

CURRICULUM VITAE

Senior Assistant Professor

(Since 09.02.2022)

DR. HIMANI CHAURASIA

M.Sc., Ph.D.

Department of Chemistry, C.M.P. Degree College

(A Constituent P.G. College of University of Allahabad), Prayagraj – 211002

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Date of Birth 03.10.1990



POSITIONS HELD

1. **Innovation Ambassador**, MoE Govt. of India
2. **Co-Convener**, Institute Innovation Cell, C.M.P. Degree College

Member of College Committees-

3. DBT Star College Committee in C.M.P. Degree College
4. ICT Cell
5. B.Sc. Home Science (NEP/New Course Program)
6. Internal Complaint Committee:
 - a) Anti-Ragging-Cell in C.M.P. Degree College
 - b) Gender Sensitization in C.M.P. Degree College
 - c) Anti-Racial Abuse cell of CMP Degree College
 - d) Anti-Sexual-Harassment Cell in C.M.P. Degree College
7. In more than 10 departmental committees

FELLOWSHIPS

*UGC JRF- June 2015, CSIR JRF- December 2015, Gate - 2015

AWARDS

1. Workshop and National Seminar on “Experimental Techniques for Material Characterization (NSETMC-2020), organised by Center of Materials Sciences, University of Allahabad, Prayagraj. February 06-07, 2020. (**Awarded 1st Prize in Poster**)

- Presentation**). Title- Nucleoside Mimetics- Design, Synthesis and Antimicrobial Properties.
2. National Seminar on “Recent Advances In Chemistry and Its Impact On Society”, organised by Department of Chemistry, S S Khanna Degree College, University of Allahabad, Prayagraj. November 26-27, 2019. (**Awarded 1st Prize in Poster Presentation**). Title- Design, Synthesis, Docking Studies and Antimicrobial Screening of Nucleoside analogues.
 3. ISCA, Allahabad Chapter, National Youth day, January 12, 2017, **2nd - prize in debate competition**.
 4. “**Vigyan Sarvatra Pujyate Samman**” on the occasion of National Science Day, by Vigyan Parishad Prayag, Prayagraj on 28th Feb. 2022.

MEMBERSHIP SCIENTIFIC BODIES

*Life Member, Indian Science Congress Association, Kolkata (L-36664).

*Life Member, Chemical Society, C. M. P. Degree College, University of Allahabad.

*Life Member, AUUCTA, University of Allahabad.

EDUCATIONAL

Ph.D.	Awarded in November 02, 2021 Joined in April 11, 2016 Bioorganic Research Laboratory Department of Chemistry, University of Allahabad Thesis title: Studies on Nucleoside Mimetics of biological and therapeutic importance.
M. Sc.	2015, First Div. (85%), Chemistry, University of Allahabad Specialization in Organic Chemistry
B. Sc.	2013, First Div. (72.12%), Chemistry, Zoology and Botany, University of Allahabad
Intermediate	2008, First Div. (76%), M. P. Board, Allahabad
High School	2005, First Div. (78.8%), M. P. Board, Madhya Pradesh

Research Experience My research interest lies in design and synthesis of heterocyclic compounds of biological importance/ drug regimens against several human pathogenic viruses (HIV, HPV, HCV, Corona, etc.)/bacteria/fungi. Designing of molecules is accomplished through docking process using Discovery Studio software in

order to generate computational data and assess their suitability. These protein-ligand interactions predict the structure of potential anti-viral/anti-bacterial/anti-fungal agents. Knowledge in purification of these molecules from gram to milligram scales through column chromatography and HPLC constitutes an integral part of my research experience. Good experimental skills in characterization of molecules by various spectroscopic techniques such as NMR, "C-13" NMR, IR and Mass Spectroscopy is the asset for my research activities.

During my PhD, I have synthesized different Nucleoside mimetics bearing purine/pyrimidine derivatives such as benzimidazole/imidazole/indazole/thiazole/Uracil moieties and evaluated for their inhibitory activity against HIV-1/ Gram positive and Gram negative bacteria/ several fungal species.

Techniques Learnt

Chromatographic techniques, Spectroscopic analysis, Docking/ Dynamic Simulations, DFT, Microbial Testing, QSAR, Antioxidant analysis, Chemistry related computer packages like ChemOffice (Chem Draw, Chem3D), Origin, and Discovery Studio etc.

Teaching Experience

***Department of Chemistry, C.M.P. Degree College,**
(A Constituent P.G. College of University of Allahabad)
At Undergraduate, Postgraduate and Ph.D. levels

From 2018 onwards

Topics: Carbon-Carbon and Carbon multiple bonds heteroatoms, Photochemistry and Photo rearrangements of Carbonyl compounds, Nucleic acid, Reagents, General Organic and Inorganic Chemistry, Stereochemistry, Co-ordination Chemistry, Spot test analysis and Spectro-chemical methods used for organic and inorganic compounds, Nuclear Chemistry.

Professional training

*Refresher Course, UGC-HRDC, University of Allahabad, Allahabad, February 14, 2019 to March 13, 2019 (**Obtained Grade "A"**).

*123rd Orientation Programme, UGC-HRDC, University of Allahabad, Allahabad, December 10-23, 2019. (**Obtained Grade "A"**).

*06 Days Training Programme on Academic Leadership, Centre of Academic Leadership and Education Management, Aligarh Muslim University, Aligarh, Under Scheme of MHRD, Govt. of India, University of Allahabad, Allahabad, September 20-26, 2018. (**as Member of Statutory Body**).

* RTG Big Data Research Allahabad Summer School Programme, organized by University of Allahabad and the Interdisciplinary Centre for Scientific Computing (IWR) of Heidelberg University, April 01-05, 2019.

*07 Days Interdisciplinary e-workshop on “Bioinformatics and Computational Biology: Introduction and approaches” conducted as part of Faculty Development Programme, under the strengthening component of DBT Star College Scheme, jointly organized by Department of Botany, Zoology and Chemistry, CMP Degree College, University of Allahabad, Prayagraj, December 09-15, 2020.

*5 Days Workshop on NAAC, organized by UGC-HRDC, University of Allahabad, Prayagraj, August 23-27, 2021.

*07 Days FDP/STP on “NEP-2020 & MOOCs: Design, Development and Delivery”, organized by UGC-HRDC, Jai Narayan Vyas University, Jodhpur-342001, Rajasthan. March 07-13, 2022

*One Week “NAAC Orientation Workshop” organized by IQAC and NAAC, CMP Degree College, University of Allahabad, Prayagraj, 09th -13th Jan, 2023.

*Foundation Level Innovation Ambassador Training, MoE’s Innovation Cell, Govt. of India. April 15-29, 2023 (30 Contact hours).

LIST OF PUBLICATIONS

Papers Published

1. **Chaurasia, H.**, Singh, V. K., Mishra, R., Rai, P. K., Choure, K. and Pandey, A. (2022). Molecular modelling, DFT, molecular dynamics simulations, synthesis and antimicrobial potential studies of heterocyclic nucleoside mimetics, 2022. **Journal of Molecular Structure**, 134071. <https://doi.org/10.1016/j.molstruc.2022.134071> IF : 3.841
2. **Chaurasia, H.**, Singh, V. K., Mishra, R., Yadav, A. K., Ram, N. K., Singh, P. and Singh, R. K. (2021). Molecular modelling, synthesis and antimicrobial evaluation of benzimidazole nucleoside mimetics, 2021. **Bioorganic Chemistry**, 115, 105227. <https://doi.org/10.1016/j.bioorg.2021.105227> IF : 5.271
3. Singh, V. K., **Chaurasia, H.**, Mishra, R., Srivastava, R. and Singh, R. K. (2021). Design, synthesis and molecular dynamics simulation studies of quinoline derivatives as protease inhibitors against SARS-CoV-2, 2021. **Journal of Bio-molecular Structure and Dynamics**. <http://dx.doi.org/10.1080/07391102.2021.1946716> IF : 5.235

4. Singh, V. K., **Chaurasia, H.**, Mishra, R., Srivastava, R. and Singh, R. K. (2021). Docking, ADMET prediction, DFT analysis, synthesis, cytotoxicity, antibacterial screening and QSAR analysis of diarylpyrimidine derivatives. *Journal of Molecular Structure*, 1247, 131400. <http://dx.doi.org/10.1016/j.molstruc.2021.131400> IF : 3.841
5. Mishra, R., **Chaurasia, H.**, Singh, V. K., Naaz, F. and Singh, R. K. (2021). Molecular modeling, QSAR analysis and antimicrobial properties of Schiff base derivatives of isatin. *Journal of Molecular Structure*, 1243, 130763. <https://doi.org/10.1016/j.molstruc.2021.130763> IF : 3.841
6. Singh, V. K., Srivastava, R., Gupta, P. S. S., Naaz, F., **Chaurasia, H.**, Mishra, R., Rana, M. K. and Singh, R. K. (2020). Anti-HIV potential of diarylpyrimidine derivatives as non-nucleoside reverse transcriptase inhibitors: Design, synthesis, docking, TOPKAT analysis and molecular dynamics simulations. *Journal of Biomolecular Structure and Dynamics*, 39, 2430 - 2446. <https://doi.org/10.1080/07391102.2020.1748111> IF : 5.235
7. Sharma, A., Mishra, K., **Chaurasia, H.**, Kumar, R., Lawrence, R., Lawrence, K., and Pandey, A. (2023). Antioxidant Potential of Spices and Vitamins Synergistically. *International Journal of Emerging Technologies and Innovative Research*, doi: <http://doi.one/10.1729/Journal.32649>.
8. **Chaurasia, H.**, Sharma, A., Mishra, K. and Pandey, A. (2022). Zinc Acetate as a Catalyst: Improved Method of Protection of Amino Group in Synthesis of Nucleobase Derivatives and its Biological Applications. *International Journal of Pharmaceutical Sciences and Drug Research*, doi: 10.25004/IJPSDR.2022.140600.
9. Mishra, K., Sharma, A., **Chaurasia, H.** and Pandey, A. (2022). Evaluation of Antioxidant Activity of Curcumin and Vitamin B Complex Synergistically. *The Research Journal of the Hindi Science Academy (Vijnana Parishad Anusandhan Patrika- Peer reviewed)*, Vol 65 (No. 1-2), 9-16. ISSN: 0505-5806.
10. Pragati, Srivastava, N., Yadav, B., **Chaurasia, H.**, Srivastava, S.K. (2022). Reduction of electron deficient olefin by transition metal complex catalysis. *The Research Journal of the Hindi Science Academy (Vijnana Parishad Anusandhan Patrika- Peer reviewed)*, Vol 65 (No. 3-4), 9-16. ISSN: 0505-5806.
11. Mishra, K., Sharma, A., Singh, K., **Chaurasia, H.** and Pandey, A. (2023). An efficient procedure for the synthesis of coumarin derivatives by using green catalyst: tetra butyl ammonium bromide. *International Journal of Novel Research and Development (IJNRD)-Peer reviewed*, Vol 8 (6). ISSN: 2456-4184.

Review Articles

1. Singh, V. K., **Chaurasia, H.**, Mishra, R., Srivastava, R., Yadav, A. K., Dwivedi, J., Singh, P. and Singh, R. K. (2022). COVID-19: Pathophysiology, Transmission and Drug Development for Therapeutic Treatment and Vaccination Strategies. *Current Pharmaceutical Design*, 28, 2211-2233. <http://dx.doi.org/10.2174/1381612828666220729093340> IF : 3.31

Edited Book (as Associate-Editor)

1. Shukla, A. K., Pandey, A., Srivastava, D.- (as editors), Das, S., Srivastava, R., Agrawal, B., Srivastava, S. K., Gupta, A., Tripathi, M., Tripathi, P., Pandey, D., Kumar, P. and **Chaurasia, H.**- (as Associate Editor) (2020). *Advances in chemical and applied*

sciences (Vol. 3), Chemical Society, C M P College, Allahabad: Firstprint Publications. ISBN: 9789388018197.

2. A. Pandey, B. Agrawal and S. K. Srivastava (2022). Associate Editors: A. K. Shukla, A. Gupta, P. Tripathi, A. Ranjan, and **H. Chaurasia**). **Insights in Chemistry and Applied Sciences**. pp 154-162. Tagore Town, Prayagraj: First Print Publications.

Chapters in Books

1. Singh, V. K., **Chaurasia, H.**, Mishra, R., Dwivedi, J. and Singh, R. K. (2019). Drug repurposing and computational drug discovery for inflammatory diseases. **Apple Academic Press, Inc. USA**, November 2021. ISBN: 9781774912775
2. **Chaurasia, H.**, Singh, V. K., Chaturvedi, V. K., Mishra, R. and Srivastava, V. (2020). Therapeutic potentials of Nanomedicines for Brain Disorders. *In: Advances in Neuropharmacology Drugs and Therapeutics* (edited by Md. Sahab Uddin and Mamunur Rashid). pp 593-608. New Jersey, USA: **Apple Academy Press and CRC Press (Taylor and Francis group)**. pISBN: 9781771887977 (hard cover), ISBN: 9780429242717 (PDF)
3. **Chaurasia, H.** (2019). Antimicrobial polymers. *In: Advances in chemical and applied sciences* (edited by Mridula Tripathi, Santosh K. Srivastava and Roli Srivastava). Vol. 2, pp 252-266. Chemical Society, C M P College, Allahabad: Firstprint Publications. ISBN: 9789388018173.
4. Singh, V. K., **Chaurasia, H.**, Mishra, R., Srivastava, R., Chaturvedi, V. K. and Singh, R. K. (2019). Role of Plant-Based Anti-HIV Agents in HIV-Associated Neurocognitive Disorders (HAND). *In: Advances in Nutrition (Volume - 1)*. New Jersey, USA: **Apple Academy Press and CRC Press (Taylor and Francis group)**, ISBN: 9781771889940.
5. Chaturvedi, V. K., Kushwaha, A., Maurya, S., Tabassum, N., **Chaurasia, H.** and Singh, M. P. (2019). Waste water treatment through nanotechnology: role and prospects. *In: Restoration of wetland ecosystem: a trajectory towards a sustainable environment* (edited by Atul Kumar Upadhyay, Ranjan Singh and D. P. Singh). pp 227-247. **Singapur: Springer (Springer Nature Singapore Pte Ltd)**. DOI: 10.1007/978-981-13-7665-8_14.
6. Mishra, K., Sharma, A., **Chaurasia, H.**, Srivastava, S.K. and Pandey, A., (2021). "Bio Fuel as a Green Energy- A Review". Sustainability Challenges and transforming opportunities Amidst COVID-19, Chief Editor- Lalima Singh Published by Author press, New Delhi, p.no. 75-85, ISBN: 9789390588930.
7. Sharma, P. and **Chaurasia, H.** (2021). कोरोना योद्धा (कोरोना एक वैश्विक महामारी), Vigyan Parishad, Prayagraj. (ISBN: 9788195178533)
8. Srivastava, N., **Chaurasia, H.**, Pandey, A., Pragati, Srivastava, S., and Srivastava, S.K. (2022). Opportunistic Fungal Infections. *In: Advanced Research Trends in Chemistry Vol. 1*. (Chief Editor: A. Tripathi, Co-Editor: S. Yadav). pp 41-54. Rohini, New Delhi: Bright Sky Publications. ISBN: 9789392804359.
9. Srivastava, N., **Chaurasia, H.**, Srivastava, J., Pragati and Srivastava, S.K. (2022). Heterogenous Catalyst: Microwave assisted heterocyclic synthesis. *In: Insights in Chemistry and Applied Sciences*. (Chief Editor: A. Pandey, B. Agrawal, S.K. Srivastava). pp 33-45. First Print Publication, Tagore Town, Prayagraj. ISBN: 9789393647078.
10. Pragati, Srivastava, N., **Chaurasia, H.** and Srivastava, S.K. (2022). Basic Concepts in understanding nano-structured functionalized materials: Properties and Application. *In: Insights in Chemistry and Applied Sciences*. (Chief Editor: A. Pandey, B. Agrawal, S.K.

Srivastava). pp 163-175. First Print Publication, Tagore Town, Prayagraj. ISBN: 9789393647078.

11. Sharma, A., Singh, P., Mishra, K., Srivastava, N., **Chaurasia, H.**, and Srivastava, S.K. (2020-2022). Polymer Chemistry. In: Chem World, Dept. of Chemistry, CMP Degree College, Prayagraj. First Print Publications, Tagore Town, Prayagraj. ISBN: 9789393647092.

Social Articles

1. Singh, V. K. and **Chaurasia, H.** (Mar - Apr, 2018). Nano Food Fortification. Scientific India. Page no. 17-18. ISSN: 2349 – 1418
2. Singh, V. K., Srivastava, R., Naaz, F., **Chaurasia, H.**, Verma, R. and Mishra, R. (Mar-Apr, 2018). Lipase Enzyme & its Diverse role in Food Processing Industry. Scientific India, Page no. 22-23. ISSN: 2349 – 1418
3. Sharma, A., Mishra, K., **Chaurasia, H.**, Srivastava, S.K., Shukla, A.K. and Pandey, A., (2021). Medicinal uses of curcumin: A Review the Research Journal of Hindi Science Academy (Vigyan Parishad Anusandhan Patrika Peer reviewed) vol. 64, No. (1-4): 41-48 (ISSN: 0505-5806).

SEMINARS / CONFERENCES (organized)

***More than 30** seminar/conferences/workshops has been organized in last 5 years.

National Conferences/Workshops

***6 Lectures has been delivered** in National Seminars.

Online Workshop/Webinars Attended

* **More than 30** International/ National workshops/webinars attended

EXTRA-CURRICULAR ACTIVITIES

1. District level Project competition of junior students, National Children's Science Congress, Crosthwaith girls inter college, Prayagraj, October 29, 2018. (**as a Judge**)
2. As a **Judge** in District level Seminar/ competition of students, National Children's Science Congress, Government Inter College, Prayagraj, July 29, 2019.
3. State level Project competition of junior students, National Children's Science Congress, Crosthwaith girls inter college, Prayagraj, November 05, 2022. (**as a Judge**)

PG AWARDED

1. Mr. Avinash Kumar on Cyanuric Chloride Catalysed Reaction, September 2019.
2. Shraddha Tripathi on Vaccine and their development, March 2020.
3. Rishika Singh on Drug repurpose against SARS-CoV-2, March 2021.
4. Rishika Singh on Drug repurpose against SARS-CoV-2 (2022).
5. Mansi Pandey on Biogas as an alternative fuel in I.C. engine (2022).
6. Sangeeta on Role of antioxidant in anti-ageing (2022).
7. Faraz Akram on Biologically Impotent Metal Complexes : A New Age Therapeutic Options (2023).
8. Shivam Maurya on Medicinal Importance of Heterocyclic Compounds in Viral Diseases (2023).
9. Swati Singh on Designing and Medicinal Uses of Heterocyclic Compounds (2023).