



CURRICULUM-VITAE

Name Dr. HARI RAGHO PAWAR

Date of Birth June 02, 1981

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Place of work Department of Chemistry, Post-graduate and Research center, MES Abasaheb Garware College, Karve Road, Pune-411 004, Maharashtra, India.
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Present position Associate Professor in Chemistry

Academic qualifications

Degree	Year	Institute	Class
B.Sc. (Chemistry)	April 2002	Pune University	I
M.Sc. (Organic Chemistry)	April 2004	Pune University	I
CSIR-UGC-NET	June 2004	CSIR, New Delhi	Qualified
UGC- SET	August 2004	Pune University	Qualified
GATE	February 2005	IIT NewDehli	94.33%tile
Ph.D	Sept. 2020	SPPU Pune	Awarded

Title of Thesis: CATALYTIC ACTIVITY OF Ru- BASED HETEROGENOUS CATALYST FOR ORGANIC TRANSFORMATIONS

Broad Area of Research: Organic synthesis, Catalysis, Bio-organic Chemistry, Nanomaterials for Organic Transformations.

(a) Achievements:

- CSIR-NET, GATE (Qualified twice)
- Secured SAKAL India Loan Scholarship for PhD
- Completed Ph.D
- Overall Performance in teaching based on Average score: Excellent (4.08/5)
(#Analysis is done by the Department of Statistics AGC)

(b) Research Experience:

(1) Ph.D. Work:

Visible Light Photocatalysis: Visible light is safe, inexpensive, renewable energy source. Most organic compounds, however, absorb light only at short UV wavelengths that are relatively poorly emitted in the solar spectrum. Our aim is to investigate strategies to use transition metal photosensitizers that can catalyze photochemical reactions under visible light. Worked on designing and synthesis of metal based heterogenised catalyst for cycloaddition reactions such as Cu, Ru, based nanocomposites on various support and evaluation of their potentiality and sustainability for the organic reactions. Structural characterization of these catalysts involved different spectroscopic techniques such as ESR, XRD, XPES, SEM, PL, Raman and TEM analysis. In order to derive meaningful structural information of the synthesized molecules were revealed from IR, UV, ^1H and ^{13}C NMR Spectroscopy.

(2) Collaborative Research Work:

1. A research project on designing and synthesis of semiconducting nanocomposites such as Cd-Se, Ru/MMT, Ru-Cu, Bi-Pd has been undertaken in collaboration with Scientist from National Chemical Laboratory, Pune. The work involves structural characterization of these materials as well as their catalytic efficiencies towards C-C, C-N, and C-S bond forming reactions under the theme of "Green Chemistry".
2. Another research project involves designing of magnetically separable nanocomposites as efficient heterogeneous catalyst towards synthesis of biologically active scaffolds such as oxazoles and tetrazoles.

(3) Teaching Experience:

1. Assistant Professor in Organic Chemistry at Department of Chemistry, at Department of Chemistry, Abasaheb Garware College, Pune from August, 2005.
2. Recognized (PG) Post Graduate teacher from Savitribai Phule Pune University, Pune.
3. Worked as Resource Person for Chemistry Olympiad at Various levels.

4. Working as Coordinator and resource person for various competitive examinations like UPSC/MPSC Civil services, CSIR-NET, UGC-SET and GATE examinations.

(c) Innovative Processes adopted in Teaching and Learning:

1. Project/activity based learning, Group discussions, online teaching and Seminars.

(d) Achievements of Students in Examinations/Co Curricular and Extra Curricular Activities:

1. Several students are CSIR-NET, SET and GATE Qualified
2. IIT-JAM Qualified
3. Selections in Civil services MPSC and UPSC
4. Selections as in best NSS student.
5. Two M. Sc. students Selected in District and State level **Avishkar competition**
6. Selections in Project/lecture and research based competitions
7. Campus/Job selections

(e) Co-curricular, Extension and Profession development related responsibilities:

1. Worked as **InCharge of ACS Association of Chemistry Students** during academic years 2011-2016.
2. Coordinator for the **UGC Scheme 12th Plan** of Entry into Services Scheme for the civil services coaching during academic years 2010-2015.
3. Presently working National Service Scheme **NSS Programme Officer** since 2018
4. Worked as committee member in NAAC in for the criteria VI.
5. Member of Indian Council of Chemists, India.
6. Worked as member of admission committee for PG and UG admissions

(f) Research Projects and Consultancy Services:

1. Research project entitled "Greener route for C-C coupling reaction using visible light catalyzed semiconducting nanocomposites." grant sanctioned Rs.3,40,000/ by U.G.C., New Delhi (submitted)

2. Research project on "Magnetically separable nanocomposites as efficient heterogeneous catalyst towards synthesis of oxazoles and tetrazoles, grant sanctioned Rs. 1,30000/ by BCUD,SPPU, Pune, (submitted).
3. Consultancy related to combustion series catalyst of Lumipro India Pvt. Ltd. Tathtwade MIDC, Pune.

(g) List of Publications:

1. Anil R. Wade, **Hari R. Pawar**, M. V. Biware and R. C. Chikate Synergism in semiconducting nanocomposites: Visible light photocatalysis towards formation of C-S, and C-N bonds. *Green Chemistry*, 2015, 17, 3879, (Impact factor 9.04), Scopus indexed journal.
2. **Hari R. Pawar**, Alok P. Jakhade, and Rajeev C. Chikate," Effect of enhanced RuO₂ layer on the sustainability of Ru/MMT catalyst towards [3+2] dipolar cycloaddition reaction" *ChemistrySelect*, 2017, 2, 6949– 6956 , ChemPubSocEurope,Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim (Impact factor 1.82), Scopus indexed journal.
3. Jyoti Waikar, **Hari Pawar**, & Pavan More "Review on CO oxidation by noble and non noble metal based catalyst", *Catalysis in Green Chemistry and Engineering*, 2019, 2(1):11–24, Scopus indexed journal.
4. **Hari R Pawar**, Narendra R Kamble, Vinod T Kamble "Effective Synergetic catalytic system for the efficient synthesis of multicomponent Biginelli type pyrimidinone derivatives", *IJSTR.. Chem.* 2019, 8, 2889–2899. (Impact factor 3.72), Scopus indexed journal.
5. **Hari R. Pawar**, Narendra R. Kamble and Vinod T. Kamble "Chemoselctive room temperature and solvent free synthesis of thio esters using effective synergistic catalytic system", *Rasyani Journal of Chemistry* , 2019, 55(6), 210-213, Scopus indexed journal.
6. Narendra R. Kamble, **Hari R. Pawar** and Vinod T. Kamble "NbCl₅ and AgClO₄ Promoted Regio-Selective Acylation of Indoles", *Asian journal of Chemistry*, 2019, 32, 2 317-321, (impact factor 2.1), Scopus indexed journal.
7. **Hari R. Pawar**, and Rajeev C. Chikate," one pot solvent free synthesis of N-substituted tetrazoles using RuO₂/MMT catalyst" *Journal of Molecular Structure*, 2020, 1225, 128985, (impact factor 2.45), Scopus indexed journal.

8. Nitin H. Kolhe, Shridhar S. Jadhav, Dilip R. Thube, Sushma J. Takate, Ashok V. Bankar, Sanjay T. Moharekar **Hari R. Pawar**, Shubhangi S. Moharkar," New Mn(II), Co(II), Ni(II) and Cu(II) homoleptic complexes with 6-chloro-5-7-dimethyl-4-oxo-4H-chromene-3-carbaldehydes and its heteroleptic complexes with quinoline-8 ol: synthesis, characterization and antimicrobial activity" *Research on Chemical Intermediates*, Oct 2020, online, (impact factor 2.27), Scopus indexed journal.
9. Shivaji M. Jagadale, Abhijit P. Chavan, Yogita K. Abhale, **Hari R. Pawar**, Abhijit Shinde, Vivek D. Bobade, Pravin C. Mhaske, "Synthesis and antimycobacterial screening of new thiazole and pyrazole clubbed 1,2,3-triazol derivatives" *Journal of Heterocyclic chemistry*, submitted.

(h) Presentations and Talk delivered:

- 1) Delivered invited talk in State Level Workshop on topic of "**Preparation for CSIR-NET, UGC-SET and GATE Examinations in Chemical Sciences**" to M.Sc students, at Birla College, Kalyan.
- 2) Delivered invited talk in State Level Workshop on topic of "**Preparation for CSIR-NET, UGC- SET and GATE Examinations in Chemical Sciences**" to M.Sc students, at Rayat Shikshan Sanstha's Yashwantrao Chavan College, Satara, 2018.
- 3) Delivered invited Lecture on topic of "**Elucidation of Structure and Stereochemistry of organic molecules using spectroscopic techniques**" to M.Sc students, at Rajgad Pratisthan's Anantrao Thopte College, Bhor, Pune. 2017.
- 4) Delivered invited talk in short term course on topic of "**Research Methodology in Organic Chemistry**" to M.Sc students at Rayat Shikshan Sanstha's Annasaheb Awate College Manchar, Pune.
- 5) "**Magnetically separable catalyst towards synthesis of tetrazoles and oxazoles**" Tushar Gholap, Aadil Tamboli and Hari R. Pawar, State Level Avishkar conference 2017 at SPPU, Pune
- 6) "**Photochemical synthesis of benzazoles using CdSe/MMT catalyst under visible**", Anil Wade, Hari R. Pawar and Rajeev C. Chikate, National Conference on Chalcogenides at DIAT, Pune 2016

- 7) Thesis Presentation on "**Ru-based heterogeneous catalyst towards organic transformations**" Hari R. Pawar, Raman Memorial Conference, Dept. of Physics, Savitribai Phule Pune University, Pune, 2020.
- 8) Oral presentation on "**RuNP's as catalyst towards synthesis of C-Substituted tetrazoles**" Hari R. Pawar, Sagar N Dakhane and Rajeev C.Chikate, International Conference on Functional Material and its applications at KTHM college, Nashik, 2018.
- 9) Oral Presentation on "**Ru-based heterogeneous catalyst towards synthesis of N-Substituted tetrazoles**" Hari R. Pawar and Rajeev C. Chikate, International Conference on Functional Material and its applications at HV Desai & COEP college, Pune, 2019.
- 10) Poster presentation "**Photochemical synthesis of benzazoles under visible light using [Ru(bipy)₃]/MMT as photocatalyst**, Hari R. Pawar, Sagar Yewale, Pranay Sagare, Saksham Nale, Raman Memorial Conference, SPPU, Pune, 2019