



# Dr. K Manjunatha

## Assistant Professor

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### Experience (Teaching and Research):

- **Postdoctoral Fellow**, Department of Physics, National Dong Hwa University, Taiwan  
(September 2022 – January 2026)
  - Conducting advanced research on magnetic memory effect, magnetocaloric effect, nanophosphors, carbon dots, supercapacitors, photocatalysis, humidity and gas sensing.
  - Actively involved in mentoring Ph.D., Master's, and Bachelor's students.
  - Executing nationally funded research projects supported by MOST and NSTC, Taiwan.
- **Guest Lecturer (Full Time)**, Government First Grade College, Madhugiri, Karnataka  
(February 2022 – July 2022)
  - Taught undergraduate Physics theory and laboratory courses as per Tumkur University syllabus.
  - Engaged in laboratory supervision, evaluation, and student mentoring.
- **Senior Project Fellow (SPF)**, Institute of Wood Science and Technology (IWST), Bengaluru, India  
(August 2021 – January 2022)
  - Contributed to research on cellulose nanofibrils (CNF) and development of functional materials.
- **Teaching Experience as Full-Time Research Scholar**, Presidency University, Bengaluru, Karnataka  
(August 2018 – July 2021)
  - Taught Engineering Physics for Engineering students.
  - Assisted in laboratory development, student guidance, and academic mentoring.
- **Guest Lecturer (Full Time)**, Government First Grade College, Madhugiri, Karnataka  
(July 2016 – June 2018)
  - Taught undergraduate Physics theory and laboratory courses as per university syllabus.
  - Engaged in laboratory supervision, evaluation, and student mentoring.

### Qualifications:

- **Ph.D. in Physics (Solid State Physics)**, Presidency University, Bengaluru, India  
*Research Title:* "Synthesis and Study of Structural, Electrical and Magnetic Properties of Transition Metal Doped Spinel  $\text{CoCr}_2\text{O}_4$  Nanoparticles"
- **M.Sc. Physics (Materials Science)**, Shridevi P.G. Centre, Tumkur University, Karnataka, India
- **B.Sc. (Physics, Mathematics, Computer Science)**, Government First Grade College, Madhugiri, Tumkur University, Karnataka, India
- **B.Ed. (Physics & Mathematics)**, St. Xavier College of Education, Hindupur, Andhra Pradesh, India



### Specialization (Academics):

- Material Science
- Classical Mechanics
- Solid State Physics
- Condensed matter Physics
- Electronics
- Magnetism

### Research Expertise

- Advanced nanomaterials for supercapacitors and electrochemical energy storage devices, including comprehensive evaluation using cyclic voltammetry (CV), galvanostatic charge–discharge (GCD), electrochemical impedance spectroscopy (EIS), and advanced material characterization techniques
- Magnetic, magnetocaloric, and magnetic memory effects in ferrite, chromite, alloys, and multiferroic nanomaterials
- Optical, dielectric properties and DC electrical conductivity of functional oxide materials
- Humidity and gas sensing materials and device applications
- Photocatalytic materials for environmental remediation and dye degradation
- Rare-earth doped phosphors for Photoluminescence, LEDs, optical thermometry, and forensic applications
- Latent fingerprint visualization using luminescent nanophosphors integrated with YOLO-based deep learning
- Carbon dots and polymer nanocomposites for sensing, optical security, and anti-counterfeiting applications

### Awards & Fellowships:

- **Stanford University & Elsevier – Top 2% Scientists Worldwide (2025)**  
Recognized for significant academic impact and global citation performance in Physical Sciences.
- **Postdoctoral Research Fellowships**, National Dong Hwa University, Taiwan  
Awarded competitive postdoctoral fellowships supported by MOST and NSTC, Taiwan, for multiple funded research projects (2022–2026).
- **FONDECYT Postdoctoral Project Award (Chile, 2024)**  
The postdoctoral research project “*Flexible Ferrite Nanocomposite Magnetic Sensors for Sustainable Biomedical Applications*” was awarded and funded by the Agencia Nacional de Investigación y Desarrollo (ANID), Government of Chile, achieving 11th national rank in Engineering Category–2.  
(Project awarded; position not joined.)
- **CNPq Junior Postdoctoral Project Award (Brazil, 2022)**  
Postdoctoral research project approved and funded by the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Government of Brazil, under Call 25/2021 (PDJ-2021).  
(Project awarded; position not joined.)
- **University Research Fellowship (Junior Research Fellowship – JRF)**  
Awarded by Presidency University, Bengaluru, for meritorious doctoral research.
- **Best Oral Presentation Award (2020)**  
Awarded at the *Online International Conference on Advanced Materials*, organized by KLE Society’s P.C. Jabin Science College, Hubballi.

### Publications & Research Profiles:

- Google Scholar: <https://scholar.google.com/citations?user=C8PMzvEAAAJ&hl=en>
- ORCID ID: <https://orcid.org/0000-0002-3882-967X>
- Website: <https://sites.google.com/view/kmanjunatha/research-publications>
- ResearchGate: <https://www.researchgate.net/profile/K-Manjunatha-2>



## Key Journals Published

1. ACS Applied Nano Materials
2. ACS Applied Energy Materials
3. ACS Applied Electronic Materials
4. ACS Sustainable Chemistry & Engineering
5. Energy & Fuels
6. Journal of Energy Storage
7. Materials Today Chemistry
8. Materials Today Sustainability
9. Materials Today Communications
10. Sustainable Materials and Technologies
11. Journal of Materials Chemistry C
12. The Journal of Physical Chemistry C
13. Sensors and Actuators B: Chemical
14. Biomaterials Advances
15. Journal of Alloys and Compounds
16. Ceramics International
17. Applied Surface Science
18. Surfaces and Interfaces
19. Colloids and Surfaces A: Physicochemical and Engineering Aspects
20. Materials Research Bulletin
21. Journal of Industrial and Engineering Chemistry
22. European Polymer Journal
23. New Journal of Chemistry
24. Journal of Molecular Structure
25. Journal of Luminescence
26. Optical Materials
27. Materials Science and Engineering: B
28. Nanomaterials
29. Environmental Research
30. Journal of the Taiwan Institute of Chemical Engineers
31. Journal of Solid State Chemistry
32. Journal of Photochemistry & Photobiology A: Chemistry
33. Materials Chemistry and Physics
34. International Journal of Molecular Sciences
35. Microchemical Journal
36. Materials Science in Semiconductor Processing
37. Journal of Magnetism and Magnetic Materials
38. Journal of Superconductivity and Novel Magnetism
39. Inorganic Chemistry Communications
40. Applied Physics A
41. Journal of Electronic Materials
42. Nano-Structures & Nano-Objects
43. Radiation Physics and Chemistry
44. Indian Journal of Physics
45. Chemical Data Collections