


Name: Dr. S. USHA	<div>Photo</div> <div></div>			
Designation:	Professor			
Qualification:	M.Sc., M. Phil., Ph.D			
Area of specialization:	Organic Chemistry -Synthesis and characterisation			
Experience:	Industrial Experience		Teaching Experience	
	16 Y 11 M 20 D		17 Y 9 M 18 D	
Number of workshops / FDP attended:	Number of Workshops		Number of FDPs	
	23		18	
Publications:	Conference		Journal	
	National	International	National	International
		1	2	9
Books / Book Chapters	1			
Patents:	National		International	
	3		-	
Professional Body Membership	2			
Staff Achievements	Produced 100% result in Engineering chemistry, Industrial Safety, Fundamentals of nutrition , Waste Management and recycling technology and EVS since 2008. Motivating students to perform online courses like NPTEL, Coursera, Edx , Skill rack etc.,Inculcating SDG – goals, targets and indicators. Identifying unique talents in the students and encouraging to excel in their career by giving proper guidance.			



Educational Qualifications:

Category	Name of the Degree	Specialization	Year of Passing	Name of the College	Name of the University	% of Marks / Grade s obtained	Class obtained
U G	B.Sc.	Chemistry	1985	Meenakshi College for Women	Madras University	77 %	I
PG	M.Sc.	Chemistry	1991	-	Annamalai University	71 %	I
	M.Phil	Chemistry	2004	-	Annamalai University	63 %	I
Ph.D.	Ph.D	Organic Chemistry	2017	-	Vels University	-	-

Academic Experience:

Name of the College	Designation	Joining Date	Relieving Date	Experience		
				Years	Months	Days
Madha Engineering College	Senior Lecturer	03.10.2006	17.06.2008	1	9	-
Sri Sai Ram Engineering College	Assistant Professor	18.06.2008	31.07.2015	7	1	13
	Associate Professor	01.08.2015	31.05.2019	3	10	-
	Professor	01.06.2019	Till date	5	1	5

Industrial Experience:

Name of the Organisation	Designation	Nature of Work	Joining Date	Relieving Date	Experience		
					Years	Months	Days
Tamil Nadu Dadha Pharmaceuticals Chennai	Assistant chemist	Research work	09.09.1985	16.01.1988	2	4	7
Nicholas Piramal India Ltd formerly ICI India Ltd.	Senior chemist	Research Analytical & Trouble shooting	18.01.1988	31.08.2002	14	7	13
Total					16	11	20

Workshops/Seminars attended:

1. Participated in National Workshop on X-ray Analysis of Materials and Applications (NWXRA2011) organized by School of Basic Sciences, Department of Chemistry, Vel's University, Chennai held on 29 & 30th April 2011.
2. Participated in the International Workshop on Crystal Growth and Characterization of Advanced Materials and Devices (IWCGCMD) conducted by Crystal Growth Centre, Anna University, Chennai during 16 - 19 December 2012.
3. Participated in the XVII National Seminar on Crystal Growth conducted by Department of Physics, Anna University, Chennai on 9 - 1, January 2013.
4. Participated in CSIR Sponsored National Seminar on Recent Trends in Laser Spectroscopy and its Applications on 17th October 2013 at Sri Sairam Engineering College, Chennai.
5. Participated in the National Seminar on The concepts of Green chemistry on 10.11.2013, organised by the Department of Chemistry, Valliammai Engineering College, Kattankulathur - 603203.
6. Participated International seminar on crystalline materials and opto electronic devices conducted by Department of Physics, Jamal Mohamed College, Trichy on 3rd February 2014.
7. Participated in the XVIII NSCG - 2014 held at Centre for Crystal Growth, SSN College of Engineering, Kalavakkam-603110, on 24-26, February, 2014.
8. National seminar on Chemistry of materials for drug delivery conducted by Hindustan University in collaboration with DRDO on 22/01/2015.
9. Participated and presented paper entitled **Synthesis, Characterization By Spectral, Single Crystal XRD, Thermal Studies, Optical properties, Biological Activity, Docking and DFT Studies of Mandelic Acid and its Derivatives** in the National Seminar on Crystal Growth and Applications

(XXII NSCGA-2018), organised by Department of Physics, Sacred Heart College (Autonomous), Tirupattur, Vellore Dt., Tamilnadu during 29-31, January 2018.

10. Participated in a one day Workshop on “Intellectual Property Rights and Innovations” Organized by Sri Sairam Engineering College and in association with CIPR on 20.07.2019.
11. Participated in the online state level workshop conducted by BS Abdur Rahman University on **Fundamentals of quantum mechanics** during 29.10.2021-02.11.2021.
12. Took part in the survey conducted by IGEN SDG research survey project titled “SDG-7 IMPACT ON INDIAN UNIVERSITIES” leads to support UN DESA towards United Nation Sustainable Development Goals.
13. Participated in the Online program on World Peace and awareness program conducted by Shanmugha Industrial Technology and Arts College , Tiruvannamalai on 25.2.2022.
14. Participated in the National Level Seminar on NEP2020 implementation using change management concepts in Higher Educational Institutes held on 21.04.2022 organised by the IQAC of Sri Sairam Engineering College in Academic colloboration with NAAC.
15. Participated in the National Level Quiz held on 26.04.2022 as a part of World IP day organised by IPR Cell and R&D Club of Sri Sairam Engineering College.
16. Participated in the virtual ACS seminar conducted by IIT Mandi on the Advances in multifunctional Nanomaterials during 05,06 May 2022.
17. Participated in the IGEN survey project titled as Rising EV 2Wheeler Opinion Surveyto support UN SDG 7 target 7.1.
18. Participated in the workshop on Sustainable Materials Advances and Applications organised by Department of Physics, SRM Institute of Science and Technology , Ramapuram Campus, Chennai on 22.07.2022.
19. Participated in two days State Level Seminar on NEP: Quality Enhancement and Reforms in HEIs organized by IQAC Sri Ramakrishna College of Engineering, Coimbatore, TN, on 4-5 August 2022.
20. Successfully completed Journal Citation Reports (JCR) Certification Series-2022 organised by Clarivate on 10.08.2022.
21. Attended Distinguished Lecture on **Mettallodielectric Composite Resonant Structure - A New Paradigm in Antenna Design** on 27.9.2022 organised by Sathyabama Institute of Science and Technology.
22. Participated and successfully completed the Quiz Series on Physics organised by the Department of Physics, KPR Institute of Engineering and Technology on 19.10.2022.
23. Participated in the “National Workshop on Hands on Training Programme on Useful Tools to efficiently Create Research Summary” on 22th July 2024, organized by Department of Physics, SRM Institute of Science and Technology, Ramapuram, Chennai.

FDP/STTP Attended:

1. Attended Short-term course on NMR Spectroscopy conducted by SAIF, IIT Madras, Chennai during 8 - 10 March 2012.
2. Participated in Faculty Development Training Programme on Introduction to NanoScience and Polymer NanoComposites conducted by MIT, Anna University from 1-7th July 2013.
3. Participated in the ISTE sponsored FDP organized by EEE department on “Renewable Energy Systems” at Sri Sairam Engineering College from 22.07.19 to 26.07.19.

4. Attended three days Winter School on Computational Modelling CSIR sponsored programme conducted by Department of Physics, Holy Cross College, Trichy from 27-29 Feb 2020.
5. Attended and successfully completed five days on-line ATAL FDP on IoT from 18.05.2020 - 22.05.2020 conducted by NIT Nagaland.
6. Attended and successfully completed five days on-line ATAL FDP on Data Sciences from 25.05.2020- 29.05.2020 conducted by NITTTR, Chandigarh.
7. Attended and successfully completed the 5 days online FDP course conducted by AICTE on **Inculcating universal human values in technical education** from 08.02.2021- 12.02.2021.
8. Completed successfully online Training Programme for Mentors organised by AICTE from 05.07.2021- 09.07.2021.
9. Participated in the Five days international FDP on Nanomaterials Online - Organised by St.Mary's College, Thoothukudi on 23.11.2021 - 27.11.2021.
10. Participated in the one week online National Level FDP on Advanced Computational and Experimental Research in Physics-2022 Applications organised by Department of Physics, SRM Institute of Science and Technology, Ramapuram Campus, Chennai on 20.-27.06.2022.
11. Completed successfully the FDP conducted by NITTTR/ Chennai during Sep 2021 on **Module -5 Technology enabled learning and life long self learning.**
12. Completed successful online FDP conducted by NITTTR-CHENNAI on **Mentoring and counselling skills for teachers** during 4.10.2021-08.10.2021.
13. Participated and successfully completed 5 days Face to Face UHV - II FDP organised by AICTE at Sri Sairam Engineering College from 26 July to 30 July 2022.
14. Attended 5 day **Online FDP on Insights on Emerging Research in Chemical Science (IERCS-2022)** during 10-14 October 2022 conducted by NIT Andhra Pradesh.
15. Participated in FDP on Spectroscopic and Chromatographic Techniques conducted by SHRI VAISHNAV VIDYAPEETH VISHWAVIDYALAYA, INDORE, SHRI VAISHNAV INSTITUTE OF SCIENCE Department of Chemistry in the Collaboration with CSI (Chromatographic Society of India) from April 24 to 28, 2023.
16. Participated in the FDP cum Workshop entitled “ **One Week FDP on Computational Modelling of Materials (Online mode)**” during May 8, 2023 to May 12, 2023 organised by the Department of Physics, Madanapalle Institute of Technology and Science, Andhra Pradesh.
17. Attended FDP on **Transformation in Health Care : Smart Technologies** organized by IEEE – EMBS, Madras section in association with IEEE Student branch and Department of ECE K.S .Rangasamy College of Technology for eight Saturdays from 12.08.2023 to 30.09.2023.
18. Attended FDP conducted by Jeppiar Institute of Technology on Contemporary Research Trends, Innovations and Technology during 26.08.2024 to 31.08.2024.

Symposium Attended:

1. Attended NCRTPM-2015 on 28.02.2015 organised by Pachiyappa's college, Chennai, during their diamond jubilee celebration and presented paper on **Temperature- dependent dielectric properties of mandelic acid.**
2. Attended first Online Chemistry Symposium **ANUKURAN 2022** on the theme Exploring New Dimensions

in Chemistry organised by Shri Vaishnav Vidyapeeth Vishwavidyalaya on 28.09.2022.

Conference Attended:

1. Participated in The Regional Rural Science Congress held on 12-13, December 2013 at SRM University, Kattankulathur, and presented a paper on **Green synthesis of Vanillyl mandelic acid**.
2. Participated in NCGPNM '14 organised by School of Applied Sciences, Department of Chemistry and Centre for Clean Energy and Nano convergence at Hindustan University and presented a paper on **Green synthesis** during 8- 9 January 2014.
3. Participated in ICAMMAS'17 conducted by Sri Sairam Institute of Technology on 31 March 2017 and presented a paper on **Theoretical DFT study of R-phenyl alanine -S- mandelate**.
4. Participated in ICETER'16 conducted by Vels University on 20 & 21 October 2016 and presented a paper on **Synthesis, characterization, antioxidant activity and anticancer activity of l-phenyl alanine -bis-mandelate**.
5. Participated in the International Conference on Emerging Trends in Nanoworld (ICETN 2017), February 27 -28, 2017 Organized by Department of Chemistry, School of Basic Sciences, Vels University, Chennai - 600 117 and presented poster on **Theoretical DFT study of R-phenyl alanine -S-mandelate**.
6. Participated in the International Conference on Bioengineering on Health and Environment (ICBHE '18) organised by Sathyabama Institute of Science and Technology, Chennai held during 8th to 10th January, 2018 and presented a paper on **A Computational Analysis of Cancer Inhibitor - ortho benoyl vanillin**.
7. Participated and presented paper in National conference on Computational Biology and Medical Biotechnology in Health Care (CMBH-18) held at Department of Bioinformatics, Sathyabama Institute of Science & Technology, Chennai from 9th - 11th October 2018. **Obtained Best paper award for my presented paper on bis-L-phenyl alanine mandelate in CMBH-18.**
8. Participated and presented paper on **Theoretical DFT study of four component molecular crystal** in the 2nd National Conference on Recent Developments of Chemistry in Engineering Applications (NCEA 2019) held on 9th February 2019 organised by the Department of Chemistry, SRM Valliammai Engineering College, Kattankulathur - 603203.
9. Paper presented in the International Conference on Chemical Research for Sustainable Development (ICCRSD-2021) **In-vitro and Pharmacokinetics study of bis-L-phenyl alanine mandelate (BLPAMA)** on 24.09.2021 & 25.09.2021.

Completed / Ongoing Projects: NIL

Patent:

1. PATENT APPLICATION PUBLICATION (21) Application No.202341026487 A (19) INDIA (22) Date of filing of Application :10/04/2023 (43) Publication Date : 05/05/2023
2. PATENT APPLICATION PUBLICATION (21) Application No.202341026697 A (19) INDIA (22) Date of filing of Application :11/04/2023 (43) Publication Date

: 05/05/2023

3. PATENT APPLICATION PUBLICATION (21) Application No.202341026704 A
(19) INDIA (22) Date of filing of Application :11/04/2023 (43) Publication Date
: 05/05/2023

Journal Publications:

1. Dielectric loss studies and electronic properties of mandelic acid S.Usha, K.Selvarani, T.K.Subramaniam, Charles Kanakam Christopher, AASCIT Journal of Physics **01**(2015)6-10.
 2. Study of molecular interactions of binary mixture of mandelic acid in different solvents using ultrasonic, acoustical parameters, dielectric constant and FTIR measurements S.Usha, Charles Kanakam Christopher, B.Thanuja, AASCIT Journal of Chemistry **02** (2015)55-60.
 3. Synthesis, Characterisation and In Silico study of Vanillyl Mandelic acid, S.Usha, Jaynthy C, Charles Kanakam Christopher, IJPCR **07** (2015) 458 - 461.
 4. Synthesis, Characterisation of Novel NLO material: bis-L-phenyl alanine mandelate, S.Usha and Charles Kanakam Christopher, Chem Sci Trans **05(1)**(2016)179- 186.
 5. Antioxidant Activity of Phenyl alanine mandelates by Chemical and Electrochemical methods, S.Usha and Charles Kanakam Christopher, GJMR- B**16(1)**(2016)1-6.
 6. A Novel Method of Diastereomeric Resolution of R-Phenyl alanine-S-mandelate from the Racemic Mixture S.Usha and Charles Kanakam Christopher, Chem Sci Trans **05(3)** (2016)727-733.
 7. In Silico and In Vitro Study of R - Phenyl Alanine - S – Mandelate, S.Usha and Charles Kanakam Christopher, IJPCR **08(11)** (2016) 1537 - 1542.
 8. Synthesis Characterization, Antioxidant Activity and Anticancer Activity of L-Phenyl Alanine - Bis – Mandelate, S.Usha and Charles Kanakam Christopher, IJPBS **8(2)** (2017)196-202.
<http://dx.doi.org/10.22376/ijpbs.2017.8.2.p196-202>
- JOURNAL LINK: <https://www.researchgate.net/publication/315944346>
9. Theoretical DFT study of R-Phenyl alanine-S-mandelate S.Usha and Charles Kanakam Christopher, Materials Today: Proceedings **16** (2019)1137-1145. <https://doi.org/10.1016/j.matpr.2019.05.206>
- JOURNAL LINK: <https://www.sciencedirect.com/science/article/pii/S2214785319310521>
10. A computational analysis of cancer inhibitor: ortho benzoyl vanillin, S.Usha, Jaynthy C, IJBRA **17(5)**(2021) 406-414. <https://doi.org/10.1504/IJBRA.2021.120195>
- JOURNAL LINK: <https://www.inderscienceonline.com/toc/ijbra/17/5>
11. Density functional analysis of molecular crystal: bis-l-Phenyl alanine mandelate, S. .Usha and Charles Kanakam Christopher, IJC 62(4)(2023) 401-410. <https://doi.org/10.56042/ijc.v62i4.447>
- JOURNAL LINK: <https://or.niscpr.res.in/index.php/IJC/article/view/447>

Books / Book Chapters:

Impact of crystal parameters in XRD and DFT measurements , ook Chapter,

DOI: 10.5772/intechopen.112291.

JOURNAL LINK: <https://www.intechopen.com/chapters/87812>

Awards:

1. Received **Dr. Marie Curie Award for Best Chemistry Teacher in Engineering College** during 2020 from Society for Engineering Education Enrichment (SEEE)
2. **Ranked 41 out of 50 Top Mentors selected by ATL TINKERPRENUR2022** conducted by NITI Aayog / AIM (Atal Innovation Mission)

Startup: NIL

Webinar:

1. Attended Webinar on **Online Training on Content Orientation Training** three days program conducted by NIDM / CCDRR during 22.09.2021-24.09.2021.
2. Participated in Natural **Products and Drug Development (NPDD 2021)-ONLINE Webinar** conducted by BS Abdur Rahman University during 04.10.2021-06.10.2021.
3. Attended DELNET & EWRI WEBINAR ON BEST PRACTICES FOR E-WASTE MANAGEMENT IN INSTITUTIONS on 28.02.2022.
4. Participated in the webinar on "Critical Infrastructure - Energy, Power and Telecommunication" on 15 Mar 2022 organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India.
5. Participated in the online training on "Women Mental Health in the time of COVID19" from 15.03.2022-17.03.2022 organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with PSG Polytechnic College, TN.
6. Attended DELNET virtual annual lecture on Navigating Pathways: Preparing the future workforce of LIS Professionals by Trish Hepworth on 22.03.2022.
7. Participated in the National IPR Awareness Mission organised by IPR India on 04.03.2022.
8. Participated in the webinar " Climate Change Report 2022 Impacts, Adaptation and Vulnerability Challenges and Solutions" on 12 Apr 2022 organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt of India.
9. Participated in the IP Awareness and Training Program under National Intellectual Property Awareness Mission on 18.04.2022 organized by IPO India.
10. Participated in the webinar on "Role of Remote Sensing and Emergency Operation Centre for Management of Heatwaves" on 20 Apr 2022 organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India.
11. Participated in the webinar on "Application of Space based Technology in Disaster Management" on 10 May 2022 organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of

India in collaboration with Kerala State Disaster Management Authority.

12. Participated in the webinar Awareness Meet on Materials Science with Ion Accelerator organised by UGC - DAE consortium for Scientific Research, Kalpakkam Node, India on 19.07.2022.
13. Attended DELNET TERI SAS Webinar on Best Practices for Building Green Campuses on 31.08.2022.
14. Attended one day International Webinar on **Advanced Functional Materials** held on 28th September 2022 organized by PG & Research Department of Physics, Gonzaga College of Arts and Science for Women, Krishnagiri, Tamil Nadu, India.
15. Participated in the **International Webinar on Chemical science for Sustainability** organised by PG department of Chemistry Gonzaga college, Kathampallam, Krishnagiri on 19.10.2022.
16. Attended one day National Webinar on **Nano Materials and their Applications** organized by Department of Chemistry, Bharath Institute of Higher Education and Research held on 30.11.2022.
17. Actively participated in the webinar series on **International Year of Millets 2023** held from 6-13, February 2023 organised by Department of Food Science and Nutrition, Yuvarajas College (Autonomous), UOM, Arogya Bharathi, Mysore Science Foundation, Nutrition Society of India, International Consortium for Ayurvedha, Nutrition and Food Technology, Mysuru.
18. Participated in the International Webinar on **Machine Intelligence : Happenings, Hopes and Hypes** on 31.08.2023 organised by IEEE student branch STB60209305, Study World college of Engineering, Coimbatore.
19. Participated in the webinar on **"Catalyzing Diversity in Science"** during 27.02. 2024 organised by Department of Chemistry with association of Chemistry Teachers India , IUPAC Global Women's Breakfast-2024 SHRI VAISHNAV VIDYAPEETH VISHWAVIDYALAYA, INDORE SHRI VAISHNAV INSTITUTE OF SCIENCE .
20. Participated in Webinar with Yuan Ze University (YZU) Taiwan on "Latest Research on Semiconductors, Communications & Sustainable Disaster Management by four renowned Professors from YZU, Taiwan" on 16th August 2024.

Resource Person:

1. Given **Expert Awareness talk on Plastic pollution** at Sri Sairam Homeopathy Medical College and Research during 2019.
2. Given **Chief guest -Speaker in Pharma Awareness 2021** (Expert Talk on COVID-19 -Assessment of Knowledge and awareness in Indian Society organised by Department of Pharmacy , Dr. M.G.R. Educational and Research Institute, Chennai.
3. **Resource Person in the Virtual National Conference on Disaster Management with focus on Geohazards** during 2021 conducted by National Institute of Disaster Management (NIDM)
4. Gave **Expert talk on the CLUBS & CELLS** on 16.09.2022 to the Second Year AI&DS students B section organized by Department of AI&DS , Sri Sairam Engineering College, Chennai.
5. Gave **Expert Talk** in the Civil Engineering department on Role of Extremophiles in Bioremediation on 20.10.22.

Online Courses:

1. Obtained successfully completed (with 40% marks) certificate for the course Principles of NMR spectroscopy on- line certification course conducted by NPTEL during Feb - April 2018.
2. Obtained Elite Certificate (with 76% marks) for the course Infrared Spectroscopy for pollution Monitoring conducted by NPTEL during July -September 2018.
3. Successfully completed (with 50% marks) the FDP on - line certification course conducted by NPTEL on Multidimensional NMR spectroscopy for structural studies of bio molecules during Jan-April 2019.
4. Completed AICTE –NITTTR FDP Course on Sustainable construction materials.
5. Successfully completed the following Coursera certification courses.
 - a. Quantum mechanics
 - b. Writing and editing word choice and word order
 - c. Spreadsheets for beginners using google sheets
 - d. Programming for everybody (getting started with Python)
 - e. Beyond the sustainable development goals (SDGs): Addressing sustainability and Development.
 - f. Biohacking your brain's health
 - g. Introduction to G-Suite
 - h. Introduction to google docs
 - i. Health behaviour change from evidence to action
6. Completed successfully 20.5 hrs course on General chemistry 20+ hours of lectures and examples certificate course given by Udemy.
7. Participated on-line webinars conducted by ICT academy in association with Skycampus digital knowledge series Season -1 on TECHNOLOGY FOR FUTURE conducted from 14.04.2020-18.04.2020 and obtained certificates respectively.
8. Participated on-line webinars conducted by ICT academy in association with Skycampus digital knowledge series Season -2 on VUCA WORLD conducted from 20.04.2020-24.04.2020 and obtained certificates respectively.
9. Participated on-line webinars conducted by ICT academy in association with Skycampus digital knowledge series Season -3 on THE FUTURE IS HERE NOW conducted from 27.04.2020-01.05.2020 and obtained certificates respectively.
10. Participated in virtual book launch FUTURE OF HIGHER EDUCATION - NINE MEGA TRENDS and expert talks conducted by ICT Academy on 30.06.2020, between 10.15 am -11.15 am.
11. Completed NPTEL Online Certification course Medicinal Chemistry 12 weeks course successfully with the consolidated score of 62% from Jan2021-Apr2021.
12. Completed **Process Safety Management (2.5 hours)** conducted by Udemy on 14.09.2021.
13. Completed successfully NPTEL course on Basic Course in Biomedical Research Cycle 5.
14. Completed successfully AICTE Course on NIECer 103: Scientific writing in Health Research.

15. Completed successfully NITTTR Eight Modules
16. Successfully completed an online 25 hour course on Artificial Intelligence in Pharmaceutical Sciences conducted by Shri Vile Parle Kelavani Mandal's Institute of Pharmacy, Dhule.
17. Completed NPTEL Online Certification course Sustainable Engineering Concepts and Life Cycle Analysis 8 weeks course successfully with the consolidated score of 77% from JUL2024-SEP2024.
17. Completed NPTEL Online Certification course Environmental Science 12 weeks course successfully with the consolidated score of 65% from JUL2024-OCT2024.
18. Completed NPTEL Online Certification course Wastewater Treatment and Recycling 12 weeks course successfully with the consolidated score of 62% from JUL2024-OCT2024.