

Faculty Profile



Brief Profile (Few Paragraphs)

I have been active in the interdisciplinary area of scientific research relating to photocatalysis and photovoltaics associated with materials chemistry and physics since 2006. The research during the Ph.D regime (2006-2012) was focused on the advanced oxidation processes like semiconductor photocatalysis and photo-Fenton process for the wastewater purification. The study on the phase transition among the titania polymorphs using wet chemical approaches and sensitization of titania with size tunable quantum dots are my other interests. Till date, I have published 62 research articles that have more than 8000 citations with an h-index 34. I am also holding the position of Associate Editor for 'Chemical Papers-SPRINGER' and 'Applied Surface Science Advances- ELSEVIER' along with potential member in the Reviewer Panel Committee, RSC Advances. I have been recognized as 'Top 2% world scientist' by the survey conducted by 'Stanford University, USA (2019-2022) and 'Top 1% reviewer' by the Web of Science (2018 and 2019). I have handled more than 300 articles at the editorial level and have organized four special issues on nanomaterials. Also, I have reviewed more than 2300 research manuscripts across the spectrum of more than 230 national/international journals and recognized as 'Outstanding Reviewer' by many international peer reviewed journals.

Personal Information

- **Name:** GIRISH KUMAR. S
- **Designation:** ASSISTANT PROFESSOR
- **Department:** CHEMISTRY
- **Email:** girishkumars@rvce.edu.in
- **Phone:**

Google Scholar / ResearchGate / LinkedIn: [Link if applicable]/ **ORCID:** [Link]

Google scholar:

<https://scholar.google.com/citations?user=f1jQ1CEAAAAJ&hl=en&authuser=1&oi=ao>

ORCID: <https://orcid.org/my-orcid?orcid=0000-0001-9132-1202>

Domain of Expertise: Materials Chemistry

Research Focus

- **Primary Area:** Materials Chemistry; Phase transition in solids; Photocatalysis; Fenton process
- **Allied Areas:**
 - Heterojunctions

Academic Qualifications

- **Ph.D.:** Physical Chemistry, Bangalore University, 2012

Thesis title: Semiconductor mediated photocatalytic degradation of toxic organic pollutants using TiO₂ and transition / inner transition metal doped TiO₂ under UV Light and its extension to sun light.

M.Sc./M.Tech: Physical Chemistry, Bangalore University, 2005

- **B.E./B.Tech:** [Discipline], [University], [Year]
- **Postdoctoral Research:** Department of Physics, Indian Institute of Science, 2012-2015

Professional Experience

Experience			
S.No	Institute/College/Industry	Job Title	Duration (From- To)
1.	Department of Chemistry, Pre-University College and Degree College, S. J. R. Education Society	Lecturer	24-06-2005 to 31-05-2007
2.	CMR University	Assistant Professor	08-07-2016 to 30-09-2021
	CMR University	Associate Professor	01-10-2021 to 03-11-2022

Publications & Patents

Journal Publications

1. K. Kavya, M. Srinivas, C. P. Prathibha, K. Sakthivel, S. Gopinathan and [S. Girish Kumar](#), Visible light driven Dy-V₂O₅/g-C₃N₄ Z-scheme heterojunction: Insight into the role of Dy modification and enhanced photocatalytic activity. *Separation and Purification Technology* 364 (2025) 132442.
<https://doi.org/10.1016/j.seppur.2025.132442>
2. P. Monika, R. Hari Krishna, Z. Hussain, K. Nandhini, S. J. Pandurangi, T. Malek and [S. Girish Kumar](#), Antimicrobial hybrid coatings: A review on applications of nano ZnO based materials for biomedical applications. *Biomaterials Advances* 172 (2025) 214246.
<https://doi.org/10.1016/j.bioadv.2025.214246>
3. C. P. Prathibha, M. Srinivas and [S. Girish Kumar](#), Review on Ti₃C₂ MXene-based binary and ternary composites for photocatalytic applications. *Inorganic Chemistry Frontiers* 12 (2025) 2138-2181.
<https://doi.org/10.1039/D4QI02912G>
4. B. R. Anusha, Udayabhanu, S. Appu, Fahd Alharethy, G. Srinivas Reddy, M. A. Abhijna, Sangamesha, G. Nagaraju, [S. Girish Kumar](#) and K. Prashantha, Enhanced charge carrier separation in stable Type-1 CoNi₂S₄/MoS₂ nanocomposite photocatalyst for sustainable water treatment. *Journal of Physics and Chemistry of Solids* 198 (2025) 112444.
<https://doi.org/10.1016/j.jpcs.2024.112444>
5. K. Kavya, M. Srinivas, B. K. Bhavana, P. M. Sanjeev, Deepak Kumar, R. Deeksha, S. Kandaiah, Prashanth Vishwa and [S. Girish Kumar](#), Gadolinium modified g-C₃N₄ for S-Scheme heterojunction with monoclinic-WO₃: Insights from DFT studies and related charge carrier dynamics. *Journal of Materials Science and Technology* 204 (2025) 166-176.
<https://doi.org/10.1016/j.jmst.2024.03.017>
6. A. Mohammad, M. Bouodina and [S. Girish Kumar](#), Preface - Hot Topics in Surface Science: Z/S-scheme heterojunctions for photocatalytic applications. *Applied Surface Science Advances* 24 (2024) 100658.
<https://doi.org/10.1016/j.apsadv.2024.100658>
7. Monika Prakash, Hari Krishna Rajan, M. N. Chandraprabha, Sakshi Shetty, Tanushka Mukherjee and [S. Girish Kumar](#), Recent developments in green synthesis of hydroxyapatite nanocomposites: relevance to biomedical and environmental applications. *Green Chemistry Reviews and Letters* 17 (2024) 2422409.
<https://doi.org/10.1080/17518253.2024.2422409>
8. S. Ashoka, M. Sushmitha, M. Shirisha, H. M. Akshaya, K. Yogesh and [S. Girish Kumar](#), Glucose oxidation on monoclinic Co₂V₂O₇ nanorods: Intuitions on cell potential reduction in hybrid electrolyzer. *Materials Science in Semiconductor Processing* 184 (2024) 108838.
<https://doi.org/10.1016/j.mssp.2024.108838>

9. P. Sagar, S. Ashoka, N. Srinivasa, K. Yogesh and [S. Girish Kumar](#), Fuel assisted crystal structure tailoring of manganese oxides and their surface reactivity towards oxygen evolution reaction. *Journal of Materials Science* 59 (2024) 12916-12927.

<https://doi.org/10.1007/s10853-024-09908-7>

10. K. Kavya, M. Srinivas and [S. Girish Kumar](#), Pivotal role of surface and bulk Gd species in WO_3 to promote Type-II charge carrier transfer pathways in $\text{Gd-WO}_3/\text{g-C}_3\text{N}_4$ heterojunction photocatalyst. *Journal of Environmental Chemical Engineering* 12 (2024) 113054.

<https://doi.org/10.1016/j.jece.2024.113054>

11. G. M. Mamatha, P. Dixit, R. Harikrishna and [S. Girish Kumar](#), Polymer based composites for electromagnetic interference (EMI) shielding: The role of magnetic fillers in effective attenuation of microwaves, a review. *Hybrid Advances* 6 (2024) 100200.

<https://doi.org/10.1016/j.hybadv.2024.100200>

12. C. Manjunatha, R. C. Kumar, B. M. Rao, [S. Girish Kumar](#), S. Varun, R. Kartik, G. Maurya, B. Karthik, C. Swathi, M. Sadrzadeh and A. Khosla, Advances in hierarchical inorganic nanostructures for efficient solar energy harvesting systems. *ChemSusChem* 17 (2024) e202301755 (Front feature cover review article).

<https://doi.org/10.1002/cssc.202301755>

13. R. Shyamala, M. Srinivas, K. Kavya and [S. Girish Kumar](#), Understanding the synergistic interactions between photo-Fenton and photocatalytic reactions in hemin-anchored SnO_2 . *Applied Surface Science Advances* 21 (2024) 100590.

<https://doi.org/10.1016/j.apsadv.2024.100590>

14. S. Ashoka, H. S. Navya, S. T. Meghana, K. Yogesh and [S. Girish Kumar](#), Insights from ethylene glycol oxidation toward reduction in the overpotential using sonochemically derived orthorhombic $\text{CoV}_2\text{O}_6\cdot 2\text{H}_2\text{O}$ sheetlike structures. *Energy Fuels* 38 (2024) 3198-3207.

<https://doi.org/10.1021/acs.energyfuels.3c03298>

15. M. Prakash, M. N. Chandraprabha, R. Harikrishna, S. Harini and [S. Girish Kumar](#), Iron oxide nanoparticles for inflammatory bowel disease: Recent advances in diagnosis and targeted drug therapy. *Applied Surface Science Advances* 19 (2024) 100540.

<https://doi.org/10.1016/j.apsadv.2023.100540>

16. R. T. Yogeeshwari, R. Hari Krishna, P. S. Adarakatti, [S. Girish Kumar](#) and S. Ashoka, $\text{NiFe}_2\text{O}_4/\text{G-C}_3\text{N}_4$ modified pencil graphite electrode for mercury(II) detection. *Applied Surface Science Advances* 18 (2023) 100475.

<https://doi.org/10.1016/j.apsadv.2023.100475>

17. S. Girish Kumar, R. Kavitha and C. Manjunatha, Review and Perspective on Rational Design and Interface Engineering of g-C₃N₄/ZnO: From Type-II to Step-Scheme Heterojunctions for Photocatalytic Applications. *Energy Fuels* 37 (2023) 14421-14472. (Front cover review article)
<https://pubs.acs.org/doi/epdf/10.1021/acs.energyfuels.3c01032>

18. S. Beena, C. Manjunatha, A. Yash, K. P. Shwetha, A. Nelsa, V. S. Babu, M. K. S. Kamath, S. Girish Kumar and A. Khosla, Scalable synthesis of Ni₃B₂O₆ nanograins and fabrication of a coin cell supercapacitor for powering temperature sensor devices. *ACS Applied Electronic Materials* 5 (2023) 5005-5016. (Front cover research article)
<https://doi.org/10.1021/acsaelm.3c00765>

19. V. M. Ashwini Chavan, C. Manjunatha, K. P. Shwetha, G. Shireesha, S. Girish Kumar, M. K. S. Kamath, Sumira Malik, A. Khosla, Probing the influence of mixed alkaline electrolytes towards the fabrication of melamine-derived porous Co₃O₄-based supercapacitor. *Materials Chemistry and Physics* 308 (2023) 128209.
<https://doi.org/10.1016/j.matchemphys.2023.128209>

20. M. R. Rajani, R. Ravishankar, K. M. Naik, M. S. Raghavan, C. Vidya, S. Girish Kumar and C. Manjunatha, Carbonaceous MnFe₂O₄ nano-adsorbent: Synthesis, characterisation and investigations on chromium (VI) ions removal efficiency from aqueous solution. *Applied Surface Science Advances* 16 (2023) 100434.
<https://doi.org/10.1016/j.apsadv.2023.100434>

21. R. Hari Krishna, M. N. Chandraprabha, K. Samrat, T. P. Krishna Murthy, C. Manjunatha, S. Girish Kumar, Carbon nanotubes and graphene-based materials for adsorptive removal of metal ions – A review on surface functionalization and related adsorption mechanism. *Applied Surface Science Advances* 16 (2023) 100431.
<https://doi.org/10.1016/j.apsadv.2023.100431>

22. M. Pai, E. Ahmed, S. Batakurki, S. Girish Kumar and R. Kusanur, Green synthesis of Palladium magnetic nanoparticles decorated on carbon nanospheres using Chenopodium and their application as heterogenous catalyst in the Suzuki-Miyaura coupling reaction. *Applied Surface Science Advances* 16 (2023) 100427.
<https://doi.org/10.1016/j.apsadv.2023.100427>

23. C. Manjunatha, M. Sudeep, C. K. Rastogi, V. Chaudhary, S. Girish Kumar and P. Sekhar, Development of a non-enzymatic vitamin-C electrochemical sensor based on rGO/Ce₂(SO₄)₃ hierarchical nanocomposite. *Journal of Electrochemical Society* 170 (2023) 037504.
<https://iopscience.iop.org/article/10.1149/1945-7111/acbe71>

24. S. A. Subash, C. Manjunatha, K. P. Shwetha, Y. Athreya, S. Girish Kumar and M. K. Sudha Kamath, Perspective-Supercapacitor-Powered flexible wearable strain sensors. *ECS Sensor Plus* 2 (2023) 017002.
<https://iopscience.iop.org/article/10.1149/2754-2726/acb27a>

25. M. Praveen, H. K. Rajan, M. Mamatha Gowdaru, S. K. Gulur, C. Manjunatha, [S. Girish Kumar](#) and B. M. Nagabhushana, Effective Attenuation of Electromagnetic Waves by Synergetic Effect of α -Fe₂O₃ and MWCNT/Graphene in LDPE-Based Composites for EMI Applications. [Materials 15 \(2022\) 9006](#).

<https://doi.org/10.3390/ma15249006>

Conference Papers

1. [Author(s)], "[Title]," [Conference Name], [Year].

Books/Book Chapters

1. C. Sushma, B. N. Nagalaxmi, R. Kavitha and [S. Girish Kumar](#), Book: MXenes: Fundamentals and Applications; Chapter 11: Advances in Ti₃C₂ MXene and Its Composites for the Adsorption Process and Photocatalytic Applications, WILEY publishers. 2024, Pages 189-215.
<https://onlinelibrary.wiley.com/doi/abs/10.1002/9781119874027.ch11>
2. C. Sushma, R. Kavitha, R. H. Krishna, F. Dsouza, M. N. Chandraprabha and [S. Girish Kumar](#), Book: Advanced Functional Materials and Methods for Photodegradation of Toxic Pollutants; Chapter 6: Plasmonic photocatalytic materials for pollutants removal, Elsevier publishers, 2024, Pages 129-159.
<https://doi.org/10.1016/B978-0-323-95953-7.00006-0>

Patents [Filed / Published / Granted]

1. [Patent Title], [Patent No.], [Year].

R & Grants & Consultancy Projects

Ongoing & Completed Research Projects

- [Project Title] – Funding Agency: [Name], Duration: [Year-Year], Role: [PI/Co-PI].
- [Project Title] – Funding Agency: [Name], Duration: [Year-Year], Role: [PI/Co-PI].

Ongoing & Completed Consultancy Projects

- [Project Title] – Funding Agency: [Name], Duration: [Year-Year], Role: [PI/Co-PI].
- [Project Title] – Funding Agency: [Name], Duration: [Year-Year], Role: [PI/Co-PI].

Professional Memberships

- [Membership Body, e.g., IEEE, ASME, IEL, etc.]

Awards & Recognitions

- Recognized as Top 2% researchers as per the citation metrics based on scopus data.

Student Supervision

- **Ph.D. Candidates:** [Number] ([X] Graduated)
- **M.Tech/M.Sc. Students:** [Number]
- **Undergraduate Research Mentees:** [Number]

Professional Roles

- **Editorial Board:**
- Associate Editor, Chemical Papers, SPRINGER:
<https://link.springer.com/journal/11696/editorial-board>
- Managing Guest Editor, Applied Surface Science Advances, ELSEVIER
<https://www.sciencedirect.com/journal/applied-surface-science-advances/about/editorial-board>

Teaching

Core Courses: **[Current semester]**

- Chemistry of Functional Materials

Advanced/Lab Courses:

- [e.g., *Mechatronics Lab, Advanced Structural Analysis*]

Professional Roles

Responsibilities

- **Academic:** NAAC 3.0 coordinator (Department level); Research Coordinator; QuikIrn coordinator.

External Connect

- Member of BoS : Department of Chemistry, Ramaiah college of arts science and commerce.

National Journals	National Conferences	International Conferences	International Journals	Book Chapter published	Patents Granted
-	-	-	67	5	0