

Name : Dr. Sowmya Ramkumar

Designation : Assistant Professor

Department : Chemistry

Qualification : M.Sc., M.Phil., PhD., SET

Experience : 14 Years 10 months

Research : 11 Years

Area of Specialization(s) : Corrosion Science, Computational Chemistry, GIS

Email (Official ID) : sowmyaramkumar@psgrkcw.ac.in



Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
Ph.D.	Chemistry	Bharathiar University	December 2017
SET	Chemical Science	Tamil Nadu Government	April 2017
M.Phil.	Chemistry	Bharathiar University	2008
M. Sc.	Chemistry	PSGR Krishnammal College For Women	2004
B.Sc.	Chemistry	PSGR Krishnammal College For Women	2001

Additional Qualifications

Diploma/ Vocational/ Certification	Area of Specialization	Institution / University/ Agency Name	Year
Certification	Basics of High Resolution Imaging Techniques and their applications to Science & Technology	CSIR - CECRI, Karaikudi	2022
Certification	Bioplastics	IIT-Delhi	2022
Certification	Introduction to molecular spectroscopy	Coursera	2022
Certification	Solar Cells	Coursera	2022
Certification	Design, Development and Delivery	MHRD & University of Hyderabad, Hyderabad	2020
Certification	Basics of Remote Sensing Geographical Information System and Global Navigation Satellite System	ISRO, IIRS, Dehradun	2020
Certification	Coordination Chemistry	NPTEL	2019

Research Publications (Indexed)

S.No	Title of the Publication	Cited by	Year
1.	Corrosion inhibition of N80 steel in 15% HCl by pyrazolone derivatives: electrochemical, surface and quantum chemical studies KR Ansari, MA Quraishi, A Singh, Sowmya Ramkumar, IB Obote RSC advances 6 (29), 24130-24141123	187	2016
2.	Macrocyclic compounds as green corrosion inhibitors for aluminium: electrochemical, surface and quantum chemical studies KR Ansari, Sowmya Ramkumar, DS Chauhan, M Salman, D Nalini, V Srivastava International Journal of Corrosion and Scale Inhibition 7 (3), 443-459	45	2018
3.	Anti-corrosive property of bioinspired environmental benign imidazole and isoxazoline heterocyclics: A cumulative studies of experimental and DFT methods Sowmya Ramkumar, D Nalini, MA Quraishi, EE Ebenso, C Verma Journal of Heterocyclic Chemistry 57 (1), 103-119	30	2020
4.	Quantum and electrochemical studies of the hydrogen evolution findings in corrosion reactions of mild steel in acidic medium KM Zohdy, RM El-Sherif, Sowmya Ramkumar, AM El-Shamy Upstream Oil and Gas Technology 6, 100025	49	2021
5.	Correlation between inhibition efficiency and chemical structure of new indolo imidazoline on the corrosion of mild steel in molar HCl with DFT evidences Sowmya Ramkumar, D Nalini Oriental Journal of Chemistry 31 (2), 1057	15	2015
6.	Enhanced corrosion resistance of mild steel in sulphuric acid medium by imidazole derivative: Experimental and computational studies Sowmya Ramkumar, D Nalini Materials Today: Proceedings 18, 1696-1708	8	2019
7.	A Combined Experimental and Theoretical Investigation on Pyrazolone Derivative as Corrosion Inhibitor for Mild Steel in 0.5 M Sulphuric Acid Media D Nalini, KS Kohilah, Sowmya Ramkumar Portugaliae Electrochimica Acta 32 (2), 109-123	7	2014
8.	A Systematic Investigation of Luminescent Schiff Bases: Photophysical and DFT Studies Sowmya Ramkumar, R Kaviarasi, E Kavyasri, G Sathya Priyadarshini Chemical Physics Impact, 7 https://doi.org/10.1016/j.chphi.2023.100294 .	4	2023
9.	Triazoles as Potential Corrosion Inhibitors: Recent Developments and Future Perspectives Sowmya Ramkumar, D Nalini, DS Chauhan, MA Quraishi Book Chapter, Triazoles and their Uses, 169-203		2023
10	Corrosion Abatement in Acid Pickling Industries by Effective N-Heterocyclic Compounds: Dry and Wet Lab Studies Sowmya Ramkumar, D Nalini Conference Paper, Nace International Corrosion Conference Series, Volume 3, Year 2016, Pages 2174-2188		2016

11	Experimental and Density Function Theory Calculations to Investigate the Adsorption of an anti-inflammatory drug on Aluminum Surface in Acid Solution R Monisha, Sowmya Ramkumar, D Nalini Conference Paper, Nace International Corrosion Conference Series, Volume 4, Year 2016, Pages 2703-2717	1	2016
12	Cheminformatic scrutiny of some heterocyclic compounds for their corrosion protective capability Sowmya Ramkumar, D. Nalini, D. Priyanka, M.A. Qurashi and D.S. Chauhan International Journal Corrosion Scale and Inhibition 10 (4), 1783–1811		2021

Other Publications: International/National

S.No	Title of the Publication	Cited by	Year
1.	Studies on adsorption and corrosion inhibitive properties of quinoline derivatives on N80 steel in 15% hydrochloric acid KR Ansari, Sowmya Ramkumar, D Nalini, MA Quraishi Cogent Chemistry 2 (1), 1145032	32	2016
2.	Corrosion Inhibition of Indoloimidazole Derivative on Mild Steel in HCl Sudha D, Sowmya Ramkumar, Nalini D Chemical Science Review and Letters 2 (5), 323-331	5	2013
3.	Experimental and quantum chemical studies on the corrosion inhibition of indoloimidazoles in acid medium D Nalini, L Saraswathi, Sowmya Ramkumar Advances in Applied Research 8 (2), 70-76	1	2016
4.	Stabilization of black cotton soil using lime and fly ash for pavement Krishna Raaju. G, Sowmya Ramkumar, Prabakaran.E Research Highlights, Journal of Avinashilingam Deemed University		2018
5.	Experimental results with hypothetical evidences for Bexol as an effective inhibitor on corrosion inhibition of mild steel in acidic environment and its epoxy coating behavior D. Nalini, Sowmya Ramkumar M. Menaga Oriental Journal of Chemistry 36 (3), 504-512		2020
6.	Cheminformatic scrutiny of some heterocyclic compounds for their corrosion protective capability Sowmya Ramkumar, D. Nalini, D. Priyanka, M.A. Qurashi and D.S. Chauhan International Journal Corrosion Scale and Inhibition 10 (4), 1783–1811		2021
7.	Glyceral Trinitrate: As Potential Corrosion Protector for Mild Steel in Acid Medium Along with Paint-coated Steel in a Saline Environment M. Menaga, Sowmya Ramkumar, D. Nalini Oriental Journal of Chemistry, Vol. 37(6), 1421-1428		2021

Book Chapter Published

“Qualitative analysis of sugars and estimation of protein by biuret method” published in **2018 Life Sciences Protocol Manual** by Department of Biotechnology, Ministry of Science & Technology, Government of India (2018)

Short Term Course

Area of Specialization	Institution / University/ Agency Name	Year
Bioanalytical Techniques – Electrophoresis, Spectroscopy and Microbiology Lab Instruments	Sacred Heart College (Autonomous), Tirupattur, Biotechnology Society of Nepal & Western Rio Janerio State University, Brazil	2024
Microbiology Laboratory Techniques	Sacred Heart College (Autonomous), Tirupattur, Biotechnology Society of Nepal & Western Rio Janerio State University, Brazil	2023
Online Refresher Course in Chemistry for Higher Education	S.G.T.B. Khalsa College, University of Delhi	2021
Sustainable Materials and Technologies	Vivekanandha College of Arts and Science for Women, Namakkal	2020
Advances in Biological Systems and Material Science in Nano World	CIT, Coimbatore	2017
Spectroscopic Techniques	Karunya University, Coimbatore	2013

Letter of Appreciation as Resource Person

- Guest lecture @ Government Arts College, Avanashi
- Induction Programme @ Sankara Polytechnic College, Coimbatore
- Student Induction Programme @ Regional Science Centre, Coimbatore
- Guest lecture @ Avinashilingam Institute for Higher Education, Coimbatore
- Student Induction Programme @ Vel's Vidyalaya CBSE Schools, Tenkasi

Paper Presentations in Seminar / Conference

- International: 56
- National :15

Participation in

- Seminars / Conferences : 12
- Workshop : 28
- Faculty Development Programme : 45
- Training: 10
- Webinar : 10

Conference/Seminar/Workshop Organized

International Conference : 1
 National Conference : 1
 Workshop : 5
 FDP : 1
 Interdepartmental Competitions: 2
 Guest Lectures: 16

Video Conferences: 5

NET/SET coaching classes: Since 2020 onwards

Industrial Visit: 5

Grants

1. **PI for GRG Trust Seed Money Project in 2021**
2. **Student Project Scheme** sanctioned from TNSCST in 2017
3. **Co - PI for GRG Trust Seed Money Project in 2016**
4. **JRF for UGC sponsored Major Research Project in 2013**

Membership in Professional Bodies

Name of the Professional Body	Nature of membership	Duration
The Indian Science Congress Association	Life Member	NA
Association of Chemistry Professor	Life Member	NA
Advances in Applied Research	Annual Membership	Twice in a year

Awards/Honors

- **Mentor** for 10 interns in *CSIR-Online Summer Research Training Program-2021* Coordinated by **CSIR - NEIST, Jorhat, Assam.**
- **Tamil Nadu State Eligibility Test (SET)** qualification in 2017. (Cleared in **First** attempt)
- **Science Academies Summer Research Fellowship** for Teachers with a stipend at **CECRI, Karaikudi.**
- **“Best Paper Award”** with a cash prize of Rs 2000/- in the **“International Conference on Electrochemical Science and Technology (ICONEST-2014)”** Organized by Electrochemical Society of India at JN Tata Auditorium, IISc-Campus, Bengaluru on 7th – 9th August 2014.
- **“Best Paper Award”** with a cash prize of Rs 5000/- in the **“International Symposium for Research Scholars (ISRS-2014)”** organized by the Department of Metallurgical and Materials at IC & SR Auditorium, IIT-Madras, Chennai on 11th – 13th December 2014.
- **“Best Paper Award”** in the **“National Seminar on Recent Innovations in Science and technology (RIST 2018)”** organized by the Department of Chemistry at Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore on 23rd February 2018.
- **“Best Paper Award”** in the **“International Conference on Chemical and Environmental Research (ICCER -2018)”** organized by the Department of Chemistry at Jamal Mohamed College, Trichy on 19th December 2018.

Indexing and Citations

Citations / H-Index



323
CITATIONS



6
H-INDEX



243
CITATIONS

Google Scholar



CITATION

438
Total

347
(2020)



H INDEX

8
Total

7
(2020)



I-10 INDEX

8
Total

6
(2020)

Contribution

- Acting as a Coordinator for NIRF since 2023 onwards
- Acting as Department in-charge for Electrochemical Workstation Consultancy since 2016 onwards
- Acting as Department in-charge for Criteria IV & VII since 2016 onwards
- Acting as an Department Website Coordinator since 2021 onwards and AI Team member for 2025
- Acting as an Department i-STEM Coordinator since 2022 onwards
- Department Association In-charge for 2013 & 2019 and BOS member since 2019 onwards
- Acting as Department Admission in-charge and Class in-charge