

CURRICULUM VITAE

Dr. L. KIRAN BABU

Dept. of Chemistry
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ACADEMIC PROFILE

(Ph.D.,) : Chemistry

Research Topic : *“Synthesis and Characterizations of Inorganic Nanocomposites: Their Antibacterial, Photoelectrocatalytic and Photocatalytic Applications”.*
Sri Venkateswara University, Tirupati, India.

M.SC., : Organic Chemistry (2008) **--68.9%**
Sri Venkateswara University, Tirupati, India.

B.Ed. (Biological Science) : 2010-2011, Yogi Vemana University, Kadapa, India.

B.Sc., : Chemistry, Botany, Zoology (2006), Sri Venkateswara University, Tirupati **--72.8%**

INTERMEDIATE: BiPC, Board of Intermediate Education A.P. (2003) **--82.6%**

SSC : Board of Secondary Education (2001) **--79.9%**

RESEARCH INTERESTS

- Materials design, synthesis & structural characterization of heterojunction based nanocomposites.
- Perovskite nanomaterials
- Mesoporous silica based nanoparticles, surface modification
- Multifunctional nano structured magnetic materials
- Core/shell magnetic heterostructures
- Development of new synthetic approaches for the synthesis of hybrid nanocomposites.
- **Innovative composite materials mainly for solar energy applications (hydrogen generation), antimicrobial, photocatalytic and supercapacitor applications.**

FELLOSHIPS and AWARDS

Senior Research Fellowship (SRF) in Sciences for Meritorious Students (RFMS) by UGC-BSR	(2016)
Junior Research Fellowship (JRF) in Sciences for Meritorious Students (RFMS) by UGC-BSR	(2014)
Qualified TS & AP State Eligibility Test for Lectureship (AP-SET)	(2014)
Qualified Graduate Aptitude Test (GATE)	(2013)

RESEARCH EXPERIENCE

- I have Six years of research experience in the area of synthesis of inorganic nanocomposites using various synthetic routes.
- Evolution their potential activates such as antimicrobial, photoelectrocatalytic and photocatalytic etc.
- Interpretation of analytical spectroscopic data (FT-IR, XRD, DRS UV-vis, SEM with EDXA, XPS, TGA and TEM etc.).

SKILLS ACQUIRED

- Expertize in the interpretation of FT-IR spectrometer (FT-IR JASCO-4700).
- Strongly self-motivated, independent thinker; capable of performing both independent and collaborative research
- Excellent at writing scientific reports, manuscripts and able to communicate very clearly to the experts as well as to a general audience
- Adequate computer knowledge on packages like MS word, Word perfect, MS Power point and Chemistry soft wares like Origin, X' Pert High Score Plus, and Chem Draw.

SYNERGETIC PROFESSIONAL ACTIVITIES

Teaching

Practical as well as theory classes for graduate and post graduate students in the Department of Chemistry, Sri Venkateswara University, Tirupati. **(10 years of strong teaching experience)**

From 2024-RGUKT-AP

Membership

The Indian Science Congress Association

SELECTED PUBLICATIONS

1. Synthesis and Characterization of Magnetically Core-Shell Structured $\text{CoFe}_2\text{O}_4/\text{SiO}_2$ Nanoparticles; Their Enhanced Antibacterial and Electrocatalytic Properties, **Kiran Babu L**, Rami Reddy Y.V., *Colloids and Surfaces A: Physicochemical and Engineering Aspects* **598** (2020) **124806**. <https://doi.org/10.1016/j.colsurfa.2020.124806>
2. Synthesis, characterization of nanocrystalline ZnO via two different chemical methods and its antibacterial activity, **L. Kiran Babu**, E. Sarala, O. Audiseshaiah, K. Madhusudana Reddy, Y. V. Rami Reddy, *Surfaces and Interfaces* **16** (2019) **93-100**. <https://doi.org/10.1016/j.surfin.2019.05.00>
3. UV-visible light Sensitized $\text{NiCo}_2\text{O}_4@\text{g-C}_3\text{N}_4$ Heterojunction-Based Nanocomposites as a Novel Photocatalysts for Enhanced Hydrogen Evolution and Electrocatalytic Activity, **L. Kiran Babu**, H. Seshagiri rao, P.N.R. Kishore, N. Lakshmana Reddy, M.V. Shankar, and Y.V. Rami Reddy, *Journal of Materials Research*, (2023) DOI:<https://doi.org/10.1557/s43578-023-01054-1>
4. Hydrothermal Synthesis of Flower-like ZnO-SiO_2 Nanocomposites for Anti-bacterial and Solar Light-induced Photocatalysis Applications. **L. Kiran Babu**, H. Seshagiri Rao, P. N. R. Kishore, and Y.V. Rami Reddy, *Materials Research Express* **6** (2019) **0850i4**. <https://doi.org/10.1088/2053-1591/ab299a>
5. A Novel Thermal Decomposition Approach for the Synthesis and Properties of Superparamagnetic Nanocrystalline NiFe_2O_4 and Its Antibacterial, Electrocatalytic Properties, **L. Kiran Babu**, Y. V. Rami Reddy, *Journal of Superconductivity and Novel Magnetism*, **33** (2020) **1013-1021**. <https://doi.org/10.1007/s10948-019-05262-x>.
6. Physicochemical properties and FT-IR spectral studies of binary liquid mixtures containing anisole with isomeric cresols, O. Audiseshaiah, M. Raveendra, **L. Kiran Babu**, K. Sivakumar, Y.V. Rami Reddy, *Physics and Chemistry of Liquids*, <https://doi.org/10.1080/00319104.2019.1706174>: ISSN: **0031-9104** (1029-0451)
7. Core-Shell Nanostructured $\text{NiCo}_2\text{O}_4@\text{SiO}_2$ Composite as an Novel Electrode catalyst For Supercapacitor Applications, **L. Kiran Babu**, M. Dhananjaya, P.N.R. Kishore, O. Mahammad Hussain, and Y.V. Rami Reddy, (The manuscript is ready to submit)

CONFERENCES/WORKSHOPS

- **Paper presented in** National Conference on “Recent Advancements in Applied Sciences and Humanities (RAASH-2022)” held at Santhiram Engineering College during 29th October, 1 2022.
- **Paper presented in** Andhra Pradesh Science Congress was held at Yogi Vemana University during 9-11th November, 2018.
- **Participated in** 3rd International Conference on Environmental Management (ICEM-2017) was held at Jawaharlal Nehru Technological University, Hyderabad, and Telangana during 27-30th November, 2017.
- **Poster presented in** National Conference on “Emerging Trends in Pharmaceutical and Chemical Sciences” (ETPCS) was held on 28-29th March, 2016.
- **Participated in the Science Academics Lecture work shop on** “Spectroscopic Techniques and Applications in Material Characterization (STAMC-2016) was held at Sri Venkateswara University, Tirupati, during 15-17th February, 2016.
- **Participated** NSDC Training Programme in Quality Control Chemist (**Q.P. No. LFS/Q1301**) was held at Gayathri Skill Development Pvt. Ltd. Tirupati, during 01-August to 31-October, 2016.
- **Poster presented in** International conference on Nanoscience, Nanotechnology & Advanced Materials was held at GITUM University during 14-17th December, 2015.
- **Participated** 2nd Annual International Conference & Industry –CCRS Congress (ICC-2014) was held at Andhra University, Visakhapatnam during 13-14th December, 2014.

PERSONAL

Date of Birth : 08th July 1986
Nationality : Indian
Sex : Male
Marital Status : Married
Language : English, Hindi, Telugu

ACADEMIC REFEREES

1. Dr. Loka Subramanyam Sarma
Associate Professor
Department of Chemistry
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2. Dr. S. Subba Reddy
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3. Dr. Y.V. Rami Reddy
Professor
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Contact No: +91 9440450108

DECLARATION

Hereby declare that all the information furnished above, is true and correct to the best of my knowledge and belief.

Yours Sincerely

(L. KIRAN BABU)