

Curriculum vitae



Dr. Poonam M.Phil., Ph.D.

Position Title: Assistant Professor of Chemistry – Miranda House, University of Delhi, Delhi, India

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Date of Birth: August 16, 1983 **Sex:** F **Nationality:** Indian **Languages Known:** English, Hindi

Education/Training:

Institution and Location	Degree	Completion Date	Field of Study
University of Delhi, Delhi, India	B.Sc.	2003	Chemistry, Maths, Physics
University of Delhi, Delhi, India	M.Sc.	2005	Organic Chemistry
University of Delhi, Delhi, India	M.Phil.	2006-2007	Organic Chemistry
University of Delhi, Delhi, India	Ph.D.	2008-2012	Organic Chemistry

A. Positions and Honors

Positions and Employment

2019-2021 Affiliate Assistant Professor – Loyola University, Chicago, USA
2015- Assistant Professor – Miranda House, University of Delhi, India
2013-2015 Assistant Professor (ad-hoc) – Department of Chemistry, University of Delhi, India

Other Experience/awards and Professional Memberships

2021-2022 ILLL Fellow at Institute of Life Long Learning, University of Delhi, Delhi
2021- Associate Editor: Chemical Biology Letters
2020- 2021 Member (32255116) The American Chemical Society, USA (2020-21)
2019- 2021 Coordinator: Life Science Department, Miranda House, University of Delhi, Delhi
2019 Visiting Fellow, Department of Pharmaceutical Chemistry, University of Debrecen, Hungary
2019 Distinguished Investigator Award- International Conference ICBTM-2019, at University of Delhi, India
2019 CAPES Fellow, Federal Rural University of Pernambuco-UFRPE in Recife, Pernambuco, Brazil.
2018-2020 Adjunct-Visiting Senior Researcher, South Ural State University, Chelyabinsk, Russia
2018 Recognized as Ph.D. Supervisor by Department of Chemistry, University of Delhi, Delhi
2018 Visiting Fellow, Department of Pharmaceutical Chemistry, University of Debrecen, Hungary
2018- Member of MH-Vatavaran, Miranda House, University of Delhi, Delhi
2017- 2018 Guest Editor: Current Topics in Medicinal Chemistry (Bentham Science Publishers)
2017- 2018 Guest Editor: Chemical Biology Letters
2017- 2018 International Travel Award [F. No. 6-13/2017(TG)] from UGC, Government of India.
2017- Life Member (L32927), The Indian Science Congress Association, Kolkata, India
2016-2018 Member of Placement Cell, Miranda House, University of Delhi, Delhi
2016- Jury Member, DST Inspire Programme by Ministry of Science & Technology, Govt. of India
2009 Senior Research Fellowship, supported by CSIR, Government of India.
2008 Science Meritorious Fellowship, supported by UGC, Government of India.

B. Contribution to Science

Area of Specialization Synthetic Organic Chemistry, Medicinal Chemistry, Drug Discovery, Material Chemistry.

Patents

- 2021** Brijesh Rathi Prakasha Kempaiah, Agam P. Singh, Snigdha Singh, Yash Gupta, Neha Sharma, **Poonam**, Ravi Durvasula. **Indian Patent Application is 202011056923, filed on December 29, 2020** Title of Invention: Hydroxyethyl amine based piperazine compounds and methods of producing and using the same for treating disease.
- 2020** Steven Bradfute, Ravi Durvasula, Prakasha Kempaiah, Brijesh Rathi, **Poonam**, Yash Gupta. Title of Invention: Calxinin Compositions and Method for Treating Viral Infections. **US provisional patent app. STC Ref. No.2020-095-01, 28 April 2020**

Best Publications

- 2021** Kumar, S.; Sharma, P. P.; Kempaiah, P.; Rathi, B.; **Poonam***, Multi-targeting approach for nsp3, nsp9, nsp12 and nsp15 protein targets of SARS-CoV-2 by Diosmin as illustrated by Molecular Docking and MD simulation methodologies. *Methods* 2021 doi.org/10.1016/j.ymeth.2021.02.017 [IF: 3.782] ISBN/ISSN 1046-2023
- 2021** Gupta Y.; Romero G. J.; Goicoechea S.; Pearce M. C.; Mathur M.; Weyenberg C. M.; Daravath B.; Sharma N.; **Poonam**; Kwofie K. S.; Akala M. H.; Kanzok M. S.; Durvasula R.; Rathi B.; Kempaiah, P., The emerging paradigm of Calcium channels as drug targets among Protozoan Parasites. *Med. Res. Rev.* 2021. DOI: 10.1002/med.21804 [IF: 9.791] ISBN/ISSN: 1098-1128
- 2020** Kumar, S.; Upadhyay, C.; Bansal, M.; Grishina, M.; Chhikara, B. S.; Potemkin, V.; Rathi, B.; **Poonam***, Experimental and Computational Studies of Microwave-Assisted, Facile Ring Opening of Epoxide with Less Reactive Aromatic Amines in Nitromethane. *ACS Omega* 2020, 5 (30), 18746-18757. [IF: 2.87] ISBN/ISSN 2470-1343
- 2020** Kumar, S.; Goicoechea, S.; Kumar, S.; Pearce, C. M.; Durvasula, R.; Kempaiah, P.; Rathi, B.; **Poonam***, Oseltamivir analogs with potent anti-influenza virus activity. *Drug Discov. Today* 2020, 25 (8), 1389-1402. [IF: 6.86] ISSN: 1359-6446
- 2020** Kumar, S.; Sharma, P. P.; Shankar, U.; Kumar, D.; Joshi, S. K.; Pena, L.; Durvasula, R.; Kumar, A.; Kempaiah, P.; **Poonam***; Rathi, B., Discovery of New Hydroxyethylamine Analogs against 3CLpro Protein Target of SARS-CoV-2: Molecular Docking, Molecular Dynamics Simulation, and Structure–Activity Relationship Studies. *J. Chem. Inf. Model.* 2020. DOI: 10.1021/acs.jcim.0c00326 [IF: 4.55] ISBN/ISSN 1549-9596.
- 2020** Sumit Kumar, **Poonam** and Brijesh Rathi. Coronavirus Disease COVID-19: A New Threat to Public Health. *Curr Top Med Chem.* 2020; 20(8) 599-600.
- 2020** Upadhyay, C.; Chaudhary, M.; De Oliveira, R. N.; Borbas, A.; Kempaiah, P.; **Poonam***; Rathi, B., Fluorinated scaffolds for antimalarial drug discovery. *Expert Opin. Drug Discov.* 2020, 1-14. DOI: 10.1080/17460441.2020.1740203 [IF: 3.32] ISBN/ISSN 1746-0441
- 2020** Chhikara, B. S.; Rathi, B.; Singh, J.; **Poonam**, Corona virus SARS-CoV-2 disease COVID-19: Infection, prevention and clinical advances of the prospective chemical drug therapeutics. *Chem. Biol. Lett.* 2020, 7 (1), 63-72.
- 2020** Singh, S.; El-Sakkary, N.; Skinner, D. E.; Sharma, P. P.; Otilie, S.; Antonova-Koch, Y.; Kumar, P.; Winzeler, E.; **Poonam**; R Caffrey, C.; Rathi, B., Synthesis and Bioactivity of Phthalimide Analogs as Potential Drugs to Treat Schistosomiasis, a Neglected Disease of Poverty. *Pharmaceuticals* 2020, 13 (2), 25. [IF: 4.74] ISBN/ISSN 1424-8247.
- 2019** Kumar, S.; Wu, L.; Sharma, N.; Ayushee; Kaushik, K.; Grishina, M.; Chhikara, B. S.; **Poonam***; Potemkin, V.; Rathi, B., Theoretical and experimental studies of an oseltamivir–triazole-based thermoresponsive organogel. *RSC Adv.* 2019, 9 (36), 21031-21041. [IF: 3.119] ISBN/ISSN 2046-2069
- 2019** **Poonam***; Kumari, P.; Grishina, M.; Potemkin, V.; Verma, A.; Rathi, B., Oxygen mediated highly efficient cobalt(ii) porphyrin-catalyzed reduction of functional chromones: experimental and computational studies. *New J. Chem.* 2019, 43 (13), 5228-5238. [IF: 3.07] ISBN/ISSN 1144-0546
- 2018** **Poonam**; Gupta, Y.; Gupta, N.; Singh, S.; Wu, L.; Chhikara, B. S.; Rawat, M.; Rathi, B., Multistage inhibitors of the malaria parasite: Emerging hope for chemoprotection and malaria eradication. *Med. Res. Rev.* 2018, 38 (5), 1511-1535. [IF: 9.791] ISBN/ISSN: 1098-1128
- 2018** Singh, S.; Sharma, N.; Upadhyay, C.; Kumar, S.; Rathi, B.; **Poonam***, Small Molecules Effective Against Liver and Blood Stage Malarial Infection. *Curr. Top. Med. Chem.* 2018, 18 (23), 2008-2021. [IF: 0.89] ISBN/ISSN 1568-0266.
- 2017** Nikolay Yu, G.; Yuriy, V. S.; Brajendra, K. S.; **Poonam**; Brijesh, R., An Overview of Currently Available Antimalarials. *Curr. Top. Med. Chem.* 2017, 17 (19), 2143-2157. [IF: 3.218] ISBN/ISSN 1568-0266.
- 2011** **Poonam**; Kumari, P.; Ahmad, S.; Chauhan, S. M. S., Reductive dechlorination of atrazine using sodium-borohydride catalysed by cobalt (II) phthalocyanines. *Tetrahedron Lett.* 2011, 52 (52), 7083-7086. [IF: 2.259] ISBN/ISSN 0044-4039
- 2011** **Poonam**; Kumari, P.; Nagpal, R.; Chauhan, S. M. S., Formation of hydridocobalt(iii) phthalocyanine by reaction of cobalt(ii) phthalocyanines with sodium borohydride and its reactions with antioxidant isoflavones. *New J. Chem.* 2011, 35 (11), 2639-2646. [IF: 3.07] ISBN/ISSN 1144-0546
- 2009** Kumari, P.; **Poonam**; Chauhan, S. M. S., Efficient cobalt(ii) phthalocyanine-catalyzed reduction of flavones with sodium borohydride. *Chem. Commun.* 2009, (42), 6397-6399. [IF: 6.164] ISBN/ISSN 1359-7345

Book Chapters

- 2021** Charu Upadhyay, **Poonam** (2020) Recent advances on the discovery of plants derived bioactive scaffolds/extracts against parasitic diseases. Springer -nature (**In Process**)
- 2018** Brijesh Rathi and **Poonam** (2018) ALCOHOLISM: Causes, Symptoms Effects and Treatment. Manakin Press, New Delhi, India [ISBN: 9789-38667-7488, Chemical Therapeutics for the treatment of alcoholism, Pg. 237-248]
- 2017** **Poonam** (2017) (1st ed). Indian and Western Aspects of Identity, Shree Kala Prakashan, Delhi. [ISBN ISBN: 978-9385329-21-0, Current Scenario of Malarial Chemotherapeutics, Pg. 146-156]

Invited Lectures/Talks

- 2019 May 22** Physico-Chemical Studies of Bioactive Scaffolds in a Three-day International workshop on Chemistry and Chemical Biology of Carbohydrates, Nucleic acids and Antibiotics organized by Hungarian Academy of Sciences in Mátrafüred, Hungary.
- 2018 June 12** Applications of Catalysts; Efficient way to solve the Environmental Crisis, Department of Pharmaceutical Chemistry, University of Debrecen, Hungary
- 2018 July 2** Recent Developments in Multistage Inhibitors of Malaria, Indo-US Colloquium on Recent Developments in Interdisciplinary Research, Department of Chemistry, Hansraj College, University of Delhi, Delhi

C. Research Support

Ongoing Research Support

- **DST/TDT/AGRO-54/2019 (DST, Govt. of India)** Poonam (**PI**) Sanctioned / 2020
Sustainable route for pesticide management using nano based efficient pesticide formulation technique to enhance crop productivity.
- **CRG/2020/005800 (SERB, Govt. of India)** Poonam (**Co-PI**) 13/Nov/20 - 12/Nov/23
Lead Optimization of Potent Multistage Antimalarials
- **DST/TDT/DDP-14/2018 (DST, Govt. of India)** Poonam (**Co-PI**) 19/Feb/19 - 18/Feb/21
Development of Nanoantenna Sensors for Infrared Detection.

Completed Research Support

- **INT/HUN/P-11/2016 (DST, Govt. of India)** Poonam (**Co-PI**) 24/Nov/16 - 23/Nov/19
Thio-click approach for the synthesis of stable glycomimetics and chiral oxathiacrown ethers (Indo-Hungarian Bilateral Research Grant).
- **F.30-375/2017 (BSR) (UGC, Govt. of India)** Poonam (**PI**) 7/Mar/17 - 6/Feb/19
Lead Optimization of Potent Multistage Antimalarials

D. Teaching

Subjects Taught

- B.Sc. (H) Chemistry** **All semesters:** Organic chemistry courses including basic concepts in organic chemistry, stereochemistry, reaction mechanism, functional group chemistry, polymers, Hetrocyclic chemistry, Bio-molecules and spectroscopy.
- B.Sc. (P) Life Sciences**
- M.Sc. Chemistry** **Sem-IV** Organic Chemistry, Chemistry of life process, Special paper III: Proteins and lipids, Special paper IV: Terpenes and Steroids; Alkaloids and Polyphenols
- M. Tech** Polymer Chemistry, Green Chemistry
- [Chemical Synthesis and Process Technologies]**

E. References

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