

Dr. YATHISHA R.O

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Academic Qualification

2015-2020: Doctor of Philosophy (Ph.D.) (**Course work-86.0%**)

Department of Chemistry, Kuvempu University, Shankaraghatta,
Shivamogga.

Thesis title: Generation of dye-sensitized transition metal doped semiconductors for effective solar energy harvesting-A low-cost method”.

Supervisor: Dr. Y. Arthoba Nayaka,

Professor,

Department of Chemistry, Kuvempu University, Shankaraghatta,
Shivamogga, Karnataka, India-577451.

2011-2013: M.Sc. (Chemistry), Percentage: **68.33%**, Department of Chemistry,
Kuvempu University, Shivamogga, Karnataka, India-577541.

2008-2011: B.Sc., (Physics, Chemistry and Mathematics), Percentage: **82.75%**,
DRM Science College, Kuvempu University, Davanagere, Karnataka,
India.

Research experience

April 2014-April-2015: **Junior Research Fellow (DST-SERB Project)**

At Department of Chemistry, Kuvempu University,
Shivamogga.

Area of research:

- Synthesis of different metal oxide nanomaterials
- Use of commercial dyes for the photo anode materials

May 2015-August 2019: **Research Scholar**, Department of Chemistry, Kuvempu
University, Shivamogga.

January 2020- November 2020: **Research Associate (Co-Principle Investigator)**

(TATA-Steel Project) at Department of Chemistry,
Centre for Nano and Soft Matter Science (CeNs),
Bangalore.

Area of research:

- Synthesis of Metal-organic frame works.
- Detection of explosives using different characterization techniques.

Teaching Experience:

August-2013-April-2014: Guest Lecturer in PG center Kadur, Kuvempu University, Shivamogga.

November 2020-January 2023: Guest Lecturer in Sahyadri Science College, Kuvempu University, Shivamogga.

February 2023-Till Now: Guest Lecturer in Department of Chemistry, Jnanasahyadri, Kuvempu University, Shankaraghatta, Shivamogga.

Project Guidance: 12 M.Sc. (Hon's) Chemistry Students.

Skills and Expertise

- Expertise in synthesis and characterization of functional metal oxide nanomaterials.
- Expertise in synthesis of metal-organic frameworks and its characterizations.
- **Skills:** UV-Vis Spectroscopy (Ocean Optics, Model: USB-4000), FT-IR instrument, Keithley Source Meter (2401, KUSSB-488B), CH Instrument Electrochemical hexagonal prism shaped ZnO nanoparticles and effect of Cr on structural, optical and Workstation (CH Instrument, 660D), PL Instrument.

Research publication-21, Citations: 455, H-Index: 11, I-Index: 13

1. **R.O.Yathisha**, Y. Arthoba Nayaka, C. C Vidyasagar. Microwave combustion synthesis of electrical properties of ZnO nanoparticles, *Materials Chemistry and Physics*. 181, 167–175 (2016) (**Impact factor = 4.6**).
2. **R.O.Yathisha**, Y. Arthoba Nayaka, Structural, optical and electrical properties of zinc incorporated copper oxide nanoparticles: doping effect of Zn, *Journal of Materials Science*, 53(1), 678-691 (2018) (**Impact factor = 4.5**).
3. **R.O.Yathisha**, Y. Arthoba Nayaka, Synthesis of Copper Oxide Nano-Rods by Microwave Assisted Combustion Route and their Characterization Studies. *International Journal of nanoelectronics and Materials*, 11 (2), 233-240 (2018) (**Impact factor = 0.5**).
4. **R.O.Yathisha**, Y. Arthoba Nayaka, P. Manjunatha, M.M.Vinay, H.T. Purushothama, Doping, structural, optical and electrical properties of Ni²⁺ doped CdO nanoparticles prepared by microwave combustion route, *Microchemical Journal*.145, 630-641 (2019) (**Impact factor = 4.8**).
5. **R.O. Yathisha**, Y. Arthoba Nayaka, P.Manjunatha, H.T. Purushothama, M.M. Vinay, K.V. Basavarajappa, Study on the effect of Zn²⁺ doping on optical and electrical properties of CuO nanoparticles, *Physica E:Low Dimensional System and Nanostructures*, 108,257-268 (2019) (**Impact factor = 3.369**).
6. **R.O. Yathisha**, Y. Arthoba Nayaka, Effect of solvents on structural, optical and electrical properties of ZnO nanoparticles synthesized by microwave combustion route, *Inorganic Chemistry Communication*,115,107877 (2020) (**Impact factor = 3.8**).

7. **R.O. Yathisha**, Y. Arthoba Nayaka, H.T. Purushothama, P. Manjunatha, M.M. Vinay, K.V. Basavarajappa, Investigation the influence of Zn²⁺ doping on the photovoltaic properties (DSSCs) of MgO nanoparticles, *Journal of Molecular Structure*, 1217, 128407 (2020) (**Impact factor = 3.841**).
8. **R.O. Yathisha**, Y. Arthoba Nayaka, Optical and electrical properties of metal free organic dye sensitized Cr-ZnO and Ni-CdO nanoparticles, *SN Applied Sciences*, 2(3), 1-14 (2020) (**Impact factor = 2.6**).
9. **R.O. Yathisha**, Y. Arthoba Nayaka, Structural, optical and electrical properties of ZnO nanoparticles synthesized under different microwave power, *Russian Journal of Electrochemistry*, 56(12), 859-867 (2020) (**Impact factor = 1.351**).
10. C.C. Vidyasagar, G. Hosamani, P. Kariyajjanavar, **R.O.Yathisha**, Y. Arthoba Nayaka, One-pot Microwave Synthesis and Effect of Cu²⁺ ions on Structural Properties of Cu-ZnO Nano Crystals, *Materials Today: Proceeding*, 5(10), 22171-22180 (2018).
11. P. Manjunatha, Y. Arthoba Nayaka, B.K. Chetan, C.C. Vidyasagar, **R.O.Yathisha**, Development of multi-walled carbon nanotubes modified pencil graphite electrode for the electrochemical investigation of aceclofenac present in pharmaceutical and biological samples, *Sensing and Biosensing Research*, 17, 7-17 (2018) (**Impact factor = 5.3**).
12. H.T. Purushothama, Y. Arthoba Nayaka, M.M. Vinay, P. Manjunatha, **R.O.Yathisha**, K.V. Basavarajappa, Pencil graphite electrode as electrochemical sensor for the voltammetric determination of chlorpromazine, *Journal of Science: Advanced materials and Devices*, 3(2),161-166 (2018).(**Impact factor = 8.0**).
13. P. Manjunatha, Y. Arthoba Nayaka, H.T. Purushothama, **R.O. Yathisha**, M.M. Vinay, Single-walled carbon nanotubes-based electrochemical sensor for the electrochemical investigation of pantoprazole in pharmaceuticals and biological samples, *Ionics*, 25(5), 2297-2309, (2018) (**Impact factor = 2.8**).
14. M.M. Vinay, Y. Arthoba Nayaka, H.T. Purushothama, **R.O. Yathisha**, K.V. Basavarajappa, P. Manjunatha, OH functionalized multi-walled carbon nanotube modified electrode as an electrochemical sensor for the detection of aceclofenac, *International Journal of Environmental Analytical Chemistry*, 99(15), 1553-1564, (2019) (**Impact factor = 3.5**).
15. K.V. Basavarajappa, Y. Arthoba Nayaka, **R.O. Yathisha**, P. Manjunatha, Synthesis, Characterization, Optical, Electrochemical and Current-Voltage Characteristics of Coumarin Dyes, *Journal of Fluorescence*, 29, 1201-1211 (2019) (**Impact factor = 2.7**).
16. H.T. Purushothama, Y. Arthoba Nayaka, P. Manjunatha, **R.O.Yathisha**, M.M. Vinay, K.V. Basavarajappa, Electrochemical determination of Chlorpromazine using L-Cysteine modified carbon paste electrode, *Chemical Data Collections*, 23, 10028, (2019).
17. K.V. Basavarajappa, Y. Arthoba Nayaka, H.T. Purushothama, **R.O.Yathisha**, M.M. Vinay, B.J. Rudresha, K.B. Manjunatha, Optical, electrochemical and current-voltage characteristics of novel coumarin based 2,4-dinitrophenylhydrazone derivatives, *Journal of Molecular Structure*, 1199, 126946, (2020). (**Impact factor = 3.841**)
18. H.T. Purushothama, Y. Arthoba Nayaka, K.V. Basavarajappa, **R.O.Yathisha**, P. Manjunatha, M.M. Vinay, An electrochemical study of Atenolol using Patton and Reeder's modified pencil graphite electrode as an electrochemical sensor, *International Journal of Environmental Analytical Chemistry*, 101,(4) (2019) (**Impact factor = 3.5**).

19. M.M. Vinay, Y. Arthoba Nayaka, K.V. Basavarajappa, P. Manjunatha, H.T. Purushothama, **R.O. Yathisha**, Development of Single Walled Carbon Nanotube-Molybdenum Disulfide Nanocomposite/Poly-ethylene Glycol Modified Carbon Paste Electrode as an Electrochemical Sensor for the Investigation of Sulfadiazine in Biological Samples, *Analytical and Bioanalytical Electrochemistry*, 12 (2), 155-167 (2020) (**JCR Impact factor = 2.5**).
20. M.M. Vinay, Y. Arthoba Nayaka, **R.O. Yathisha**, K.V. Basavarajappa, P. Manjunatha, H.T. Purushothama, Development of Azure-B modified pencil graphite electrode as an electrochemical sensor for the investigation of Levofloxacin in pharmaceutical and biological samples, *Chemical Data Collections*, 28, 100441, (2020).
21. Deepa K, Y. Arthoba Nayaka, H.T. Purushothama **R.O. Yathisha**, Co-deposition of micro- and nano sized SnO₂ particles in the Zn-matrix composite coatings produced from a Zn-sulphate bath by electroplating, *Chemical Data Collections*, 32, 100657 (2021).
22. **R.O. Yathisha**, Y. Arthoba Nayaka, Structural, optical and electrical properties of Chromium incorporated Titanium oxide nanoparticles: doping effect of Cr, *Inorganic Chemistry communications (Elsevier publication, 2024)* (**Under review**).

National/International Conferences/ Seminar/ Symposium/Meetings Attended

- International conference on Renewable energy, Bishop Herber College, Trichy, Tamilnadu, India.
- International conference on Green chemistry and Nano technology opportunities and challenges 2017, St. Aloysius College, Mangalore, Karnataka, India.
- Indian council of chemist, Pune, Maharashtra, India.
- National conferences on Recent Advance Research in Chemical Sciences Research, Kuvempu University, Shivamogga, Karnataka, India.
- National conference on Chemical and Biochemical aspects in pharmaceutical Applications, Kuvempu University. Shivamogga, Karnataka, India.
- 9th KSTA Annual Conference, Christ University, Bangalore, Karnataka, India.
- National conference on Mechanical, Materials and Manufacturing Engineering, The National Institute of Technology, Mysore, Karnataka, India.
- National conference on Recent Advances in Chemistry, Biology and Materials Science for Industry and Society, Kuvempu University, Shivamogga, Karnataka, India.
- Two days National Conference on “Exploring Innovative Research and Developments in Chemical Sciences (EIRDCS)”, during 1-2nd March 2019, held at Department of Chemistry, Shivamogga, Kuvempu University, Karnataka, India.
- 11th Bangaluru India Nano-2020, Bangaluru, Karnataka, India.
- International virtual conference on Creative research in chemical science and allied applications (CRCSA-2020), Sri Dharmasthala Manjunatheshwara college, Ujire, Karnataka, India.

Papers Reviewed (Reviewer):

1. Synthesis and characterization of MgO nanoparticle via microwave and sol-gel methods, **International Journal of Nanoparticles and Nanotechnology (2022)**.
2. Synthesis, spectroscopic, and antibacterial Characterizations of Cadmium-based Nanoparticles, **Journal of Fluorescence (2023)**.
3. Effect of Gadolinium doping on the structural, morphological and optical properties of ZnO nanomaterials by modified solvothermal method, **Journal of Inorganic and Organometallic Polymers and Materials (2023)**.
4. Investigation of photosensitive properties of novel TiO₂: CuO mixed complex interlayered heterojunction: Show casing experimental and DFT calculations, **Optical and Quantum Electronics (2023)**.
5. Microwave combustion synthesis of La_{1-x}Gd_xFeO₃ (x = 0 to 0.25) nanoparticles: structural, magnetic, vibrational, morphology, and optical behavior, **Journal of Inorganic and Organometallic Polymers and Materials (2023)**.
6. Effect of Al-doped CuO thin films on structural, morphological, optical, and electrical properties for photocatalysis application **Optical and Quantum Electronics (2024)**.

Referees

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Place: Shankaraghatta

Signature of the Candidate

Date: 20-06-2024

(Yathisha R.O)