

CURRICULUM VITAE

✚ PROFILE

- Ph.D. in Chemistry with 8+ years of research experience organic chemistry, materials science.
- Skilled in designing and synthesizing **functional materials**, **nanoparticles**, and **organic compounds** with applications in energy storage, sensing, and environmental remediation.
- Passionate about innovative research and dedicated to contributing impactful scientific solutions through advanced analytical techniques and collaborative projects.



Dr. K. UPENDRANATH

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Postdoctoral Fellow, CRFM,
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Personal Data:

Date of Birth: 30-11-1993

Sex: Male

Blood Group: A⁺

Nationality: Indian

Marital status: Married

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<https://www.scopus.com/authid/detail.uri?authorId=57193826693>.

✚ HIGHLIGHTS

- Organic Chemistry, Material synthesis, and Latent fingerprints.
- Water splitting (HER, OER), and Water treatment.
- Expert in handling DFT (Gaussian 09 and Gauss view 6.06) for computational studies.

✚ EDUCATION

Post-Doctoral

- Thesis entitled: **Organic, Inorganic, and Metal-Organic Materials for Energy and Water Applications.**
- **Advisor: Prof. Mahaveer D. Kurkuri.**

Centre for Research and Functional Materials (CRFM), Jain University,
Karnataka, India
Year: Oct 2023- Sep 2025

Ph.D. (Chemistry)

- Thesis entitled: **Synthesis, Characterization, and Applications of Some Novel Nitrogen-Heterocyclic Compounds**
- **Advisor: Dr. Talavara Venkatesh, M.Sc. Ph.D.**

Year: June 2019- June 2023

Department of Chemistry, Kuvempu University, Karnataka, India.

Master of Science (Chemistry),

- Master Thesis: **Silver (I)-N-heterocyclic Carbene Complexes of Coumarin-substituted Benzimidazol-2-ylidenes-ylidenes, Synthesis, Crystal Structure and Antibacterial studies.**
- **Advisor: Dr. Srinivasa Budugampi, M.Sc. Ph.D.**

Center for Nano and Material Sciences (CNMS), Jain University,
Bangalore, India

Year: July 2014 - June 2016

- First Class (68.57%)

Work Experience

- **Assistant Professor - 2 Years (2017-2019)**
Department of Chemistry Shridevi, Post-Graduation Center
Tumkur, Affiliated to Tumkur University.

SUMMARY OF MY RESEARCH WORK

During my eight years of research, I have designed and synthesized new nitrogen-bearing heterocyclic compounds (Pyrimidine and Pyridine) Schiff base, and some metal oxide nanoparticles (perovskite oxides and S-g-C₃N₄). Optical and electrochemical properties were examined in solvent media to determine the fluorescence characteristics of the emitters and the electrochemical behaviors for electrochemical sensors. Theoretical properties have been investigated using a 6-311 ++ G (d, p) basis set in the ground state and calculation of chemical quantum parameters. The primary focus of my research is the application of these compounds to detect the distinct ridges of fingerprints on various surfaces for forensic science. Additionally, they are utilized for water-splitting and water treatment applications, as well as current-voltage studies for energy storage devices (DSSCs and Supercapacitors).

PROJECT GUIDANCE AND COMPLETED

- Bio-hydrogen Production from Thermophilic Bacteria in Anaerobic Conditions- **International Consultancy project (10-lakh) - Year: 2023-2024.**
- One-pot synthesis, Characterizations of new 4-(4-substitutedphenyl)-2-oxo-1,2-dihydropyridine-3-carbonitrile derivatives, and LFPs, anti-counterfeiting application with DFT Studies-**Year -2017-18**
- DFT, LEPs and Anti-counterfeiting studies of 5-(4-substituted phenyl)-7-(4-chlorophenyl)-1,3-dimethyl-1,5-dihydro-2H-pyrimido[4,5-d][1,3]thiazolo[3,2-a]pyrimidine-2,4(3*H*)-dione derivatives Synthesis, Characterization - **Year: 2018-2019**
- Synthesis, Characterization, DFT, and LFPs application of pyrimidine derivatives - **Year: 2021-2022**

CONFERENCE ATTENDED

1. **K. Upendranath, R.S. Vishwanath, Mahaveer. D. Kurkuri**, “NiS/NiS₂ Incorporated Sulphur doped Graphitic Carbon Nitride Nanosheets as an Efficient catalyst in the Conversion of 4-Nitrophenol to 4-Aminophenol”-**Oral Presentation**, National Conference on ‘Emerging trends in science & technology for ecological conservation’ held in Surana College- South-End Circle campus Bengaluru on February 14th & 15th, 2025.
2. **K. Upendranath** and Talavara Venkatesh, “One-pot synthesis, characterization of new 1,2-dihydropyridine-3-carbonitrile derivatives for their optoelectronic, DFT studies and LFPs applications”. -**Poster Presentation**. International E-Conference on Sustainable and Futuristic Materials (SFM-2021) Department of Chemistry, Kamla Nehru Mahavidyalaya, Nagpur.

3. **K. Upendranath** and Talavara Venkatesh, “Synthesis of 5-Substituted-di-hydro pyrimidines derivatives and evolution of their Anti-Cancer and Molecular docking studies” - **Oral Presentation**, International E-Conference on Recent Advances and Innovations in Biological and Applied Sciences (RAIBAS 2022), held during 14th-16th June 2022, at SGT University Gurugram.
 4. **K. Upendranath**, G. Raviteja, and A. R Lamani, “Sonication Assisted Synthesis of $\text{LaFeO}_3/\text{Fe}_2\text{O}_3$ /Activated charcoal Nanocomposite for Photocatalytic Degradation of Methylene Blue Dye” – **Poster Presentation**, 67th DAE Solid State Physics Symposium, held at GITAM Deemed to be University, Visakhapatnam, during 20-24 December 2023.
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WORKSHOP ATTENDED

- 10-day hands-on training program on "**Molecular Docking and Molecular Dynamic Simulations**" conducted from 01-07-2024 to 10-07-2024. - **Participated**
 - **One-Week Instrumentation Hands-on Training, “STUTI-2021”** Organized by the Central University of Tamilnadu, Tiruvaru, in collaboration with NIT- Warangal, funded by the DST-India, from 21st to 28th June 2023- **Participated.**
 - Three days of virtual workshops on “**Computational and Analytical software**” organized by the Department of Chemistry, Sathyabama Institute of Science and Technology, from 4th August 2021 to 6th August 2021.- **Participated.**
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COMPUTER SKILLS

- Chemistry software: Chem Draw, Chem Sketch, Mercury, Joel delta- NMR solvation, Origin-Graphical.
 - Computational chemistry and biological studies: Gaussian09, GAMESS, VEDA4, SHELX, GaussSum, GaussView, Crystal Explore, Multiwfn, Avogadro.
 - Computer software: MS Office, Adobe Illustrator, 3d-paint, Adobe Photoshop.
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EXPERIMENTAL SKILLS

- Handled light-sensitive reactions.
 - Experts in small organic synthesis compounds.
 - Experience in organometallic synthesis.
 - Experienced in solvent-free reactions and multistep reactions.
 - Experience in nanoparticle synthesis.
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INSTRUMENTATION SKILLS

- FTIR, ATR-IR, UV-visible, Fluorescence spectrophotometry.
 - Cyclic Voltammetry (CH600D).
 - Filter microscope and solar simulator.
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1. **K. Upendranath**, S. Ananada. R.S. Vishwanath, M. D. Kurkuri, A. Shambulinga. SrCoO₃/NiCo₂O₆ nanocomposite as an efficient photocatalyst for photodegradation of Methylene and Methyl orange- Manuscript under revision.
2. **K. Upendranath**, R.S. Vishwanath, M. D. Kurkuri, new coumarin-substituted pyrimidine derivatives for glucose sensing in neutral electrolyte and their theoretical studies. Manuscript under preparation.
3. **K. Upendranath***, R.S. Vishwanath, G. Ravitheja, A.R. Lamani, G. Sriram, Tae Hwan Oh, M. D. Kurkuri, Tariq Altalhi, Sol-gel synthesis of LaFeO₃ perovskite oxide for distinct ridges detection of level II and III latent fingerprints, J. Inorg. Chem. Comm. Year: 2024, I.F- 4.4
4. **K. Upendranath**, Talavara Venkatesh, S.H. Sukanya, H. Shanavaz, Facile synthesis and in-vitro cytotoxicity study of some 5-(4-substituted phenyl)-7-hydroxy-9-methyl-2-thioxo-2,3-dihydro-1*H*-dipyrimido[1,2-*a*:4',5'-*d*]pyrimidin-4(5*H*)-one derivative and their Optoelectronic, DFT, and LFPs applications, J. Mol. Stru. Year: 2023, I.F- 4.0
5. **K. Upendranath**, Talavara Venkatesh, T.N. Lohith, M.A Shridhar, Synthesis, characterizations of new Schiff base heterocyclic derivatives and their optoelectronic, computational studies with level II & III features of LFPs, J. Mol. Stru. Year: 2022, I.F- 4.0
6. **K. Upendranath**, Talavara Venkatesh, Y. Arthoba Nayaka, M. Shashank, G. Nagaraju, Optoelectronic, DFT and current-voltage performance of new Schiff base 6-nitro-benzimidazole derivatives, J. Inorg. Chem. Comm. Year: 2022, I.F- 4.0
7. **K. Upendranath**, Talavara Venkatesh, M. Vinuth, Development and visualization of level II, III features of latent fingerprints using some new 4-(4-substitutedphenyl)-6-(4-substitutedphenyl)-2-oxo-1, 2-dihydropyridine-3-carbonitrile derivatives: Synthesis, characterization, optoelectronic and DFT studies. J. Ind. Chem. Soc. Year: 2022, I-F 3.2
8. **K. Upendranath**, Talavara Venkatesh, M. Shashank, G. Nagaraju, K.M. Mussuvir Pasha, One-pot synthesis of some new 7-hydroxy-5-(4-substitutedphenyl)-9-methyl-1,5-dihydro-2*H*-dipyrimido[1,2-*a*:4',5'-*d*]pyrimidine-2,4(3*H*)-dione derivatives and its optoelectronic, DFT, photocatalytic studies and latent fingerprint applications, J. Mol. Stru. Year: 2021, I.F- 4.0.
9. Adil Alshoaibi, N.Ch. Ramgopal, S. Ramasundaram, **K. Upendranath**, M. Mahanthappa, M. Fahad, M. Durai, P. Barmavatu, T. Hwan Oh, R.S. Vishwanath, M. Durai, NiS/NiS₂-embedded sulfur-doped porous graphitic carbon nitride nanosheets as an efficient catalyst for 4-nitrophenol reduction, Diamond & Related Materials. Year-2025 I.F- 4.3

10. Mallappa Mahanthappa, Subramaniyan Ramasundaram, **K. Upendranath**, Mohd Fahad, Lavanya Gunamalai, Osamah Alduhaish, Mani D, Tae Hwan Oh, Vishwanath R. S, Copper Sulfide-Incorporated Layered Porous Sulfur-Doped Graphitic Carbon Nitride Nanosheets for an Efficient Catalytic Reduction of 4-Nitrophenol, New. J. Chem. Year-2024, I.F-3.2
11. G. Ravitheja, A. R. Lamani, H.S. Jayanna, A. Prabhu, K. L. Nurendra, B. M. Harish, N. S. Spoorthi, **K. Upendranath**, S. J. Shetty, S.S. Bhat; S. C. Gurumurthy, Sonication assisted synthesis of LaFeO₃/Fe₂O₃/activated charcoal nanocomposite for photocatalytic degradation of methylene blue dye, AIP Conf. Proc. 3198, 2025.
12. S. H. Sukanya, Talavara Venkatesh, **K. Upendranath**, H. Shanavaz & O. Nagaraj, Synthesis, In-Vitro Evaluation and Docking Studies of Novel 6-Amino-4-Substituted-Pyrano[3,2-d] Isoxazole-5-Carbonitrile Derivatives as Potential Anti-Diabetic and Anticancer Agents, Pharmaceutical Chemistry Journal, Year-2024, I.F-1.0
13. Maruthi Nayaka T.H, Itte Pushpavathi, Vishwanath R.S., Kumar Swamy B.E., **Upendranath K**, Ashoka G.B, Synthesis, characterization of new electrochemical activated sulfadiazine azo dyes and its theoretical studies with LFPs, antioxidant application. J. Mater. Sci. Eng. B: Year-2024, I.F- 3.8
14. R.S. Priya Rani, T. Venkatesha, **K. Upendranath**, and H. Shanavaz, Synthesis of some new substituted dihydro-5-(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazole) heterocyclic derivatives and evaluation of their pharmacological activities. Russian Journal of General Chemistry. Year: 2023.
15. Priya Rani R. S, Talavara Venkatesh, Sukanya S. H. **Upendranath K**. Satyanarayan N. D. Synthesis of some new substituted 5-phenyl-3, 4-dihydro-1*H*, 2*H*-3, 4-bipyrazole derivatives and evaluation for their biological activities, Chem. Data Colle., Year: 2022, I.F-0.13
16. T. Venkatesh, **Kantharaj Upendranath**, Jayappa Manjanna, Optical, Electrochemical and DFT studies of Indol-5, 8-pyrimido [4, 5-*d*] pyrimidine Derivatives, Chem. Data Colle., Year: 2022, I.F-0.13
17. T. Venkatesh, **K Upendranath**, Y. Arthoba Nayaka, Development of electrochemical and optoelectronic performance of new 7-{{1*H*-indol-3-ylmethylidene}amino}-4-methyl- 2*H*-chromen-2-one dye, J. Sol. Sta. Electrochem., Year:2021, I-F 2.64.
18. Gautam Achar, V.C. Ramya, **K. Upendranath**, Srinivasa Budagumpi, Coumarin– tethered (benz)imidazolium salts and their silver(I) N–heterocyclic carbene complexes: Synthesis, characterization, crystal structure and antibacterial studies, J. App. Organo. Chem. Year: 2017, I.F-4.07

19. Gautam Achar[†], **K. Uppendranath[†]**, V.C. Ramya Andrea Biffis S.K. Rangappa, Srinivasa Budagumpi, Synthesis, characterization, crystal structure and biological studies of silver (I) complexes derived from Coumarin–tethered N–heterocyclic carbenes, J. Poly. Year: 2016, I.F-2.97.
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LANGUAGES KNOWN

Can speak and write-

- Kannada, English, Hindi
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Extra-Curricular Activities

- Active member of NSS since 2012-2014
 - Captain for Scouts and Guides from 2007-2008
 - Sports activities like Cricket, Football,
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HOBBIS

- Reading Novels, Listening Music, Traveling
-

References

1. **Prof. Mahaveer. D. Kurkuri**

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Declaration

I hereby declare that the above-mentioned information is correct to the best of my knowledge.

Place: Karnataka, India
Date: 03-09-2025

(Dr. K. Uppendranath.)