

**Name** : Dr. D. Nalini

**Designation** : Associate Professor & Head

**Department** : Chemistry

**Qualification** : M.SC., M.Phil., B.Ed., MCA., PhD.,

**Experience** : Teaching -27 Years 9 months

**Research** : 13 Years

**Area of Specialization(s)** : Corrosion Science, Electrochemistry, Theoretical Studies

**Email (Official ID)** : [nalini@psgrkcw.ac.in](mailto:nalini@psgrkcw.ac.in)



#### Academic Qualifications

<b>Degree</b>	<b>Branch</b>	<b>Institution / University Name</b>	<b>Year of Graduation</b>
Ph.D.	Chemistry	Avinashilingam Deemed University	February 2012
MCA	Computer Applications	Bharathidasan University	2002
B.Ed	Physical Science	Bharathiar University	1997
M.Phil.	Chemistry	Bharathiar University	1994
M. Sc.	Chemistry	PSGR Krishnammal College For Women	1993
B.Sc.	Chemistry	PSGR Krishnammal College For Women	1991

#### Research Guidance

<b>Programme</b>	<b>No. of Scholars</b>	
	<b>Completed</b>	<b>Pursuing</b>
M.Phil.	10	-
Phd	4	4

#### Research Publications (Indexed)

UGC: 3

SCOPUS-indexed: 22

Peer Reviewed: 4

Seminar Proceedings: 7

1. Macrocyclic compounds as green corrosion inhibitors for aluminium: electrochemical, surface and quantum chemical studies, KR Ansari, S Ramkumar, DS Chauhan, M Salman, D Nalini, V Srivastava, International Journal of Corrosion and Scale Inhibition 7 (3), 443-459

2. Studies on adsorption and corrosion inhibitive properties of quinoline derivatives on N80 steel in 15% hydrochloric acid, KR Ansari, S Ramkumar, D Nalini, MA Quraishi, *Cogent Chemistry* 2 (1), 1145032
3. Anti-corrosive property of bioinspired environmental benign imidazole and isoxazoline heterocyclics: A cumulative studies of experimental and DFT methods, S Ramkumar, D Nalini, MA Quraishi, EE Ebenso, C Verma, *Journal of Heterocyclic Chemistry* 57 (1), 103-119
4. Corrosion Inhibition of Mild Steel in Acidic Media by 5'-Phenyl-2',4'-dihydrospiro[indole-3,3'-pyrazol]-2(1H)-one, MJ Firdhouse, D Nalini, *Journal of chemistry* 2013 (1), 835365
5. Corrosion Inhibition of Mild Steel in Acid Solution by 3, 4, 5-Trimethoxyphenyl-2-imidazolines, D Nalini, R Rajalakshmi, S Subhashini, *Journal of Chemistry* 8 (2), 671-679
6. Correlation between Inhibition Efficiency and Chemical Structure of New Indolo Imidazoline on the Corrosion of Mild Steel in Molar hcl with DFT Evidences, S Ramkumar, D Nalini, *Oriental Journal of Chemistry* 31 (2), 1057-1064
7. Designing a corrosion resistance system using modified graphene oxide-epoxy microcapsules for enhancing the adhesion strength of the epoxy coatings, D Priyanka, D Nalini, *Applied Surface Science Advances* 10, 100269
8. Inhibitory action of Macaranga peltata leaves extract on the corrosion of mild steel in 0.5 M sulphuric Acid-Quantum chemical approach, KK Athul, P Thilagavathy, D Nalini, *Materials Today: Proceedings* 47, 858-862
9. Corrosion inhibition of indoloimidazole derivative on mild steel in H<sub>2</sub>SO<sub>4</sub>, D Sudha, D Nalini, *International Journal of Scientific & Engineering Research*
10. Enhanced corrosion resistance of mild steel in sulphuric acid medium by imidazole derivative: Experimental and computational studies, S Ramkumar, D Nalini, *Materials Today: Proceedings* 18, 1696-1708
11. 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, R Sowmya, *Portugaliae Electrochimica Acta*
12. Synthesis, characterization and corrosion protective efficiency of some 1, 3, 4-thiadiazolines on mild steel in acid media, AS Begum, D Nalini, TM Devi, *Oriental Journal of Chemistry* 26 (4), 1333
13. Ortho-chlorophenyl-2-imidazoline as corrosion inhibitor for mild steel in Acidic media, D Nalini, R Rajalakshmi, *Asian Journal of Chemistry*
14. Corrosion Inhibition of Indoloimidazole Derivative on Mild Steel in Hcl, D Sudha, S Ramkumar, D.Nalini, *Chemical science Review and Letters* 2 (5), 323 - 331

15. Selective Bis-N-aryl thiosemicarbazones as efficient corrosion inhibitors, AS Begum, D Nalini, K Suvarna, Oriental Journal of Chemistry 26 (3), 891
16. An amino acid grafted graphene oxide as promising material in poly (urea-formaldehyde)-epoxy microcapsules for enhancing the interfacial adhesion of epoxy coatings, D Priyanka, D Nalini, Asian Journal of Chemistry
17. Graphene oxide integrated into protective coatings against corrosion for metals and its alloys: A review, D Priyanka, S Vinuchakravarthi, D Nalini, MA Quraishi, DS Chauhan, International Journal of Corrosion and Scale Inhibition
18. Enhancing the Anti-Corrosion and Reinforcing Properties of Epoxy Coatings using Modified Graphene Oxide, N Thamaraiselvi, D Nalini, Oriental Journal of Chemistry 38 (4), 972
19. Cheminformatic scrutiny of some heterocyclic compounds for their corrosion protective capability, S Ramkumar, D Nalini, D Priyanka, MA Qurashi, DS Chauhan, International Journal of Corrosion and Scale Inhibition
20. A comparative study of adsorption of heavy metals by graphene oxide and cellulose hydrogel composites, SA Premi, D Anusha, E Kayalvizhy, D Nalini, Advances in Applied Research 13 (1), 18-21
21. Experimental and density function theory calculations to investigate the adsorption of an anti-inflammatory drug on aluminum surface in acid solution, R Monisha, S Ramkumar, D Nalini, NACE CORROSION, NACE-2016-7517
22. Experimental and quantum chemical studies on the corrosion inhibition of indoloimidazoles in acid medium, D Nalini, L Saraswathi, R Sowmya, Advances in Applied Research 8 (2), 70-76
23. Inhibition of Mild Steel Corrosion in the Presence of p-Nitrophenyl-2-Imidazoline, D Nalini, R Rajalakshmi, The NACE International Annual Conference, 1-15
24. Designing Modified Graphene Oxide-epoxy Coatings for Enhancing the Corrosion Resistant Performance of Mild Steel in Sodium Chloride Solution, N Thamaraiselvi, D Nalini, Oriental Journal of Chemistry 38 (6)
25. Glyceral Trinitrate: As Potential Corrosion Protector for Mild Steel in Acid Medium Along with Paint-coated Steel in a Saline Environment, M Menaga, S Ramkumar, D Nalini, Oriental Journal of Chemistry 37 (6)
26. Designing a dynamic corrosion resistance system using green inhibitors modified graphene oxide microcapsules for improving the adhesion strength of the epoxy coatings, D PRIYANKA, D Nalini, SGS-Engineering & Sciences
27. A comparative study of adsorption of heavy metals by graphene oxide and cellulose hydrogel composites, D Anusha, E Kayalvizhy, D Nalini, PSGR Krishnammal College for Women

28. 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, M Menaga, D Nalini, S Ramkumar, Oriental Journal of Chemistry 36 (3), 504

29. Influence of Soil Fungi on Corrosion of Mild Steel Plates, R Dharani, R Deepalakshmi, SN Padma Devi, SN Meenakshi, D Nalini, NACE CORROSION, NACE-2018-10839

30. Corrosion Abatement in Acid Pickling Industries by Effective N-Heterocyclic Compounds: Dry and Wet Lab Studies, S Ramkumar, D Nalini, CORROSION 2016, 1-15

31. Experimental and density function theory calculations to investigate the adsorption of an anti-inflammatory drug on aluminum surface in acid solution, R Monisha, D Nalini, NACE International

32. Corrosion Inhibition of Mild Steel in Acidic Media by 5'-Phenyl-2', 4'-dihydrospiro [indole-3, 3'-pyrazol]-2 (1H)-one, MJ Firdhouse, D Nalini

33. Evaluation of Corrosion Resistance of 5-Pyrazolones on Mild Steel in Acid Media, D Nalini, AS Begum, P Manimekalai, S Kousalya, Asian Journal of Chemistry 23 (10), 4341

34. Corrosion Inhibition Property of Some 4-thiazolidinones on Mild Steel in Acidic Medium, S Preethi, AS Begum, J Mallika, D Nalini, Advances in Applied Research 3 (1), 61-68

### Patent

S.No	Name of the Faculty	Title of the Invention	Application No.	Date of Filing	Publication Date
1.	Dr.D.Nalini	Process of preparing Multilayer grapheme Oxide Sheets	202141033388	26.07.2021	

### Book Chapter Published

1. Triazoles as potential corrosion inhibitors: recent developments and future perspectives, S Ramkumar, D Nalini, DS Chauhan, MA Quraishi, Elsevier

### Acted as a Resource Person

Invited as Resource person for various programmes like Faculty Development Programme, Workshop DBT Mentor under DBT star college scheme for

Jamal Mohameed College, Tiruchirapalli,  
Kongu Nadu Arts and Science College, Coimbatore,  
GVG Visalaskhi College for Women, Udumulpet,  
ADM College for Women, Nagapattinam.

## Reviewer in journal

Editor: **1. Advances in Applied Research**

Reviewer/Member: **10**

## Paper Presentations in Conference / Seminars

**International: 52**

**National : 36**

## Presentations

1. Seminar / Conferences - 28
2. Workshops - 18
3. FDP - 15
4. Orientation Course/ Refresher Courses - 7

Name of the Course	Academic Staff College, University	Duration	Date
Refresher Course in Chemistry	UGC-Academic Staff College, Bharathiar University, Coimbatore - 641 046.	21days	06.11.2014 to 26.11.2014
Industry/Academic Oriented Training Programme/ Refresher course on “Cathodic Protection and Pipeline Corrosion?	CSIR-Central Electrochemical Research Institute, Karaikudi	5 days	02.11.2015 to 06.11.2016
7-Day Faculty Development Programme on “Recent trends in Applied Science Teaching	Shaheed Rajaguru College of Applied Sciences under DBT, Ministry of Science and Technology, Government of India	7 days	21.07.2017 to 27.07.2017
University and PG College Training Programme in Chemistry	Centre of Excellence in Science and Mathematics Education,	21 days	16.06.2019 to 06.07.2019

## Conference/Seminar/Workshop Organized

International/National Conferences  
Workshops  
Faculty Development Programmes  
Interdepartmental Competitions  
Guest Lectures  
Industrial Visits

## Grants

### 1. Project Title:

Microwave Assisted Synthesis of N-Heterocyclic Compounds and their Application in Inhibition of Mild Steel Corrosion – A Combined Experimental & Theoretical Approach

#### Project Status: Completed

**Funding Agency:** UGC, New Delhi – Amount sanctioned Rs 8,80800 lakhs, Started in April 2013., Completed and submitted the final report during May 2016

### 1. Project Title:

Microwave Assisted Synthesis of N-Heterocyclic Compounds and their Application in Inhibition of Mild Steel Corrosion – A Combined Experimental & Theoretical Approach

#### Project Status: Completed

**Funding Agency:** GRG Trust

## Awards / Honors

Awards/Honors	Agency/Institute	Year of Award
BEST FACULTY AWARD	PSGR Krishnammal College for Women	March 2015
BEST PAPER AWARDS	IIT, Chennai, IISc, Bengaluru	March 2014
BEST THESIS AWARD – Corrosion Awareness Award, Name of the M.Phil Student- Ms P.Krishnaveni	NACE, Gateway India Section	March 2016

## Indexing and Citations

All      Since 2021

<u>Citations</u>	<b>242</b>	<b>157</b>
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<u>i10-index</u>	<b>8</b>	<b>6</b>

## Contribution

### a. Administrative Responsibilities

1. AQAR Criteria II – College level Incharge
2. DBT STAR – Mentor
3. AAA Audit
4. BOS – Member and Incharge

### b. Countries Visited

1. US for Corrosion 2013, NACE Conference
2. Visit to UDSM, Tanzania

### c. Membership in Professional Bodies

1. The Indian Science Congress Association