



BMS

INSTITUTE OF TECHNOLOGY AND MANAGEMENT

Avalahalli, Doddaballapur Main Road, Bengaluru – 560064

DEPARTMENT OF CHEMISTRY

RESEARCH COMPENDIUM

Research:

S. No	Name of the Faculty	RESEARCH CARRIED IN DEPARTMENT OF CHEMISTRY
1	Dr. Ramakrishnappa T	Electrochemical and Bio sensors, Advanced Li Batteries and Electrocatalysis for HER
2	Dr. Bincy Rose Vergis	Preparation and dielectric studies of spinel ferrites
3	Dr. Sudheerkumar K H	Preparation of bio composites using agricultural waste
4	Mrs. Swetha GA	Corrosion Inhibitors
5	Dr. Jyoti Roy Choudhuri	Molecular Modelling, Stastical Mechanical Properties, DFT studies.
6	Dr. Jyothi C Abbar	Bio-Sensors, Voltammetry, Drug determination, High Performance batteries, Kinetics and Catalysis
7	Dr. Sureshkumar K	Chemical, Electrochemical and Biosensors, Advanced materials for Energy storage devices, energy conversion reactions and thermochromic materials

Research Guides:

- 1) Dr. Ramakrishnappa T
- 2) Dr. Jyothi C Abbar
- 3) Dr. Sureshkumar K

Research scholars:

- 1) Ms. Varsha Raj (Internal)
- 2) Mr. Prakash H R (Internal)
- 3) Mr Anand A. (External)
- 4) Mrs. Lavanya (External)

Dr. T Ramakrishnappa

1. Observation of oxo-bridged yttrium in TiO₂ nanostructures and their enhanced photocatalytic hydrogen generation under UV/Visible light irradiations, Chandan H. Ravikumar, M. Sakara, Ashesh Mahto, Ravishankar Thammadihalli Nanjundaiaha, **Ramakrishnappa Thippeswamy**, Sergio Ribeiro Teixeira, R. Geetha Balakrishna, Materials Research Bulletin, 104 (2018) 212–219
2. The heterojunction effect of Pd on TiO₂ for visible light photocatalytic hydrogen generation via water splitting reaction and photodecolorization of trypan blue dye, T. N. Ravishankar, Mauricio de O. Vaz, **T. Ramakrishnappa**, Sergio R. Teixeira, J. Dupont, Ranjith Krishna Pai, Journal of Materials Science: Materials in Electronics, 29, 13 (2018)11132–11143.
3. Cytotoxicity, antibacterial and antifungal activities of ZnO nanoparticles prepared by Artocarpus gomezianus fruit mediated facile green combustion method, R. Anitha, KV Ramesh, T N Ravishankar, K H Sudheer Kumar, **T. Ramakrishnappa**, Journal of Science: Advanced Materials and Devices 3 (2018) 440-451
4. A Novel Mixed Matrix Membrane of Phenolphthalein Hydrazide and Polysulfone for the Detection of Copper Ions in Environmental Water Samples, Muralikrishna Sreeramareddygari, Sureshkumar Kempahanumakkagari, Padaki Mahesh, **Ramakrishnappa Thippeswamy**, Samrat Devaramani, Radhakrishna Reddy Mardi, Fernandez Carlos, and Banuprakash Govindappa, Environmental Progress & Sustainable Energy, <https://doi.org/10.1002/ep.13167>
5. Ionic liquid–assisted hydrothermal synthesis of Nb/TiO₂ nanocomposites for efficient photocatalytic hydrogen production and photodecolorization of Rhodamine B under UV-visible and visible light illuminations, T. N. Ravishankar, **T. Ramakrishnappa**, S.R. Teixeira, J. Dupont. Materials today chemistry 12, 2019, 373-385.
6. Copper oxide impregnated glassy carbon spheres based electrochemical interface for nitrite/nitrate sensing, **T. Ramakrishnappa**, K. Suresh Kumar, M. Pandurangappa, Materials Chemistry and Physics, 245, 2020, 122744.
7. Synthesis of Nano ZnO: A Catalyst for N-formylation of Aromatic Amines and Biodiesel Application, **L.S. Reddy Yadav**, Venkatesh R, Raghavendra M, **Ramakrishnappa T**, Current Nanomaterials, 5, 2020, 66-78.
8. Photocatalytic Activities, Kinetics and Adsorption Isotherm Studies of CeO₂ Nanoparticles Synthesized via Low Temperature Combustion Method, **L.S. Reddy Yadav**, **Ramakrishnappa T**, Current Nanomaterials, 4, 2019,223-234.
9. Green synthesis of Ag- ZnO nanoparticles: Structural analysis, hydrogen generation, formylation and biodiesel applications, **L.S. Reddy Yadav**, **T. Ramakrishnappa T**, Journal of Science: Advanced Materials and Devices, 4, 2019, 425-431.
10. Piperazine appended naphthalimide scaffold as turn on fluorescent probe for hydrogen sulfide, **K. Suresh Kumar**, **Ramakrishnappa T**, Micro chemical Journal, 157, 2020, 105019

Dr. Bincy Rose Vergis

1. Removal of malachite green from aqueous solution by magnetic CuFe_2O_4 nano-adsorbent synthesized by one pot solution combustion method, **Bincy Rose Vergis**, R. Hari Krishna, Nagaraju Kottam, B. M. Nagabhushana, R. Sharath and B. Darukaprasad, Journal of Nanostructure in Chemistry, 2018, 8, (2017)1–12.
2. An Excellent Photocatalytic Efficiency of ZnO under Visible Light for fast Removal of Organic Pollutant from aqueous solution, Nagaraju Kottam, **Bincy Rose Vergis**, B.M. Nagabhushana, Materials Today: Proceedings 5 (2018) 20849–20857
3. Removal of Evans Blue dye from aqueous solution using magnetic spinel ZnFe_2O_4 nanomaterial: Adsorption isotherms and kinetics, **Bincy Rose Vergis**, Nagaraju Kottam, Nano-Structures & Nano-Objects, 18, 2019, 100290

Book chapter:

1 Spinel Ferrites-A Future Boon to Nanotechnology Based Therapies, Muktha H, Nagaraju Kottam, Sharath R., Samrat K., Chandraprabha M. N, Harikrishna R, and **Bincy Rose Vergis**, in Nanomaterials: Physical, Chemical, and Biological Applications. Hard ISBN: 9781771884617, E-Book ISBN: 9781771884624. Apple Academic press.

Dr. Sudheer Kumar K H

1. Cytotoxicity, antibacterial and antifungal activities of ZnO nanoparticles prepared by Artocarpus gomezianus fruit mediated facile green combustion method, R. Anitha, KV Ramesh, T N Ravishankar, **K H Sudheer Kumar**, T. Ramakrishnappa, Journal of Science: Advanced Materials and Devices 3 (2018) 440-451
2. Novel orange-red emitting Pr^{3+} doped CeO_2 nanopowders for white light emitting diode applications, R.B. Basavaraj, R. Lokesh, K. H. Sudheer Kumar, Inorganic Chemistry Communications, 2020, 108164
3. Reformed solution combustion approach for probing of structural and dielectric properties of Sm^{3+} doped GdAlO_3 nanoparticles, R. Lokesh, K. H. Sudheer Kumar, Mater. Res. Express 6 (2019) 105066

Mrs. Swetha G A

1. “Corrosion Inhibition of Mild Steel by Capacitabine in Hydrochloric Acid Medium”, A.M. Guruprasad, H.P. Sachin, and **G.A. Swetha**, ASIAN JOURNAL OF CHEMISTRY, 30,(2018) 1629-1633
2. Use of Seroquel as an effective corrosion inhibitor for low carbon steel in 1M HCl, **G A Swetha**, H P Sachin, A M Guruprasad, B M Prasanna & K H Sudheer Kumar, J Bio Tribo Corrosion, 4 (2018)1-11
3. Adsorption and inhibitive properties of Seroquel drug for the corrosion of zinc in 0.1 M hydrochloric acid solution, A. M. Guru Prasad, H. P. Sachin, **G. A. Swetha**, B. M. Prasanna, International Journal of Industrial Chemistry, <https://doi.org/10.1007/s40090-018-0168-x>
4. Benzoate as Corrosion Inhibitor for Mild Steel in Acidic Corrosive Medium: Experimental and Theoretical Analysis, **Swetha, G. A**, Sachin, H. P, Guruprasad, A. M, Prasanna, B. M, Rizatriptan Journal of Failure Analysis and Prevention, 19 (2019) 1113-1126

5. Corrosion inhibition of zinc in 0.1 M hydrochloric acid medium with clotrimazole: Experimental, theoretical and quantum studies, A.M. Guruprasad, H.P. Sachin, **G.A. Swetha**, B.M. Prasanna, Surfaces and Interfaces 19 (2020) 100478

[Dr. Jyoti Roy Choudhari](#)

1. Wetting Transition of a nanodrop on switchable hydrophilic-hydrophobic surfaces, **Jyoti Roy Choudhari**, Pinku Nath, Surfaces and Interfaces (accepted)

[Dr. Jyothi C Abbar](#)

1. Sensitive and selective voltammetric oxidation and determination of an antiemetic drug using gold electrode and its biomedical applications, **J C Abbar**, MD Meti, ST Nandibewoor,

[Dr. Suresh Kumar K](#)

1. Copper oxide impregnated glassy carbon spheres based electrochemical interface for nitrite/nitrate sensing, **T. Ramakrishnappa, K. Suresh Kumar**, M. Pandurangappa, Materials Chemistry and Physics, 245, 2020, 122744.

2. Piperazine appended naphthalimide scaffold as turn on fluorescent probe for hydrogen sulfide, **K. Suresh Kumar, Ramakrishnappa T**, Micro chemical Journal, 157, 2020, 105019

3. A novel mixed matrix membrane of phenolphthalein hydrazide and polysulfone for the detection of copper ions in environmental water samples, **K. Suresh Kumar, Ramakrishnappa T**, Environmental Progress & Sustainable Energy, 38, 2019, 13167.