



Personal Details

Name : Dr. LAKSHMI VIJAYAN
Department : Research and post graduate Department of Physics
Designation : Asst. professor
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Career Profile

S. No.	Institution/ Organization	Designation	Period
1.	Pondicherry Central University, Pondicherry	Research Associate	Feb. 2012 to June 2012
2.	Carmel College, Mala, Chalakudy	Assistant Professor	June 2012 to 21 st August 2012
3.	St. Aloysius College, Edathua	Assistant Professor	22 nd August 2012 onwards

Positions Held or Holding if any

S. No.	Position	Period
1.	Research Guide, St. Aloysius College, Edathua, M.G. University	June 2018 onwards
2.	Director, Research Center, Department of Physics, St. Aloysius College, Edathua	2020-21, 2021-2022
3.	Women Cell Member, St. Aloysius College, Edathua	August 2017 to till date
4.	Coordinator, Nature and Energy Club	2018 onwards
5.	College level Coordinator, Talent search Examination(APT), SAC, Edathua	2018-2019, 2019-2020, 2020-2021
6.	Presiding Officer, Lok Sabha Election	2019

7.	Member, Staff Council executive, SAC	2019-2020, 2020-21
8.	Secretary, Diamond Dual, Alumni Association, Department of Physics	2020-21 to 2022-23

Research Publications

S. No.	Publication
1.	Rajesh Cheruku, D. Surya Bhaskaram, G. Govindaraj, Lakshmi Vijayan Nanocrystalline Li_2MoO_4 : Synthesis and electrical studies Journal of Alloys and Compounds 788(2019) 779-786
2.	Rajesh Cheruku, G Govindaraj, Lakshmi Vijayan Electrical relaxation, optical and magnetic studies of nanocrystalline lithium ferrite synthesized by different chemical routes Mater. Res. Express 4 (2017) 125008
3.	Rajesh Cheruku, G. Kruthika, G. Govindaraj, Lakshmi Vijayan Electrical relaxation studies of olivine type nanocrystalline LiMPO_4 (M=Ni, Mn and Co) materials Journal of Physics and Chemistry of Solids 86 (2015) 27
4.	Rajesh Cheruku, G. Govindaraj, Lakshmi Vijayan Super-linear frequency dependence of ac conductivity in nanocrystalline lithium ferrite Materials Chemistry and Physics 146 (2014) 389
5	Lakshmi Vijayan , Rajesh Cheruku, G. Govindaraj Electrical, Optical and Magnetic investigations on LiNiPO_4 based Olivines Synthesised by Solution Combustion Technique Materials Research Bulletin 50 (2014) 341
6	Rajesh Cheruku, G. Govindaraj, Lakshmi Vijayan Ion dynamics in sol-gel synthesized $\text{Li}_2\text{Ni}_{1-x}\text{Mg}_x\text{TiO}_4$ nanocrystallites Materials Chemistry and Physics 141 (2013) 620

7	<p>Viswarupa Mohanty, Rajesh Cheruku, G. Govindaraj, Lakshmi Vijayan</p> <p>Ce-substituted Lithium Ferrite: Preparation and electrical relaxation studies</p> <p>Journal of Material Science & Technology (2013) 1</p>
8	<p>Viswarupa Mohanty, Rajesh Cheruku, G. Govindaraj, Lakshmi Vijayan</p> <p>Synthesis, structure and electrical conductivity studies of inverse spinel $\text{Li}_{0.5}\text{Fe}_{2.5}\text{O}_4$</p> <p>Indian Journal of Pure and Applied Physics 51 (2013) 381</p>
9	<p>Rajesh Cheruku, G. Govindaraj, Lakshmi Vijayan</p> <p>Structural and electrical conductivity studies of nanocrystalline $\text{Li}_2\text{NiTiO}_4$ material</p> <p>Indian Journal of Pure and Applied Physics 51 (2013) 343</p>
10	<p>Lakshmi Vijayan, Rajesh Cheruku, G. Govindaraj</p> <p>Structural and ac electrical properties of LiCoPO_4 synthesised by template free hydrothermal approach</p> <p>AIP Conf. Proc. 1512 (2013) 428, ISBN 978-0-7354-1133-3</p>
11	<p>Rajesh Cheruku, G. Govindaraj, Lakshmi Vijayan</p> <p>Electrical and magnetic properties of sol-gel synthesized nanocrystalline $\text{Li}_2\text{Ni}_{1-x}\text{Mg}_x\text{TiO}_4$ materials AIP Conf. Proc. 1512 (2013) 330, ISBN 978-0-7354-1133</p>
12	<p>Rajesh Cheruku, Lakshmi Vijayan, G. Govindaraj</p> <p>Ac conductivity studies of Solution Combustion Synthesized Nanocrystalline $\text{Li}_2\text{MgZrO}_4$ material</p> <p>AIP Conf. Proc. 1447 (2012) 345, ISBN 978-0-7354-1045-9</p>
13	<p>Lakshmi Vijayan, Rajesh Cheruku, G. Govindaraj</p> <p>Structure and Ion Transport in $\text{Li}_3\text{Fe}_2(\text{PO}_4)_3$ Synthesized by Solution Combustion Technique</p> <p>Journal of Applied Physics 111 (2012) 064905</p>
14	<p>Lakshmi Vijayan, Rajesh Cheruku, G. Govindaraj and S. Rajagopan</p> <p>Physical and electrical properties of combustion synthesized NASICON type $\text{Na}_3\text{Cr}_2(\text{PO}_4)_3$ crystallites: Effect of Glycine molar ratios</p> <p>Materials Chemistry and Physics 130 (2011) 862-869.</p>

15	Rajesh Cheruku, Lakshmi Vijayan , G.Govindaraj Electrical Conductivity Studies of Solution Combustion Synthesized Nanocrystalline $\text{Li}_2\text{NiZrO}_4$ material AIP Conf. Proc. 1349 (2011) 1013-1014
16	Lakshmi Vijayan , and G. Govindaraj Structural and electrical properties of high-energy ball milled NASICON type $\text{Li}_{1.3}\text{Ti}_{1.7}\text{Al}_{0.3}(\text{PO}_4)_{2.9}(\text{VO}_4)_{0.1}$ ceramics Journal of Physics and Chemistry of Solids 72 (2011) 613-619.
17	Lakshmi Vijayan , Rajesh Cheruku, G. Govindaraj and S. Rajagopan Ion dynamics in combustion synthesized $\text{Na}_3\text{Cr}_2(\text{PO}_4)_3$ crystallites Materials Chemistry and Physics 125 (2011) 184–190.
18	Lakshmi Vijayan and G. Govindaraj Impedance spectroscopic studies of planetary ball-milled lithium titanium phosphate material Physica B: Physics of Condensed Matter 404 (2009) 3539–3543.

Books Published

S. No.	Book Details
1.	Book chapter entitled “NASICON Materials: Structure and Electrical properties” Lakshmi Vijayan , G. Govindaraj Polycrystalline Materials, Chapter 4, p. 77-106, ISBN: 978-953-307-934-9.
2.	Book chapter entitled “ <i>Electron Microscopic Studies on the Lithium Ion Conducting Materials</i> ” Rajesh Cheruku, Lakshmi Vijayan , G.Govindaraj Current Microscopy Contributions to Advances in Science and Technology (A. Méndez-Vilas, Ed.), Formatex Research Center, Vol. 2, p. 1312-1323, December 2012., ISBN (13): 978-84-939843-6-6

Invited Lectures/ Paper Presentations in Conferences

S. No.	Conference & Presentation Details
1.	<p>Kerala Science Congress, Govt. Brennen College, Thalasserry, 28th -30th Jan, 2018 Lakshmi Vijayan, Srijitha Menon, Krishnaveni M.</p> <p>Hydrothermal Synthesis of LiMnPO₄</p>
2.	<p>59th DAE Solid State Physics Symposium, 16th -20th December, 2014, VIT, Vellore</p> <p>Electrical conductivity of Graphene Wrapped nanocrystalline LiMnPO₄</p> <p>Rajesh Cheruku, G.Govindaraj, D. Surya Bhaskaram, , Lakshmi Vijayan</p>
3.	<p>58th DAE Solid State Physics Symposium, 17th -2st December, 2013, Thapar University, Patiala.</p> <p>Template Free Hydrothermal Synthesis of LiMnPO₄</p> <p>Lakshmi Vijayan, Rajesh Cheruku, G.Govindaraj</p>
4.	<p>57th DAE Solid State Physics Symposium, 03rd – 07th December, 2012, IIT Bombay, Powai, Mumbai.</p> <p>(a) Electrical and Magnetic Properties of Sol-Gel synthesised Nanocrystalline Li₂Ni_{1-x}Mg_xTiO₄ materials</p> <p>Rajesh Cheruku, Lakshmi Vijayan, G.Govindaraj</p> <p>(b) Structural and AC electrical Properties of LiCoPO₄ synthesised by Template Free Hydrothermal Approach</p> <p>Lakshmi Vijayan, Rajesh Cheruku, G.Govindaraj</p>
5	<p>56th DAE Solid State Physics Symposium, December, 2011</p> <p>Ac conductivity studies of solution combustion synthesized nanocrystalline Li₂MgZrO₄ material</p> <p>Rajesh Cheruku, Lakshmi Vijayan, G. Govindaraj</p>
6	<p>11th Asian Conference of Solid State Ionics</p> <p>An alternate approach for Jonscher's power law: Complex impedance spectra analysis of glassy materials</p> <p>G. Govindaraj, Lakshmi Vijayan</p> <p>New Materials for Pollution Free Energy Devices, 2008, p. 395-400 (Eds. B. V. R. Chowdari <i>et. al.</i>), ISBN: 023-063-567-9.</p>

6	<p>5th Asian Conference on Electrochemical Power Sources, Singapore, 17th-20th September, 2010</p> <p>Electrical relaxation studies of nano-crystalline $\text{Li}_3\text{Fe}_{2-x}\text{Mg}_x(\text{PO}_4)_3$ synthesised by solution combustion synthesis</p> <p>Lakshmi Vijayan, G.Govindaraj, S. Rajagopan</p>
7	<p>12th Asian Conference of Solid State Ionics,</p> <p>(a) Anomalous relaxation and ac conductivity in ion conducting solids</p> <p>Fundamental Researches and Technological Applications, 2010, p. 357-363 (Eds. B. V. R. Chowdari et. al.), ISBN: 978-7-5629-3159-1</p> <p>G. Govindaraj, Lakshmi Vijayan, OdileBohnke</p> <p>(b) Electrical relaxation studies of nano-crystalline $\text{Na}_3\text{Cr}_2(\text{PO}_4)_3$ prepared by solution combustion</p> <p>Lakshmi Vijayan, Rajesh Cheruku, G. Govindaraj, S. Rajagopan</p> <p>Fundamental Researches and Technological Applications, 2010, p. 112-119</p>
8	<p>6th Asian Conference on Electrochemical Power Sources, Chennai, January, 2012</p> <p>(a) Ac Electrical Relaxation and Electrochemical Studies in LiNiPO_4 based Olivine Systems Synthesized by Solution Combustion Technique</p> <p>Lakshmi Vijayan, Rajesh Cheruku, G.Govindaraj, C. Nithya, S. Gopukumar</p> <p>(b) Electrical and Electrochemical studies of Solution Combustion Synthesized Nanocrystalline $\text{Li}_2\text{NiZrO}_4$ material</p> <p>Rajesh Cheruku, Lakshmi Vijayan, G.Govindaraj, C. Nithya, S. Gopukumar</p>
9	<p>7th National Conference on Solid State Ionics</p> <p>Analysis of LiPO_3 glassy system with Jonscher's universal power law and recently proposed non-Debye dielectric relaxation function</p> <p>G. Govindaraj, Lakshmi Vijayan</p> <p>Proceedings of 7th National Conference on Solid State Ionics, Solid State Ionics and Its Applications, 2006, p. 96, ISBN: 13:978-1403-93024-8</p>
10	<p>51st DAE Solid State Physics Symposium</p> <p>Non-power law approach to study ac conduction and analysis of LiPO_3 glassy system</p> <p>G. Govindaraj, Lakshmi Vijayan</p>

11	52 nd DAE Solid State Physics Symposium Hopping ion dynamics and relaxation process in NASICON type glassy system Lakshmi Vijayan, G. Govindaraj
12	53 rd DAE Solid State Physics Symposium, 20081 DC and AC conductivity duality in ion conducting solids G. Govindaraj, OdileBohnke, Lakshmi Vijayan
13	54th DAE Solid State Physics Symposium, 2009 Solution combustion synthesis of Na ₃ Cr ₂ (PO ₄) ₃ material Lakshmi Vijayan, Rajesh Cheruku, G. Govindaraj, S. Rajagopan
14	9 th National Conference on Solid State Ionics, December, 2011 Structural and electrical conductivity studies of nanocrystalline Li ₂ NiTiO ₄ material Rajesh Cheruku, Lakshmi Vijayan, G. Govindaraj

Research Projects

S. No.	Title of the Project	Funding Agency	Amount	Period
1.	Minor Research project Title: Investigations on Electrical, Magnetic, Electrochemical behaviour of NASICON and Olivine Materials.	UGC	Rs. 200000/-	2014

Seminar/ Workshops Organized

S. No.	Title of the Seminar/ Workshop	Funding Agency	Amount	Date
1.	EUREKA CORAL 2016: Workshop for School students	KSCSTE funded	Rs. 20,000/-	10th -11th November 2016
2.	Coordinator of Women Cell Inauguration of by Hon. Dist. Collector, Ms. Anupama IAS	KSWDC funded	Rs. 25,000/-	19 December 2017.
3	Coordinator of Women cell training programme on Fabric painting			3 rd March 2018.

4	Coordinator of Celebration of International Women's Day: Invited talk by Dr. Ancy Joseph			8 March 2018.
5	Coordinator of Dr. Varghese Mathew Endowment Elocution competition,	Nil	-----	14 th February 2019.
6	Coordinator of the poster designing competition	ICDS cell- Alappuzha district	----	7 th February 2019.
7	Coordinator of Celebration of International <i>Women's day</i>	KSWDC funded	Rs. 10,000/-	21 st March 2019.
8	Coordinator of talk on Violence against Women: Laws and Latches to Justice by Adv. Raji P Joy	KSWDC	Rs. 10,000/-	19 December 2019.
9	Coordinator of Celebration of International Women's Day by Mrs. Manju Nair, SI, Mavelikara			6 th March 2020
10	Coordinator of a National webinar series on the topic "Gender Bias and Gender Equality" by Divya. K and Dr. Amruthraj R M			17 th to 18 th September 2020.
11	Coordinator of Invited talk on Global Environmental Pollutants by Dr. Mahesh Mohan organised by Nature and Energy Club and Department of Physics.	Nil	----	9 th January 2020
12	Coordinator of Sabu Jacob Memorial all Kerala Intercollegiate Quiz Competition	Nil	----	24 th January 2020.
13	Coordinator of Environmental Day celebrations: International Webinar on Ecosystem Restoration, organised by Nature and Energy Club and Department of Physics	Nil	----	5 th June 2021.
14	Coordinator of Commemoration of great scientists: Student presentation series.	Nil	----	12/8/2021 6/1/2022
15	Coordinator of space week celebrations	Nil	----	4/10/2021 to 10/10/2021

16	Coordinator of energy conservation day	Nil	----	14/12/2022

Membership in Scientific/ Professional Societies

S. No.	Name of the Society	Nature of Membership
1.	Association of Physics Teachers (APT)	Life long

Doctoral Research Supervision

S. No.	Scholar's Name	Title	Year of Registration	University	Status
1.	Cincila T Joy	AC electrical relaxation studies and electrochemical studies of Li_2MXO_4 materials	2022	M.G. University	Pursuing