

Ritesh Singh, PhD

Assistant Professor
Department of Chemistry
 Central University of Rajasthan
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Educational Qualifications

- **Doctor of Philosophy (Ph.D.), Chemistry: (2007-2012)**
 Jawahar Lal Nehru University, New Delhi, India; Research work carried out at **CSIR-Central Drug Research Institute**, Lucknow, India).
 Thesis title: “*Quest for Heteropolycycles as Therapeutic Agents*”
- **Master of Science (M.Sc.), Chemistry:**
 University of Lucknow, Lucknow, India. (2004-2006)
- **Bachelor of Science (B.Sc.), Chemistry:**
 University of Lucknow, Lucknow, India. (2001-2004)

Research Experience

Assistant Professor (June 2019-till date)
 Central University of Rajasthan

DST INSPIRE Faculty (Independent position)

National Institute of Pharmaceutical Education and Research (NIPER), Raebareli (2018-2019)
 CSIR- Indian Institute of Chemical Technology, Hyderabad (Sep.2015-2018)

Postdoctoral Research Associate

Kyoto Prefectural University of Medicine, Kyoto, JAPAN (*as JSPS fellow*) (2016- 2017)
 Ulsan National Institute of Science and Technology, South Korea (2015)
 University of Rochester, NY, USA (2012- 2014)

Fellowships and Awards

- Awarded prestigious **JSPS Postdoctoral Award**, from Japan Society for Promotion of Science (JSPS), at Kyoto Prefectural University of Medicine, Kyoto, Japan (2016)
- Awarded **DST INSPIRE FACULTY** from Department of Science and Technology (2015)
- Recognized **Assistant Professor** in Academy of Scientific and Innovative Research (AcSIR) (2016)
- Awarded **NIH postdoctoral fellowship** at University of Rochester, USA. (2012)
- Awarded prestigious **FGS Postdoctoral fellowship** at Weizmann Institute of Science, Israel (2015)
- Awarded **Junior Research Fellowship** (CSIR-JRF). (2009)
- Qualified GATE conducted by IIT Kanpur, India. (2007)

List of Publications*Independent Research*

1. Deeksha, Elagandhula Sathish, Kiran, and **Ritesh Singh***; Access to Sterically Hindered Thioethers (α -Thioamides) Under Mild Conditions Using α -Halohydroxamates: Application toward 1,4-Benzothiazinones and 4,1-Benzothiazepinones. *J. Org. Chem.*, **2023**, 88, 901–908.
2. Elagandhula Sathish, Ashis Kumar Gupta, Deeksha, Sandeep Kumar Mishra, Devesh M. Sawant, and **Ritesh Singh***; Heteroarylation of Congested α -Bromoamides with Imidazo-heteroarenes and Indolizines via Aza-oxyallyl Cations: Enroute to Dibenzoazepinone and Zolpidem Analogs. *J. Org. Chem.*, **2022**, 87, 14168–14176.
3. Deeksha, and Ritesh Singh*; Aza-oxyallyl Cations and Their Applications in (3+m) Cycloaddition Reactions. *Eur. J. Org. Chem.*, **2022**, 2022, e202201043. (VIP article and Front Cover page)

ANNEXURE VIII

4. Yosuke Ota, Yukihiro Itoh, Takashi Kurohara, **Ritesh Singh**, Elghareeb E. Elboray, Chenliang Hu, Farzad Zamani, Anirban Mukherjee, Yuri Takada, Yasunobu Yamashita, Mie Morita, Mano Horinaka, Yoshihiro Sowa, Mitsuharu Masuda, Toshiyuki Sakai, and Takayoshi Suzuki*; Cancer-Cell-Selective Targeting by Arylcyclopropylamine–Vorinostat Conjugates. *ACS Med. Chem. Lett.* **2022**, 13, 1568–1573.
5. Anirban Mukherjee, **Ritesh Singh**, Kishor D Mane and Gourab Kanti Das; Regioselectivity in Metalloradical Catalyzed C–H bond activation: A Theoretical Study. *J. Organomet. Chem.*, **2022**, 957, 122179. [IF: 2.369]
6. Muthuraj Prakash, Yukihiro Itoh,* Yoshie Fujiwara, Yukari Takahashi,† Yuri Takada, Paolo Mellini, Elghareeb E. Elboray, Mitsuhiro Terao, Yasunobu Yamashita, Chika Yamamoto, Takao Yamaguchi, Masayuki Kotoku, Yuki Kitao, **Ritesh Singh**, Rohini Roy, Satoshi Obika, Makoto Oba, Dan Ohtan Wang and Takayoshi Suzuki*; Identification of Potent and Selective Inhibitors of Fat Mass Obesity-Associated Protein Using a Fragment-Merging Approach. *J. Med. Chem.*, **2021**, 64, 15810–15824. [IF: 7.446]
7. Elagandhula Sathish, Ashis K. Gupta, Sophiya Goyal, and **Ritesh Singh***; 3d-transition metal catalyzed C–H to C–N bond formation: An update. *Tetrahedron*, **2021**, 100, 132474. [IF:2.45]
8. Arshad J. Ansari, Ayushi Yadav, Anirban Mukherjee, E. Sathish, Kommu Nagesh and **Ritesh Singh***; Metal Free Amination of Congested and Functionalized Alkyl Bromide at Room Temperature. *Chem. Commun.*, **2020**, 56, 4804-4807. [IF: 6.32]
9. Anirban Mukherjee, Arshad J. Ansari, S. Rajagopal Reddy, Gourab Kanti Das, and **Ritesh Singh***; Mechanistic Investigations for the Formation of Active Hexafluoroisopropyl Benzoates Involving Aza-Oxyallyl Cation and Anthranils. *Asian. J. Org. Chem.*, **2020**, 9, 2136-2143. [IF: 3.32]
10. **Ritesh Singh*** and Anirban Mukherjee; Metalloporphyrin Catalyzed C–H Amination. *ACS Catalysis*, **2019**, 9, 3604-3617. [IF: 13.08]
11. A.V.G. Prasanthi, Samiyara Begum, Hemant Kumar Srivastava, Sandip Kumar Tiwari, and **Ritesh Singh***; Iron-Catalyzed Arene C–H Amidation using Functionalized Hydroxyl Amines at Room Temperature. *ACS Catalysis*, **2018**, 8, 8369–8375. [IF: 13.08]
12. **Ritesh Singh***, Kommu Nagesh, Doddapaneni Yugandhar, and A.V.G. Prasanthi; Metal and Oxidant Free Modular Approach to Access N-alkoxy Oxindoles via Aryne Annulation. *Org. Lett.*, **2018**, 20, 4848–4853. [IF: 6.00]
13. **Ritesh Singh***, Kommu Nagesh, and Matam Parameshwar; Rhodium(II)-Catalyzed Undirected and Selective C(sp²)-H Amination en Route to Benzoxazolones. *ACS Catalysis*, **2016**, 6, 6520-6524. [IF: 13.08]

Postdoctoral & Doctoral Research

14. Simone Giovani[#], **Ritesh Singh[#]** and Rudi Fasan; Efficient conversion of primary azides to aldehydes catalyzed by active site variants of Myoglobin. *Chemical Science*, **2016**, 7, 234-239. [IF: 9.82] (# Ist Co-author; equal contribution)
15. **Ritesh Singh**, Joshua N Kolev, Philip A Sutura and Rudi Fasan; Enzymatic C(sp³)-H Amination: P450-Catalyzed Conversion of Carbonazidates into Oxazolidinones. *ACS Catalysis*, **2015**, 5, 1685–1691. [IF: 13.08]
16. **Ritesh Singh**, Melanie Bordeaux and Rudi Fasan; P450-Catalyzed Intramolecular sp³ C–H Amination with Arylsulfonyl Azide Substrates. *ACS Catalysis*, **2014**, 4, 546–552. [IF: 13.08]
17. Melanie Bordeaux, **Ritesh Singh** and Rudi Fasan; Intramolecular C(sp³)-H amination of arylsulfonyl azides with engineered and artificial myoglobin-based catalysts. *Bioorganic & Medicinal Chemistry*, **2014**, 22, 5697-5704. [IF: 3.64]
18. Jyotsana Singh[#], **Ritesh Singh[#]**, Preeti Gupta, Smita Rai, Asha Ganesh, Preethi Badrinarayan, G. Narahari Sastry, Rituraj Konwar and Gautam Panda; Targeting progesterone metabolism in breast cancer with L-proline derived new 14-azasteroids; *Bioorganic & Medicinal Chemistry*, **2017**, 25, 4452-4463. [IF: 3.64](# Ist co-author; equal contribution)

ANNEXURE VIII

19. **Ritesh Singh** and Gautam Panda; Application of Nazarov type electrocyclization to access [6,5,6] and [6,5,5] core embedded new polycycles: an easy entry to tetrahydrofluorene scaffolds related to Taiwaniaquinoids and C-nor-D homosteroids; *Org. Biomol. Chem.*, **2011**, 9, 4782-4790. (**Front Cover page**) [**IF: 3.87**]
20. **Ritesh Singh** and Gautam Panda; Scandium triflate-catalyzed one-pot domino approach towards general and efficient syntheses of unsymmetrical 9-substituted xanthene derivatives. *Org. Biomol. Chem.* **2010**, 8, 1097-1105. [**IF: 3.87**]
21. **Ritesh Singh**, Maloy Kumar Parai and Gautam Panda; Application of Nazarov cyclization to access [6-5-6] and [6-5-5]tricyclic core embedded new heterocycles: an easy entry to structures related to Taiwaniaquinoids. *Org. Biomol. Chem.*, **2009**, 7, 1858-1867. [**IF: 3.87**]
22. **Ritesh Singh** and Gautam Panda; An Overview of Synthetic approaches for Heterocyclic steroids. *Tetrahedron* **2013**, 69, 2853-2884. [**IF: 2.45**]
23. **Ritesh Singh** and Gautam Panda; L-Proline derived nitrogenous steroidal systems: an asymmetric approach to 14-azasteroids. *RSC Advances* **2013**, 3, 19533-19544. [**IF: 3.36**]
24. **Ritesh Singh**, Maloy Kumar Parai, Sankalan Mondal and Gautam Panda; Contiguous generation of Quaternary and Tertiary Stereocenters: One Pot Synthesis of Chroman Fused S-proline Derived Chiral Oxazepinones. *Synthetic Communications*, **2013**, 43, 253-259. [**IF: 2.00**]
25. Sajal Kumar Das, **Ritesh Singh** and Gautam Panda; A New Synthetic Route to Unsymmetrical 9-Arylxanthenes; *Eur. J. Org. Chem.* **2009**, 4757-4761. [**IF: 3.02**]
26. Shagufta, **Ritesh Singh**, and Gautam Panda; Synthetic studies towards steroid–amino acid hybrids; *Indian Journal of Chemistry* **2009**, 48B, 989-995. [**IF: 0.59**]

Attended/Paper Presented in National /International Conferences

1. 5th J-NOST Symposium, Indian Institute of Technology Kanpur, Kanpur, 4-7 December 2009. Delivered a lecture on “Application of Nazarov (type) cyclization to access Heteropolycycles: an easy entry to Taiwaniaquinoids and related Diversity”. (**Oral Presentation**)
2. *Diamond Jubilee Symposium on Recent Trends in Chemistry* (DJSRTC), Indian Institute of Technology Kharagpur, Kharagpur, 21-23 October 2011. Poster presentation on “Synthesis of [6-5-5/6-5-6] ABC tricyclic scaffold embedded new Heterocycles utilizing Nazarov (type) cyclization”. (**Poster presentation**)
3. *Chemical Research Society of India* (CRSI), 21-22 July, 2012, CSIR-Central Drug Research Institute, Lucknow, India. (**Poster presentation**).
4. *Advances in cancer Therapeutics* (ACT-2016), CSIR-Indian Institute of Chemical Technology, Hyderabad, 4-5 April, 2016. (**Poster presentation**)
5. Synthetic Exploration of Aza-oxyallyl Cation Towards Oxindoles and 1,4-Benzodiazepines, 25th ISCB International Conference (ISCB-2019), NIRMA University, Ahmedabad, 22-26 Jan. 2020. (**Invited lecture**)
6. Attended the NOST-XXI, November 25-28, 2021, The Leela Palace, Chennai. (**Invited**)
7. Synthetic Exploration of Aza-oxyallyl Cation to Access Oxindoles, 1,4-Benzodiazepinones and Congested α -Aminoamides, 8th International symposium on “Current Trends in Drug Discovery Research” (CTDDR-2022), CSIR-Central Drug Research Institute, Lucknow, 22-24 March 2022. (**Invited**)
8. Contemporary Facets in Organic Synthesis (CFOS-2022), IIT Roorkee, 01-04 Dec., 2022. Invited talk “Aza-oxyallyl Cation as a Linchpin to Access Biologically Relevant N-Scaffolds”. (**Invited lecture**)
9. Frontiers at the Chemistry - Allied Sciences Interface (FCASI-2023), University of Rajasthan, 20-21 April, 2023. Invited talk “Harnessing Aza-oxyallyl Cations to Access Biologically Relevant N-Scaffolds” (**Invited Lecture**)