

Dr. Piyush Kumar Thakur

Faculty Member, The ICFAI University, Raipur

Email Id: piyushthakur@iuraipur.edu.in

Contact No.: 09827933104

Education Qualification:

Doctor of Philosophy in Chemistry



Pt. Ravishankar Shukla University Raipur, CG

Master of Philosophy in Chemistry



Pt. Ravishankar Shukla University Raipur, CG

Master of Science in Chemistry (Organic Chemistry)



Pt. Ravishankar Shukla University Raipur, CG

Bachelor of Science



Pt. Ravishankar Shukla University Raipur, CG

Work Experience:

- Teaching Experience (in years) : 10+ Years
- Industrial Experience (in years) : Nil
- Total Experience: 10+ Years

Research Area:

- Drug Design
- QSAR Parameters study
- Synthesis of small Bio-molecule
- Green Chemistry
- Material Chemistry
- Environmental Chemistry

Awards & Honours:

1. Bharat Ratna Rajiv Gandhi Gold Medal Award for the Contribution in the field of Medicinal chemistry by Global Economic Progress and Research Association at Bangalore, 19th August 2018.
2. Rashtriya Shikshak Bushan Puraskar for the outstanding contribution in the domain of literature by Bhartiya Pratishthan at Nanded, 2016.
3. The Chhattisgarh Young Scientist Award for the Best Paper presentation in the discipline of Chemistry was granted by 8th Chhattisgarh Young Scientist Congress, Council of Science and Technology Abstr. No. 09, Page- 90, Raipur, April 9-11, 2010.
The paper entitled "RP-HPLC Determination of Hydrophobicity of Hydroxamic Acids: Quantitative Structure Retention Relationship Using Partial Least- Squares Modeling".
4. Best Poster Award, for the Best Poster presentation in the discipline of Chemistry was granted by University Level Student Research Convention, December 20, 2008, Pt.Ravishankar Shukla, University, Raipur (C.G.). The paper entitled "QSAR Parameters of Hydroxamic Acids".
5. Awarded Junior Research Fellowship, Under the scheme meritorious fellowship, UGC New Delhi.
6. Awarded Senior Research Fellowship, Under the scheme meritorious fellowship, UGC New Delhi.

7. Travel Award by Asian Chemical Congress (15 ACC) for participation in 15th Asian Chemical Congress (15 ACC) to be held on Singapore during August 19-23, 2013.
8. Mip Tech Travel Award by European Commission for participation in Mip Tech-2011, The Leading European Event for Drug Discovery, Abstr. No P78, Page-63, Basel, Switzerland, Sept. 20-22, 2011.
9. Pt. Ravishankar Shukla University Travel Grant to attend 2011 International Conference on Environment and BioScience, ICEBS 2011, Page-134, Cairo, Egypt, Oct. 21-23, 2011
10. CGCOST Travel Grant to attend 29th international symposium on Chromatography (the 29th ISC), Abstr. No. S1-P110, Page No.-252, Torun, Poland, September 9-13, 2012.
11. SILAE Student Travel Award by European Commission for participation in ISCC/GCxGC in Riva, Italy 2012.
12. Teacher of the Year 2015-2016, AVS Presidency International College, Raipur (CG).

Books Published:

1. Evaluation of Aqueous Solubility of Hydroxamic Acids By PLS Modelling. Rama Pande, Sandhya Patre and Piyush Thakur , Lambert Academic Publishing Heinrich, Deutschland Germany (2013) ISBN-13: 978-3659308345
2. Hydrophobic Parameters of Biomolecules : Hydroxamic Acids. Rama Pande, Priyanka Singh and Piyush Thakur, Lambert Academic Publishing Heinrich, Deutschland Germany (2014). ISBN-13: 978-3659432569
3. Assesment of Ambient air Quality around cement industry, Piyush Kumar Thakur, Varsha Verma, G. P. Verma, Lambert Academic

Publications:

• **International: 24**

1. **Steric Parameters of Hydroxamic Acids in DMSO, Piyush Thakur,** Sandhya Patre and Rama Pande, *Int. J. Biosci. Biochem. Bioinform.*, 1, (2011) 271-275.
2. **Thermophysical And Excess Properties Of Hydroxamic Acids In DMSO, Piyush Thakur,** Sandhya Patre and Rama Pande, *J. Chem. Thermodyn.*, 58 (2013) 226-236.
3. **Steric Parameters and Excess Properties of Hydroxamic Acids,** Sandhya Patre, **Piyush Thakur** and Rama Pande, *J. Chem. Thermodyn.*, 54 (2012) 118-128
4. **Solubility and Hydrophobic Descriptors of N-Arylhydroxamic Acids,** Sandhya Patre, **Piyush Thakur** and Rama Pande, *Int. J. Biosci. Biochem. Bioinform.*, 1 (2011) 267-270.
5. **Hydrogen-Bond Parameters and Lipophilicity of Hydroxamic Acids: Use in Drug Design, Piyush Thakur,** Sandhya Patre and Rama Pande, *Int. J. of Sci. Res.*, 3 (2014) 1545- 1548.
6. **Potentiometric Study of Hydroxamic Acids in Non-Aqueous Media, Piyush Thakur,** Sandhya Patre and Rama Pande, *Int. J. Sci. Res.* 4 (2015) 1017-1019.
7. **Measurement of Intermolecular Interactions of Hydroxamic Acids in DMSO, Piyush Thakur** and Rama Pande, Proceedings of International Conference on Environment and BioScience IPCBEE, IACSIT Press, Singapore, 21 (2011) 134.
8. **Biosorption as tool for Environmental Importance and significance for pollution Treatment, Shweta Choubey, Swati Sarwa and Piyush Kumar Thakur,** workshop on Ground water and its issues in Chhattisgarh "CGWB, NCCR, 116-138 (2018).
9. **Effect on human health due to drinking water contaminated with heavy metals- A review, Shweta Choubey, Swati Sarwa and Piyush Kumar Thakur,** *Int. J. Res. Anal. Rev.*, 5 (4), 1-10 (2018).

- 10. Drug Delivery and Binding Analysis of Isoflavones with Special Reference to Chicken Egg Lysozyme**, Sanjukta Badhei, Amit Kumar Dutta And **Piyush Kumar Thakur**, *J. Ultra Chem.*, 14(6), 156-162 (2018).
- 11. Determination of Dissociation Constants of Drug-Like Molecule In Hydro-Organic Media By A Potentiometric Method**, **Piyush Kumar Thakur** and Rama Pande, *Int. J. New Technol. Sci. Eng.*, 5, 9, 33-42 (2018).
- 12. Effect of Rice Mill Processing Waste Water on Mahanadi River at Rajim Area of Chhattisgarh**, **Piyush Thakur**, Radha Krishnan and Khoman Prasad Sahu, *Int. J. Sci. Res. Develop.*, 6, 5, 126-128 (2018).
- 13. Kinetics And Mechanistic Study of Acid Catalysed Hydrolysis of N-Benzyl-2-Furohydroxamic Acids**, Radha Krishnan and **Piyush Kumar Thakur** *Glob. J. Eng. Sci. Res. Manag.*, 6 (1), 50-54, (2019).
- 14. Assessment of Water Quality Parameters: A Review**, Mrs. Swati Sarwa, **Dr. Piyush Kumar Thakur** and Dr. Shweta Choubey, *Int. Edu. Res. J.*, 4 (11), 11-15 (2018).
- 15. A Review on Heavy Metals Used by Plants through Phyto remediation**, Dr. Shweta Choubey, Mrs. Swati Sarwa and Dr. Piyush Kumar Thakur, *Int. J. Res. Anal. Rev.*, 5(4), 856-861 (2018).
- 16. Water Quality Assessment of Physicochemical Parameters & Heavy Metals Contamination in Surface Water of Jonk River, Kasdol Area, Baloda Bazar, Chhattisgarh**, Swati Sarwa, Shweta Choubey and Piyush Kumar Thakur, *Int. J. Sci. Res.*, 8 (11) 1080-1087 (2019).
- 17. Water Quality Assessment of Physicochemical Parameters & Heavy Metals Contamination In Surface Water of Jonk River, Kasdol Area, Chhattisgarh**, Swati Sarwa, Shweta Choubey and Piyush Kumar Thakur, *Int. J. Res. Anal. Rev.*, 6 (2) 861-869 (2019).
- 18. Liquid-Liquid Equilibria of Phosphoric Acid, Ester and Water Ternary System**, Vinod Jena, Sapana Gupta, Piyush Thakur, Noorjahan and Natalija Matic, *J Earth Environ. Sci.*, 3 (2) 1-6 (2019).
- 19. Effects of Selected Mordants and dyeing of Cotton cloth with Natural Dye Extracted From Red calico plant (amaranths leaves)**, Shikha Singh Rajpoot and Piyush Kumar Thakur, *Int. J. Engg. Dev. Res.*, 8 (1), 274-277 (2020).

- 20. Liquid-liquid equilibria of the phosphoric acid, ester and water ternary system**, Vinod Jena, Sanjay Ghosh, Sapana Gupta, Piyush Thakur, Noorjahan Ansari, and Natalija Matić, *The Minin.-Geo.-Petrol. Engg. Bull.*, 85-91 (2020).
- 21. Assessment of Heavy Metals contamination of different river water of Chhattisgarh, India**, Shailendra Kumar Piyush Kumar Thakur Sandhyarani Panda Radha Krishnan, *Int. J. Sci. Res.*, 9 (11), 35-37, (2020).
- 22. A study of physicochemical parameters of river in industrial and urban areas, of Chhattisgarh India**, Shailendra Kumar, Piyush Kumar Thakur, Sandhyarani Panda and Radha Krishnan, *Res.J. Chem. Environ. Sci.*, 8 (3) 2020. (Accepted)
- 23. Antibacterial activities of sulfonyl or sulfonamide containing heterocyclic derivatives and its structure-activity relationships (SAR) studies: A critical review**, Santosh Kumar Verma, Rameshwari Verma, Fan Xue, Piyush Kumar Thakur, Y. R. Girish, K.P. Rakesh, *Bioorgan. Chem.*, 105, 104400, (2020)
- 24. A Review on Green Synthesis, Characterization and Anticancer Application of Metallic Nanoparticles**, Piyush Kumar Thakur and Varsha Verma. *Biotechnol. Appl. Biochem.*, 193(7), 2357-2378, (2021)

PAPERS PRESENTED IN CONFERENCES

International

- 1. Protonation Behavior of Drug Like Substance: Hydroxamic Acids.**
Piyush Thakur and Rama Pande, Indian Council of Chemistry. Global Challenges- The Role of Chemistry in Giving Their Solutions Abstr. No.3(PP), Page- 88, Bangkok, Thailand, June 11-15, 2011.
- 2. Quantitative Structure-Retention Relationship of Hydroxamic Acids Using Partial Least - Squares Modeling**, Piyush Thakur and Rama Pande, Mip The-2011. The Leading European Event for Drug Discovery, Abstr. No P78, Page-63, **Basel, Switzerland**, Sept. 20-22, 2011.
- 3. Measurement of Intermolecular Interactions of Hydroxamic Acids in DMSO**, Piyush Thakur and Rama Pande, International Conference on Environment and BioScience, ICEBS 2011, Page-134, **Cairo, Egypt**, Oct. 21-23, 2011

- 4. RP-HPLC Determination of Hydrophobicity of Biomolecules: QSPR Analysis and Relationship with ct-DNA Interaction,** Piyush Thakur and Rama Pande, 29th international symposium on Chromatography (the 29th ISC), Abstr. No. S1-P110, Page No.-252, **Torun, Poland**, September 9-13, 2012.
- 5. Molecular Descriptores of Hydroxamic Acids : A Linear Solvation Energy Relationship (LSER) Approach,** Piyush Thakur and Rama Pande, Joint Malaysia-UK Symposium on Natural Product Chemistry and Drug Discovery December 13, 2014.
- 6. Aqueous Solubility and QSPR Modeling of N-Arylhydroxamic Acids,** Piyush Kumar Thakur and Rama Pande, 15th Asian Chemical Congress (15 ACC) to be held on **Singapore** during August 19-23, 2013.
- 7. Evaluation of Ionization Constant of PBHA : A Potentiometric Study.**
Piyush Thakur, Sandhya Patre, and Rama Pande, 46th Annual Convention of Chemists & International Conference on Recent Advances in Chemical Sciences - Abstr. No. Phy. (OP)-48, Vellore, December 2-6, 2009.
- 8. Physicochemical Parameters of Hydroxamic Acids for Use in Drug Design,** Piyush Thakur and Bharti Verma, 48th Annual Convention of Chemists & Celebration of the International year of chemistry - Abstr. No. Phy. (AP)-6, Page- B2, Allahabad, December 03-07, 2011.
- 9. Attended 3rd International Conference on Global Trends in pure and applied chemical sciences (ICGTCS-2017)** held at SRM University, Delhi-NCR Campus, Ghaziabad (UP) 8-9 December, 2017.
- 10. Determination of Dissociation Constant of drug-like molecule in Hydro organic media by a Potentiometric method,** Piyush Thakur, International Symposium on Functional Materials : Energy and Biomedical Application (ISFM-2018) 13-15 April, 2018.

National

- 11. RP-HPLC Determination of Hydrophobicity of Hydroxamic Acids: Quantitative Structure Retention Relationship Using Partial Least-Squares Modeling,** Piyush Thakur, 8th Chhattisgarh Young Scientist Congress, Council of Science and Technology Abstr. No.09, Page- 90, Raipur, April 9-11, 2010.

12. **Intermolecular Interaction of Hydroxamic Acids in DMSO**, Piyush Kumar Thakur, National Seminar on “Recent Trends in Material Science” Abstr. No.21, Raipur, August 06, 2015.
13. **Determination of Hydrophobic Interaction of Hydroxamic Acid by RP-HPLC**, Sandhya Patre and Piyush Kumar Thakur, National Seminar on “Recent Developments in Medical Biotechnology and Structure Based Drug Designing (RDMBSBDD-2015) held at IIT Guwahati Abstr. No. pp-47, Guwahati, December 06-07, 2015.
14. **Protonation behavior of polyfunctional molecule : Hydroxamic Acids**, National Conference on Advances in science and technology: A step towards “Make in India” in Defence sector (NCAST-2017) 24-26 March, 2017.
15. **One Day Conference on Recent Advances in Functional Nanomaterials as an outreach program of S.N. Bose National Center for Basic Sciences, Kolkata**, held at School of Sciences in Chemistry, Pt. Ravishakar Shukla University, Raipur, Chhattisgarh, 28 September, 2018.
16. **UGC-SAP (DRS-II) 3rd National Conference on Advances in Environmental and Chemical Sciences** organized by School of Sciences in Chemistry, Pt. Ravishakar Shukla University, Raipur, Chhattisgarh, 27-28 March, 2019.
17. **Attended National Conference on “innovations in chemistry and environmental engineering (ICEE-2019)** held in the department of chemistry, National Institute of Technology Raipur, Chhattisgarh, April 29, 2019.
18. **In-vitro effects on skin melanoma cells of biosynthesis silver nanoparticles using Jackfruit (*Artocarpus heterophyllus* cam)**, Varsha Verma and Piyush Kumar Thakur, Two days National Conference on Nanotechnology and Environment (NCNE-2020) held at National Institute of Technology Raipur, Chhattisgarh, 13-14 February, 2020.

19. National Seminar on Advance Material for Sustainable industrial and Social Application (NSAMSISA-2020) held at Govt. Shyamacharan Shukla College, Dharsiwa, Raipur (CG) 17-18 January, 2020.

Workshops/FDP: 03

- 1. IUPAB Sponsored Workshop on NMR and Its Applications In Biology System,** TIFR Mumbai, India November 23-30, 2009.
- 2. Mathematical Modeling, Chemoinformatics and Quantum Chemistry.** NIT Raipur, India 19th February 2013.
- 3. Environmental-Analytical & Toxicological Issues of Speciation in Atmospheric Organic Aerosols,** Pt. Ravishankar Shukla university, Raipur Collaboration with Desert Research Institute, Reno, NV, USA, December 06-07, 2012.
- 4. Medicinal value of Drugs Extracted from Plan of Chhattisgarh Forests,** Govt. Nagarjun P.G. College of Science, Raipur, October 17-18, 2008.
- 5. UGC Sponsored 14th Orientation Programme,** Guru Ghasidas Vishwavidyalaya, Bilaspur, 11th May- 06th June, 2015.
- 6. Chemistry Teachers Training Workshop,** Jointly Organized by Pt. Ravishankar Shukla university, Raipur and Royal Society Chemistry, WIS, October 06-08, 2015.
- 7. Intellectual Property Rights & Innovation Management in Knowledge Era,** National Research Development Corporation, New Delhi & Pt. Ravishankar Shukla university, Raipur December 30-31, 2013.
- 8. Global Entrepreneurship Summit ' 14,** Indian Institute of Technology Kharagpur, January 10-12, 2014.
- 9. Commercial Production of Biofertilizers and Biopesticides using Bacillus Thurnigenesis and Rhodobacter spheroids,** Department of

Microbiology, Bhilai Mahila Mahavidyalaya, Bhilai in collaboration with NTHRYS Biotech Lab, Hyderabad, 17-23 January, 2020.

10. Ground water management and its issues in Chhattisgarh, Organized by Central Ground water Board, North central Chhattisgarh Region, Raipur, Ministry of water Resources, River development and Ganga Rejuvenation, 17 January 2018.

11. Workshop on the Role of Local Chapters, Conducted by Indian Institute of Technology Kanpur at MATS University, Raipur, 16 January 2018.

Number of Projects (On-going/Completed):

- Ph.D. Thesis Guided: 01 (Completed)
03 (On-going)
- M.Phil Thesis Guided: 07

Guest Lecture/Webinar Delivered: 03