PROFILE OF THE TEACHERS

1. **Name:** Dr. Pradeep Kumar Rao
2. **Father's Name:** Shyam Dev
3. **Mother's Name:** Barsati Devi
4. **Department:** Chemistry
5. **Date of Joining the University:** 02 July, 2018

6. **Total Teaching Experience:** **UG-** 3 Year 9 Month **PG-** 3 Year 9 Month
7. **Total Research Experience:** **12** Year
8. **Area of specialization: Physical Chemistry**
9. **Academic Qualifications:**

B.Sc.	2007	St. Andrew's College, Gorakhpur	First
M.Sc.	2009	DDU Gorakhpur University, Gorakhpur	Second
Ph.D.	2014	DDU Gorakhpur University, Gorakhpur	Awarded
PDF	2015	Savitribai Phule Pune University, Pune	
Any Other			

10. **International/National fellowship/financial support for advance studies/research**

S. No.	Name of the fellowship/ financial support	Year of Award	National/International	Awarding Agency
1	DSA-BSR Fellowship	2010	National	UGC, New Delhi
2	RGNF	2011	National	UGC, New Delhi
3	DS Kothari Fellowship	2015	National	UGC, New Delhi

11. **International/National award/recognition for academics**

S. No.	Name of the award/recognition	Year of Award	Title of the innovation	National/International	Awarding Agency
1	Startup-Grant	2019	Computational Studies on Hydrofluoro-olefins	National	UGC, New Delhi

12. Extension activity participation

S. No.	Name of activity	Year

If any award/recognition received-

S. No.	Name of activity	Name of the award/recognition	Year of Award	National/International	Awarding Agency

13. Ph.D. supervised

S. No.	Name of the Ph.D. scholar	Title of the thesis	Year of registration of the scholar	Year of award of Ph.D.
1	Kamal Kant Rav	Computational Studies on Atmospheric Degradation of Olefins		

14. Research/Review Papers published

S. N.	Title of paper	Name of the author/s	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal		
						Link to website of the Journal	Link to article/paper /abstract of the article	Is it listed in UGC Care list/Scopus /Web of Science /other, mention
1.	Tempereature Dependent Kinetic Study of theGas Phase Reaction of Ozone with 1-penten-3-ol, cis-2-penten-1-ol andtrans-3-hexen-1-ol: Experimental and Theoretical Data	C. Kalalian, G. El Dib, H. J. Singh, **P. K. Rao,** E. Roth, A. Chakir.	*Atmos. Environ*	**2020**		https://www.journals.elsevier.com/atmospheric-environment	Temperature dependent kinetic study of the gas phase reaction of ozone with 1-penten-3-ol, cis-2-penten-1-ol and trans-3-	**YES**

							hexen-1-ol: Experimental and theoretical data - ScienceDirect	
2.	Product Investigation of the Gas PhaseOzonolysis of 1-penten-3-ol, cis-2-penten-1-ol and trans-3-hexen-1-ol	C. Kalalian, E. Roth, G. El Dib, H. J. Singh, **P. K. Rao,** A. Chakir	*Atmos. Environ*	**2020**		https://www.journals.elsevier.com/atmospheric-environment	Product investigation of the gas phase ozonolysis of 1-penten-3-ol, cis-2-penten-1-ol and trans-3-hexen-1-ol - ScienceDirect	**YES**
3.	Synthesis andbiological activity of imidazole based 1,4-naphthoquinones.	D. Choudhari, S. S. Gawalia, D.Chakravarty, S. Shaikh, D. N. Lande, S. P. Gejji, **P. K. Rao**, S. Satpute, V. G. Puranik, R. Gonnade.	*New. J. Chem*	**2020**		New Journal of Chemistry Home-A journal for new directions in chemistry (rsc.org)	Synthesis and biological activity of imidazole based 1,4-naphthoquinones - New Journal of Chemistry (RSC Publishing)	**YES**
4.	Understanding theAtmospheric Oxidation of HFE-7500 ($C_3F_7CF(OC_2H_5)CF(CF_3)_2$)Initiated by Cl and NO_3 Radical from	**P. K. Rao,** R. C. Deka, N. K. Gour and S. P. Gejji	*J. Phy. Chem. A,*	**2018**		The Journal of Physical Chemistry A (acs.org)	Understanding the Atmospheric Oxidation of HFE-7500 (C3F7CF(	**YES**

	Theory.						OC2H5)CF(CF3)2) Initiated by Cl Atom and NO3 Radical from Theory | The Journal of Physical Chemistry A (acs.org)	
5.	Reaction Pathways andRate Constants for Atmospheric Oxidation of HCFO-1233zd(E) Initiated by OHRadical, Cl Atom and O_3 Molecule.	**P. K. Rao** and S. P. Gejji.	*J. Fluor. Chem.*	**2018**		Journal of Fluorine Chemistry | ScienceDirect.com by Elsevier	Atmospheric degradation of HCFO-1233zd(E) initiated by OH radical, Cl atom and O3 molecule: Kinetics, reaction mechanisms and implications - ScienceDirect	**YES**
6.	Kinetics andMechanistic Investigations of Atmospheric Oxidation of HFO-1345fz by OHRadical: Insights from Theory	**P. K. Rao** and S. P. Gejji	*J. Phys. Chem. A.*	**2017**		The Journal of Physical Chemistry A (acs.org)	Kinetics and Mechanistic Investigations of Atmospheric Oxidation of HFO-1345fz by	**YES**

							OH Radical: Insights from Theory | The Journal of Physical Chemistry A (acs.org)	
7.	Molecular Insightsfor the HFO-1345fz +X (X=Cl, O_3 or NO_3) Reaction and Fate of Alkoxy RadicalsInitiated by Cl: DFT Investigations.	**P. K. Rao** and S. P. Gejji.	*J. Fluor. Chem.*	**2017**		Journal of Fluorine Chemistry | ScienceDirect.com by Elsevier	**https://www.sciencedirect.com/science/article/abs/pii/S0022113917303512**	**YES**
8.	Kinetics and Mechanism of Gas-phase Reactionof $CF_3OCH_2CH_3$ (HFE-263) with the OH radical - ATheoretical Study	**P. K. Rao** and H. J. Singh	*Can. J. Chem.*	**2015**		**https://cdnsciencepub.com/journal/cjc**	**https://cdnsciencepub.com/doi/abs/10.1139/cjc-2014-0400**	**YES**
9.	Computational Study on theKinetics of OH initiated Oxidation of Methyl Difluoroacetate ($CF_2HCOOCH_3$).	H. J. Singh, L. Tiwari and **P. K. Rao**.	*MolecularPhysics*	**2014**		**https://www.tandfonline.com/journals/tmph20**	**https://www.tandfonline.com/doi/abs/10.1080/00268976.2013.868554**	**YES**
10.	Computational Study on OHand Cl Initiated Oxidation of2,2,2-Trifluoroethyl Trifluoroacetate ($CF_3C(O)OCH_2C$	H. J. Singh, L. Tiwari and **P. K. Rao**	*Bull. KoreanChem. Soc*	**2014**		**https://www.koreascience.or.kr/journal/JCGMCS.page**	**https://www.koreascience.or.kr/article/JAKO201416760764773.page**	**YES**

	F_3).							
11.	Theoretical Studies on OH and Cl initiatedHydrogen Atom Abstraction of HFE-227pc ($CF_3OCF_2CHF_2$).	H. J. Singh, **P. K. Rao** and L. Tiwari.	*J. Atmos. Chem*	**2013**		https://www.springer.com/journal/10874/	https://link.springer.com/article/10.1007/s10874-013-9266-5	**YES**
12.	Theoretical Investigation on the Kinetics and Branching Ratio of the Gas-phase Reaction ofSevofluorane with Cl atom	H. J. Singh, N. K. Gour, **P. K. Rao** and L. Tiwari.	*J. Mol. Model.*	**2013**		https://www.springer.com/journal/894/	https://link.springer.com/article/10.1007/s00894-013-1977-7	**YES**
13.	Computational Study on theThermal Decomposition and Isomerization of the CH_3OCF_2ORadical.	H. J. Singh, B. K. Mishra and **P. K. Rao**	*Can. J. Chem*	**2012**		https://cdnsciencepub.com/journal/cjc	https://cdnsciencepub.com/doi/abs/10.1139/v2012-005	**YES**
14.	Hydrogen- Atom AbstractionReaction of $CF_3CH_2OCF_3$ by Hydroxyl Radical	H. J. Singh, B. K. Mishra and **P. K. Rao**	*Bull. KoreanChem. Soc.*	**2010**		https://www.koreascience.or.kr/journal/JCGMCS.page	https://www.koreascience.or.kr/article/JAKO201004140972736.page	**YES**

15. Books and chapters in edited volumes / books published

S No.	Title of the book	Title of the chapter	National / international	Year of publication	ISBN number	Affiliating Institute at the time of publication	Name of the publisher

16. Papers in national/international conference-proceedings

S No.	Title of the proceedings of the conference	Name of the conference	National / international	Year of publication	ISBN/ISSN number of the proceeding	Affiliating Institute at the time of publication

17. Professional development Programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes

S. No.	Year	Title of the professional development Programme	Date and Duration (from – to)
1	**2021**	Refresher Course in Chemistry from Human Resource Development Centre, DDU Gorakhpur University	11^{th} -24^{th} September, 2021 (14 days)
2	**2020**	Orientation Course from Human Resource Development Centre, DDU Gorakhpur University	4^{th} -24^{th} January, 2020 (21 days)
3	**201**	Faculty Development Programme (FDP) on IPR awareness and commercial competences (IAACC)	May 10-15, 2021(6 days)
4	**2020**	Faculty Development Programme (FDP) on future scope of chemical sciences and research methodology (FSCSRM-2020)	September 21-25, 2020 (5 days)

18. Research projects sponsored by government agencies

S. No.	Name of the principal Investigator	Name of the Research Project	Name of funding agency	Amount/Fund provided	Year of sanction	Duration of the project	Status (Completed/Ongoing)

19. Research projects sponsored by non-government sources such as industry, corporate houses, international bodies

S. No.	Name of the principal Investigator	Name of the Research Project	Name of funding agency	Amount/Fund provided	Year of sanction	Duration of the project	Status (Completed/Ongoing)

20. Patents filed/granted

S. No.	Name of the patent filed/granted	Patent Number	Year of filing/award/ publish of patent

21. Collaborative activities with other institutions/ research establishments/industry for research and academic development

Title of the collaborative activity	Name of the collaborating agency with contact details	Year of collaboration	Duration	Nature of the activity

22. Functional MoUs with institutions/ industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research

Name of the Organisation/ Institution/ Industry with whom MoU is signed	Year of signing MoU	Duration of MoU	Actual activities under each MOU year wise

23. E-content is developed

i. For e-PG-Pathshala, ii. For CEC (Under Graduate), iii. For SWAYAM, iv. For other MOOCs platform, v. For NPTEL/NMEICT/any other Government Initiatives

Name of the module developed	Platform on which module is developed	Date of launching e content	Link to the relevant document and facility available in the institution	List of the e-content development facility available	Provide link to videos of the media centre and recording facility
Postulates of Quantum Mechanics	**E-Pathshala**		http://182.18.165.51/epathshala_content.aspx		
Fundamentals of Quantum Mechanics-Part A	**E-Pathshala**		http://182.18.165.51/epathshala_content.aspx		
Fundamentals of Quantum Mechanics-Part B	**E-Pathshala**		http://182.18.165.51/epathshala_content.aspx		
Fundamentals of Quantum Mechanics-Part C	**E-Pathshala**		http://182.18.165.51/epathshala_content.aspx		
Hohenberg Kohn Theorem	**E-Pathshala**		http://182.18.165.51/epathshala_content.aspx		
Molecular Mechanics-Part A	**E-Pathshala**		http://182.18.165.51/epathshala_content.aspx		
Molecular Mechanics-Part B	**E-Pathshala**		http://182.18.165.51/epathshala_content.aspx		
Molecular Mechanics-Part C	**E-Pathshala**		http://182.18.165.51/epathshala_content.aspx		
Molecular Mechanics-Part D	**E-Pathshala**		http://182.18.165.51/epathshala_content.aspx		
Basis-sets Part A	**E-Pathshala**		http://182.18.165.51/epathshala_content.aspx		
Basis-sets Part B	**E-Pathshala**		http://182.18.165.51/epathshala_content.aspx		
Basis-sets Part C	**E-Pathshala**		http://182.18.165.51/epathshala_content.aspx		

24. Consultancy and corporate training-

Consultancy

Name of consultancy project	Consulting/Sponsoring agency with contact details	Year	Revenue generated (amount in rupees)

Corporate training

Title of the corporate training program	Agency seeking training with contact details	Year	Revenue generated (amount in rupees)	Number of trainees

25. Details of Conference/Seminar attended –

Year	Name of the conference/ workshop	International/National /State	Name of the professional body for which membership fee provided	Amount of support (in INR)
2020	Webinar on "*Leveraging Science and Technology to Combat COVID-19"*, organized by Faculty of Science, DDU Gorakhpur University, Gorakhpur, May 23-24, **2020**	**Naational**		
2017	International seminar on "*Biomolecules and Dynamics*". D.D.U. Gorakhpur University, Gorakhpur, January 27-28, **2017**.	**National**		
2014	National seminar on "*Current Perspectives in Chemical Science Research*". D.D.U.	**National**		

	Gorakhpur University, Gorakhpur, March 26, **2014**.			
2013	Symposium on "*Modern trends in Inorganic Chemistry-XV (MTIC-XV)*". IIT Roorkee, December 13-16, **2013**.	**International**		
2013	National Seminar on "*Current Trends in Chemical Education*". D.D.U. Gorakhpur University, Gorakhpur. **2013**.	**National**		
2012	National Symposium on "*Current Trends in Computational Chemistry (CTCC-2012)".*NEHU, Shillong, March 16-17, ***2012***.	**National**		
2012	National seminar on "*Advance in Chemical Sciences*". UdaiPratap Autonomous	**National**		

	College,Varanasi, September 08, **2012**.			
2011	National Conference on "*Computational Chemistry - Current Perspectives*". D.D.U. Gorakhpur University, Gorakhpur. March 14-15, **2011**.	**National**		
2010	ICTS school on "*Understanding Molecular Simulations: Theory and Applications (UMS-2010)*". IIT Kanpur, November 04-13, **2010**.	**National**		