


## Faculty Profile

<b>Name of Faculty</b>	Dr. Prathibha B.S.	
<b>Department</b>	Chemistry	
<b>Qualification</b>	M.Sc., Ph.D.	
<b>Designation</b>	Associate Professor	
<b>Area of specialization</b>	Physical Chemistry, Material Science	
<b>Date of Joining BNMIT</b>	24.08.2005	
<b>Nature of Association (Regular/Contractual/Adjunct)</b>	Regular	
<b>e-mail</b>	prathibhabs@bnmit.in, pratbnmit@gmail.com	
<b>No. of years of Experience</b>	Teaching:19 years Research:8years	

### Academic Qualifications

- **Ph.D.** (2013), Department of Chemistry, Kalasalingam University, India.
- **M.Sc.** (1999), Physical Chemistry, Department of Chemistry, Bangalore University, India.
- **B.Sc.** (1996), Kalpataru Science College, Tiptur.

### Working Experience Details

- Associate Professor, Dept. of Chemistry, BNMIT, Bangalore, India (2014 – Till date).
- Asst. Professor, Dept. of Chemistry, BNMIT, Bangalore, India (2005 – 2014).
- Lecturer, Dept. of Chemistry, DBIT, Bangalore, India (2002-2005).
- Lecturer, Dept. of Chemistry, RVCE, Bangalore, India (2001-2002).
- Lecturer, Dept. of Chemistry, SJRCW, Bangalore, India (2000-2001).

### Subject taught

- Engineering Chemistry Theory / Practical (VTU)
- Environmental Studies (VTU)
- Inorganic/Organic/Physical Chemistry and Practical's (UG of Bangalore university)

### Research Experience Details:

#### Ph.D:

Corrosion Inhibition of Mild steel in Acidic medium using surfactants and quaternary ammonium compounds were investigated by using weight loss measurements, Potentiodynamic polarization, electrochemical impedance spectroscopy (EIS). The mechanism of corrosion inhibition at the metal/solution interface has been evaluated by adsorption characteristics and thermodynamics of adsorption. The surface characterization is done by using SEM & AFM,

## Research Supervision

Sl.No.	Name of the student	Ph.D / M.Phil	University	Year of completion	Title of Research Topic
1	Krushitha Shetty	Ph.D.	VTU, Belgaum	Pursuing	“Synthesis and characterization of multifunctional ferrite based nanomaterials”
2	Sucharitha Mohanty	Ph.D.	VTU, Belgaum	Pursuing	“Bio mass gasification for Fuel cells”

## Academic Positions and other Responsibilities (Institute Level):

1. **Green Audit Coordinator**, BNMIT.
2. ISO Internal Auditor.
3. **Editor** for the College magazine “JNANA BHAGEERATHI” (2013-2014).

## Technical Expertise:

- X-ray Diffraction technique (XRD).
- Impedance Spectra
- FTIR
- SEM
- AFM

## Instruments Handled/Software's handled

- Electrochemical Work Station [CHI].
- ZSimpWin Software

## Awards/ Achievements/Memberships:

- **Indira Gandhi priyadarshini Award -2013** for outstanding achievement in teaching and research.

## Professional Memberships:

- Governing Council member of “The Electrochemical society of India”, IISc, Bangalore.
- Governing Council member of “ Zero waste society of India”, IISc, Bangalore.
- Joint Secretary of “ Zero waste society of India”, IISc, Bangalore.
- Life Member of “ Zero waste society of India”, IISc, Bangalore.(ZWSI)
- Life Member, The Electrochemical society of India, IISc, Bangalore (ECSI).
- Life Member, Indian Society for Technical Education (LMISTE).
- Member of the “Forum of Chemistry Teachers in Engineering Colleges” (Affiliated to VTU, Belgaum).
- Member of American Association of Chemistry Teachers (AACT).

- Editorial member of “American Journal of Applied and Industrial Chemistry (AJAIC); Science publishing group”.

#### **University works /other Assignment**

- **Deputy Superintendent (External) for VTU Examinations.**
- **Examiner for the thesis evaluation of Ph.D Degree.**

#### **External examiner for conducting viva -voce Examination**

- **Conducted Ph.D defense at Karunya Institute of Technology , Coimbatore, Tamil Nadu (October 1, 2019).**

#### **Workshops /Seminars Organized:**

1. Organized (ECSI) two day National Conference on Advanced Lithium Ion Batteries: Science and Technology, (NALiBST-2019) held on 27<sup>th</sup> -28<sup>th</sup> December 2019, at IISc, Bengaluru.
2. Organized (ZWSI) one day Workshop on “wealth from waste series-1, E-Waste” IISc Bangalore on 23<sup>rd</sup> of November 2019.
3. Organized Three day International Conference on “ surface Engineering” held on 9<sup>th</sup> -11<sup>th</sup> August 2018, at J.N. Tata Auditorium, IISc, Bengaluru.
4. **Convener for the Five Day Faculty Development Program on “Recent Advances in Material science (RAMS -2017)”** held at BNM Institute of Technology, Bengaluru during 9<sup>th</sup> -14<sup>th</sup> , January 2017.
5. Organized one day workshop on recent advances in Electrochemical and surface Sciences and Engineering, held at BNM Institute of Technology, Bengaluru.
6. Organized two day international conference on “Recent advancements in information technology, science and engineering” held on 14<sup>th</sup> and 15<sup>th</sup> Dec. 2017 at A.P.C. Mahalaxmi College for women, Thoothukudi.

#### **Research Publications:**

##### **I. In National & International Journals**

##### **International Journals:**

1. Krushitha Shetty, B.S. Prathibha, Dinesh Rangappa, K.S. Anantharaju, H.P. Nagaswarupa h. nagabhushana, S.C. Prashantha, “Fabrication of MgFe<sub>2</sub>O<sub>4</sub>-ZnO Nanocomposites for Photocatalysis of Organic Pollutants under Solar Light Radiation” Asian journal of chemistry, Vol. 31, No. 12, 2019, pp. 2995-3003. ISSN: 0970-7077  
<https://doi.org/10.14233/ajchem.2019.22368>
2. K Shanmuga Priya **Prathibha B.S.** , Vasudha, H.P. Nagaswarupa. “Spathodea Campanulata as a Corrosion Inhibitor for Mild Steel in 1N H<sub>2</sub>SO<sub>4</sub> Media,” Materials Today: Proceedings Proceedings Vol. 5, Issue 10, 2018, pp. 22595-22604. ISSN : 2214-7853.
3. **Prathibha B.S.**, Sagarika, saba, Lubna, Mahesh Kumar, “ Impact of Urbanization on the Physicochemical Parameters of an Urban Water Body of Bellandur Lake in Bangalore City, Karnataka, India,” IOSR JAC , Vol. 11, Issue 7, ver. 1, 2018, pp.43-47. ISSN: 2278-5736 DOI: 10.9790/5736-1107014347.

4. **Prathibha B.S.**, and K Shanmuga Priya, “Green synthesis of silver Nanoparticles using *Tabebuia Aurea* leaf extract,” *IOSR JAC*, Vol. 10, Issue 6, ver. 1, 2017, pp.23-29. ISSN: 2278-5736 DOI: 10.9790/5736-1006012329 Impact Factor(3.149)
5. **Prathibha B.S.**, H.P. Nagaswarupa , P. Kotteeswaran and V. Bheema Raju, “Inhibiting effect of Quaternary ammonium compound on the corrosion of mild steel in 1M Hydrochloric acid solution, its adsorption and kinetic characteristics” *Materials Today: Proceedings* Vol. 4, 2017 pp. 12245–12254, ISSN : 2214-7853
6. Krushitha Shetty, **Prathibha B.S.**, Dinesh Rangappa, K.S. Anantharaju, H.P. Nagaswarupa h. nagabhushana, S.C. Prashantha, “ Role of  $MgFe_2O_4$  and Ag doped  $MgFe_2O_4$  nanoparticles for enhanced photocatalytic performance: Synthesis and Characterization” *Materials Today: Proceedings* Vol.4, 2017, pp. 11764–11772, ISSN : 2214-7853
7. **Prathibha B.S.**, P. Kotteeswaran and V. Bheema Raju, “Study on the Corrosion Inhibition of Mild Steel in 0.5 M  $H_2SO_4$  Solution by *N,N,N*-Tributyl-1-butanaminiiodide” *Knowledge of research*, Vol.1(1), 2014, pp. 54-61. ISSN: 2394-4234 DOI:10.7598/kor2014.116
8. **Prathibha B.S.**, P. Kotteeswaran and V. Bheema Raju, “Inhibiting effect of *N,N,N*-Trimethyldodecylammonium bromide on Corrosion of mild Steel in 0.5M Sulphuric acid solution, its Adsorption and Kinetic Characteristics” *Research Journal of Material sciences*, Vol.2 No. 5, 2014, pp. 1-10. ISSN: 2320-6055
9. **Prathibha B.S.**, P. Kotteeswaran and V. Bheema Raju, “Study on the inhibition of Mild steel corrosion by Cationic surfactant in  $H_2SO_4$  Medium,” *Research Journal of Recent sciences*, Vol.2 No. 4, 2013, pp. 1-10. ISSN: 2277-2502
10. **Prathibha B.S.**, P. Kotteeswaran and V. Bheema Raju, “ Inhibition of Sulphuric Acid Corrosion of Mild Steel by Surfactant and Its Adsorption and Kinetic Characteristics” *IOSRJAC*, Vol.5, No. 1, 2013, pp. 1-10. ISSN: 2278-5736
11. **Prathibha B.S.**, P. Kotteeswaran and V. Bheema Raju, “ Study on the inhibition of Mild steel corrosion by *N, N*- dimethyl-*N*-(2-phenoxyethyl) dodecan-1-aminiumbromide in HCl Medium,” *IOSR Journal of Applied chemistry (IOSRJAC)*, Vol. 2, No. 5, 2012, pp. 61-70. ISSN: 2278-5736
12. **Prathibha B.S.**, P. Kotteeswaran and V. Bheema Raju, “Study on the inhibition of mild steel corrosion by cationic surfactant in HCl medium,” *IOSR Journal of Applied chemistry (IOSRJAC)*, Vol. 2, No. 1, 2012, pp. 45-53. ISSN: 2278-5736
13. **Prathibha B.S.**, P. Kotteeswaran, V. Bheema Raju , “Inhibition of mild steel corrosion in 1M HCl solution by 1-Propanaminium *N,N,N*- Tributyl bromide,” *Asian journal of chemistry*, Vol. 24, No. 4, 2012, pp. 2202-2206. ISSN: 0970-7077
14. **Prathibha B.S.**, P. Kotteeswaran, V. Bheema Raju, “ Effect of *N,N,N*- Tributyl-1-butanaminiiodide on the corrosion inhibition of mild steel in acidic medium,” *Jordan Journal of Chemistry*, Vol.7, No. 1, 2012, pp. 41-54. ISSN: 1814-9111
15. **Prathibha B.S.**, P. Kotteeswaran, V. Bheema Raju, “*N,N,N*-Tributyl-1-butanaminium tribromide as corrosion inhibitor for mild steel in hydrochloric acid solution,” *Journal of the Electrochem Soc. India*, Vol. 60 1/2, 2011, pp. 40-44. ISSN: 0013-466x

16. **Prathibha B.S., P. Kotteswaran, V. Bheema Raju,** “Quaternary ammonium salt- A new corrosion inhibitor for mild steel in acidic medium” – Journal of the electrochemical society of India, Vol.59, No. 4, 2010, pp. 123-129. ISSN: 0013-466x

### **Papers presented in International/National Conferences**

#### **International**

1. **“ Kinetics and thermodynamics studies of corrosion inhibition of mild steel using surfactant in acidic medium”** in international conference on “Thermo fluids and Energy Systems” organized by department of Mechanical Engineering from 27<sup>th</sup> to 28<sup>th</sup> December 2019.
2. **“ Effect of quaternary ammonium compounds on the corrosion inhibition of Mild steel in acidic medium”** in national symposium on Electrochemical Science and Technology (NSEST-2019) organized by Electrochemical Society of India, IISc Bangalore from 19<sup>th</sup> -20<sup>th</sup> of July 2019.
3. **“Corrosion Inhibition of Mild Steel in acidic medium using surfactant”** in international conference on “Surface Engineering” organized by Electrochemical Society of India, IISc Bangalore from 9<sup>th</sup> -11<sup>th</sup> of August 2018.
4. **“Impact of urbanization on the physicochemical parameters of an urban water body of Bellandur lake in Bangalore city, Karnataka, India”** in international conference on green methods for separation, purification and Nanomaterial synthesis organized by Center for Nano and material sciences, Jain university on 24<sup>th</sup> -25<sup>th</sup> of April 2018
5. **“Effect of surfactant on the corrosion inhibition of mild steel in acidic medium”** in International conference on Electrochemical science and Technology (ICONEST-2017) organized by Electrochemical Society of India, IISc, Bangalore on 10<sup>th</sup> -12<sup>th</sup> of August 2017.
6. **“Inhibiting effect of Quaternary ammonium compound on the corrosion of mild steel in 1M Hydrochloric acid solution, its adsorption and kinetic characteristics”** in international conference on Nano Technology (ICNANO-2016) organized by department of Nano Technology, VTU, Muddenahalli from April 21<sup>st</sup> -23<sup>rd</sup> 2016.
7. **“Inhibiting effect of 1-Propanaminium N,N,N-Tributyl Iodide on corrosion of mild steel in 1M Hydrochloric acid solution, its adsorption and kinetic characteristics”** in International conference on chemical and environmental Research (ICCER-2015) organized by PG and Research Department of Chemistry, Jamal Mohamed College, Tiruchirappalli, Tamilnadu, on 17<sup>th</sup> December 2015.
8. **“Inhibiting effect of N,N,N-Trimethyldodecyl ammonium bromide on corrosion of Mild steel in 0.5M H<sub>2</sub>SO<sub>4</sub> solution its adsorption and kinetic characteristic”** in International conference on Electrochemical science and Technology (ICONEST-2014) organized by Electrochemical Society of India, IISc, Bangalore on 7<sup>th</sup> -9<sup>th</sup> August 2014.

9. **“Inhibition of Mild Steel Corrosion by N,N-Dimethyl-N-(2-Phenoxyethyl)dodecan-1-aminiumbromide in 0.5M Sulphuric acid, Its Adsorption and Kinetic Characteristics,”** in international conference on convergence of Science, Engineering and Management in education and research (ICCSEM-2013) organized by Dayanand Sagar college of Engineering, Bangalore on 26<sup>th</sup> -27<sup>th</sup> Sept. 2013
10. **“The inhibition of Mild steel corrosion in 0.5M H<sub>2</sub>SO<sub>4</sub> solution by N,N,N-Tributyl-1-butanaminiiodide,”** in International conference on Recent advances in material science and Technology (ICRAMST) Organized by NITK, Surathkal on January 18<sup>th</sup> 2013.
11. **“ Study on the inhibition of Mild steel corrosion by N, N- dimethyl-N-(2-phenoxyethyl) dodecan-1-aminiumbromide in HCl Medium,”** in International Corrosion Conference and Expo 2012 organized by NACE Gateway India Section, Goa on 29<sup>th</sup> September.

### **National**

12. **“Study on the inhibition of mild steel corrosion by cationic surfactant in acidic medium”** in national symposium on electrochemical sciences and Technology (NSEST) organized by Electrochemical Society of India, I.I.Sc, Bangalore on August 24<sup>th</sup> 2012.
13. **“study on the inhibition of mild steel corrosion by N,N,N- Tributyl-1-butanaminiiodide”** in national conference on Recent Advances in Chemical and Environmental Sciences” organized by Jain university, Bangalore, on 18<sup>th</sup> December 2011.
14. **“study on the inhibition of mild steel corrosion by N,N,N-Tributyl-1-butanaminium tribromide”** in national conference on Recent Trends in Materials Chemistry and Engineering (RTMCE) organized by RNS Institute of Technology, Bangalore on 29<sup>th</sup> Nov. 2011.
15. **“1- Propanaminium N,N,N-Tributyl bromide as corrosion inhibitor for mild steel in acidic medium”** in national symposium on electrochemical sciences and Technology conducted by Electrochemical society of India, I.I.Sc, Bangalore on 19<sup>th</sup> August 2011.
16. **“Quaternary ammonium salt- A new corrosion inhibitor for mild steel in 1M HCl solution”** in national symposium on electrochemical sciences and Technology conducted by Electrochemical society of India, I.I.Sc, Bangalore on 17<sup>th</sup> August 2010.

### **Invited Talks Delivered:**

1. **“Surfactants as corrosion inhibitor for Mild steel in acidic medium”**, at Regent’s International College, Bangkok, Thailand, in the international conference (ICASE 2017) on 20<sup>th</sup> Jan 2017.

### **Chairmanships at National/International Conference/Seminars:**

1. Chairperson of the Technical session in International Conference on “Fluid Dynamics and its Applications (ICFDA-2017)” held during 12-14, July 2017 at BNM Institute of Technology, Bengaluru.

### **Certification Course:**

1. Five Day certification course on “**Industrial Solid Waste Management**” from 24<sup>th</sup> July-28<sup>th</sup> July 2017 Organized by the International Institute of Waste Management (IIWM), Bengaluru.
2. Completed NPTEL Course on “Bioenergy” (93%)
3. Completed NPTEL Course on “Wastewater treatment and Recycling” (75%)
4. Completed REIKI Master Program.
5. Completed Certification course in Color Therapy.

### **Participation in Training courses/Seminars/Workshops**

1. Workshop on “wealth from waste series-1, E-Waste” organized by Zerowaste society of India, IISc Bangalore on 23<sup>rd</sup> of November 2019.
2. International conference on “Elevating Consciousness through Meditation for Global Harmony” organized by Indian Institute of Management and Heartfulness Institute at IIM Bengaluru from 1<sup>st</sup> – 3<sup>rd</sup> August 2019.
3. Workshop on “Environmental challenges and Metalfinishing” organized by Electrochemical Society of India, IISc Bangalore from 11<sup>th</sup> -12<sup>th</sup> of April 2019.
4. Faculty development program on “Emerging Trends of Chemical Sciences” organized by BMSITM, Bengaluru from 19<sup>th</sup> -23<sup>rd</sup> February 2019.
5. International conference on “**Surface Engineering**” organized by Electrochemical Society of India, IISc Bangalore from 9<sup>th</sup> -11<sup>th</sup> of August 2018.
6. QIP Short term course on “**Electrochemistry Basics Analysis and Applications**” organized by Centre for continuing Education, IISc Bangalore from 11/6/2018-15/6/2018.
7. Faculty development program on “**Modern Materials and Their Applications**” organized by the Department of physics, BNMIT, B’lore from 16/1/2018-20/1/2018.
8. Work shop on “**Role of chemistry in higher Engineering Courses**” organized by Department of chemistry, Sambhram Institute of Technology, Bangalore on 20/01/2018
9. Two day Workshop on “**Metal finishing Technologies on Electroplating**” organized by Electrochemical society of India and Department of Inorganic and Physical chemistry I.I.Sc, Bangalore from 1/2/2018 – 2/2/2018
10. Faculty development program on “**Recent advances in material science**” organized by BNMIT, B’lore from 9/1/2017-13/1/2017
11. International conference on “**Advances in science and Technology**” organized by East west in collaboration with Chulalongkorn Univerity Bangkok, Thailand at Regent’s International college, Bangkok, Thailand from 19/1/2017-22/1/2017

12. Faculty development program on **“Innovative teaching methods”** organized by BNMIT Conducted by National institute of technical teachers training and research, B’lore from 18/7/2016-23/7/2016.
13. Faculty development program on **“Recent advances in chemistry of materials for engineering applications(RACMEA-2016)”** organized by Dept. of chemistry, BMSCE, B’lore from 11/7/2016-15/7/2016.
14. Work shop on **“Preparation of Accreditation by NBA”** organized by B.N.M.I.T, Bangalore on 3<sup>rd</sup> to 5<sup>th</sup> Dec. 2015.
15. Workshop on **“Awareness of RoHS”**, IISc, Bangalore (10<sup>th</sup> Jan 2014).
16. VTU-VGST Faculty development programme on **“Recent advances in chemistry and material science”** GCE, Ramnagaram (2<sup>nd</sup> -4<sup>th</sup> Feb 2011).
17. One Day work shop on **“ Eco friendly metal finishing process”** organized by Electrochemical society of India and ISRO (5<sup>th</sup> June 2010).
18. One day seminar on **“High energy batteries”** organized by DSCE, Bangalore(16<sup>th</sup> April 2010).
19. **“Advances in Instrumental methods of Analysis”** organized by B.M.S.College of Engineering, Bangalore (26<sup>th</sup> to 30<sup>th</sup> June 2006).
20. **“Application of Science in Engineering and Technology”** organized by Ghousia college of Engineering (7<sup>th</sup> May 2005).
21. State level one day workshop on **“Teaching methodology in Engineering Chemistry”** organized by S.D.M.Collge of Engineering ,Dharwad (11<sup>th</sup> sep 2004) .
22. **“Faculty retreat”** organized by Don Bosco Institute of Technology, Bangalore (Feb16<sup>th</sup> to 19<sup>th</sup> 2004).
23. **“Recent trends in liquid crystals ,Polymers and composite materials”** organized by Ghousia college of Engineering (18<sup>th</sup> -20<sup>th</sup> sep.2003).

#### **Certification course:**

1. Five Day certification course on **“Industrial Solid Waste Management”** from 24<sup>th</sup> July-28<sup>th</sup> July 2017 Organized by the International Institute of Waste Management (IIWM), Bengaluru.

#### **Book Authored:**

1. Title of the Book **“Quaternary ammonium compounds as corrosion inhibitors”** Scholar’s Press Publishers ISBN : 978-3-659-83973-3.

#### **Visits Abroad:**

1. Visited **Regent’s International College, Bangkok, Thailand for Invited talk in the International conference.**