

## Faculty Profile

Name: Dr. Rati Kailash Prasad Tripathi

Designation: Assistant Professor

Department/ Centre: Department of Pharmaceutical Sciences

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Educational Qualifications:

M. Pharm (Honors) in Pharmaceutical Chemistry, IIT (BHU), Varanasi (2011)

Ph.D. in Pharmaceutical Chemistry, IIT (BHU), Varanasi (2016)

**Areas of Interest:**

- Synthetic medicinal chemistry – conventional and microwave-assisted multi-step organic synthesis of small bio-active molecules.
- Natural product chemistry
- Computational chemistry and molecular modeling – drug design and discovery of heterocyclic lead compounds and their optimization.
- Pre-clinical evaluation of new chemical entities – In vitro bioassay and in vivo studies.

**Work Experience:**

| Name of the Organization                                                             | Designation         | Period     |            | Nature of Post<br>(permanent/temporary/Ad- hoc/contractual etc.) |
|--------------------------------------------------------------------------------------|---------------------|------------|------------|------------------------------------------------------------------|
|                                                                                      |                     | From       | To         |                                                                  |
| Teerthanker Mahaveer College of Pharmacy, Teerthanker Mahaveer University, Moradabad | Assistant Professor | 13.07.2016 | 12.07.2018 | Permanent                                                        |
| Parul Institute of Pharmacy, Parul University, Vadodara                              | Assistant Professor | 13.07.2018 | 09.11.2019 | Permanent                                                        |
| Department of Pharmaceutical Sciences, Assam Central University, Silchar             | Assistant Professor | 13.11.2019 | Till date  | Permanent                                                        |

**Awards and Honors (if any): [Maximum up to 5]**

| <b>Award Details</b>                                            | <b>Awarding Agency</b>                                        | <b>Year</b>       | <b>Remark (if any)</b>                                                            |
|-----------------------------------------------------------------|---------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------|
| ICMR - Senior Research Fellowship                               | Indian Council of Medical Research (ICMR), Govt. of India     | 2013-2016         | Extramural Research Project                                                       |
| Teaching Assistantship                                          | Ministry of Human Resource Development (MHRD), Govt. of India | 2012-2013<br>2016 | During Ph.D.                                                                      |
| Institute Assistantship                                         | IIT (BHU), Varanasi                                           | 2016              | During Ph.D.                                                                      |
| Bentham Brand Ambassador                                        | Bentham Science Publishers                                    | 2019              | International                                                                     |
| Recipient of Certificate of Excellence 'Bharat Gaurav Puraskar' | KTK Outstanding Achievers and Education Foundation, New Delhi | 2022              | For outstanding achievements and remarkable contribution in the field of pharmacy |

**Projects:**

| <b>Project Title</b>                                                                                                                                                                                | <b>Awarding Agency</b> | <b>Period</b>        | <b>Amount Sanctioned</b> | <b>Ongoing/ Completed</b> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------|--------------------------|---------------------------|
| Design, synthesis, anticonvulsant and monoamine oxidase (MAO) inhibitory evaluation of some N-Functionalized heteroaryl semicarbazones and hydrazones.                                              | ICMR, Govt. of India   | 2013-2016            | 10 Lacs (Approx.)        | Completed                 |
| Lead compound identification and preclinical studies on multifunctional iron-chelators with brain monoamine oxidases (MAO-A/B) inhibitory profile: an approach to discover anti-Parkinson's agents. | UGC, Govt. of India    | 2021-2025 (Extended) | 10 Lacs                  | Completed                 |

**Consultancy/International Collaboration:**

| Details | Year | Remark (if any) |
|---------|------|-----------------|
| -       | -    | -               |

**Publications in Peer-Reviewed Scopus Indexed Journals (Maximum 7)**

| Authors                                                      | Title of the Paper                                                                                                                                                                                        | Name of the Journal                                                          | Journal details          | ISSN      |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------|-----------|
| <b>Rati Kailash Prasad Tripathi, Senthil Raja Ayyannan</b>   | Monoamine oxidase-B inhibitors as potential neurotherapeutic agents: An overview and update.                                                                                                              | Medicinal Research Reviews (Wiley) (IF: 13.6)                                | 2019, 39(5), 1603-1706   | 1098-1128 |
| <b>Rati Kailash Prasad Tripathi</b>                          | A perspective review on fatty acid amide hydrolase (FAAH) inhibitors as potential therapeutic agents.                                                                                                     | European Journal of Medicinal Chemistry (Elsevier) (IF: 6.7)                 | 2020, 188, 111953-111992 | 0223-5234 |
| <b>Rati Kailash Prasad Tripathi, Senthil Raja Ayyannan</b>   | Emerging chemical scaffolds with potential SHP2 phosphatase inhibitory capabilities – A comprehensive review.                                                                                             | Chemical Biology & Drug Design (Wiley) (IF: 3.3)                             | 2021, 97(3), 721-773     | 1747-0285 |
| <b>Rati Kailash Prasad Tripathi</b>                          | Current trends and future prospects on the therapeutic potential of Cordia dichotoma G. Forst. – A valuable folk medicine.                                                                                | Current Topics in Medicinal Chemistry (Bentham Science Publishers) (IF: 3.6) | 2023, 23(17), 1579-1605  | 1873-4294 |
| <b>Nikita Negi, Senthil R. Ayyannan, Rati K. P. Tripathi</b> | Multi-targeted benzylpiperidine-isatin hybrids: Design, synthesis, biological and in silico evaluation as monoamine oxidases and acetylcholinesterase inhibitors for neurodegenerative disease therapies. | Journal of Computer-Aided Molecular Design (Springer Nature) (IF: 3.0)       | 2025, 39(1), 10          | 1573-4951 |

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|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------|-----------|
| Nikita Negi, Senthil R. Ayyannan, <b>Rati K. P. Tripathi</b>                                                     | Design, synthesis, and evaluation of benzylpiperidine-derived hydrazones as dual inhibitors of monoamine oxidases and acetylcholinesterase. | Medicinal Chemistry Research (Springer Nature) (IF: 3.5) | 2025, 34, 583-601  | 1054-2523 |
| Poorva Maske, <b>Rati Kailash Prasad Tripathi</b> , Singdha Das Mandal, Pranav Shah, Nimeet Desai, Manisha Lalan | Molecular Docking-Guided Engineering of TPGS/Tween 80 Mixed Micelles for the Intranasal Delivery of Paliperidone Palmitate.                 | Advanced Therapeutics (Wiley) (IF: 3.2)                  | 2026, 9(8), e70162 | 2366-3987 |

#### Books Edited / Books Authored (Maximum 5)

| Authored/<br>Edited | Authors                                                   | Title of the Book                                                           | Publisher Details                                                                            | ISBN                       |
|---------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------|
| Authored            | <b>Rati K. P. Tripathi</b> , Pradeep Singh, Garima Mishra | The Essentials of Pharmaceutical Inorganic Chemistry                        | Ahuja Publishing House, New Delhi (Published: 2019)                                          | 978-9-38031-674-1          |
| Authored            | <b>Rati Kailash Prasad Tripathi</b>                       | Fundamentals of Pharmaceutical Inorganic Chemistry                          | I.K. International Pvt. Ltd., New Delhi (Published: 2021)                                    | 978-9-39062-023-4          |
| Edited              | <b>Rati Kailash Prasad Tripathi</b> , Shrikant Tiwari     | Converging Pharmacy Science and Engineering in Computational Drug Discovery | IGI Global Scientific Publishing, USA (Published: 2024)                                      | 979-8-36932-897-2          |
| Edited              | <b>Rati Kailash Prasad Tripathi</b>                       | Advances in Drug Discovery and Targeted Therapy for Alzheimer's Disease     | Apple Academic Press Inc. USA (Taylor & Francis Group) (In Press, Forthcoming December 2026) | 978-1-77964-268-4 (Online) |

**Contributed Book Chapters Published in Edited Books of Reputed Publishers (Maximum 5)**

| <b>Authors</b>                      | <b>Title of chapter</b>                                                                                                                                                                             | <b>Name of the Book</b>                                                                       | <b>Book details</b>                                                                                                                | <b>ISBN</b>                   |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| <b>Rati Kailash Prasad Tripathi</b> | Data analytics and AI for predictive maintenance in pharmaceutical manufacturing. Chapter 7, 33 pages.<br><a href="https://doi.org/10.1201/9781003480860">https://doi.org/10.1201/9781003480860</a> | Data Analytics and Artificial Intelligence for Predictive Maintenance in Smart Manufacturing. | Amit Kumar Tyagi, Shrikant Tiwari, Gulshan Soni (Eds.), CRC Press, UK (Taylor & Francis Group) (Published: 2024)                   | 978-100-348-0860<br>(Online)  |
| <b>Rati Kailash Prasad Tripathi</b> | Decoding PTSD and paving the way for healing. Chapter 4, pp. 101-162.<br><a href="https://doi.org/10.4018/979-8-3693-2089-1.ch004">https://doi.org/10.4018/979-8-3693-2089-1.ch004</a>              | Development and Treatment of PTSD.                                                            | Robert W. Motta (Ed.), IGI Global Scientific Publishing, USA (Published: 2025)                                                     | 979-836-932-0891<br>(Online)  |
| <b>Rati Kailash Prasad Tripathi</b> | Advancing Drug Discovery with Quantum Machine Learning. Chapter 7, 22 pages.<br><a href="https://doi.org/10.1201/9781003499459">https://doi.org/10.1201/9781003499459</a>                           | Quantum Computing: The Future of Information Processing.                                      | Shrikant Tiwari, Amit Kumar Tyagi, S.V. Nagaraj (Eds.), Auerbach Publications, New York (Taylor & Francis Group) (Published: 2025) | 978-1-00349-945-9<br>(Online) |
| <b>Rati Kailash Prasad Tripathi</b> | Smart Farming with “Blockchain”: Revolutionizing Medicinal Plant Cultivation. Chapter 15, 24 pages.<br><a href="https://doi.org/10.1201/9781003507390">https://doi.org/10.1201/9781003507390</a>    | Blockchain and Digital Twin Applications in Smart Agriculture.                                | Amit Kumar Tyagi, Shrikant Tiwari (Eds.), Auerbach Publications, New York (Taylor & Francis Group) (Published: 2025)               | 978-1-00350-739-0<br>(Online) |

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|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------|
| <b>Rati Kailash Prasad Tripathi</b> | Unravelling the Role of Microbiota in Brain Disorders. Chapter 2, 34 pages.<br>DOI:<br>10.2174/9798898816216126010005 | The Gut-Brain Nexus: The Link Between Gut Microbiota and Neurodegenerative Diseases. | Ajay Kumar, Avinash Kumar (Eds.), Bentham Science Publishers<br>(Published: 2026) | 979-8-89881-621-6<br>(Online) |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------|

**Peer-reviewed publications in Proceedings of National/ International Conference/Workshop/ Symposium (Maximum 5)**

| <b>Authors</b>                                            | <b>Title of the Paper</b>                                                                                                         | <b>Name of the Program and Organizer</b>                                                                                                                                                                                             | <b>Publisher Details</b>                                                                                                    | <b>ISBN/ ISSN</b> |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------------|
| <b>Rati Kailash P. Tripathi,</b><br>Senthil Raja Ayyannan | 3,4-(Methylene-dioxy)aniline derived semicarbazones as dual inhibitors of monoamine oxidase (MAO and acetylcholinesterase (AChE). | 6th International Symposium on Current Trends in Drug Discovery & Research (CTDDR-2016), organized by CSIR-Central Drug Research Institute, Lucknow, India.                                                                          | CSIR-Central Drug Research Institute, Lucknow, India.                                                                       |                   |
| <b>Rati Kailash P. Tripathi,</b><br>Senthil Raja Ayyannan | Design, synthesis and molecular docking of 2-amino-6-nitrobenzothiazole derived hydrazones as potential MAO-B inhibitors.         | International Conference on Emerging Trends in Drug Discovery and Development (ETDDD-2018), organized by Department of Pharmaceutical Engineering & Technology, Indian Institute of Technology (Banaras Hindu University), Varanasi. | Department of Pharmaceutical Engineering & Technology, Indian Institute of Technology (Banaras Hindu University), Varanasi. |                   |
| <b>Rati Kailash P. Tripathi,</b><br>Senthil Raja Ayyannan | Discovery of 5-aminobenzo[1,3]dioxole based semicarbazones as potential leads for Alzheimer's disease therapeutics.               | DST Sponsored International Conference on Neurological Disorders and Therapeutics (ICNDT) – 2019, Organized by NIPER, Ahmedabad.                                                                                                     | NIPER, Ahmedabad.                                                                                                           |                   |

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|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--|
| Nikita Negi, Debosmita Hore, Senthil R. Ayyannan, <b>Rati K. P. Tripathi</b> | Synthesis, biological evaluation and in-silico studies of some benzylpiperidine-derived hydrazones as monoamine oxidase inhibitors.  | 9 <sup>th</sup> International Conference on Current Trends in Drug Discovery Research (CTDDR-2025), organized by CSIR-Central Drug Research Institute, Lucknow, India (P-210). | CSIR-Central Drug Research Institute, Lucknow, India. |  |
| <b>Rati Kailash Prasad Tripathi</b> , Nikita Negi                            | Development of benzylpiperidine-isatin hybrids as potential inhibitors of acetylcholinesterase for Alzheimer's disease therapeutics. | National Conference on Emerging Trends in Chemical Sciences (ETCS-2025), organized by the Department of Chemistry, Assam University, Silchar.                                  | Department of Chemistry, Assam University, Silchar.   |  |

#### Patents/ Policy Document (Maximum 5)

| Title of Patent                                                                                                  | Patent No. & Granting Authority                          | Date of Award | International/ National |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------|-------------------------|
| Ferrimagnetic Armchair nanoribbon structures of TiN, ZrN, and HfN                                                | No. 202321010541 A; The Patent Office, Govt. of India    | 17/03/2023    | National                |
| Synthesis and characterization of silver nanoparticles using Eucalyptus extract and their antibacterial activity | No. 202311082362 A; The Patent Office, Govt. of India    | 12/01/2024    | National                |
| Microwave assisted device for synthesis of chemical compounds                                                    | Design No. 429165-001; The Patent Office, Govt. of India | 03/09/2024    | National                |