Curriculum Vitaé

Dr. Venkatesh V

Associate Professor

Department of Chemistry

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Educational and Professional Qualifications

Associate Professor	Department of Chemistry
(**2025- Till date**)	**Indian Institute of Technology Roorkee**
Assistant Professor	Department of Chemistry
(**2019- 2025**)	**Indian Institute of Technology Roorkee**
DST-INSPIRE faculty	Inorganic and Physical Chemistry (IPC)
(**April 2017-2019**)	**Indian Institute of Science, Bangalore**
Post-Doctoral Fellow	Supervisor: **Professor Peter J Sadler**
(**2015-2017**)	Department of Chemistry
	University of Warwick, UK
Ph. D.	Supervisor: **Professor Sandeep Verma**
(**2009 - 2014**)	Department of Chemistry
	Indian Institute of Technology Kanpur
Graduate Course	**Department of Chemistry, IIT Kanpur**
(**2009**)	CPI: 8.33/10
M. Sc.	**Anna University, Chennai**
(**2006—2008**)	CPI: 8.3/10
B. Sc.	**Gobi Arts and Science College, Gobichettipalayam**
(**2003—2006**)	Aggregate marks: 88%

Fellowships and Awards

2025	Outstanding Young Faculty Award by IIT Roorkee

2017-2022	DST-INSPIRE faculty award from DST, Government of India
2015- 2017	Newton International Fellowship awarded jointly by The Royal Society and The British Academy
2014	Eli Lilly and Company Asia Outstanding Thesis Award
2011– 2014	Senior Research Fellowship Indian Institute of Technology-Kanpur, India
2009 – 2011	Junior Research Fellowship Indian Institute of Technology-Kanpur, India
2008	NET Examination, University Grants Commission, India (JRF-chemical sciences).

Publications

As Principal Investigator:

1. M. Negi and **V. Venkatesh***, Near-Infrared Light Activatable Iridium(III) Complexes for Synergistic Photodynamic and Photochemotherapy**,** *Chem. Sci*., **2025**, 16, 6376-6382.

2. K. Tyagi, T. Dixit and **V. Venkatesh*** Visible light-induced photoisomerization of indole-oxindole constructs: Molecular disassembly and ROS-mediated apoptosis, *Chem. Commun*., **2025**, 61, 3892-3895.

3. K. Tyagi, R. Kumari and **V. Venkatesh***, Harnessing the Sulfur-for-Oxygen Shift: A Magic Bullet for Dynamic Photophysical and Anticancer Activities of Indole-Barbituric Acid Construct, *ChemMedChem*., **2025,** e202400849,1-11.

4. T. Dixit, M. Negi, and **V. Venkatesh*,** Mitochondria Localized Anticancer Iridium(III) Prodrugs for Targeted Delivery of Myeloid Cell Leukemia-1(Mcl-1) Inhibitors and Cytotoxic Iridium(III) Complex, *Inorg. Chem*., **2024**, 63, 24709−24723.

5. V. Saini, K. Tyagi, R. Kumari and **V. Venkatesh*,** Atomically Precise Copper Nanoclusters Mediated Fenton-like Reaction for Cancer Chemodynamic Therapy, *Chem. Commun*., **2024**, *60*, 12593-12596.

6. K. Tyagi and **V. Venkatesh*,** Emerging Potential Approaches in Alkaline Phosphatase

(ALP) Activatable Cancer Theranostics, *RSC Med. Chem*., **2024**, *15*, 1148-1160.

7. M. Negi, T. Dixit and **V. Venkatesh*,** "Ligand Dictated Photosensitization of Iridium(III) Dithiocarbamate Complexes for Photodynamic Therapy" *Inorg. Chem*. **2023**, *62*, 20080–20095.

8. K. Tyagi, R. Kumari and **V. Venkatesh***, "Alkaline phosphatase (ALP) activatable small molecule-based prodrugs for cancer theranostics" *Org. Biomol. Chem*., **2023**, *21*,4455−4464.

9. V. Saini, Krishankant, S. Choudhary, A. Gaur, S. Banerjee, V. Bagchi and **V.Venkatesh*,** Atomically Precise Copper Nanoclusters as Potential Catalyst for Electrochemical Oxygen Evolution Reaction, *J. Mater. Chem. A***, 2023**, *11*, 24754-24763.

10. N. Singh, K. P. Raul, A. Poulose, G. Mugesh* and **V. Venkatesh*,** "Highly Stable Pyrimidine Based Luminescent Copper Nanoclusters with Superoxide Dismutase Mimetic and Nitric Oxide Releasing Activity" *ACS Appl. Bio Mater*., **2020**, *3*, 7454−7461.

11. Krishnendu T Prakash, Namrata Singh and **V. Venkatesh***, "Synthesis of novel Luminescent copper nanoclusters with substituent driven self-assembly and aggregation induced emission (AIE)" *Chem. Comm*., **2019**, *55*, 322−325.

Publications from Ph. D and Postdoc:

1. H. Shi, Q. Wang, **V. Venkatesh**, G. Feng, L. S. Young, I. Romero-Canelón, M.Zeng and P. J. Sadler "Photoactive platinum(IV) complex conjugated to a cancer-cell-targeting cyclic peptide" *DaltonTrans*., **2019**, *48*, 8560–8561.
2. H. Shi, I. R. Canelón, M. Hreusova, O. Novakova, **V. Venkatesh**, A. Habtemariam, G. J. Clarkson, J. Song, V. Brabec, and P. J. Sadler, "Photoactivatable Cell-Selective Dinuclear trans-Diazidoplatinum(IV) Anticancer Prodrugs" *Inorg. Chem*., **2018**, *57*, 14409−14420.
3. **V. Venkatesh**, R. B. Martin, C. J. Wedge, I. R. Canelón, C. S. Cano, J. Song, J. P. C. Coverdale, P. Zhang, G. J. Clarkson, A. Habtemariam, S. W. Magennis, R. J. Deeth and P. J. Sadler. "Mitochondria-targeted spin-labelled luminescent iridium anticancer complexes" *Chem. Sci.***, 2017**, *8*, 8271-8278.
4. **V. Venkatesh**, N. K. Mishra, I. R. Canelón, R. R. Vernooij, H. Shi, J. P. C. Coverdale, A. Habtemariam, S. Verma, and P. J. Sadler. "Supramolecular Photoactivatable Anticancer Hydrogels" *J. Am. Chem. Soc*., **2017**,*139*, 5656–5659.

5. R. K. Saravanan, P. Saha, **V. Venkatesh**, T. G. Gopakumar, and S. Verma. "Coordination-Controlled One-Dimensional Molecular Chains in Hexapodal Adenine–Silver Ultrathin Films" *Inorg. Chem*., **2017**, *56*, 3976–3982.
6. **V.Venkatesh,** M. D. Bala Kumaran, R. Kamal Saravanan, P. T. Kalaichelvan, S.Verma. "Luminescent Silver–Purine Double Helicate: Synthesis, Self-Assembly and Antibacterial Action" *ChemPlusChem*, **2016**, *81*, 1266–1271.
7. **V. Venkatesh**, C. J. Wedge, I. R. Canelón, A. Habtemariam, P. J. Sadler. "Spin-labelled photo-cytotoxic diazido platinum(IV) anticancer complex" *Dalton Trans*., **2016,** 45, 13034–13037.
8. C. M. Moyon, **V. Venkatesh**, K. Vijaya Krishna, F. Bonachera, S. Verma, A. Bianco. "Self-Assembly of Tyrosine in to controlled Supramolecular Nanostructures" *Chem. Eur. J.* **2015**, *21*, 11681-11686.
9. S. Kandambeth**, V. Venkatesh**, D. B. Shinde, S. Kumari, A. Halder, S. Verma, R. Banerjee. "Self-templated chemically stable hollow spherical covalent organic framework" *Nature Commun.,* **2015**, *6*, Article No. 6786.
10. G. Das, B. P. Biswal, S. Kandambeth**, V. Venkatesh**, G. Kaur, M. Addicoat, T. Heine, S. Verma, R. Banerjee. "Chemical Sensing in Two Dimensional Porous Covalent Organic Nanosheets" *Chem. Sci.,* **2015**, *6*, 3931–3939.
11. A. Mukherjee, M.A. Barnett, **V. Venkatesh**, S. Verma, P. J. Sadler. "Human serum transferrin fibrils: nanomineralisation in bacteria and destruction of red blood cells" *ChemBioChem,* **2015,** *16*, 149–55.
12. B. Mohapatra, **V.Venkatesh**, S. Verma. "Crystal Engineering with 2-Aminopurine Containing a Carboxylic Acid Pendant" *Cryst. Growth Des*., **2014,** *14*, 5042–5052.
13. R. Das, M. K. Sharma, V. K. Rao, B. K. Bhattacharya, I. Garg, **V.Venkatesh**, and S. Upadhyay. "An electrochemical genosensor for Salmonella typhi on gold nanoparticles-mercaptosilane modified screen printed electrode" *J. Biotechnol.* **2014,** *188*, 9–16. (DOI: 10.1016/j.jbiotec.2014.08.002).
14. **V. Venkatesh**, P. Pachfule, R. Banerjee and S. Verma. "Evolution of an adenine-copper cluster to a cuboidal framework: snapshots of its solution phase ripening and gas adsorption properties" *Chem. Eur. J.* **2014**, *20*, 12262–12268.

15. **V. Venkatesh**, A. Shukla, S. Sivakumar, and S. Verma. "Purine-Stabilized Green Fluorescent Gold Nanoclusters for Cell Nuclei Imaging Applications." *ACS Appl.Mater.Interfaces.* **2014, *6*,** 2185–2191.
16. N. Nagapradeep, **V.Venkatesh**, S. K. Tripathi, and S. Verma. "Guanine copper coordination polymers: crystal analysis and application as thin film precursors." *DaltonTrans*. **2014**, *43*, 1744–1752.
17. P.Singh, **V. Venkatesh**, N. Nagapradeep, S.Verma and A. Bianco. "G-quartet type self-assembly of guanine functionalized single-walled carbon nanotubes." *Nanoscale* **2012**, *4*, 1972–1974.
18. **V. Venkatesh**, J. Kumar and S. Verma. "Adenine containing architectures from silver supported dimeric units." *CrystEngComm* **2011**, *13*, 6030–6032.
19. P. Singh, F.M. Toma, J. Kumar, **V. Venkatesh**, J. Raya, M. Prato, S. Verma, and A. Bianco. "Carbon Nanotube–Nucleobase Hybrids: Nanorings from Uracil-Modified Single-Walled Carbon Nanotubes." *Chem. Eur. J.* **2011**, *17*, 6772 – 6780.
20. K. B. Joshi, **V. Venkatesh** and S. Verma. "Biotin interaction with human erythrocytes: contact on membrane surface and formation of self-assembled fibrous structures." *Chem. Commun*. **2010**, *46*, 3890–3892.

Book/Book Chapters

- V. Saini and **V. Venkatesh***, AIE material for photodynamic therapy, **Prog. Mol. Biol. Transl. Sci. 2021**, *185*, 47–73.
- **V. Venkatesh** and Peter J. Sadler, Platinum(IV) Prodrugs, **Metal Ions in Life Sciences**, Volume 18, Edited by Astrid Sigel, Helmut Sigel, and Roland K. O. Sigel; Walter de Gruyter GmbH, Berlin, Germany; **2018**.

Symposia Proceedings

- "**Prodrug Approaches for Targeted Cancer Therapy**" presented at MTIC conference at IISC Bangalore, India during December 14-17, 2023. (**Oral Presentation)**
- "**Metallodrugs for Therapeutic Applications**" presented at Newton Fund Researcher Link Workshop on Peptides, Proteins and Metals in Disease and Therapy at IIT Kanpur, India, during November 6-8, 2017. (**Oral Presentation)**

- "**Material and biological aspects of metal-purine derivatives**" presented at chemical biology cluster organized by department of chemistry, University of Warwick, UK (28th May 2015). (**Oral Presentation)**
- Indo-French Symposium (**Functional Metal-Organics: Applications in Materials and Catalysis**) held at NISER Bhubaneswar from 24 – 26 February, 2014. (**Poster Presentation**)
- *ChemFest* symposium organized by Chemistry Department, IIT Kanpur, India (1st Sep, 2012). (**Participated**)
- "**Interaction of biomolecules with erythrocytes**" presented at *The Konstanz Research School Chemical Biology Retreat* organised by University of Konstanz, Konstanz, Germany (8-10th Aug, 2012). (**Oral Presentation**)
- Medicinal Chemistry conference (**MedChem-2011**) was held at IIT Madras from 27-29 Oct, 2011. (**Poster Presentation**)
- *ChemFest* symposium organized by Chemistry Department, IIT Kanpur, India (31st Oct, 2009). (**Participated**)

Personal Details

Date of Birth	: February 19, 1986
Sex	: Male
Marital Status	: Married
Languages Known	: Tamil and English.
Nationality	: Indian

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Testimony

I hereby declare that the information given above is true to the best of my knowledge and belief.

Venkatesh V