

**SUMMARY OF ACADEMIC/ADMINISTRATIVE EXPERIENCE OF
Prof. Hardeo Singh Yadav, Professor, Department of Chemistry, and
Director, NERIST (w.e.f. 6.03.2018 to date)**



Dr. Hardeo Singh Yadav

Professor, Department of Chemistry,
Director,

North Eastern Regional Institute of Science and Technology

(NERIST), (Deemed to be University u/s 3 of the UGC Act 1956 under MoE, Govt. of India)

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Academic Qualification : M.Sc. (CHEMISTRY), 1981; DDU Gorakhpur University.

Ph. D. (CHEMISTRY), 1986, DDU Gorakhpur University.

Research & Teaching : 33 years research and Teaching experience out of which 8 years as Associate Professor & 21 years as Professor of Chemistry.

Visits Abroad and Collaboration with Foreign Academies/ Universities

- (i) Nominated by Indian National Science Academy for exchange visit with Polish Academy of Science (PAS), collaborated with Prof. Julita Eilmes, Institute of Chemistry, Jagiellonian University, Krakow, Poland (Nov. 12, 1990 to Feb. 10, 1991)
- (ii) Visited research laboratory of Professor Jacek Mlochowski, Institute of Organic and Physical Chemistry, Technical University of Wroclaw, 30-370, Wroclaw, Poland and delivered a talk on "The Role of Oxocations in the Synthesis of Macrocycles", 1-2 Feb., 1991.
- (iii) Nehru Centenary British Fellow-1982, Collaborated with Prof. C. David Garner, Chemistry Department, The University of Manchester, 9 PL, U.K. (Oct. 20, 1992 to Oct. 20, 1993)
- (iv) Visited Institute for Anorganische Chemie. Universitat Stuttgart, Stuttgart, Germany and attended International Conference on Inorganic Chemistry where our research work on Amavadin and its Molybdenum analogues was rated best contribution in poster session (Sept 12-15 1993).
- (v) Nominated by Indian National Science Academy to collaborate with Polish Academy of Science and worked with Prof. Jacek Mlochowski, Institute of Organic Chemistry, Biochemistry and Biotechnology, Wroclaw University of Technology, Wyb. St. Wyspianskiego 27, 50-370 Wroclaw, Poland. (20 Dec., 2003 to 20 March, 2004).
- (vi) Selected for Exchange of Scientists Program by Indian National Science Academy to collaborate with Hungarian Academy of Science and work with Prof. Imre Toth & Prof. Joo Ferenc, HAS Research Group at University of Debrecen, Hungary (Oct. to Dec., 2012).

Number of Ph.D. Students Guided: 05 Ph. D. guidance under collaboration.

05 Ph. D. guidance under independent supervision.

10 M.Sc. Projects and 10 Seminar's guided.

- **Number of research papers in International refereed journals : 52**
- **Number of research papers / invited lectures in conferences / seminars : 82**
- **Worked as Academic Counselor for foundation course in Science & Tech, IGNOU Itanagar Centre: 06 years (1987 - 1992)**
- **Research Areas: Coordination Chemistry, Green Chemistry Catalysis, Peroxidase activities in green vegetables/fruits, Clean water Technology.**

EXPERIENCE OF ACADEMIC ADMINISTRATION

- One of the **founder faculty member of NERIST** (since 1st July, 1987) and significantly contributed to develop it from a certificate level project under NEC Shillong to a Deemed to be University status under MHRD, GOI, as on date having fully developed Faculty of Science/ Engineering & Technology / Management Studies with UG, PG & Ph. D. programs. At present Director, NERIST w.e.f. 06.03.2018 for a tenure of 5 years.
- Member of **Dean's committee** to administer the Institute under crisis, when directors resigned and denied to function.
- **Director i/c, NERIST** (19 April,2016 to 26 March, 2017)
- **Dean – Students Affair (about 07 Years) and Dean- Administration (03 Yrs), NERIST.**
- **Head**, Department of Chemistry, NERIST, Nirjuli (Two terms)
- **Warden** of Students Hostel (one term) and **Coordinator-** Recreational & Creative Activities of Students (One Term).
- **Coordinator** – Institute Academic Affairs (One Term).
- **Coordinators** – Institute Central Research facility (One Term).
- **Chairman – Institute Hostel Management council & Chief Warden (Two Terms)**
- **Director's Nominee as Chairman, VMC Kendriya Vidyalaya NERIST , Nirjuli (Two Terms)**.
- **Chairman** – Central Library Committee, NERIST, Nirjuli (One Term)
- Chairman, VMC Kendriya Vidyalaya NERIST , Nirjuli, w.e.f. 6.3.2018.
- Member of distinct committees / Boards
 - (i) Board of UG studies (03 Years) , R. G. U , Rono Hills, Itanagar, Arunachal Pradesh.
 - (ii) Chairman (on date) and Member of Academic Council, NERIST, Nirjuli (about 21 Years).
 - (iii) Member of BOM, NERIST, Nirjuli (09 Years).
 - (iv) MHRD nominated as Member of site inspection committee for establishment of Ghani Khan Chaidhuri Institute of Engineering and Technology, Malda under GOI.
 - (v) Members of various selection / Departmental Promotion committees at Institute / Universities level.
 - (vi) Life Member of Indian Society for Technical Education, New Delhi.
 - (vii) Founder Honorary Fellow, North East Academy of Science and Technology, Mizoram University, Tanhril, Aizawl.
 - (viii) Member of Senate of Central Institute of Technology Kokrajhar, Assam, Deemed University, MoE, Govt. of India.
 - (ix) Member, BoG, CIT Kokrajhar, Assam, Deemed University, MoE, Govt. of India.
 - (x) Member, NITI Ayog, North East Forum.
 - (xi) Member, FC and BoM, NERIST, Nirjuli-791109, Arunachal Pradesh, w.e.f. 6th March, 2018 to date.
 - (xii) Member of a Regional committee for “Science Technology Intervention for North East Region” under NEC Shillong.
 - (xiii) Member of State Science & Technology Programme, Arunachal Pradesh for implementation of “mapping of the Science & Technology needs of the State/UTs” (SSTP) Arunachal Pradesh.
 - (xiv) Member of Eastern Regional Committee, Kolkata office of AICTE, New Delhi.
 - (xv) Member, State Council for Science and Technology, Department of Science and Technology, Itanagar, Arunachal Pradesh.
 - (xvi) Chairman, State TAC on Flood Management, Govt. of Arunachal Pradesh.
 - (xvii) Member, Project Review & Steering group, HRD Division, MEITY, Govt. of India, Electronics Niketan, CGO Complex, New Delhi.

List of Publications:

1. Catalase-Mediated Remediation of Environmental Pollutants and Potential Application- A Review; Nene Takio, Meera Yadav and Hardeo Singh Yadav, Biocatalysis and Biotransformations,ISSN: <http://www.tandfonline.com/loi/ibab20>, 14 June, **2021**.
2. Electrochemical Studies on Vanadyl Complex with meso-5, 10, 15, 20-tetrakis(2,5-Dimethoxyphenyl) Porphyrin using Electron Paramagnetic Resonance and Cyclic Voltammetry; A. Murugan, V. Thandiyyakone, S. Kumarasamy, C. R. Ravikumar, S. Muthaiah, M. Chakarabarty, P. Thillai Arasu, T. Rajkumar and H. S. Yadav, Asian Journal of Chemistry, Vol.33(1) (**2021**) 26-30.
3. Studies on redox and axial ligand properties of Meso-Mn(III) porphyrin by cyclic voltammetry and UV-Visible spectrophotometry; Thandiyyakone, M. Murugan, C. R. Ravikumar, T. Rajakumar, P. Thillai Arasu, H.S. Yadav and P. Kotteswaran, Materials Today: Proceedings, 47 (**2021**) 933-937. <https://doi.org/10.1016/j.matpr.2021.04.621>.
4. Cancer Nanotechnology for drug targeting and delivery approaches, (eds) Cancer Nanotheranostics ; V. Siva, C.R. Ravikumar, P. Thillai Arasu, N.N. Yadav, A. Murugan, H. S. Yadav, S. Asath Bahadur and S. Balamurali, Saravanan M., Barabadi H., Vol. 1 pp 53091, **2021**, Springer, Cham. (ISBN:9783030743291) http://doi.org/10.1007/978-3-030-74330-7_3.
5. Photodynamic therapy with nanomaterials to combat microbial infections; Pon Janani Sugumaran, Ponnusamy Thillai Arasu, Ijaz Ullah Muzaddadi, Arumugam Murugan, Chunchana Kuppe Renuka Prasad Ravikumar, Nagendra Nath Yadav & Hardeo Singh Yadav, In Saravanan M., Barabadi H., Mustafavi E & Webster T.J. (eds) Handbook: emerging Nanomaterials and Nano-based drug delivery approaches to combat antimicrobial resistance, Elsevier (Accepted,**2021**).
6. Purification, Characterization, Immobilization and Kinetic Studies of Catalase from a Novel Source *Sechium edule*; Nene Takio, Meera Yadav, Mridusmita Barman, Hardeo Singh Yadav, Int J Chem Kinet, 1-15, **2020**.
7. Purification and Characterization of Versatile Peroxidase from *Citrus sinensis* Leaf Extract and its Application in Green Chemistry; Nivedita Rai, Meera Yadav and Hardeo Singh Yadav, TACL 10 (4), 524-536, **2020**.
8. Electrochemical Studies on Manganese (III) Complex with meso-5,10,15,20-Tetrakis(o-nitrophenyl) Porphyrin Using Cyclic Voltammetry and UV-Visible Spectrophotomete; V. Thandiyyakone, A. Murugan, C.R. Ravikumar, T. Rajkumar, H.S. Yadav and P. Kotteswaran, Research Journal of Chemistry and Environment, Manuscript ID is:WRA-RJCE-2021-00325) (Accepted). 2020.
9. Catalytic biotransformations and inihibition study of Peroxidase from *Luffa aegyptiaca*; Yadav, M., Basumatary, D., Nath, P. and Yadav, H.S., Current Organocatalysis., Vol 7, DOI 10.2174/2213337207666200211095038,7, 149-157,**2020**.
10. Bioconversion of Lignocellulose materials using different pre-treatment strategies – A review”, Yadav, M. Rai, N., and Yadav, H.S., Research Journal of Chemistry and Environment.,DOI:10.13140/RG.2.2.33195.46889,24:12,167-183,**2020**.
11. “Recent Advances in Biological Chemistry”. E-book, Bentham Publication 2020; Yadav, M. and Yadav, H.S., **2020** (In press).

12. The Role of Peroxidase in the Enzymatic Oxidation of Phenolic compounds to Quinones from *Luffa aegyptiaca* (gourd) fruit juice; Yadav, M and Yadav, H.S., *Green chemistry letters and reviews*. 10,154-161 (**2017**).
13. Manganese Peroxidase from *Luffa acutangula* fruit juice; Rai, N., Yadav, M. and Yadav, H.S., *Current Biochemical Engineering*. Vol 4(3), DOI: 10.2174/2212711904666170117143442 188-193(6) (**2017**).
14. A review article on :Applications of ligninolytic enzymes to pollutants, wastewater, dyes, soil, coal, paper and polymers. Meera Yadav and H. S.Yadav *Environ. Chem. Lett.*, DOI 10.1007/s10311-015-0516-4, **2015**.
15. Synthesis and Spectral Studies of Oxovanadium(IV) Schiff Base Complexes Derived from 1,1'-Oxalyldiimidazole and Aromatic Amines. A. K. Yadava, Hardeo S. Yadav , R. Saxena and Devendra Pratap Rao *Eur. Chem. Bull.*, 4 (7),356 – 359, **2015**.
16. New Insights into the Chemistry of Oxovanadium(IV) Schiff Base Complexes with Nitrogen Donor.Ashok Kumar Yadava, Hardeo Singh Yadav and Devendra Pratap Rao *Journal of Science*, 5(11),1086 – 1090, **2015**.
17. Oxovanadium (IV) Complexes with Tetraaza macrocyclic Ligands derived by Condensation of 1,2-diacetylbenzene with o-phenylenediamine, Vijay Singh, Probin Bora, H.S. Yadav, *Der. Pharma. Chimica*, Vol.7, 11, **2015**.
18. Oxovanadium (IV) Complexes with Ligands derived by Condensation of 1,2-diacetylbenzene with 2-aminobenzamide, Vijay Singh, Probin Bora, H.S. Yadav, *Acta. Metallomica, Romania, MEEMB*, **2014**, TOME XI(II) No.2, 73-86.
19. Cis-Dioxomolybdenum(VI)Complexes with Symmetrical Tetradentate Schiff Bases and their Antibacterial Activity. Devendra P. Rao, Hardeo S.Yadav and Anita Srivastava *Biointerface Res. Appl. Chem.*, 4 (1), 678 – 684, **2014**.
20. New Insights into the Chemistry of Oxovanadium(IV) Complexes with N4 Coordinating Ligands. Ashok Kumar Yadava, Hardeo Singh Yadav, Umashanker Yadav and Devendra P. Rao *ISRN Inorganic Chemistry*, Volume **2013**, ID 871640.
21. Synthesis and Spectral Characterization of Some Novel Macrocyclic Complexes of Oxovanadium(IV) with 1,1'-Oxalyldiimidazole. Ashok Kumar Yadava, Hardeo Singh Yadav and Devendra Pratap Rao *Eur. Chem. Bull.*, 2 (5), 255–258, **2013**.
22. Synthesis and Characterization of Tetradentate Schiff Base Oxovanadium(IV) Complexes. Probin Bora* and Hardeo S. Yadav *Latvian J. of Chemistry*,in Press (**2013**).
23. In-situ Synthesis of Oxovanadium(IV) Complexes with Ligands Derived by Condensation of Benzil with Amino Acids. Probin Bora* and Hardeo S. Yadav *Iranian Journal of Science & Technology*, 37 (3), **2013** .
24. New Insights into the Chemistry of Oxovanadium(IV) Complexes with Tetradentate Macrocyclic Ligands. Sanjay Singh,Hardeo S. Yadav, Ashok K. Yadava and Devendra P. Rao *Biointerface Res. Appl. Chem.*, 3(1), 484 – 490, **2012**.
25. Oxovanadium(IV) complexes with Schiff base : Synthesis, characterization and antifungal studies. PROBIN BORA* AND HARDEO S. YADAV *Journal of Chemistry and Chemical Sciences*, Vol.2, 116-123, **2012**.
26. Synthesis, Characterization and Antifungal Studies of Oxovanadium(IV) Complexes with Tetradentate Schiff Base Ligands. PROBIN BORA* AND HARDEO S. YADAV *International Journal of chemical Sciences*, 10 (4), 1969 - 1976, **2012**.

27. Synthesis and Characterization of Oxovanadium(IV) complexes having Diacetyl as precursor molecule. Probin Bora* and Hardeo S. Yadav International Journal of ChemTech research,4 (4),1428 – 1432, **2012**.
28. Synthesis of oxovanadium(IV) complexes with tetraaza coordinating ligands SANJAY SINGH, HARDEO S. YADAV, ASHOK KUMAR YADAVA, DEVENDRA PRATAP RAO E-Journal of Chemistry, revised , August, **2012**.
29. Synthesis and Spectroscopic Studies on Macrocyclic Complexes of Dioxomolybdenum(VI) with Furil as Precursor. D. P. Rao, H. S. Yadav, A. K. Yadava, S. Singh and U. S. Yadav E-Journal of Chemistry, 9 (2), 497-503, **2012**.
30. Synthesis, Structure and Characterization of Novel Square Pyramidal VO(IV) Complexes with O/N Donor Ligands. K. Yadav, H. S. Yadav, U. S. Yadav and D. P. Rao J. Turkish Chem. Soc. , Accepted , **2012**(doi: 10.3906/kim-1201-54).
31. Synthesis and Characterisation of cis-Dioxomolybdenum(VI) Complexes having Furil as Precursor Molecule. D. P. Rao, H. S. Yadav, A. K. Yadava, S. Singh and U. S. Yadav J. Serb. Chem. Soc. (**2011**) , doi : 10.2298/JSC 111110020R.
32. Synthesis and Characterization of oxovanadium(IV) Macrocyclic Complexes with Ligands Derived by Condensation of Furil with 1,4-Diaminobenzene or 3,4-Diaminopyridine and Their Reactions with β - Diketones.. Sanjay Singh, H. S. Yadav, A. K. Yadava and D. P. Rao, Int. J. ChemTech Res., 3 (4),1863-1869,**2011**.
33. Synthesis and Characterization of oxovanadium(IV) Complexes with Tetradentate Schiff base Ligands Having Thenil as Precursor Molecule. Sanjay Singh, D. P. Rao, A. K. Yadava and H. S. Yadav Current Research in Chemistry, DOI: 10.3923/crc.**2011**.
34. Luffa aegyptiaca (gourd) fruit juice as a source of peroxidase. Rama Shanker Singh Yadav, Hardeo Singh Yadav and Kamalesh Singh Yadav Enzyme Research , USA, Volume **2011**, Article ID 319105.
35. In-situ Preparation of Macrocyclic Complexes of Dioxomolybdenum(VI) Involving a Heterocyclic Precursor. D.P. Rao, H. S. Yadav, A. K. Yadav , Sanjay Singh and U. S. Yadav J. Coord. Chem, Vol. 64 , No. 2 , 293 - 299 , **2011**.
36. Template Synthesis and Characterization of Oxovanadium(IV) Complexes with Tetraaza Macrocyclic Ligands and Their Activity on Potato Virus X. S. N. Thakur, K. S. Yadav, N. P. Singh and H. S. Yadav J. Iran. Chem. Soc., Vol. 5, No. 2, 328 - 335, **2008**.
37. t-Butyl Hydroperoxide Oxidative Dealkylation of Hydroquinone Ethers to 1,4- Quinones. Halina Wojtowicz, Jacek Mlochowski and Ludwik Syper and Hardeo S. Yadav, Synthetic Communications,USA, vol. 36, no. 14 , **2006**.
38. t-Butyl Hydroperoxide Oxidation of 1,4-Dimethoxyarenes Catalysed with Selenium Compounds. Halina Wojtowicz, Hardeo S. Yadav, Jacek Mlochowski and Ludwik Syper, Annal of Polish Chemical society, vol. 3, 56 – 59 , **2004**.
39. The Molybdenum Analogue of Amavadin, Hardeo S. Yadav, Elaine M. Armstrong, Roy L. Beddoes, David Collison and C. David Garner J.CHEM. SOC., CHEM. COMMUN., U.K. ,605, **1994**.
40. Synthesis and Spectroscopic Studies of Oxovanadium(IV) Complexes With 16- and 18-Membered Macrocyclic Ligands. H.S. Yadav, POLYHEDRON, 12 (3), 313, **1993**.
41. Template Synthesis of Oxovanadium(IV) Complexes with Tetradentate 16- Membered N6 Macrocyclic Ligands. H.S. Yadav, Asian J. Chem., 5(2) 330, **1993**.
42. Template Synthesis of Oxozirconium(IV) Complexes with Tetraaza 16-and 18- Membered Macrocyclic Ligands. H.S. Yadav,Asian J. Chem., 5(2), 335, **1993**.

43. Template Synthesis of Oxovanadium(IV) Complexes of Tetraaza 16- and 18-Membered Macrocyclic Ligands. H.S. Yadav, Bull. Soc. Chim. France, 127, 641, **1990**.
44. Dioxouranium(VI) Complexes of Terephthalic Acid Dihydrazide and their Reactions with β -Diketones. H.D.S. Yadav, S.K. Sengupta and S.C. Tripathi, Synth. React. Inorg. Met.-Org. Chem., 5, **1990**.
45. Oxovanadium(IV) Complexes of Pentadenatate 16-Membered Macrocyclic Ligands. H.D.S. Yadav, S.K. Sengupta and S.C. Tripathi, Bull. Soc. Chim. France, 1,29, **1988**.
46. Oxozirconium(IV) and Oxovanadium(IV) Complexes of Terephthalic Acid Dihydrazide and Their Reactions with β -Diketones. H.D.S. Yadav, S.K. Sengupta and S.C. Tripathi, Synth. React. Inorg. Met.-Org. Chem., USA, 17(1), 115, **1987**.
47. Synthesis and Spectroscopic Studies on Dioxouranium(VI), Oxovanadium(IV) and Oxozirconium(IV) Complexes with Tetradentate Macrocyclic Ligands. H.D.S. Yadav, S.K. Sengupta and S.C. Tripathi, Inorg. Chim. Acta, 1-6, **1987**.
48. Template Synthesis of Oxozirconium(IV) Macrocyclic Complexes Derived from 2,6-Diacetylpyridine and β -Diketones. H.D.S. Yadav, S.K. Sengupta and S.C. Tripathi, Acta. Chimica, Hungary, 124(2), **1987**.
49. Dioxouranium(VI) Complexes of Macrocyclic Ligands Derived from 2,6-Diacetylpyridine-bis-(Thiosemicarbazones). H.D.S. Yadav, S.K. Sengupta and S.C. Tripathi, Bull. Soc. Chim. France, 5,716, **1986**.
50. Oxovanadium(IV) complexes of Macrocyclic Ligands Derived from 2,6-Diacetylpyridine. H.D.S. Yadav, S.K. Sengupta and S.C. Tripathi, Bull. Soc. Chim. France, 1180, **1985**.
51. Dioxouranium(VI) Complexes of Terdenatate 16-Membered Macrocyclic Ligands. H.D.S. Yadav, S.K. Sengupta and S.C. Tripathi. Acta. Chimica, Hungary, 119 (4), 333, **1985**.
52. Template Synthesis of Zirconium(IV) Macrocyclic Complexes. H.D.S. Yadav, S.K. Sengupta and S.C. Tripathi, Synth. React. Inorg. Met.-Org. Chem., USA, 14, 993, **1984**.

Lectures delivered in National/ International Universities:

- “Polymer Expansion and its Future Challenges” RKGEC Philkuwa, Gaziabad, New Delhi. May17, 2013.
- “Green Methods in Organic Transformation” RKGEC Philkuwa, Gaziabad, New Delhi, May17, 2013.
- “Ergonomics and Safety in Product Design” Department of Agricultural Engineering, NERIST, Nirjuli (A.P.) May 14, 2013.
- “Advances in Welding Technology” Deptt. of Mechanical Engg., NERIST, Nirjuli (A.P.), May 10-11, 2013.
- “Recent Trends in Tribology and its Application in Industrial Development” Deptt. of Mechanical Engg., NERIST, Nirjuli (A.P.) April, 10 – 14, 2013.
- “Synthetic routes for K - group vitamins and their possible roles in cancer therapy” Department of Inorganic and Analytical Chemistry, University of Debrecen, Hungary Dec. 7, 2012.
- “The role of promoters in oxidative transformations of alkoxyarenes within green chemistry domain” Department of Chemistry, Szeged University, Szeged, Hungary. Nov. 22, 2012.
- “One Electron Mediators in Oxidative Transformation of Organic Molecules within Green Chemistry Domain” Department of Chemistry, Chaiduar College Gohpur, Assam. 5 – 6 October, 2007.
- “Green Chemistry Methodology in Synthesis of Menadione” Department of Chemistry, Chaiduar College Gohpur, Assam. 21-22 January, 2005.
- “Amavadin Chemistry in Amanita Muscaria and Future of its Synthetic Molybdenum Analogues” Department of Chemistry, Chaiduar College Gohpur, Assam. 21-22 January, 2005.
- “Modern Trends in Green Chemistry – Synthesis of Menadione (Vitamin-K3)” , Department of Organic Chemistry, Biochemistry and Biotechnology, Technical University Wroclaw, Poland. 1 March, 2004.

- “Synthesis of Bio-organic Ligands and Their Coordination to Molybdenum” Department of Organic Chemistry, Biochemistry and Biotechnology, Technical University Wroclaw, Poland. 1 March, 2004.
- “The Molybdenum Analogues – A Novel Dimension to Amavadin Chemistry” DDU Gorakhpur University, Gorakhpur (U.P.) Sept. 26-28, 1997.
- “Relevance of Biogas Technology for Socio- Economic Development of Arunachal Pradesh” NERIST, Nirjuli, (A.P.) April 7-9, 1990.

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Sd.
Hardeo Singh Yadav