**Dr. K.L. NAGASHREE**
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## *Present employment*

Assistant Professor, Department of Chemistry, BMS College of Engineering, Basavangudi, Bangalore.

## *Academic qualifications and Research experience*

**M. Sc.,** in Chemistry (2001 – 2003), Bangalore University, Bangalore, India

**Ph. D.,** in Chemistry (2004 – 2010), Bangalore University, Bangalore, India

**Postdoctoral Fellow** (Nov 2009-August 2013) in Prof. S. Sampath's Research Group, IPC Department, Indian Institute of Science, Bangalore, India, under Prof. D.S. Kothari Post doctoral fellowship of UGC.

## *Teaching Experience*

2003-2005 Guest Faculty in Chemistry at the Department of Post Graduate Studies in Chemistry, Central College Campus and U.V.C.E., Bangalore University, Bangalore.
2007-2009 Faculty in Chemistry at BASE, Basavangudi, Bangalore.
2013- till date, Assistant Professor, Department of Chemistry, B.M.S. College of Engineering, Bangalore.

## *Grants Received*

1. DST-FIST grant in September 2023 of Rs. 95 lakhs (Co-PI) for a duration of 5 years.
2. DST-SERB-Early Career Research Award 2016 of Rs. 30.36 Lakhs for the duration of 3 years. Title of the project: "Electrodeposited mixed metal chalcogenide-graphene composites for visible light enhanced photocatalytic hydrogen generation" (Ref. No. ECR/2016/000841) (PI).
3. Vision Group on Science and Technology (VGST-GoK), SMYSR 2014-15 grant of Rs. 4.00 Lakhs for 1 year (VGST/SMYSR(2014-15)/GRD-400/2015-16) (PI).

## *Awards and Fellowships*

- Secured **5th rank** in M.Sc. Chemistry examinations held during May 2003
- Awarded Prof. B.S. Sheshadri and Prof. T. H. Venkatasetty **Gold medal** for having secured highest marks in Physical Chemistry in M.Sc. Chemistry degree examination held during May 2003
- Awarded **Dr. D. S. Kothari Postdoctoral Fellowship** by University Grant Commission (UGC) India for the period 2011-2013

## *List of publications*

1. Electro catalytic oxidation of methanol on Pt modified polyfuran (PFu) electrodes.
   **K. L. Nagashree**, M. F. Ahmed, *Bulletin of Electrochemistry, 22 (2006) 431*.
2. Electrocatalytic oxidation of methanol on Pt modified polyaniline in alkaline medium.
   **K. L. Nagashree**, M. F. Ahmed, *Synthetic Metals, 158 (2008) 610*.
3. Electrocatalytic oxidation of methanol on Cu modified polyaniline electrode in alkaline medium.
   **K. L. Nagashree**, M. F. Ahmed, *J. Appl. Electrochem., 39(2009) 403*.
4. Carbon paste electrodes modified by Pt and Pt-Ni microparticles dispersed in polyindole for electrocatalytic oxidation of methanol.
   **K. L. Nagashree**, N. H. Raviraj, M. F. Ahmed, *Electrochimica Acta, 55 (2010) 2629*.
5. Electrocatalytic oxidation of methanol on Ni modified polyaniline electrode in alkaline medium.
   **K. L. Nagashree**, M. F. Ahmed, *J. Solid State Electrochem*., 14 (2010) 2307.
6. Spontaneous formation of branched nanochains from room temperature molten amides: visible and near-IR active, SERS substrates for non-fluorescent and fluorescent analytes.
   **K. L. Nagashree** et al.,*RSC Adv.,* 3 (2013) 8356.
7. Synergistic electrochemical activity of titanium carbide and carbon towards fuel cell reactions.
   Vankayala Kiran, **K. L. Nagashree** and S. Sampath *RSC Adv.*, 4 (2014) 12057.
8. Biosynthesis of silver nanoparticles using pre-hydrolysis liquor of Eucalyptus wood and its effective antimicrobial activity
   M Shivakumar, **K. L. Nagashree** et al. *Enzyme and microbial technology* 97 (2017) 55-62.
9. Electrochemical Detection of Nitrite Using Glassy Carbon Electrode Modified with Silver Nanospheres (AgNS) Obtained by Green Synthesis Using Pre-hydrolysed Liquor.
   M Shivakumar, **K. L. Nagashree** et al. *Electroanalysis* 29 (5) (2017) 1434-1442.

10. Fabrication of carbon nanospheres using natural resources and their voltametric studies of dopamine.
    S Yallappa, S R K Kumar, **K L Nagashree**, et al *Materials Today: Proceedings* 5 (2018) 3093-3098.
11. Photocatalytic degradation of 2, 4-dichlorophenoxyacetic acid-A comparative study in hydrothermal $TiO_2$ and commercial $TiO_2$.
    S Sandeep, **K L Nagashree**, et al. *Applied Surface Science* 449 (2018) 371-379.
12. Electrochemical Determination of Nitrite Using Catalyst Free Mesoporous Carbon Nanoparticles from Bio Renewable Areca nut Seeds.
    S Yallappa, M Shivakumar, **K L Nagashree**, et al. *Journal of The Electrochemical Society* 165 (10) (2018) H614-H619.
13. Corrosion Inhibition Performance of Lignin Extracted from Black Liquor on Mild Steel in 0.5 M $H_2SO_4$ Acidic Media.
    M Shivakumar, M S Dharmaprakash, S Manjappa, **K L Nagashree** *Portugaliae Electrochimica Acta* 35 (6), 351-359.
14. Electrochemical detection of nitrite at $NiFe_2O_4$ nanoparticles synthesised by solvent deficient method
    K.N. Nithyayini, M.N.K. Harish, **K.L. Nagashree,** *Electrochimica Acta* 317 (2019) 701-710.
15. Green synthesis of silver nanoparticles (SNPs)-modified electrode for electrochemical detection of nitrobenzene
    M. Shivakumar, M. S. Dharmaprakash, S. Manjappa, **K. L. Nagashree**, *Journal of the Iranian Chemical Society* 17 (2020) 893–900.
16. Electrocatalytic detection of nitrite at $NiCo_2O_4$ nanotapes synthesized via microwave-hydrothermal method
    M Shivakumar, S Manjunatha, K N Nithyayini, M S Dharmaprakash, K L Nagashree *Journal of Electroanalytical Chemistry* 882 (2021) 115016.
17. Cobalt metal-organic framework for low concentration detection of glucose
    S Sangeetha, A C Jayasree, Kalyan Raj, N L Prasad, G Krishnamurthy, **K L Nagashree**, *Inorganic and Nano-Metal Chemistry* 53 (2023).
18. Efficient catalytic reduction of hazardous hexavalent chromium by cobalt sulfide Nanoparticles
    K. Arathi, T. N. Ravishankar, Kalyan Raj, **K. L. Nagashree**, *Chemical papers* 75 (2021)4707–4718.
19. Copper chalcogenides for rechargeable batteries
    B. Pruthvija, K.P. Lakshmi, **K.L. Nagashree**, *Materials today proceedings* 65 (2022) 3253-3258.
20. Synthesis and characterization and X-ray/gamma ray absorption properties of tin oxide synthesized via solution combustion method
    Y.S. Uday, Y.S. Vidya, H.C. Manjunatha, S. Manjunath, K.N. Sridhar, **Nagashree K. L** *Applied Surface Science Advances* 3 (2023) 100367.

21. Solution Combustion Synthesis of NiS-$NiS_2$ Nanoparticles for Catalytic Reduction of Nitro Aromatics
    M C Manjula, S Manjunatha, **K L Nagashree**, M Shivanna, Madhuri P Rao, N Nanda, P Ramachandra, *ChemistrySelect* 8 (2023) e202300936.
22. Bio-mediated Synthesis of ZnS–ZnO Nanocomposite from Cucumis melo Pulp and Chicken Feathers: Photodegradation of Dyes and Antibacterial Activities
    P S Nandisha, Sowbhagya, M A Pasha, B Umesha, M Harshitha, **K L Nagashree**, *Korean Journal of Chemical Engineering* 41 (2024) 515-531.
23. Synergic formulation of Ipomoea batatas quercetin loaded with zinc oxide nanoparticles: photocatalysis of the Methylene blue and Cango red dyes and biological evaluations
    P S Nandisha, S Yallappa, **K L Nagashree**, S Manjunatha, B Umesha, Areej Al Bahir, *Journal of Molecular Structure* 1315 (2024) 138766.
24. Solution combustion synthesis of Ag decorated $CeO_2$ nanocomposite for the reduction of nitroaromatic compounds
    M C Manjula, **K L Nagashree**, S Manjunatha, Shwetha Kolathur Ramachandra, N Nanda, P Ramachandra, *Inorganic Chemistry Communications* 168 (2024)112858.
25. $CuO/Co_3O_4$ heterojunctions for catalytic nitroarenes reduction and oxygen evolution reaction
    K Arathi, **K L Nagashree**, Madhuri P Rao, Kalyan Raj, P Shivakumar, D H Nagaraju, *Inorganic Chemistry Communications* 169 (2024)113106.
26. Diesel soot as a cost effective and efficient adsorbent of hazardous Methylene Blue-An environmental benign approach
    S Manjunatha, M Shivakumar, **K L Nagashree**, Madhuri P Rao, M S Dharmaprakash, *Journal of Molecular Structure* 1318 (2024)139159.

## *Papers presented in Conferences*

1. Study of polypyrrole modified electrodes as electrocatalysts for methanol oxidation in acid and alkaline media.
   M. F. Ahmed, **K. L. Nagashree**, "*International Conference on Electrochemical Power Systems (ICEPS-2)*" held at Hyderabad, India during 20-21 December 2004.
2. Electrocatalytic oxidation of methanol on Pt modified polymer electrodes in $NaHCO_3$ medium.
   **K. L. Nagashree**, M. F. Ahmed, "*National Conference in Chemistry*" held at Central College, Bangalore University, Bangalore, India during 27-29 September 2006.
3. Study of Cu modified PANI electrodes as electrocatalysts for methanol oxidation in alkaline medium.
   **K. L. Nagashree**, M. F. Ahmed, "*International Conference on Electrochemical Power Systems*" held at Trivandrum, India during 26-28 November 2008.

4. Study of Ni modified PANI electrodes as electrocatalysts for methanol oxidation in alkaline medium.
   **K. L. Nagashree**, M. F. Ahmed, "*International Conference on Current Trends in Chemistry and Biochemistry (ICCTCB-2009)*" held at Central College, Bangalore University, Bangalore, India during 18-19 December 2009.
5. Copper oxide-rGO composite for electrocatalytic oxidation of methanol.
   **K.L. Nagashree** et al., "*International Conference on Electrochemical Science and Technology (ICONEST -2014)*" held at IISc., Bangalore, India during 7-9 August 2014.
6. Lignin extracted from prehydrolysis liquor (PHL) of pulp and paper industry as corrosion inhibitor for mild steel in $H_2SO_4$.
   **K.L. Nagashree** et al., "The National Symposium on Electrochemical Science and Technology NSEST-2015" held at IISc., Bangalore, India during 24-25 July 2015.
7. Green synthesis of silver nanoparticles using prehydrolysis liquor (PHL)
   **K.L. Nagashree** et al., " International Conference on Advanced Materials and Applications (ICAMA-2016)" held at BMS college of Engineering, Bangalore, India during 15-17 June 2016.
8. Visible Light Driven Hydrogen Production: Strategies with Mixed Metal Chalcogenide Composites.
   **K.L. Nagashree** et al., "7th Asia Pacific Congress on Catalysis, APCAT-7" held at Hotel Lalit, Mumbai, India during 17-21 January 2017
9. Electrodeposition of nanocrystalline CdS thin films on pre-treated carbon substrates and their characterization.
   **K. L. Nagashree** et al, "23$^{rd}$ National Symposium on Catalysis (CATSYMP 23)" held at Royal Orchid, Bangalore, India during 17-19 January 2018.
10. Electrocatalytic Reduction of Nitrobenzene on Electrodeposited Ni-Co-S.
    **K.L. Nagashree** et al. "International Conference on Electrochemistry in Advanced Materials, Corrosion and Radiopharmaceuticals (CEAMCR-2018)" held at Mumbai, India during 15-17 February 2018.
11. Solution combustion synthesis of Nickel-Cobalt Sulphide for electrocatalytic hydrogen evolution in acid medium.
    **K.L. Nagashree** et al. "5th International Conference on Nano science and Nanotechnology (ICONN-2019) held at SRM IST during Jan 28-30, 2019.
12. Electrochemical detection of nitrite at mechanochemically synthesised $NiFe_2O_4$ Nanoparticles.
    **K.L. Nagashree** et al. "5th International Conference on Nano science and Nanotechnology (ICONN-2019) held at SRM IST during Jan 28-30, 2019.

13. Catalytic Reduction of 4-Nitrophenol Using CuO Nanoparticles Synthesized Via Simple Solution Combustion Method.
    **K.L. Nagashree** et al. 1st international conference on "Accelerating Innovations in Material Science (AIMS - 2020) August 04-07, 2020 held at BMS institute of technology and management, Bangalore.
14. Efficient Catalytic Reduction of Hazardous Hexavalent Chromium On Cobalt Sulfide Nanoparticles.
    **K.L. Nagashree** et al. 1st international conference on "Accelerating Innovations in Material Science (AIMS - 2020) August 04-07, 2020 held at BMS institute of technology and management, Bangalore.
15. Solution combustion synthesis of NiS-$NiS_2$ nanoparticles for catalytic reduction of 4-Nitrophenol.
    **K.L. Nagashree** et al. "International Conference on Chemical Sciences: Academia, Industry & Society interface" jointly organized by the department of Chemistry PG Centre, Jyoti Nivas college Autonomous, Bangalore and Karnataka Science and Technology Academy, Department of Science and Technology, Government of Karnataka, during 23-25th June 2022.
16. Green Synthesis of CuO/$Co_3O_4$ Heterojunctions for Electrocatalytic Oxygen Evolution Reaction (OER).
    **K.L. Nagashree** et al. "3rd International Conference on Electrochemical Science and Technology (ICONEST-2024)" held during September 18-20, 2024 at CSIR-National Physical Laboratory, Delhi.
17. Electrochemical Sensing of Nitrobenzene @ $NiFe_2O_4$ /GO Platforms Synthesized by Solvent Deficient Method.
    **K.L. Nagashree** et al. "3rd International Conference on Electrochemical Science and Technology (ICONEST-2024)" held during September 18-20, 2024 at CSIR-National Physical Laboratory, Delhi.
18. Ag-ZrO 2 Nanocomposite - An Electrocatalyst for Oxygen Evolution Reaction.
    **K.L. Nagashree** et al. "3rd International Conference on Electrochemical Science and Technology (ICONEST-2024)" held during September 18-20, 2024 at CSIR-National Physical Laboratory, Delhi.

## *Symposia/Conference attended*

1. "The National Symposium on Electrochemical Science and Technology", conducted by the Electrochemical Society of India at IISc., Bangalore during 20-21 July 2007.

2. "In-House Seminar in Chemistry and Biochemistry" conducted by the Department of Studies in Chemistry, Bangalore University, Bangalore during 26-27 December 2005.

## *Areas of Research interest*

Electrocatalysis; electrochemical sensing; polymer modified electrodes; fuel cells and batteries; electrodeposition; synthesis and characterization of metal oxides and sulfides.

## *Special Recognitions*

- BOS member, Department of Chemistry, BMSCE.
- BOE member, Department of Chemistry, BMSCE.
- BOE Chairperson, Department of Chemistry, BMSCE.
- BOS member, Department of Chemistry, BMSCW.
- Session chair at 1st international conference on "Accelerating Innovations in Material Science (AIMS - 2020) August 04-07, 2020 held at BMS institute of technology and management, Bangalore.
- Doctoral committee member at BMSITM.
- Co-ordinator for GIAN programme at BMSCE during December 2018.
- Project review committee member for Goa State Research Foundation.
- Reviewer in many internation journals.