, H.Nithya, O.Kamishima and J.Kawamura

Page Numbers: 781-788

10. Transport properties of layered lithium nickel manganese oxide (LiNi_{0.5}Mn_{0.5}O₂) cathode material for lithium ion batteries

P.Senthil Kumar, A.Sakunthala, M.Prabu, M.V.Reddy, **ACSSI-2014 Proceedings, ISBN number: 978-981-09-1137-9, Page: 11-20.**

11. Investigations on influence of Titania content on the properties of PVdF-HFP based polymer electrolytes

P.Issac Nelson, P.Senthil Kumar,A.Sakunthala, M.Prabu, M.V.Reddy, K.Govindhan, **ACSSI-2014 Proceedings, ISBN number: 978-981-09-1137-9, Page: 522-531**

12.Synthesis of layered Li (Ni_{1/3}Co_{1/3}Mn_{1/3}) O₂ cathode via CTAB assisted ball milling route

P Senthil Kumar, A Sakunthala, MV Reddy

International Journal of Science and Engineering Applications Special Issue NWLM ISSN-2319-7560

13.Synthesis And Characterization Of Cathode Materials For Rechargeable Lithium Batteries

S Selvasekarapandian, A Sakunthala, MV Reddy, BVR Chowdari, P Christopher Selvin
Material Science and Technology

ISBN 978-602-97444-3-9

COUNTRIES VISITED and Presented Research work in INTERNATIONAL CONFERENCES with financial support

- Oral Presentation in “International Conference on Materials for Advanced Technologies”, ICMAT- 2015, Materials Research Society, **SINGAPORE in 2015, with travel support from DST, India**
- Oral Presentation, ACSSI-13, Tohoku University, **JAPAN in 2013 with travel support from Tohoku University, JAPAN**
- Oral Presentation in “International Conference on Materials for Advanced Technologies”, ICMAT-2009, Materials Research Society, **SINGAPORE in 2009, with Registration and Travel Support from, National University of Singapore**
- National University of Singapore for the Internship Programme (SIPIS-09), 18 May 2009, **SINGAPORE in 2009**

Membership

The Indian Society for Technical Education, life member of the society, an organisation for promoting the quality and standards in technical education (LM 78335), from 2011.

Extra-curricular

Completed orientation training given by the Empanelled Training Institution-National Service Scheme (under the Ministry of Youth Affairs and Sports, Government of India), Coimbatore 641 043, Tamil Nadu, India, 13.11.2015 to 19.11.2015, conducted by Avinashilingam University.

Served as NSS program officer in Karunya University since June 2012.

Program Co-ordinator, National Service Scheme, 2014-2015, Karunya University.

Program Co-ordinator, National Service Scheme, 2015-2016, Karunya University.

Programme Co-ordinator under Centre for Extension Activities, during 2016-2017 in the Astronomy Club.

Programme Co-ordinator under Centre for Extension Activities, during 2017-2018 in the Astronomy Club.