Dr. Shiwani Berry
Assistant Professor

Contact Details:

School of Physical & Material Sciences, Department of Chemistry and Chemical Sciences, Central University of Himachal Pradesh, Temporary Academic Block, Shahpur, Dist.- Kangra, HP- 176206; India.
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Academic Qualification:

Ph.D in Organic Chemistry (2018):
Awarded by Department of Chemistry & Centre of Advanced Studies in Chemistry, Panjab University, Chandigarh, India.

Thesis Supervisor: Dr. Aman Bhalla and Prof. S. S. Bari, Panjab University, Chandigarh, India.

Thesis Title: *"Synthetic investigations of novel hybrid β-lactam heterocycles via chemical transformations"*

M.Sc. in Organic Chemistry (2011):
National Institute of Technology, Jalandhar (NITJ), India.

Positions Held:

January, 2020 – till date – Assistant Professor, Department of Chemistry and Chemical Sciences, Central University of Himachal Pradesh,
Dharamshala, HP;

From August, 2018 To December 2019 – Guest Lecturer, Department of

Chemistry and Chemical Sciences Central University of Himachal Pradesh, Dharamshala, HP.

January, 2018 – May, 2018 – Assistant Professor, Department of Chemistry, **MCM DAV College for Women, Sector 36-A, Chandigarh**.

Specialisation: Synthetic and Mechanistic Organic Chemistry

Research Interest:

Design, synthesis and structural studies of pharmaceutically interesting hetero-substituted imines. Development of new synthetic methodologies for the stereoselective synthesis of azetidinone derivatives appended with various heterocyclic moieties as substituents at C-3, C-4 and N-1. Understanding of stereocontrolled transformations. Explore their stability and applicability towards various organic transformations.

Publications:

1. Comprehensive study towards the desulfonylation/desulfinylation of *cis*-3-functionalized 3-phenylsulfonyl/sulfinyl-β-lactams to access novel *cis*-3-monosubstituted-β-lactams. Anu Kumari, Shamsher S. Bari, Garima Modi, ***Shiwani Berry***, Sadhika Khullar, Sanjay K. Mandal and Aman Bhalla, **Tetrahedron (2018)**, *74*, 4400-4408. ISSN No. 0040-4020, **(Impact factor: 2.37)**. https://doi.org/10.1016/j.tet.2018.07.008
2. Bhalla, A.; Nagpal, Y.; **Berry, S.;** Narula, D.; Bari, S. S.; Bhasin, K. K.; Kumar, R. "Stereoselective synthesis, spectroscopic and X-ray crystallographic characterization of novel *trans*- and *cis*-3-methylseleno substituted monocyclic β-lactams: Potential synthons for C-3 functionalized/bicyclic/halospiroseleno-β-lactams of medicinal interest." **Inorganica Chim. Acta (2018)**, 477, 172-182. ISSN No. 0020-1693, **(Impact factor: 2.43)**.

https://doi.org/10.1016/j.ica.2018.03.028

3. Hundal**,** Q.; **Berry, S.;** Narula, D.; Bari, S. S.; Bhalla, A. "Facile synthesis of novel α-methylene-pyrazole-carboxylate substituted imines and *trans*-β-lactams: Versatile synthons for diverse heterocyclic molecules." **Synth. Commun**. **(2018)**, 48, 1190-1198. ISSN No. 0039-7911 **(Impact factor: 1.43).** https://doi.org/10.1080/00397911.2018.1439174
4. **Berry, S.;** Bari, S. S.; Banik, B. K.; Bhalla, A. "Stereoselective synthesis of novel monocyclic *trans*-3-halogenated-4-pyrazolyl-β-lactams: Potential synthons and promising biologically active agents." **Synth. Commun. (2017)**, 47, 2239-2246. ISSN No. 0039-7911, **(Impact factor: 1.43)**. https://doi.org/10.1080/00397911.2017.1371759
5. Magtoof, M. S.; **Berry, S.;** Bari, S. S.; Banik, B. K.; Bhalla, A. "Facile synthesis of novel racemic 3-methoxy- and 3-phthalimido-1-(4'-*N*, *N*-diethylaminophenyl)-substituted β-lactams" **Asian J. Org. Med. Chem. (2017)**, 2(3), 97-101. ISSN No. 2456-8937. 10.14233/ajomc.2017.AJOMC-P38
6. Bhalla, A.; Modi, G.; Bari, S. S.; Kumari, A.; **Berry, S.;** Hundal, G. "Stereoselective synthesis of novel C-3 functionalized 3-sulfonyl-β-lactams: Promising biologically active heterocyclic scaffolds" **Tetrahedron Lett. (2017)**, 58, 1160-1165. ISSN No. 0040-4039, **(Impact factor: 2.379)**. https://doi.org/10.1016/j.tetlet.2017.02.011
7. Bhalla, A.; Modi, G.; Bari, S. S.; Kumari, A.; Narula, D.; **Berry, S.** "An investigation towards the diastereoselective synthesis of 3-acetoxy/methoxy/phthalimido-β-lactams using chiral imines" **Tetrahedron: *Asymmetry* (2017)**, 28, 307-316. ISSN No. 0957-4166, **(Impact factor: 2.126)**. https://doi.org/10.1016/j.tetasy.2016.12.007
8. Bhalla, A.; **Berry, S.;** Bari, S. S. "Biological Activity Profile of Thiazolidinone Scaffolds Linked to Bioactive Thiazoles: A Review" **Am. J. PharmTech Res. (2016)**, 6(6), 62-78. ISSN No. 2249-3387,

(Impact factor: 1.12).
file:///C:/Users/Acer/Downloads/AJPTR-66004_6449.pdf

9. Bhalla, A.; Bari, S. S.; **Berry, S.**; Bhalla, J.; Vats, S.; Mandal, S.; Khullar, S. (2015) "Facile synthesis of novel monocyclic *trans*- and *cis*-3-oxy/thio/seleno-4-pyrazolyl-β-lactams" **Arkivoc (2015)** vii, 10–27. ISSN No. 1551-7012, **(Impact factor: 1.04)**. http://dx.doi.org/10.3998/ark.5550190.p009.172

Book Chapter:

Shiwani Berry and Aman Bhalla. Recent progress on pharmacological profile of biodynamic pyrazole/ imidazole/benzimidazole-4-thiazolidinone conjugates In ***Organic Chemistry: Advances in Research and Applications.*** Nova Publishers (International Edition) ***2018,*** Vol. 2 ISBN-978-1- 53614-855-8

Research Projects Completed/Ongoing: NIL

M.Sc. students supervised/supervising: Completed (2019): 4

Joined (2020): 5

M.Phil. Supervised: N/A

Ph.D. Supervised: N/A

Conferences/Symposia attended (Poster presentation/Participation):

1. **Efficient synthesis of novel 3-methoxy-4-pyrazole substituted β-lactams**: Aman Bhalla, S. S. Bari and **Shiwani Berry** presented in Prof. Ram Chand Paul National Symposium on New Developments in Chemical Sciences held from Feb 23rd - 24th, 2013 at Department of Chemistry, Panjab University, Chandigarh.

2. **Efficient synthesis of novel 3-methoxy-4-pyrazole substituted β-lactams:** Aman Bhalla, S. S. Bari, Apurva Panjla and **Shiwani Berry** presented in 7th Chandigarh Science Congress: Contemporary Issues & Interdisciplinary Science & Technology for Societal Needs held on March 1st - 3rd, 2013 in Panjab University, Chandigarh.
3. **Stereoselective synthesis of novel 4-pyrazole substituted β-lactams:** Aman Bhalla, S. S. Bari and **Shiwani Berry** presented in International Conference on Interdisciplnary Areas with Chemical Sciences held from October 30th – November 1st, 2013 at Department of Chemistry, Panjab University, Chandigarh.
4. **Studies towards the stereoselective synthesis of novel C-3 substituted β-lactams:** Aman Bhalla, S. S. Bari and **Shiwani Berry** presented in 50th Annual Convention of Chemists held from December 04th - 07th, 2013 at Department of Chemistry, Panjab University, Chandigarh.
5. **Stereoselective synthesis of novel pyrazolyl β-lactams:** Aman Bhalla, S. S. Bari and **Shiwani Berry** presented in Prof. Ram Chand Paul National Symposium on New Visions in Chemical Sciences (RCP-2014) held from February 15th - 16th, 2014 at Department of Chemistry, Panjab University, Chandigarh.
6. Participated in International Conference on Nano Science and Technology (ICONSAT-2014) held from March 2th - 5th, 2014 at Panjab University, Chandigarh.
7. **Synthesis of pyrazolo[5,1-*b*] thiazole substituted β-lactams:** Aman Bhalla, S. S. Bari and **Shiwani Berry** presented in National symposium on Recent Advances in Chemical Sciences held on October 18th, 2014 at Department of Chemistry, P. U. Chandigarh.
8. **Synthesis of azetidine derivatives of pyrazolo[5,1-*b*] thiazole:** Aman Bhalla, S. S. Bari and **Shiwani Berry** presented in International Conference on Asian Network for Natural & Unnatural Materials held on February 28th – March 2nd, 2015 at Department of Chemistry, Panjab University, Chandigarh.
9. **Synthesis of novel pyrazolo[5,1-*b*] thiazole azetidin-2-ones:**

Aman Bhalla, S. S. Bari and **Shiwani Berry** presented in Prof. Ram Chand Paul National Symposium on Innovations in Chemical Sciences held from March 20th - 21st, 2015 at Department of Chemistry, Panjab University, Chandigarh.

10. Participated in National Seminar on Environmental Management, Sustainable Development and Human Health held on March 25th, 2015 at Panjab University, Chandigarh.
11. Participated in National Seminar on Spectroscopy – An Immense Tool in Chemistry held on August 21st, 2015 at MCMDAV College for Women, Sector 36-A, Chandigarh.
12. Participated in National conference on Thermodynamics of Pharmaceutical, chemical and Biological Systems held on November 20th - 21st, 2015 at Panjab University, Chandigarh.
13. **Synthesis of novel pyrazolo[5,1-*b*] thiazole azetidin-2-ones:** Aman Bhalla, S. S. Bari and **Shiwani Berry** presented in Prof. Ram Chand Paul National Symposium on Innovations in Chemical Sciences held from March 20th - 21st, 2015 at Department of Chemistry, Panjab University, Chandigarh.
14. **Synthesis of novel 4-pyrazolyl azetidin-2-ones and their C-3 functionalization:** Aman Bhalla, S. S. Bari and **Shiwani Berry** presented in Prof. Ram Chand Paul National Symposium on Innovations in Chemical Sciences on Progressive Trends in Chemical Sciences held from January 22nd - 23rd, 2016 at Department of Chemistry, Panjab University, Chandigarh.
15. **Synthesis of novel 4-pyrazolyl azetidin-2-ones and their C-3 functionalization:** Aman Bhalla, S. S. Bari, Apurva Panjla and **Shiwani Berry** presented in 10th Chandigarh Science Congress held on February 29th –March 2nd, 2016 in Panjab University, Chandigarh.
16. **Stereoselective synthesis of novel pyrazole linked azetidin-2-one and their c-3 functionalization:** Aman Bhalla, S. S. Bari, Apurva Panjla and **Shiwani Berry** presented in Achievements of Women in Science and Technology: Current Scenario and Future Prospects held on January 13th-14th, 2017 in Panjab University,

Chandigarh.

17. **Highly stereoselective synthesis of pyrazole substituted β-lactams *via* in situ generation of a heterosubstituted ketene and their C-3 functionalization:** Aman Bhalla, S. S. Bari and **Shiwani Berry** presented in Prof. Ram Chand Paul National Symposium on Current Advances in Chemical Sciences held from February 24th -25th, 2017 at Department of Chemistry, Panjab University, Chandigarh.
18. **Stereoselective synthesis of novel monocyclic *trans*-3-PhS-4-pyrazolyl-β-lactams and their C-3 functionalization:** Aman Bhalla, S. S. Bari and **Shiwani Berry** presented in International Conference on Green Chemistry/Engineering and Technologies for Sustainable Development held from April 20th -22nd, 2017 at Department of Chemistry, Panjab University, Chandigarh.

Membership of Learned Societies/ Professional Bodies: N/A

Awards & Honours Received: N/A