


FACULTY PROFILE

Name of Teaching Staff / RMK ID	Dr. A. Vijayalakshmi /T0351		
Designation	Associate Professor		
Department	Science & Humanities (Chemistry)		
Date of Joining the Institution	19/08/2005		
Qualifications	M.Sc., M.Phil., Ph.D.		
Total Experience as on May 2023	Overall : 26.4 Yrs	in RMK : 20.1 Yrs	
Papers Published in Journal	Overall : 43	After Joining RMK : 43	
List of Papers Published	1	Vijayalakshmi A , Vidyavathy, B, Peramaiyan, G & Vinitha, G 2017, 'Synthesis, growth, structural and optical studies of a new organic three dimensional framework: 4-(aminocarbonyl) pyridine 4 (aminocarbonyl) pyridinium hydrogen L-malate, Journal of Solid State Chemistry, vol. 246, pp. 237-244.	
	2	Vijayalakshmi A , Vidyavathy Balraj, G. Vinitha, Crystal structure, growth and nonlinear optical studies of Isonicotinamide p-nitrophenol: A new organic crystal for optical limiting applications, Journal of crystal growth, 448(2016)82-88.	
	3	A. Vijayalakshmi , Radhey Shyam Meena , Vinay Kumar Domakonda , A. Venkateshwara Rao T. Sathish , Ümit Ağbulut , M. Rajasimman , Sang-Woo Joo, Maximizing sustainable hydrogen and ZnO nanoparticles production from Goshala wastes with nanoparticles of ZnSO ₄ and NaBH ₄ , Fuel, volume 349, 128625 (2023).	
	4	Vijayalakshmi A , Vidyavathy Balraj , Vinitha G. , Structure and characterization of a new organic crystal for optical limiting applications, isonicotinamide bis-p-aminobenzoic acid, Ukranian J. Phys. Opt. 2016, Volume 17, Issue 3.	
	5	Vijayalakshmi A , Vidyavathy Balraj, Determination of basic solid state parameters and characterization of optical, dielectric and fluorescence properties of Calcium Boro Lactate(CaBL) , Journal of chemical society, Pakistan.	
	6	Vijayalakshmi A , Vidyavathy Balraj 2017, 'Optical, thermal, laser damage threshold, dielectric studies and z-scan technique of novel semiorganic NLO material: sodium boro succinate (NaBS)', U.P.B. Scientific Bulletin-	

	Series B, vol. 79, issue 1, pp. 221-232.
7	S.D. Uma Mageswari Vijayalakshmi, A , , 2019, 'Policy initiatives for effective Solid Waste Management in India- A critical Review' Interntional Journal of Advance and Innovative Research (UGC approved Journal), Vol.6 Issue 1 (XI) January – March 2019.
8	Vijayalakshmi A , Chithra B , Balaramesh P, Studies on Dapsone Transition Metal Complexes", International Journal of Pharmtech Research, Vol.8, No.4, pp562-568, (2015),
9	Vijayalakshmi A , Vidyavathy Balraj, Chithra B, "Hydrothermal Synthesis, Growth, Optical, thermal and Dielectric studies of Zinc boro oxalate (ZnBO)", Research Journal of Chemical Sciences, Vol.6(1), pp12-15, (2016).
10	Vijayalakshmi A , Vidyavathy Balraj, Chithra B, Madhukar Hemamalini, "Synthesis, Growth, Optical, thermal and Dielectric Studies of Lead Boro Glutamate (PbBG)", International Journal of Chemtech Research, Vol.8, No.12, pp638-642, (2016).
11	Vijayalakshmi A , Vidyavathy Balraj, Chithra B "An Overview of Novel NLO Succinate Crystals", International Journal of Chemtech Research, Vol.8, No.10, pp272-275, (2015).
12	Vijayalakshmi A , Vidyavathy Balraj , B. Gunasekaran, Abdul Razack Ibrahim, Synthesis, Structural, Optical, Thermal and LDT Characterization of Novel Semi-Organic Non-Linear Optical Material: Calcium Borolactate, Asian Journal of Chemistry; Vol. 28, No. 12 (2016).
13	Vijayalakshmi A , Meena M, Parvathipriya A, Bioelctronics – a revolution in science – a review, Cikitusi Journal For Multidisciplinary Research, Volume 6, Issue 6, pp 313-317 (2019).
14	Meena M, Vijayalakshmi A , Blooming Electronic Gadgets is Boon or Bane? – A Critical Review, Cikitusi Journal For Multidisciplinary Research, Volume 6, Issue 6, pp 245-250 (2019).
15	Vijayalakshmi A , Meena M, Cradle to Grave of Materials, Test Engineering and Management, January-February 2020, Page No. 8241 – 8245.
16	Meena.M, Vijayalakshmi A , Plastic Microbeads, Waffen-Und Kostumkunde Journal, Volume XI, Issue III, March/2020, Page No. 1-3.
17	A. Parvathi Priya, V. Srinivasan, R. Subhashini, A. Vijayalakshmi . Synthesis and physicochemical properties of a promising nonlinear optical metal organic crystal: Bis(L-alaninato)zinc(II), Materials Letters, Volume 266, 1 May 2020, 127474.
18	A. Vijayalakshmi , M. Meena, P.Suganthi, Statistical Analysis on Vulnerable Categories of Covid- A Birds Eye View, Journal of Xidian University, Volume 14, Issue 7, pp 1122-1128.
19	A. Vijayalakshmi , M. Meena. Crop Destructor-Locust-A critical review, Journal of Xidian University, Volume 14,


	Issue 7, pp 1798 -1804.
20	M. Meena, A.Vijayalakshmi , Pandemics / Epidemics – A causal analysis, Interciencia Journal, Volume 45, Issue 9, pp 34-43.
21	M. Meena, A.Vijayalakshmi , The Struggle of India in COVID-19 Combat, Indian Journal of Science and Technology, 14(25): 2106-2110. https://doi.org/10.17485/IJST/v14i25.833
22	R. Harshini, A. Vijayalakshmi , M. Meena , L. AncyGeoferla, Website Development On Cake Factory Using HTML and CSS, International Journal of Aquatic Science ISSN: 2008-8019 Vol 12, Issue 01, 2021
23	Vijayalakshmi A , Vidyavathy Balraj, Meena M “Synthesis, growth and characterization of Strontium boro tartrate (SBT) by Hydrothermal method” published in AIP conference proceedings.
24	Vijayalakshmi A , Vidyavathy Balraj, Meena M, “Single crystal X-ray diffraction study of Sodium Boro Succinate (NaBS) published in AIP conference proceedings.
25	G. Nixon Samuel Vijayakumar, P.S.Latha Mageshwari, A. Vijayalakshmi , Experimental and Theoretical Investigations on Structural, Morphological, Optical and Dielectric behavior of novel BaO-MnO Metal Nanocomposites, IEEE conference proceedings.
26	Dr. A. Vijayalakshmi , Sarita S Mane, Dr. Sandhya A M, Dr Merin Mathew, Sanjay Kumar, Vijay Kumar Sharma, Chemistry Aid to The Discovery of Drugs Used to Treat Diseases and People's Health, European Chemical Bulletin, 2023,12(Special Issue 5), 127 – 133. DOI: - 10.31838/ecb/2023.12.si5.016
27	S. Jasmine Mary, A. Vijayalakshmi , A. Parvathi Priya, Anti-Corrosive Study of Adathoda Vasica Extract In 1M HCl on the Corrosion of Mild Steel, European Chemical Bulletin, 2023, 12 (1), 2241 – 2246. DOI: 10.31838/ecb/2023.12.1.301.
28	A. Vijayalakshmi , M. Malini Devi, Manisha, Importance of Medicinal plants having anti carcinogenic and anti oxidant activities used in Ayurvedic Medicinal System, Bulletin of Environment, Pharmacology & Life Sciences, Vol. 12, Issue. 03, No.2, 2023.
29	Vijayalakshmi A , Importance of Medicinal plants having anti carcinogenic and anti-oxidant activities used in Ayurvedic Medicinal System, Bulletin of Environment, Pharmacology & Life Sciences.
30	Meena M , Vijayalakshmi A , Yoganand K S, Removal Of Pollutants From Wastewater Using Neem Leaf As Bioadsorbent, Eur. Chem. Bull. 2023, 12(Regular Issue 6), 563 - 566
31	Dr. A. Vijayalakshmi , Enhancing Rice Yields in Red Soil through Azobacter Cultivation, Oxidation Communications, 46(2), 2023, 489-498.
32	Swaminathan J; Anbusrinivasan P; Vijayalakshmi A , Synthesis, Geometrical, Spectral and Anti Bacterial Studies of 4-Hydroxy-3-methoxybenzaldehyde thiosemicarbazone by

	Experimental and Theoretical Investigations, Computational and Theoretical Chemistry,1229, (2023), P.114338.
33	Vijayalakshmi, A., Moorthy, K.S., Balakrishnan, G., ...Kumar, S.S., Raja, L , Embracing circular economy principles for sustainable green supply chain management in manufacturing industries, Convergence of Human Resources Technologies and Industry 5 0, IGI Global,2024,pp. 85-110.
34	Vijayalakshmi, A, Mohanraj, G., Krishna, K.S., Lakshmi, B.S., .Pramila, P.V., Boopathi, S. Optimizing trust and security in healthcare 4.0: Human factors in lightweight secured IoMT ecosystems, Lightweight Digital Trust Architectures in the Internet of Medical Things Iomt, IGI Global-2024, pp. 52-72
35	Vijayalakshmi, A., Sathish, T., Surakasi, R., ...Sithole, T., Amesho, K.T.T.,DeepNNet 15 for the prediction of biological waste to energy conversion and nutrient level detection in treated sewage water, Process Safety and Environmental Protection,2024,189, pp. 636-647.
36	Vijayalakshmi, A., Alhashmi, B., Rajalakshmi, K., ...Philip, J.M., Ayyasamy, R.,High-resolution GC-MS for tracking volatile organic emissions in solar-enhanced redox flow batteries, Oxidation Communications48(1), 2025, pp. 255-264.
37	Vijayalakshmi, A., Mohammed, R., Velumayil, R., ...Prasad, A.R., Vijayan, V.,Analysis of Abrasive Wear Characteristics in Glass Fiber Reinforced Epoxy Composites: Optimization and Mechanical Property Investigation, Aip Conference Proceedings,2025 3270(1)
38	Vijayalakshmi, A., Sharma, R., Sundaresan, B., ...Robin, C.R.R., Chandrasekaran, N.Integrating artificial intelligence for smart grid efficiency in power systems, Innovations in Power Systems and Applications, IGI Global-2025, pp. 67-91
39	Vijayalakshmi, A., Marotrao, S.S., Kumar, R.A.,Kumar, K.R., Muthuvel, S.Enhancing mechanical and microstructural properties of crushed stone concrete using alumina nanoparticles and composite fibers, Aip Conference Proceedings,2025, 3267(1)
40	Kumar, PS, Pachiappan, K Ananth, J (Ananth, J.), Pandikumar, M Harsha, AS,Alam, MI Vijayalakshmi, A, Sunagar, P Sapthagirivasan, Polymer-Based Transparent Conductive Compositesfor Flexible Solar Panel Coatings, Journal of polymer & composites, 2025, Volume 13, Issue 3 Page 99-110.
41	Christiyan, KGJ , Sailesh, A Karpagavalli, C Kavimani, Vijayalakshmi,A, Sharmila, J (Sharmila,

		J.) ; Kumar, GSVS Khare, R Sargunan, K , Characterization of Nano-Clay Reinforced Polymer Composites: Enhancing Performance for Extreme Applications, Journal of polymer & composites 2025, Volume ,13 Issue 2, Page 105-114.
	42	Vijayalakshmi, A. , Nandakumar, V., Srinivasan, V.,Sabarimuthu, M., Dhanraj, J.A.Safety and Ethical Considerations in Nanotechnology: A Comprehensive Review, Aip Conference Proceedings, 2025 3300(1)
	43	Vijayalakshmi, A. , Kamesh, M.R., Kumar, P.S.,Yadav, A.S., Subramani, N., Interaction between sewage sludge and biomass components for enhanced biofuel production via pyrolysis based on studies of the mild acid pre-treatment process, Journal of the Energy Institute,2025 121, 102167.
Papers Presented in Conferences (Scopus / WoS indexed only)	Overall: 2	After Joining RMK :2
Ph.Ds / Projects Guided	Ph.Ds Guided : -	Student Projects Guided: -
Books Chapters Published	Count: 2	
	1. Book chapter in the title of COVID-19 to OMICRON – An Overview in the book of COVID-19 Impact and responses Volume VII published by Bhumi Publication, Maharashtra. ISBN: 978-93-91768-52-2.	
	2. Book chapter in the title of An Ecovative Alternative for Plastic: An Overview in the book of Plastic Waste Management Turning Challenges into Opportunities published by Bharti Publication, New Delhi. ISBN: 978-93-91681-06-7.	
	3. Book Chapter entitled “ An Overview of Water Footprint for Sustainable Development ” in the book of “Changing Face of Agriculture, Agri- Business, Agriculture Marketing and Organic Farming- Innovation and Strategies” .published by INSC International Publisher, Paisley Cir. ISBN: 978-81-959356-2-8	
	4. Book chapter in the title of Nano Crystalline and Amorphous Silicon Semiconductors as Competing Candidates for PV applications in the book of Autonomous Control System, ESN Publications, Chennai. ISBN:978-93-95196-44-4.	
Books Published	1. Soil, Aquatic, Agricultural Microbiology, Good Writers Publishing, ISBN: 978-93-5756-XXX-X	
	2. Basics of Engineering Chemistry, AGPH Publisher-ISBN-978-81-960902-6-5	
	3. A Text book of Green Chemistry",AG Publishing House,ISBN:9788119843152	

	4. Introduction to Environmental Studies and Disaster Management, Shivika Publications-ISBN: 978-81-987027-1-5
	5. Green Chemistry, Shivika Publications -ISBN: 978-81-987027-7-7
Patents	Published Count: 9
	Granted Count:=3
	1. Crystal Engineering of pharmaceutical Co-crystals isonicotinamide for the development of Active Pharmaceutical Ingredients (API).
	2. Biomaterial infused chitosan beads for the effective removal of oil and heavy metal ions
	3. Corrosion inhibition on mild steel using inexpensive inhibitor in 1M HCl
	4. Covid protocol Management system
	5. Robotic arm using Arduino in construction work
	6. A deep learning-based Content sharing system and methods
	7. Device for analysis of market communication in Tourism
	8. Crystal Engineering of Semi-organic borate sodium boro succinate crystals for electronic applications
	9. Extraction of hexavalent chromium from wastewater by green methodology
	10. Smart planter with automated soil and analysis system
	11. AI Based Plant Predicto-Farmer's tree friend
	12. Mobile App Development for organizing and Managing passwords
	13. Green technique for synthesis of polyethyl methacrylate
14. Synthesis, characterization of curcumin glycinates for in vitro and in silico carbohydrate digestive enzyme inhibitor	
15. Nano metal oxide loaded Chitosan polymer metal complexes for photocatalytic degradation of pharma pollutants	
Patent Grant	1. IOT Based Solar Powered Agriculture Robot
	2. Sea water desalination apparatus using solar energy
	3. Smart planter with automated soil and air analysis system
Professional Memberships	1. Indian Society for Technical Education
	2. Indian Laser Association
	3. International Association of Engineers
	4. Hong Kong Chemical, Biological& Environmental Engineering Society (HKCBEEES).
	5. International Society for Development and

	Sustainability (ISDS).
Consultancy Projects Completed	<ol style="list-style-type: none"> 1. Completed water quality analysis and grey water treatment consultancy work with Sri Chakravarthe Industries, Ambattur, Chennai-600053, on 15/03/2024, for an amount of Rs. 51,000. 2. Completed surface characteristics of materials testing with K R Construction, Kolathur, Chennai-600099, on 25/03/2025, for an amount of Rs. 1,02,000/-.
Awards Received	<ol style="list-style-type: none"> 1. Received an award of 'OUT STANDING WOMEN IN SCIENCE' by Centre for Advanced Research and Design, Venus International Foundation. 2. Received an appreciation of Mentor in NPTEL course of Soft Skill Development.
Research grants Received	--
AICTE ID	1-474299743
Orchid Link / ID	https://orcid.org/0000-0001-7648-226X
Google Scholar Link / ID	https://scholar.google.com/citations?user=aUJ8vREAAAAJ&hl=en
Vidwan Link / ID	https://vidwan.inflibnet.ac.in/profile/281463
Research Gate Link / ID	https://www.researchgate.net/profile/Vijayalakshmi-Arunachalam-2
Scopus Link / ID	57189344186



Signature of the faculty