

Sri Sai Ram Engineering College

Department of Humanities And Sciences

Name : Dr. G. K. AYYADURAI



Designation :

Professor

Qualification :

M.Sc., M.Phil., Ph.D., PGDCA.

Area of Specialisation

Chemical Kinetics, Water Technology & Phytochemistry

Experience :

Teaching : UG : 22 Yrs 06 Months

PG : 05 Yrs

Industry : -

*No. of Workshop / Conferences /
FDP attended*

16/13/09

Publication :

Journal

National : 01

International : 13

Conference

National : 04

International : 02

<p><i>Patents:</i></p>	<p><i>Filed : -</i></p> <p><i>Published: 09</i></p> <p><i>Granted : 02</i></p>
<p><i>Research Guidance :</i></p>	<ul style="list-style-type: none"> ● <i>Recognised M.Phil guide for Bharathidasan and Periyar University</i> ● <i>Under my guidance 9-students completed M.Phil degree (7-from Bharathidasan & 2-from Periyar University).</i>
<p><i>General :</i></p>	<ul style="list-style-type: none"> ● <i>Act as a Board Chairman (Chemistry Board) for the Anna University Central valuation.</i> ● <i>Scope Member (Organizer) for the Dept. of Humanities and Sciences.</i> ● <i>Time Table Coordinator for the Dept. of Humanities and Sciences more than 10 years.</i> ● <i>Sports Coordinator for the Dept. of Humanities and Sciences.</i> ● <i>Team Lead for Disaster Management and Safety Club.</i> ● <i>Member for Transport implementation Committee.</i> ● <i>More than 3 years as an Exam Cell Member in our College.</i> ● <i>7 years Exam cell coordinator in Meenakshi Chandrasekaran College, Pattukkottai, Thanjavur.</i> ● <i>HOD, PG Department of Biochemistry for the same institution.</i>

Staff Achievements:

- **Act as consultant** - *Our collaborative effort with experienced and dedicated organizations- **Vridhhi Technology Llp** in the field enable us to design and manufacture cost effective **EC** systems which are compact, efficient and with high quality. The advantages of Electrocoagulation are the versatile range of multiple pollutant removal, no additional chemical usage, less sludge production and a stable and reliable setup.*
- **Principal Investigator** *for the synthesis of **Herbal/Synthetic Hand Sanitizer and Antiseptic Soap** in our Group of Institutions.*
- *During pandemic period, our collaborating efforts with **LMES** to make **Portable Oxygen Generating Device Design** using **PSA** (Pressure swing adsorption) Technology.*
- *Our collaborating efforts with **Dr. A Abdul Rahman** Professor of Mechanical Engineering involve **Waste Management Technology** related projects.*
- *Prepare Experimental Procedure for **Fish Meal Analysis** for our sister concern **Super Seafood Products Private Limited, Thoothukudi, Tamilnadu.***

Educational Qualification:

Category	Name of the Degree	Specialization	Year of Passing	Name of the College	Name of the University	% of Marks / Grades obtained	Class obtained
UG	B.Sc	Chemistry	1994	A.V.M. Sri Puspam College	Bharathidasan University	67%	I
PG	M.Sc.	Chemistry	1997	Khadir Mohideen College	Bharathidasan University	63%	I
	M.Phil.	Chemistry	2003	Tamil University	Tamil University	68.5%	I
Ph.D.	Ph.D	Chemistry	2014	Bharathidasan University	Bharathidasan University	-	-

Academic Experience

Name of the College	Designation	Joining Date	Relieving Date	Experience		
				Years	Months	Days
Meenakshi Chandrasekaran College	Lecturer & HOD	12.07.1999	09.01.2007	7	5	28
Tagore Engg. College	Lecturer	10.01.2007	06.02.2008	1	0	25
Sri Sai Ram Engineering College	Sr. Lecturer	07.02.2008	31.07.2012	04	06	24
	Asst. Professor	01.09.2012	31.07.2015	02	10	30
	Associate Professor	01.08.2015	31.05.2019	03	09	30
	Professor	01.06.2019	Till date	02	09	30
Total				22	08	17

JOURNALS: INTERNATIONAL AND NATIONAL PAPERS PUBLISHED

- *B.Preethi , K. Buvaneswari , G. K. Ayyadurai, S. Kutti Rani and R. Jayaprakash, Indian Journal of Natural Sciences **Indian Journal of Natural Sciences** April 2022 13(71): 39662-39668.*
- *Natesan Vijayakumar, Venkataesan Kumari Bhuvaneshwari, **Gandhimathi Kaliyamoorthi Ayyadurai**, Rajendran Jayaprakash, Kasi Gopinath, Marcello Nicoletti, Saud Alarifi, Marimuthu Govindarajan Green synthesis of zinc oxide nanoparticles using *Anoectochilus elatus*, and their biomedical applications **Saudi Journal of Biological Sciences** April 2022 29(4): 2270–2279.*
- *G.K. Ayyadurai, R. Jayaprakash, S. Rathika Theoretical Molecular Properties Prediction, Docking and Antimicrobial Studies on Anisidine-Isatin Schiff Bases **Asian Journal of Chemistry** December 2021 33(12): 3025-3030.*
- *Dr. G. K. Ayyadurai Dr. R. Jayaprakash Theoretical studies on covid 19-3jcl spike protein and docking study with *Azadirachta Indica* nimbin and nimbolide **International Journal For Innovative Research In Multidisciplinary Field** April 2021 7(4): 24-29.*
- *V.Ramamurthy, H.V Anilkumar and **G.K.Ayyadurai** Bioefficacy of vitex Negundo Extract profile on the Ovipositional Behaviour *Euptrote Mollifera* **Journal of Interdisciplinary Cycle Research**, September 2019, 11(9) : 660-665.*
- *S.Senthil Kumar, **G.K.Ayyadurai**, V.Ramamurthy and S.Raveendran, Comparative studies on various physico-chemical parameters of different industrial waste water, **International journal of Research and Analytical Reviews**, 2019, 6(1):664-666.*
- ***G.K.Ayyadurai**, V.Ramamurthy, B.Thanuja, Some physics-chemical of soil and water of keezhathottam Mangroove, Tamilnadu,India, **International journal of chemical concepts**, 2017,03(02):208-217.*

- *B.Thanuja, G. K. Ayyadurai and Charles C. Kanagam, Comparative studies of anti-inflammatory activity in Vivo and in Silico studies of 4-methoxy benzoin and benzoin, Der Pharma Chemica, 2017, 9(24):15-20.*
- *G. K. Ayyadurai B. Thanuja and Charles C. Kanagam, , Synthesis, characterization and solvent effect on the optical properties of novel zinc doped chalcone organic crystals 1,3 bis (2-methyl benzal)acetone, Der Pharma Chemica, 2017, 9(23):59-63.*
- *B. Thanuja, G. K. Ayyadurai and Charles C. Kanagam, Synthesis, characterization and solvent effect on the optical properties of 2-semicarbazone-1-hydroxy, 1-(2-chlorophenyl)-2-(4'-methoxyphenyl) ethanol single crystal., Der Pharma Chemica, 2016, 8(12):135-142.*
- *G. K. AYYADURAI. N. M. I. ALHAJI, and A. SHAJAHAN Kinetic Studies on the Oxidation of Aniline by N-Chlorosaccharin, International Journal of Advanced Chemical Science and Applications (IJACSA), 2015, Volume -3, Special Issue -1, 2347-7601.*
- *N.M.I. ALHAJI, *G.K. AYYADURAI and A.SHAJAHAN, Kinetics and Mechanism of Oxidation of Aniline by N-Bromophthalimide, Chem Sci Trans., 2013, 2(2), pp 467-472.*
- *N.M.I. ALHAJI, A. SHAJAHAN and G.K. AYYADURAI Kinetics and Mechanism of Oxidation of Methyl Phenyl Sulphide by Imidazolium Fluorochromate, Chem Sci Trans., 2013, 2(2), pp 429-434.*
- *G.K. AYYADURAI AND V. RAMAMURIHY, Hepatoprotective Activity of Sarcostamma. Brevistigma, W&A on Albino Rats, Journal of siddha., 2009, Vol. 2(1), pp 40-46.*

PATENT FILED/PUBLISHED/GRANTED

- **ANTIBACTERIAL, ANTICANCER AND ANTIDIABETIC ACTIVITIES OF VARIOUS ACID GROUP MODIFIED 5-BROMO-2-[[Z)-(6-BROMOPYRIDIN-2-YL) METHYLIDENE] AMINO} BENZOIC ACID DERIVATIVES** - Application No. 202241071817 A - The Patent Office Journal No. 52/2022 Dated 30/12/2022 Page No. 82668 (Published).

- **ZNO NANOPARTICLE COATED CASSIA AURICULATA FLOWER, GUMIN, FENUGREEK, ASPARTAME GRINDED POWDER MIXED CHEWABLE TABLET FOR DIABETIC CONTROL** - *Application No. 202241071813 A - The Patent Office Journal No. 52/2022 Dated 30/12/2022 Page No. 82667 (Published).*
- **SYNTHESIS, CHARACTERIZATION, ANTIMICROBIAL AND ANTICANCER ACTIVITIES OF PYRIMIDINE, PYRIDINE BASED BENZAMIDE DERIVATIVES** - *Application No. 202241071803 A - The Patent Office Journal No. 52/2022 Dated 30/12/2022 Page No. 82665 (Published).*
- **Water purifying and flavor infusion device**
Design No. : 347851-001 Date of Issue : 08/12/2022 (Granted) Published on 09/12/2022 .
- **ZnO Nanoparticle Blended 5-Indanyl Methacrylate Homopolymer For Protective Coating Applications on Welded Surfaces** - *Application No. 202241050750 A - The Patent Office Journal No. 37/2022 Dated 16/09/2022 Page No. 58326 (Published).*
- **A Mixture of Fish Amino Acid Produced From Waste Molasses, Pulverized Egg Shell, Zinc Oxide, And Silver Nanoparticles For The Agricultural Field's Fertility** - *Application No. 202241050752 A - The Patent Office Journal No. 37/2022 Dated 16/09/2022 Page No. 58327 (Published).*
- **Synthesis, Characterization, Biological, NLO And Corrosion Inhibition Applications of Novel Single Crystal 3-((2,4-Dioxothiazolidin-5-Y1) Methyl)-4-Methoxy-N-Phenylbenzamide** - *Application No. 202241050754 A - The Patent Office Journal No. 37/2022 Dated 16/09/2022 Page No. 58328 (Published).*
- **Synthesis, Characterization, Anticancer, NLO and Corrosion Inhibition Applications of Novel Thiazol-4-Carbonvl-Thiazole-4-Carbohydrazide Derivatives** - *Application No. 202241050755 A - The Patent Office Journal No. 37/2022 Dated 16/09/2022 Page No. 58329 (Published).*
- **Coir Pith, Waste Straw, Activated Carbon of Diplocyclos Palmatus** - *Application No. 202241050757 A - The Patent Office Journal No. 37/2022 Dated 16/09/2022 Page*

No. 58330 (Published).

- **An Optimized Bellow To Increase The Efficiency And Stability Of The Pipe Joints** -Application No.202141008189 A - The Patent Office Journal No. 10/2021 Dated 05/03/2021:11222 (Published).
- **Thermal Effect Powered Electric Motor to Minimize The Power Consumption in the Electric Vehicle** - Patent granted on 14th April 2021 from The Commissioner of Patents I P Australia (Granted).

INVITED SPEAKER / RESOURCE PERSON

- *Delivered an Invited Talk on “**Plastic Waste Management**” for NCC Students organized by Dept. of Chemistry, Sri Sairam Engineering College, held on 13th December 2019.*
- *Act as a Judge for Chemistry Paper & Poster Presentation in I Year Symposium, **SIT-SCIHUM’19**, on 28th February 2019 at Sri Sairam Institute of Technology.*
- *Delivered an Invited Talk on “**Ideal Sustainable Development-Ecofriendly Houses**” of International Seminar on **New Frontiers and Challenges in Environmental Sciences (BIOENVIRON-16)** organized by School of Biosciences, Marudupandiyar College, Thanjavur, held on 11th & 12th February 2016.*

CONFERENCES: PRESENTED

- *Presented a paper titled - **Solutions for an effective and sustainable faecal sludge management to increase productivity of soil and contribute to double the farmers’ income**” in the International Conference on Advances in Mechanical Engineering (ICAME 21-virtual mode held at Sri Sairam Engineering College on 27th & 28th January 2021.*
- *Presented paper titled - **Kinetics and Mechanism of Oxidation of Aniline and some p-substituted Anilines by N-Bromo phthalimide** in the National Level Seminar held at Valliammai Engineering college on 27th March 2017.*

- Presented a paper titled - **Some Physico-Chemical Analysis of Soil and Water of Keezhathottam Mangrove, Tamil Nadu** in the Indian Science Congress Association held at S. V. University, Tirupati from 3rd to 7th Jan 2017.
- Presented Paper on **Kinetics and Mechanism of Oxidation of Aniline and some p-substituted Anilines by N-Chlorosaccharin** at **NCNRCR'2015**, organizing by Department of Chemistry, SRM University, Ramapuram, Chennai-600089, held on 28th & 29th August 2015.
- Presented Paper on **Kinetics and Mechanism of Oxidation of Aromatic Amines by N-ChloroSaccharin** at Kalasalingam University, National conference **NCAFMA-2013**. 23rd March 2013.
- Presented Paper on **Effect of Wedelia Calendulacia against Isoniazid Induced Liver Toxicity in Albino Rats** at Sri SAI RAM SIDDHA MEDICAL COLLEGE & RESEARCH CENTRE, Chennai-44, National Conference held on 28th, 29th & 30th April 2010.

CONFERENCES : PARTICIPATED

- National Conference on Technology and Innovations in Healthcare (NCTIH 2022) Organized by Vinayaka Mission's Research Foundations, held on 04.11.2022 – 05.11.2022.
- International Web-Conference on “Recent Trends in Scientific Research” Organized by P.G and Research Department of Chemistry, Dr.Ambedkar Government Arts College, held on 03.08.2020 – 04.08.2020.
- National Seminar on “Environmental Issues and Sustainable Development” organized by Department of Civil Engineering, Sri Sairam Engineering College, Chennai-44, held on 11th – 12th November, 2013.
- National Seminar on “Recent Trends in LASER Spectroscopy and its Application (RITILSA-13)” organized by Department of Humanities and Sciences (Physics), Sri Sairam Engineering College, Chennai-44, held on 17th October, 2013.

- *National Seminar on “Emerging Trends in Solar Energy-2013(ETSE-2013)” organized by the Department of Chemistry, B.S. Abdur Rahman University, Vandalur, Chennai, held on 23rd October, 2013.*
- *State level Technical Seminar on “Future Ahead for Nanotechnology” organized by Department of Chemistry, Aarupadai Veedu Institute of Technology, held on 9th August, 2008.*
- *National Seminar on “Nano Science and Technology-Challenges Ahead’ (NSTCA’08)” organized by the Department of Chemistry, Velammal Engineering College, in association with IGCAR, Kalpakkam, held on Tuesday, 19th August, 2008.*
- *Seminar on “Recent Trends in Biochemistry” organized by School of Life Science, Post Graduate Department of Biochemistry, Ponnaiyah Ramajayam College, Thanjavur, held on 23rd August, 2003.*

WORKSHOPS: ATTENDED

- *INUP-i2i Familiarization Workshop on Nanofabrication Technologies (Online mode), supported by Ministry of Electronics and Information Technology (MeitY), Govt. of India and conducted by the Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore, from 20 – 22 December 2021.*
- *DST-FIST Sponsored Two days Workshop on Scanning Electron Microscope held at Sethu Institute of Technology on 5th & 6th October 2021.*
- *Two days Workshop on Improving Research & Performance Outcomes at Elsevier’s Zoom Webinar, on Tuesday 31 August, 2021.*
- *One day workshop on “Intellectual Property Rights & Innovations” at Sri Sairam Engineering College, Chennai on 20th July 2019.*
- *One day Symposium on SIT-SCIHUM’19, at Sri Sairam Institute of Technology on 28th February 2019.*
- *DRDO sponsored a one day workshop on Li-ion batteries at SSN College on 18th May 2018.*

- *One day Workshop on “Advanced functional materials (FUNMAT-2017)” organized by CSIR – Central Electrochemical Research Institute (CECRI), Karaikudi on 22nd May 2017.*
- *One day National Workshop on “Advancements in Chemical Sciences” organized by Department of Chemistry, Sri SAIRAM INSTITUTE OF TECHNOLOGY, Chennai-44, 18th July, 2016.*
- *One day National Workshop on “Smart materials-applications and characterizations” organized by CCG, Department of physics, VIT-Vellore, 27th April, 2016.*
- *5 days INUP Hands-on Training Workshop on “Nanofabrication Technologies”, held at IIT Bombay, during from 17th to-21st, August 2015.*
- *One day Workshop on “Role of Polymers in Modern Engineering materials” organized by Department of Science & Humanities, Sri Sairam Institute of Technology, Chennai-44, held on 12th 2013.*
- *One day Workshop on “Art of Journal and Thesis Writing” organized by Department of Research Development, Sri Sairam Engineering College, Chennai-44, held on 19th January, 2012.*
- *One day Workshop on “Detection & Prevention of Adulteration in Food Stuffs” organized by School of Life Science, Post Graduate Department of Biochemistry, Ponnaiyah Ramajayam College, Thanjavur, held on 16th 2002.*
- *Two days Symposium on “Coordination Chemistry” conducted by Post-Graduate Department of Chemistry, National College, Tiruchirappalli, held on 16th and 17th February, 1996.*

FDP : ATTENDED

- *5-days of Face-to-Face UHV-II FDP organized by All India Council for Technical Education(AICTE) at Sri Sairam Engineering College Autonomous, Chennai from 26th July, 2022 to 30th July, 2022.*

- *5-days of online FDP on the theme “Inculcating Universal Human Values in Technical Education” organized by **All India Council for Technical Education(AICTE)** from 1st February, 2021 to 5th February, 2021.*
- *5 days of online International FDP on “**EDUCATION 4.0 The future ahead**” organized by **Internal Quality Assurance Cell with Department of Science & Humanities, Sri Sairam College of Engineering, Bengaluru** from 10th to 14th August 2020.*
- *14 days of online international FDP on “**Materials Science & Nanotechnology**” organized by **Department Chemistry, B.S Abdur Rahman Crescent Institute of Technology, Chennai** from 03.08.2020 to 16.08.2020.*
- *5 days online STTP on “**Finite Element Method for Engineering Applications**” Organized by **Department of Mechanical Engineering, Sri Sairam Engineering College, Chennai-44** held from 03/08/2020 to 08/08/2020.*
- *One day ISTE sponsored FDP on “**Working Culture for Professionals**” at Sri Sairam Engineering College. Chennai on 11th November 2019.*
- *5 days ISTE sponsored FDP on “**Renewable Energy Systems**” at Sri Sairam Engineering College. Chennai from 22.7.19 to 26.7.19.*
- *Two-week ISTE STTP on “**Environmental Studies**” Conducted by **IIT Bombay** under the **National Mission on Education through ICT (MHRD, Govt. of India)** from 2nd to 12th June 2015.*
- *One day Orientation Programme on “**Coastal Biodiversity**” was jointly organized by **advanced study in Marine Biology, Annamalai University, Parangipettai and Tamilnadu Science Forum (TNSF)**, held on 31st July, 2004. This being organized as a part of Year Scientific Awareness-2004 conducted Coastal Districts.*

PROJECT: SUBMITTED

- **Project entitled: “Solutions for an effective and sustainable faecal sludge management to increase productivity of soil and contribute to double the farmers’ income” Tamilnadu State Council for Science And Technology (An Autonomous body of Govt. of Tamil Nadu) DOTE Campus, Chennai-600 025.**
- **Project entitled: “Salt based edible covering to protect and preserve hay and agricultural byproducts” Department of Science & Technology (DST) Technology Project Proposal under Waste Management Technology (WMT) Program.**
- *Project entitled: “Design, synthesis, characterization and Applications of MOF- DABCO (1,4-diazabicyclo[2.2.2]octane)” submitted to Indian Nanoelectronics Users Program (INUP), IIT Bombay, Mumbai.*
- *Project entitled “Design and Fabrication of MOF- DABCO as gas sensor” submitted to Department of Science and Technology (DST), Govt. of India, New Delhi under “Electrochemical and Optical Imaging Device Technologies” of Technology Systems Development Program (TSDP).*

UNDERGOING PROJECT

- **Optimization of electro-coagulation (EC) process for the removal of toxic pollutants from wastewaters:** *Our collaborative effort with experienced and dedicated organizations- Vridhhi Technology Llp in the field enable us to design and manufacture cost effective EC systems which are compact, efficient and of high quality. The advantages of electrocoagulation are the versatile range of multiple pollutant removal, no additional chemical usage, less sludge production and a stable and reliable setup.*
- *In the present pandemic situation (COVID 19), the significance of using Mask, Hand Sanitizer and Soaps are highly significant to stay safe from Viruses. With society's concern, preparing cost effective and enhanced efficient herbal / synthetic hand sanitizer and antiseptic soaps to support our community.*

ONLINE COURSES ATTENDED

- *Successfully completed 13.5 hours of “**The Collection of 3D Digital Content for CHEMISTRY – PART 1**” online course from **UDEMY** on November 5, 2019.*
- *Successfully completed 11 hours of “**The Collection of 3D Digital Content for CHEMISTRY – PART 2**” online course from **UDEMY** on November 7, 2019.*
- *Successfully completed 20.5 hours of “**Complete General Chemistry**” online course from **UDEMY** on April 14, 2020.*
- *Successfully completed “**The Sustainable Development Goals – A global, transdisciplinary vision for the future**” online course authorized by **University of Copenhagen** offered through **Coursera** on 12/05/ 2020.*
- *Successfully completed “**Advanced Chemistry**” online course authorized by **University of Kentucky** offered through **Coursera** on 14/05/ 2020.*
- *Successfully completed “**Municipal Solid Waste Management in Developing Countries**” online course authorized by **EPFL** offered through **Coursera** on 19/05/ 2020.*
- *Successfully completed “**AI For Everyone**” online course authorized by **deeplearning.ai** offered through **Coursera** on 16/05/ 2020.*
- *Successfully completed “**Natural Gas**” online course authorized by **University at Buffalo and University of New York** offered through **Coursera** on 23/05/ 2020.*
- *Successfully completed “**Quantum Mechanics**” online course authorized by **University of Colorado Boulder** offered through **Coursera** on 23/05/ 2020.*
- *Successfully completed “**Introduction to Molecular Spectroscopy**” online course authorized by **University of Manchester** offered through **Coursera** on 24/05/ 2020.*
- *Successfully completed “**Safety in the Utility Industry**” online course authorized by **University at Buffalo and University of New York** offered through **Coursera** on 31/05/ 2020.*
- *Successfully completed “**Disaster Preparedness**” online course authorized by **University of Pittsburgh** offered through **Coursera** on 10/06/ 2020.*

- *Successfully completed “General Chemistry: Concept Development and Application” online course authorized by University of Pittsburgh offered through Coursera on 02/07/2020.*
- *Successfully completed “Mastering bitumen for better roads and innovative applications” online course authorized by University of Pittsburgh offered through Coursera on 02/07/2020.*

WEBINAR ATTENDED

- *Webinar on “NAAC Accreditation Management System Dem” Organized by InPods Ed-tech held on 27/05/2020*
- *Webinar on “Waste Management Strategies” Organized by Department of Science and Humanities, Hindustan College of engineering Technology, Coimbatore held on 31/05/2020*
- *Webinar on “R&D Proposal for Writing for Facilities” Organized by Sri Sairam Engineering College, Chennai-44 held on 12/.06/2020*
- *Webinar on “Future of Higher Education-Nine Mega Trends” Organized by ICT Academy held on 30/06/2020*
- *Webinar on “India's First Leadership Talk Series” Organized by MHRD's Innovation Cell held on 13/05/2020*