

# FACULTY PROFILE

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## 1. Personal Information:

Name: **Saratchandra Babu Mukkamala**

Designation: **Professor**

Department: **Chemistry**

Landline/mobile: **6304273303**

Email: **saratchandra@ctuap.ac.in**



## 2. Areas of Specialization:

- **MOFs & CNTs for Hydrogen storage**
- **ZIFs for CO<sub>2</sub> capture**
- **Photoluminescent nanomaterials**

## 3. Academic qualification:

- **Visiting Scientist** - University of Karlsruhe, Karlsruhe, **GERMANY**  
[Aug. 2008 to Nov. 2008]
- **Postdoctoral Research Fellow** - National Tsing Hua University, Hsinchu, **TAIWAN**  
[Dec. 2005 to Feb. 2007]
- **Postdoctoral Research Fellow** - University of Karlsruhe, Karlsruhe, **GERMANY**  
[Oct. 2001 to May 2004]
- **Visiting Scientist** - University of Durban-Westville, Durban, **SOUTH AFRICA**  
[May 2001 to July 2001]
- **PhD in Chemistry** - Department of Inorganic & Analytical Chemistry, Andhra University  
[1992]
- **MSc Chemistry** - Department of Inorganic & Analytical Chemistry, Andhra University  
[1988]
- **BSc (BiPC)** - PBN College, Acharya Nagarjuna University [1985]

## 4. Work/Teaching Experience:

- **Professor** [Dec. 2022 – to date]  
Dept. of Chemistry, Central Tribal University of Andhra Pradesh, Vizianagaram
- **Professor** [April 2007 – Dec 2022, **15 Years**]  
Dept. of Chemistry, Institute of Science, GITAM, Visakhapatnam
- **Associate Professor** [July 2004 – March 2007, **3 Years**]  
Dept. of Chemistry, Institute of Science, GITAM, Visakhapatnam
- **Lecturer** [Oct. 1991 – June 2004, **13 Years**]  
Dept. of Chemistry, GITAM, Visakhapatnam

## Administrative Experience

- **Dean, School of Humanities & Social Sciences** [March 2023 to till date]  
Central Tribal University of Andhra Pradesh (Central University), Vizianagaram, AP
- **Head of the Department of Chemistry** [March 2023 to till date]  
Central Tribal University of Andhra Pradesh (Central University), Vizianagaram, AP
- **Principal** [Jan. 2019 – Dec. 2022]  
GITAM Institute of Science, GITAM (Deemed to be University), Visakhapatnam, AP
- **Head of the Department of Chemistry** [2004 – 2009 & 2012 – 2017]  
GITAM Institute of Science, GITAM (Deemed to be University), Visakhapatnam, AP

## 5. Research, Scholarly, Professional and Scientific Activity:

### Research publications in peer-reviewed journals (National /International) (UGC /Scopus /SCI/SCIE/WoS etc.)

[Total Publications: **71**, h-index: **17**]

Full list available @ <https://g.co/kgs/md8dC7z>

### Selected Publications (Only SJR Q1 & SJR Q2 journals):

1. Abhishek Dosodia, Srinivas Vadapalli, A. K. Jain, B. Sanduru, S. B. Mukkamala, Effect of size of multiwalled carbon nanotubes on thermal conductivity and viscosity of ethylene glycol-based nanofluids for solar thermal applications, *Physics of Fluids*, 35 (2023) 092005. doi.org/10.1063/5.0168989 [Impact Factor: 4.64, **SJR Q1**]
2. VR Bheeram, AS Dadhich, SB Mukkamala, Rapid room temperature synthesis and CO<sub>2</sub> uptake performance of nanocrystalline ZIF-67 and Ni@ZIF-67, *Inorg. Chem. Commun.*, 150 (2023) 110455. doi.org/10.1016/j.inoche.2023.110455 [Impact Factor: 3.8, **SJR Q2**]
3. Saratchandra Babu Mukkamala & Sue-Lein Wang, Supramolecular Organic Nanowires of 2,6-Naphthalene Dicarboxylic Acid Observed in the Lamellar Space of Zn<sub>3</sub>(PO<sub>4</sub>)<sub>4</sub> and Zn<sub>1.6</sub>CO<sub>1.4</sub>(PO<sub>4</sub>)<sub>4</sub> Host Lattices, *ChemistrySelect*, 7 (2022) e202202808. doi.org/10.1002/slct.202202808 [Impact Factor: 2.307, **SJR Q2**]
4. Madhavi K, Anima S.D., Saratchandra Babu M, Hydrogen uptake performance of nanocomposites derived from MetalOrganic Framework (CuBTC) and metal decorated multiwalled carbon nanotubes (Ni@fMWCNTs or Pd@fMWCNTs). *Surfaces and Interfaces* 21 (2020)100672. doi.org/10.1016/j.surfin.2020.100672 [Impact Factor: 6.2, **SJR-Q1**]
5. VR Bheeram, SB Mukkamala, AS Dadhich, A Saha, VisNIR luminescence of GdVO<sub>4</sub>RE<sup>3+</sup>SiO<sub>2</sub> (RE=Er<sup>3+</sup>, Yb<sup>3+</sup>, Nd<sup>3+</sup>) nanophosphors enhanced by radiation, *Radiation Physics and Chem.*, 172 (2020) 108832. doi.org/10.1016/j.radphyschem.2020.108832 [Impact Factor: 2.9, **SJR Q2**]
6. Madhavi K., Manoj Kumar K., Saratchandra Babu Mukkamala, Enhanced Room Temperature Synthesis of Li@ f-MWCNTs for Hydrogen Storage Application, *ChemistrySelect*, 5 (2020) 4292-4296. doi.org/10.1002/slct.202000489 [Impact Factor: 2.307, **SJR Q2**].

7. B. Vema Reddy, A. S. Dadhich, Abhijit Saha, S.B. Mukkamala, Enhanced red luminescence by gamma irradiation on GdPO<sub>4</sub>:Er<sup>3+</sup>@SiO<sub>2</sub> nanophosphor, *J Luminesc.*, 207 (2019) 408-415. doi.org/10.1016/j.jlumin.2018.11.032 [Impact Factor: 4.1, **SJR Q2**].
8. Kranthi Kumar G, Suresh M., Saratchandra Babu M., and S. B. Jonnalagadda, Catalytic activity of supra molecular self-assembled Nickel (II) coordination complex in synthesis of indeno-pyrimidine derivatives, *Polyhedron*, 158 (2019) 464-470. doi.org/10.1016/j.poly.2018.11.041 [Impact Factor: 2.975, **SJR Q2**]
9. Nandigama Satish Kumar, M. S. Reddy, S. T. Santosh Kumar, V. R. Bheeram, Saratchandra Babu Mukkamala and L. Chandrasekhara Rao, A Quantitative and Rapid Knoevenagel Condensation Catalyzed by Recyclable Zeolite Imidazole Frameworks, *ChemistrySelect*, 4(2019) 1188. doi.org/10.1002/slct.201803302 [Impact Factor: 2.307, **SJR Q2**]
10. Kranthi Kumar G, Suresh M., Saratchandra Babu M., and S. B. Jonnalagadda, Characteristics of MOFs, MWCNTs and graphene mediated materials for hydrogen storage: A Review, *J. Energy Chemistry*, 30 (2019) 132. doi.org/10.1016/j.jechem.2018.04.012 [Impact Factor: 13.599, **SJR-Q1**]
11. Vadapalli Srinivas, Thakur R.N, Jain A.K and M Saratchandra Babu, Physico-Chemical properties and Tribological performance of motorbike lubricant dispersed with surface modified WS<sub>2</sub> nanoparticles, *J. Engineering Tribology*, 233 (2019) 1379–1388. doi.org/10.1177/135065011982 [Impact Factor: 2.0, **SJR Q2**]
12. Satish Kumar N., Vema Reddy B., Saratchandra Babu M, Rapid synthesis of mono/bimetallic (Zn/Co/Zn–Co) zeoliticimidazolate frameworks at room temperature and evolution of their CO<sub>2</sub> uptake capacity, *Environmental Chemistry Letters*, 17 (2019) 447–454. doi.org/10.1007/s10311-018-0775-y [Impact Factor: 15.7, **SJR-Q1**]
13. N. Satish Kumar, B. Vema Reddy, S.B. Mukkamala, L. Chandrasekhara Rao, and R. Chowhan, Zinc oxide nanoparticle as efficient catalyst for the synthesis of novel di-Spiroindolizidinebisoxindoles in aqueous medium, *Environmental Chemistry Letters*, 17(2019) 455–464. doi.org/10.1007/s10311-018-0772-1 [Impact Factor: 15.7, **SJR-Q1**]
14. Madhavi Konni, Anima S. Dadhich and Saratchandra Babu Mukkamala, Influence of solvents on decoration of TiO<sub>2</sub> nanoparticles on surface of f-MWCNTs in hydrogen uptake capability, *Nano-Structures & Nano-Objects* 18 (2019) 100304. doi.org/10.1016/j.nanoso.2019.100304 [Cite score: 11.9, **SJR-Q1**]
15. V.R.Bheeram, R.R.Malla, S.Kumari, A.Saha, S.B.Mukkamala, Cytotoxic effect of photoluminescent RE<sup>3+</sup> doped Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub> nanorods on breast cancer cell lines, *IRBM* 40 (2019) 270-278. doi.org/10.1016/j.irbm.2019.05.001 [Impact Factor: 5.50, **SJR Q2**]
16. Kranthi Kumar G, Suresh M., Saratchandra Babu M., and S. B. Jonnalagadda, A 3D Supramolecular assembly of Co(II) MOF constructed with 2,5-Pyridinedicarboxylate strut and its catalytic activity towards synthesis of tetrahydrobiphenylene-1,3-dicarbonitriles, *Inorganica Chimica Acta*, 482 (2018) 830. doi.org/10.1016/j.ica.2018.07.030 [Impact Factor: 3.118, **SJR Q2**]
17. B. Vema Reddy, A. S. Dadhich, A. Saha, S.B. Mukkamala, Influence of gamma radiation on enhancement of luminescent properties of GdPO<sub>4</sub>:Yb<sup>3+</sup>@SiO<sub>2</sub> nanophosphors, *Radiation Physics and Chemistry*, 150 (2018) 137. doi.org/10.1016/j.radphyschem.2018.04.026 [Impact Factor: 2.9, **SJR Q2**]

18. Madhavi Konni, D. Siva, Anima S. Dadhich and Saratchandra Babu Mukkamala, Adsorption of CO<sub>2</sub> by hierarchical structures of f-MWCNTs@Zn/Co-ZIF and N-MWCNTs@Zn/Co-ZIF prepared through in situ growth of ZIFs in CNTs, *Surfaces and Interfaces*, 12 (2018) 20. doi.org/10.1016/j.surfin.2018.04.006 [Impact Factor: 6.2, **SJR-Q1**]
19. M. S. Reddy, L. R. Chowhan, N. Satish Kumar, P. Ramesh, S. B. Mukkamala, An expedient regio and diastereoselective synthesis of novel spiropyrrolidinyline-noquinoxalines via 1,3-dipolar cycloaddition reaction, *Tetrahedron Letters*, 59 (2018) 1366. doi.org/10.1016/j.tetlet.2018.02.044 [Impact Factor: 2.032, **SJR Q2**]
20. N. Satish Kumar, B. Vema Reddy, S.B. Mukkamala, L. Chandrasekhara Rao, and R. Vasantha, An Efficient and Environmentally Benign Protocol for the 1,6-Michael Addition of Nitroalkanes to 3-Methyl-4-nitro-5-styrylisoxazoles in WERSA, *ChemistrySelect*, 3(2018) 1915. doi.org/10.1002/slct.201702788 [Impact Factor: 2.307, **SJR Q2**].
21. Madhavi Konni, Anima S. Dadhich and Saratchandra Babu Mukkamala, Solvent induced surface modifications on hydrogen storage performance of ZnO nanoparticle decorated MWCNTs, *Sustainable Energy & Fuels*, 2 (2018) 466. doi.org/10.1039/C7SE00511C [Impact Factor: 6.813, **SJR-Q1**]
22. Chandrasekhar Rao L., N. Satish Kumar, B. Vema Reddy, S. Hemambika, S.B. Mukkamala, An Efficient ZnO nanoparticle Catalyzed Regio- and Chemo-selective Synthesis of Novel Functionalized 4H-Chromenes in Aqueous Medium, *ChemistrySelect*, 3 (2018) 7485. doi.org/10.1002/slct.201800503 [Impact Factor: 2.307, **SJR Q2**].
23. Kranthi Kumar G, Suresh M., Saratchandra Babu M., and S. B. Jonnalagadda, Synthesis, characterisation and catalytic activity of 4, 5-imidazoledicarboxylate ligated Co(II) and Cd(II) metal-organic coordination complexes, *J. Molecular Structure*, 1143 (2017) 153. doi.org/10.1016/j.molstruc.2017.04.083 [Impact Factor: 3.841, **SJR Q2**]
24. Kranthi Kumar G, Suresh M., Saratchandra Babu M., and S. B. Jonnalagadda, Synthesis, structure and properties of new Mg(II)-metal-organicframework and its prowess as catalyst in the production of 4H-pyrans, *Ind. Eng. Chem. Res (ACS)*, 56 (2017) 2917. doi.org/10.1021/acs.iecr.6b04795 [Impact Factor: 4.326, **SJR-Q1**]
25. Vadapalli Srinivas, Thakur R.N, Jain A.K and Saratchandra Babu M, Tribological Studies of Transmission Oil Dispersed with Molybdenum disulfide and Tungsten disulfide Nano Particles, *Journal of Tribology*, 139(4) (2017) TRIB-16-1130. doi.org/10.1115/1.4034766 [Impact Factor: 2.5, **SJR Q2**]
26. Madhavi Konni, Anima S. Dadhich and Saratchandra Babu Mukkamala, Impact of surface modifications on hydrogen uptake by Fe@f-MWCNTs and Cu@f-MWCNTs at non-cryogenic temperatures, *Intl. J. Hydrogen Energy*, 42 (2017) 953. doi.org/10.1016/j.ijhydene.2016.09.085 [Impact Factor: 7.2, **SJR-Q1**]
27. Kranthi Kumar G, Suresh M. Saratchandra Babu M, Jonnalagadda S B, A Review on contemporary Metal-Organic Framework materials, *Inorganic Chimica Acta*, 446 (2016) 61. doi.org/10.1016/j.ica.2016.02.062 [Impact Factor: 3.1, **SJR Q2**]
28. Madhavi Konni, Nagaraju Narayanam, Anima S. Dadhich & Saratchandra babu M., Effect of Reaction Media on Hydrogen Sorption Properties of Mg-Decorated MWCNTs, *Fullerenes, Nanotubes and Carbon Nanostructures*, 23 (2015) 782. doi.org/10.1080/1536383X.2014.1002607 [Impact Factor: 2.3, **SJR Q2**]

29. Saratchandra B. Mukkamala, C. E. Anson and A. K. Powell, Modelling calcium carbonate bio mineralisation processes, *J. Inorg. Biochem.*, 100 (2006) 1128. doi.org/10.1016/j.jinorgbio.2006.02.012 [Impact Factor: 4.3, **SJR Q2**]
30. Saratchandra B. Mukkamala, R. Clerac, C. E. Anson and A. K. Powell, Structures and Magnetic Behaviour of Hydroxo-Bridged CrIII: Aggregates:  $[\text{Cr}_4(\mu\text{-OH})_4(\text{hpdt})_2]^{2-}$  and  $[\text{Cr}_6(\mu\text{-OH})_8(\text{hpdt})_2(\text{en})_2]$ , *Polyhedron*, 25 (2006) 530. doi.org/10.1016/j.poly.2005.08.001 [Impact Factor: 2.9, **SJR Q2**]
31. Saratchandra B. Mukkamala and A. K. Powell, Biomimetic assembly of calcite micro trumpets: Crystal tectonics in action, *Chem. Commun.*, 8 (2004) 918. doi.org/10.1039/B401754D [Impact Factor: 6.065, **SJR-Q1**].

#### Book chapters published as author or co-author

1. M Konni, SB Mukkamala, MK Karnena, On-Board and Off-Board Technologies for Hydrogen Storage, Book on 'Hydrogen Fuel Cell Technology for Stationary Applications', 139-165, **2021**, ISBN 9781799849452.
2. M Konni, SB Mukkamala, RSS Srikanth Vemuri, MK Karnena, Sustainable Approaches for the Treatment of Industrial Wastewater Using Metal-Organic Frame Works, Book on 'Water Safety, Security and Sustainability', 463-493, **2021**, ISBN 978-3-030-76008-3
3. Saratchandra Babu Mukkamala, Hydrogen Storage Performance of Metal Nanoparticle Decorated Multi-Walled Carbon Nanotubes (MWCNTs), Book on "Carbon Related Materials" *Springer publications*, Pages 103-125 by, **2020**, ISBN 978-981-15-7610-2.

#### Publications in conference proceedings as author or co-author or editor

##### Selected

1. Vemareddy B and M Saratchandra Babu, Hydrogen Uptake by Composites of Metal-Organic Frameworks and Metal (Ni, Pd) Decorated Multi-Walled Carbon Nanotubes: A Green Energy Approach, *Indian council of chemists 36th Annual national conference*, School of Chemistry, Andhra University, Visakhapatnam, 26th to 28th December **2017**.
2. Saratchandra Babu M, Anima S D, Vemareddy B, Sudheer G, Abhijit S, Gamma Ray Enhanced Vis-Nir Photoluminescence of Biocompatible Silica Coated  $\text{Nd}^{3+}$  Doped  $\text{GdPO}_4$  Nanophosphors, *Indian council of Chemists 36th Annual national conference*, School of Chemistry, Andhra University, Visakhapatnam, 26th to 28th December **2017**.
3. Saratchandra Babu M, Madhavi K, Anima S D, Surface Modifications on  $\text{TiO}_2$ @F-MWCNTS for Hydrogen Storage', *National Seminar on Recent Trends in Chemical speciation, Kinetics & Nanomaterials (RTCSKN-2017)*, School of Chemistry, Andhra University, Visakhapatnam, 3rd & 4th March **2017**.
4. Saratchandra Babu M, Madhavi K, Anima S D, Hydrogen Uptake by Functionalized Multi-Walled Carbon Nanotubes (MWCNTs) Decorated with Transition Metal Nanoparticles (Fe/Cu/Zn) At Non-Cryogenic Temperatures, *53<sup>rd</sup> Annual Convention of Chemists-2016*, GITAM (Deemed to be University), Visakhapatnam, 27<sup>th</sup> to 29<sup>th</sup> December **2016**.

5. Saratchandra Babu M, Anima S D, Sudheer G, Vemareddy B, Abhijit S, Effect Of Gamma Radiation on Photoluminescence properties of  $\text{LaPO}_4: \text{Tb}^{3+}$  And  $\text{LaPO}_4: \text{Dy}^{3+}$ , **International Conference on Nanoscience, Nanotechnology and Advanced Materials (NANOS-2015)**, GITAM (Deemed to be University), Visakhapatnam, 14<sup>th</sup> to 17<sup>th</sup> December **2015**.
6. Saratchandra Babu, Madhavi K, Anima S D, Influence Of Reaction Conditions on Surface Properties and Hydrogen Sorption Capacity Of Cu-MWCNTs And Fe-MWCNTs, **International Conference on Materials for Advanced Technologies (ICMAT-2015)**, National University of Singapore at Suntec City, Singapore, 28th June to 3rd July **2015**.
7. Saratchandra Babu M, Sudheer G, Anima S D, Abhijit S, Effect Of Gamma Radiation On Photoluminescence Properties Of  $\text{GdPO}_4: \text{Sm}^{3+}, \text{Ce}^{3+}$ ;  $\text{GdPO}_4: \text{Tb}^{3+}, \text{Ce}^{3+}$  and  $\text{GdPO}_4: \text{Dy}^{3+}, \text{Ce}^{3+}$  Phosphors, **International Conference on Materials for Advanced Technologies "(ICMAT 2015)**, National University of Singapore at Suntech City, Singapore, 28th June to 3rd July **2015**.
8. Saratchandra Babu M, Sudheer G, Anima S D, Abhijit S, Effect Of Gamma Radiation on Photoluminescence Properties of  $\text{YPO}_4: \text{Eu}^{3+}$  And  $\text{YPO}_4: \text{Dy}^{3+}$ , **CRSI-RSC symposium in Chemistry**, National Chemical Laboratory, Pune, 6th to 8th February, **2015**
9. Balakrishna K, Madhava Prasad D and Saratchandra Babu M, Hydrothermal Synthesis of  $\text{CoFe}_2\text{O}_4$  nano Particles Using Natural Polysaccharide, Gum Arabic, **International Conference on Nanomaterials (ICN-2012)**, Mahatma Gandhi University, Kottayam, Kerala, 12th to 15th January **2012**.
10. Saratchandra Babu and A.K. Powell, Synthesis And Characterization of New Nanoscale Aggregates Displaying Cooperative Magnetic Coupling, **Internal Colloquium of the Center for Functional Nanostructures**, Universität Karlsruhe, Germany, 31.01.2004

**Invited talks/lectures at professional or scientific meetings and conferences**

**Selected**

1. Hydrogen Storage in Solid Adsorbents, International Conference on Smart Nanotechnologies 2023 (ICONSNT), GITAM University, Visakhapatnam on July 6, **2023**.
2. Capture of  $\text{CO}_2$  by ZIFs And Its Composites With CNTs: A Solution to Reduce  $\text{CO}_2$  Emissions, 20th International Union of Materials Research Societies International Conference in Asia (IUMRS-ICA-2019), Perth, Australia on September 24, **2019**.
3. Synthesis of Biominerals Using Bioinspired Process, National Seminar on 'Recent Advances in Inorganic and Analytical Chemistry (RAIAC-2018)', School of Chemistry, Andhra University, Visakhapatnam on July 30, **2018**.
4. Recent Developments in Advanced Materials for  $\text{CO}_2$  Uptake: A Solution to Reduce the Global Warming, XXXVI Annual Conference of Indian Council of Chemists, School of Chemistry, Andhra University, Visakhapatnam on December 27, **2017**.
5. Study on Hydrogen Sorption behavior of Metal Decorated Carbon-Based Nanostructures and Their Composites, International Conference on Advanced Materials 'UMRS-ICAM-2017', Kyoto University, Kyoto, Japan on September 01, **2017**.



6. Design of Nanostructured Materials for Hydrogen Storage, National Seminar On 'Recent Trends on Chemical Speciation, Kinetics and Nanomaterials (Rtcskn-2017)', School of Chemistry, Andhra University, Visakhapatnam on March 04, **2017**.
7. Hydrogen Storage in Nanoparticle Decorated Multi-Walled Carbon Nanotubes (MWCNTs), International Conference on Sustainable Energy Technologies for Smart and Clean Cities (SETs & CC 2016), Amar Raja Batteries, Tirupathi on July 29, **2016**.
8. Clean Energy Materials, National Seminar on "Ecology, Environment and Development", Environmental Science, Sambalpur University, Sambalpur, Orissa on January 18-20, **2013**.
9. Control Of Nano Crystallite Growth of Alkaline Earth and Lanthanide Metal Carbonates by Organic Additives. International Conference on Nanomaterials, Mahatma Gandhi University, Kottayam, Kerala on January 14, **2012**.

#### Ph.D Guidance:

**Guided: 10 + 01** (submitted)

**Guiding: NIL**

S.No	Name of the Candidate	Title of the thesis	Year award	University
1	Abhishek Dosodia	Thermophysical and Corrosion Characteristics of Ethylene Glycol-Based Nanofluids for Automotive and Solar Thermal Applications	Submitted in Nov 2023	GITAM (Deemed to be University)
2	Tirumala Santhosh Kumar S	Synthesis of heterocycle compounds using Metal Organic-Frameworks as a heterogeneous catalyst	2023	GITAM (Deemed to be University)
3	Mr. Vema Reddy Bheeram	Influence of $\gamma$ -radiation on structural and photoluminescence properties & Evaluation of <i>in vitro</i> cytotoxicity of biocompatible $RE^{3+}$ (RE = Er, Yb, Nd) doped GdPO <sub>4</sub> and GdVO <sub>4</sub> nanophosphors	2020	GITAM (Deemed to be University)
4	Ms. Madhavi Konni	Synthesis of metal decorated Multi-walled Carbon Nanotubes (MWCNTs) and nano composites for hydrogen storage: A clean energy approach	2019	GITAM (Deemed to be University)
5	Mr. A M L Punna Rao	Development of new synthetic methodologies for the synthesis of N-aryl amides and nitrogen containing heterocycles (as Co-Supervisor)	2018	GITAM (Deemed to be University)
6	Mr. RavindraNath Thakur	Experimental studies and analysis of Tribological & physico chemical properties of lubricants dispersed with MoS <sub>2</sub> & WS <sub>2</sub> nanoparticles (as Co-Supervisor)	2018	GITAM (Deemed to be University)

7	Mr. Sudheer G	Structural and optical investigation of $\gamma$ -irradiated metal complexes and RE <sup>3+</sup> doped [Ca <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> ], YPO <sub>4</sub> , LaPO <sub>4</sub> , GdPO <sub>4</sub> phosphors	2016	GITAM (Deemed to be University)
8	Mr. G. Kranthi Kumar	Diverse coordination architectures of Metal-organic framework materials: Synthesis and Luminescent Properties	2015	GITAM (Deemed to be University)
9	Mr. K. Balakrishna	Synthesis of Metal complexes and Biominerals: Controlling the aggregation of Ca(II), La(III), Tb(III) and Dy(III) metal ions using carboxylic acids	2014	GITAM (Deemed to be University)
10	Mrs. Ch. Satyavani	Bioinspired study on morphosynthesis of Ca, Ba and Sr carbonates – microstructures and Nanocrystallites (as Joint Supervisor)	2011	Acharya Nagarjuna University
11	Mr. D. Kondala Rao	Analytical aspects of N-bromosuccinimide as an oxidimetric reagent (as Co-Supervisor)	2010	Andhra University

### Research projects (completed)

Sl No.	Title of the project	Name of the funding agency	Grant amount	Duration	Date of commencement	Date of Completion
1	Effect of Gamma Radiation on structure, vis-NIR Luminescence and cytotoxicity of Lanthanide-based Metal-organic Frameworks (MOFs)	UGC-DAE CSR Kolkata	9.0 lakhs	3 years	2019	2022
2	Design and synthesis of Zeoliticimidazolate Frameworks (ZIFs) for CO <sub>2</sub> capture	CSIR	11.8 lakhs	3 years	2016	2019
3	Influence of Gamma radiation on Photoluminescent properties of Tb <sup>3+</sup> , Dy <sup>3+</sup> and Sm <sup>3+</sup> doped nano phosphors	UGC-DAE CSR Kolkata	8.86 lakhs	3 years	2014	2018
4	Metal Decoration on Functionalized Multi-Walled Carbon Nanotubes (MWCNTs) to Improve Hydrogen Storage	UGC	11.56 lakhs	4 years	2013	2017
5	Design and Construction of Metal-Organic Framework Materials with Tunable Physical Properties for Storage of Hydrogen	CHT, Ministry of Petroleum & Natural Gas-HPCL	83.0 lakhs	3 years	2011	2013



6	Hydrothermal/solvothermal synthesis of luminescent microporous materials	CSIR	14.0 lakhs	3 years	2010	2013
7	Synthesis of single-molecule magnets: A molecular approach to nanoscale magnetic materials	DST-Nanomission	17.0 lakhs	3 years	2009	2012
8	Biological methods for the treatment of Tannery waste effluents	UGC	5.0 lakhs	3 years	1998	2001

### **Intellectual Property Right (patents/copyright)**

1. Indian Patent, 'High Gas Adsorption in a Metal-Organic Framework' Application No. 2223/Mum/2013, **Patent award No. 421213 Dt. 10/02/2023.**
2. Indian Patent, 'Metal-Organic Framework Materials for Gas Storage' Application No. 2224/Mum/2013, **Patent award No. 318766 Dt. 22/08/2019.**

### **6. Membership of professional bodies:**

- Life Member** (LF/1808), Indian Council of Chemists [2017]  
**Life Member** (LM724), Materials Research Soc. of India [2005]  
**Member** (30096261), American Chemical Society [2011-2012 & 2017-2019]  
**Life Member** (F/7928), Indian Chemical Society [2016]  
**Life Member** (L31045), Indian Science Congress [2016]  
**Life Member**, Indian Society for Technical Education [1992]

### **7. Editor of Journal/Reviewer of Journal /Member of Academic Bodies/Advisor:**

Reviewer in Elsevier, Royal Society of Chemistry, Taylor & Francis Journals

### **8. Workshops/Conferences/Seminars Organized**

1. One day, **National Science Day-2023**, 28.02.2023, CTUAP, Vizianagaram.
2. One day, Seminar on "**Green Chemistry of Sustainable Catalysts** - Treatment of non-degradable pollutants and value-added conversion" 9-12-2023, CTUAP, Vizianagaram.

### **11. Awards/Fellowships/Distinctions/Achievements:**

1. Fellow of Andhra Pradesh Academi of Sciences [2019]
2. Executive Council Member – Indian Chemical Society [2017-19]
3. Best Researcher Award by GITAM University [2010]
4. Best Researcher Award by GITAM University [2012]