

Dr. Shikha Agarwal

**Assistant Professor**

**Department of Chemistry,**

**Mohanlal Sukhadia University, Udaipur (Rajasthan) India**

**MohanlalSukhadia University, Udaipur (Rajasthan)India**

**Fellowship Awarded:**

1. **Senior Research Fellow (CSIR-SRF),** Dept. of Chemistry, University of Rajasthan, Jaipur  **(July 2009- June 2011)**
2. **Junior Research Fellow (CSIR-JRF),** Dept. of Chemistry, University of Rajasthan, Jaipur **(July 2006- June 2009)**
* **Education Profile:**
* **Ph.D.-** Department of Chemistry, University of Rajasthan, Jaipur (2011)
* **Title of Ph.D.Thesis:**

**Synthetic strategies, spectral investigation and deduction of biological properties of novel heterocyclic compounds (under Prof. D.C. Gautam)**

* **M.Sc. (Chemistry)-** Department of Chemistry, University of Rajasthan, Jaipur (2006)
* 80% (Gold Medalist)
* **B.Sc. (Chemistry, Botany, Zoology)-** Kanoria College, University of Rajasthan, Jaipur (2004)
* 84%
* **Sr. Hr. Secondary-** RBSE (Ajmer) (2000)
* 85%
* **Secondary-** RBSE (Ajmer) (1998)
* 86%
* **Phone No.:** 09460182930

 09828257111

* **E-mail:** shikha\_urj@yahoo.com

 shikhaagarwal@mlsu.ac.in

**Employment Details:** Assistant Professor, Department of Chemistry, Mohanlal Sukhadia University, Udaipur (Feb 2012-continued)

* **Area of Research Interest/ Specialization:**

Organic Chemistry, Organic Synthesis, Catalysis, Heterocyclic Chemistry, Medicinal Chemistry, Drug Design, etc.

* **Subject/Papers Taught:**
* **Organic Chemistry:**

Synthetic Organic Chemistry, Reaction Mechanism, Spectroscopy, Stereochemistry, Pericyclic reactions, Disconnection Approach, Heterocyclic Chemistry, Natural Products, etc**.**

* **Job Responsibility:**
* **Current :**
* M.Sc. Industrial Chemistry, Course Incharge, 2018-2021.
* Presiding Officer, Commerce College Election, 2016-2017, 2017-2018, 2018-2019, 2019-20.
* Admission Committee Convener M.Sc. Chemistry 2018-19, 2019-20, 2020-21, 2021-22, 2022-23.
* Admission Committee Co-convener M.Sc. Chemistry 2015-18.
* Skill Course–Green Chemistry, Convener, 2016-2018.
* Member-Committee of Courses, 2015-2021.
* Member-Central Admission Committee-College of science, 2015-2022.
* Convener-Departmental Purchase committee, 2018-2023, Member-Dept. Purchase committee, 2015-2018.
* **Research Projects**
* Development of Biomass derived Carbon Quantum Dots as efficient catalysts for the facile synthesis of biologically potent hetereocycles, SERB-SURE, 27 lakhs, 2023 **(ongoing)**.
* Novel natural products from traditional medicinal plants of South Rajasthan region:Structural, synthetic and biological studies (Co-PI)- 4.5 crore by **RUSA-MHRD, (ongoing)**
* Fabrication of stable and high efficiencyperovskite solar cell device (Co-PI)- 88 lakhs by **RUSA-MHRD, (ongoing)**
* Conjunction based drug design approach in search of third generation anti epileptics: Design, Synthesis, Anticonvulsant evaluation and computer aided drug design studies of 4-(5-phenyl-1H-pyrazol-3-yl)benzenamine derivatives(Co-PI)- 50 lakhs by **RUSA-MHRD (ongoing)**
* Synthesis and biological evaluation of novel substituted benzothiazole compounds-6 lakhs by UGC, New Delhi (F.20-20/2013(BSR), 09/12/2013). **(Completed).**
* **Career Profile**

**Employment Details :**

1. **Assistant Professor, Department of Chemistry, Mohanlal Sukhadia University, Udaipur (Feb 2012-continued)**
* **Research Guidance: 08**
* **Name of the scholars**
* **Dr. Divyani Gandhi (Awarded)**
* **Dr. Ayushi Sethiya (MANF-SRF) (awarded)**
* **Dr. Priyanka Kalal (awarded)**
* **Dr. Nusrat Sahiba CSIR-SRF (Awarded)**
* **Dr. Jay Soni (awarded)**
* **Pankaj Teli (CSIR-SRF)**
* **Shivani Soni**
* **Sunita Teli**
* **Publication Profile:**
* **Selected papers:**
* **Total: 70**
* **Citations: 903**
* **h-index: 17**
* **i10-index: 28**
* **Total Impact Factor: >200 (Thomson Reuter)**

**PublicationProfile: Selected papers:**

1. Exploring the Synthetic and Antioxidant Potential of 1,2-Disubstituted Benzimidazoles using [Et3NH][HSO4] Ionic Liquid Catalyst, Nusrat Sahiba, Pankaj Teli, Priyadarshi Meena, Shikha Agarwal. Chemistry & Biodiversity, e202301159, 2023, I.F: 2.9.
2. A green and ecobenign protocol for reduction of graphene oxide graphene oxide using curry leaf and tulsi seed extracts and their catalytic , dye removal and antimicrobial applications, Jay Soni, Pankaj Teli, Ayushi Sethiya, Nusrat Sahiba, Shikha Agarwal, Polycyclic Aromatic Compounds, 2023, 1-18, I.F. 2.1.
3. Highly efficient visible light assisted synthesis of perimidines under catalyst free and room temperature conditions, Shikha Agarwal, Isha Patel, Nusrat Sahiba, Jay Soni, Letters in Organic Chemistry, 20(6), 557-561, 2023, I.F. 0.9.
4. Exploring the synthetic potential of a gC3N4· SO3H ionic liquid catalyst for one-pot synthesis of 1, 1-dihomoarylmethane scaffolds via Knoevenagel–Michael reaction, Shivani Soni, Pankaj Teli, Nusrat Sahiba, Sunita Teli, and Shikha Agarwal. RSC advances 13, no. 19, 13337-53, 2023, I.F.: 3.9).
5. Synthetic aspects of 1, 4-and 1, 5-benzodiazepines using o-phenylenediamine: A study of past quinquennial, Sunita Teli, Pankaj Teli, Shivani Soni, Nusrat Sahiba, and Shikha Agarwal. RSC advances 13, no. 6, 2023, I.F.: 3.9.
6. Advancements in the Synthetic Strategies of Benzoxazoles using 2-Aminophenol as a Precursor: An up-to-date review, Shivani Soni, Nusrat Sahiba, Sunita Teli, Lokesh K. Agarwal, Shikha Agarwal RSC Advances, 2023, 13(34), 24093-111. I.F. 4.1.
7. Insight View on the Pharmacological Potential and Bio-Active Components of Ginger, Letters in Drug design and discovery, 2023. I.F. 1.0.
8. Unveiling the cutting-edge synthetic methods and multifaceted applications of bis(pyrazolyl)methanes: A comprehensive review of recent advances, Pankaj Teli, Nusrat Sahiba, Shikha Agarwal, Synthetic Communications, 2023, 53(14), 1069-1103. I.F. 2.1.
9. Synthetic Access to Bis(pyrazolyl)methanes using cost-efficient Triethylammonium Hydrogen Sulfate Ionic Liquid: Evaluation of Antioxidant Activity via in silico and in vitro Studies, Pankaj Teli, Nusrat Sahiba, Anu Manhas, Prakash C Jha, Priyadarshi Meena, Shikha Agarwal, ChemistrySelect, 2023, 8(15), e202204806. I.F. 2.3.
10. Triethylammonium Hydrogen Sulfate Ionic Liquid-Assisted Highly Efficient Synthesis of Bis(indoyl)methanes, Pankaj Teli, Nusrat Sahiba, Ayushi Sethiya, Jay Soni, Shikha Agarwal, Polycyclic Aromatic Compounds, 2023.I.F. 2.1.
11. Role of cyanuric chloride in organic synthesis: A concise overview, Ayushi Sethiya, Dinesh K Jangid, Joohee Pradhan, Shikha Agarwal, Journal of Heterocyclic Chemistry, 2023.I.F. 2.1.
12. Exploring the synthetic potential of a g-C3N4·SO3H ionic liquid catalyst for one-pot synthesis of 1,1-dihomoarylmethane scaffolds via Knoevenagel–Michael reaction, Shivani Soni, Pankaj Teli, Nusrat Sahiba, Sunita Teli, Shikha Agarwal, RSC Advances, 13, 13337-13353.I.F. 4.1.
13. Recent Advances in the green reduction of graphene oxide and its potential applications, Current Nanoscience, 2023. I.F. 1.5.
14. Tandem Protocol of hexahydroquinolines synthesis using [H2DABCO][HSO4]2 ionic liquid as a green catalyst at room temperature, Nusrat Sahiba, Ayushi Sethiya, Pankaj Teli, Shikha Agarwal, ACS Omega, 8(6), 5877-84, 2023. I.F. 4.1
15. Glycerol based carbon sulfonic acid catalyzed synthesis, in silico studies and in vitro biological evaluation of isonicotinohydrazide derivatives as potent antimicrobial and anti-tubercular agents, Ayushi Sethiya, Deepkumar Joshi, Anu Manhas, Nusrat Sahiba, Dinesh K Agarwal, Prakash C Jha, Shikha Agarwal, Heliyon, 9(2), 2023, I.F. 3.7, <https://doi.org/10.1016/j.heliyon.2023.e13226>
16. Synthetic Aspects of 1,4- and 1,5-Benzodiazepines using o-phenylenediamine: A study of past quinquennial, Sunita Teli, Pankaj Teli, Shivani Soni, Nusrat Sahiba, Shikha Agarwal, RSC Advances, 2023, I.F. 4.1, <https://doi.org/10.1039/D2RA06045K>
17. Highly Efficient Visible Light Assisted Synthesis of Perimidines under Catalyst-free and Room Temperature Conditions, Shikha Agarwal, Isha Patel, Nusrat Sahiba, Jay Soni, 2023.Letters in Organic Chemistry, 2022, 20(6), 557-561. I.F. 0.8
18. Facile one pot synthesis of acridinediones using caffeine hydrogen sulfate catalyst and their antimicrobial evaluation, Polycyclic Aromatic Compounds, 2022, Priyanka Kalal, Nusrat Sahiba, Ayushi Sethiya, Pankaj Teli, Deepkumar Joshi, Shikha Agarwal I.F. 2.1, [https://doi.org/10.1080/10406638.2022,.2143539](https://doi.org/10.1080/10406638.2022%2C.2143539)
19. Highly efficient and diversity-oriented solvent-free synthesis of biologically active fused heterocycles using glycerol-based sulfonic acid, Research on Chemical Intermediates, 48(11), 4711-4727, 2022, I.F. 3.7, <https://doi.org/10.1007/s11164-022-04822-6>
20. Synthesis of bioactive chlorinated 10H-phenothiazines, sulfones, ribofuranosides and their antimicrobial Activity, Indian Journal of Chemistry, 2022, 61(8), 842-848. I.F. 0.5
21. Stability and efficiency issues, solutions and advancements in perovskite solar cells: A review, Ritika Sharma, Arushi Sharma, Shikha Agarwal, MS Dhaka Solar Energy, 2022, I.F. 7.1 <https://doi.org/10.1016/j.solener.2022.08.001>
22. A facile biodegradable chitosan-SO3H catalyzed acridine-1,8-dione synthesis with molecular docking, molecular dynamics simulation and density functional theory against human topoisomerase II beta and Staphylococcus aureustyrosyl-tRNAsynthetase, Nusrat Sahiba, Ayushi Sethiya, Jay Soni, Pankaj Teli, Ankita Garg, Shikha AgarwalJournal of Molecular structure, 2022, I.F. 3.7 <https://doi.org/10.1016/j.molstruc.2022.133676>
23. The role of (BDMS) bromodimethylsulfonium bromide as a catalyst and brominating reagent: A concise overeview. Nidhi Jangir, Shikha Agarwal, Dinesh K Jangid, ChemistrySelect, 7(27), e202201488, 2022. I.F. 2.1
24. An overview on immunity booster foods in Coronavirus disease (COVID-19), Combinatorial Chemistry and High throughput screening, 2022, I.F. 1.8 <http://dx.doi.org/10.2174/1386207325666220629161828>
25. An Overview of Recent Advances in the catalytic synthesis of substituted pyrans, Applied Organometallic Chemistry, 36(4), e6604, 2022, 36(4). I.F. 4.1
26. Graphene Oxide as Metal-Free Catalyst in the Two-Component Reaction to Generate Some Novel Perimidines and Antimicrobial Evaluation, Polycyclic Aromatic Compounds (Taylor & Francis) , 2021, I.F. 2.1
27. Taurine: A Water Friendly Organocatalyst in Organic Reactions, Shikha Agarwal, PriyankaKalal, AyushiSethiya and Jay Soni, Mini Reviews in Organic Chemistry (Bentham), 19(5), 617-628, 2022, I.F. 2.5
28. Caffeine hydrogen sulfate: a recyclable solid acid catalyst for mechanochemical synthesis of 2-arylbenzothiazoles, PriyankaKalal, AyushiSethiya, Isha Patel, Jay Soni, Divyani Gandhi and Shikha Agarwal, Journal of Sulfur Chemistry, 43(3), 233-41, 2022, I.F. 2.6.
29. Black yet green: A heterogenous carbon-based acid catalyst for the synthesis of biscyclic derivatives under eco-friendly conditions, PankajTeli, AyushiSethiya, and Shikha Agarwal, Research on Chemical Intermediates (Springer), 2022. I.F. 3.1
30. Green and Highly Efficient MCR Strategy for the Synthesis of Pyrimidine Analogs in Water via C-C and C-N Bond Formation and Docking Studies, AyushiSethiya, Jay Soni, AnuManhas Prakash Jha and Shikha Agarwal, Research on Chemical Intermediates (Springer), 2021. I.F. 3.1
31. Exploration of Potent multitarget-ligands as anti-alzheimer’s disease agents: A moiety based review, PankajTeli, Jay Soni, NusratSahiba, AyushiSethiya and Shikha Agarwal, Mini Reviews in Medicinal Chemistry (Bentham), 21(20), 3219-3248, 2021. I.F. 3.7
32. Acridine-1,8-diones: Synthesis and Biological Applications, NusratSahiba, AyushiSethiya, Jay Soni, and Shikha Agarwal, Chemistry Select (Wiley), 6, 2210-2251, 2021. I.F. 2.1
33. Advancements in Synthetic Strategies of Bisdimedones: Two decades Study, PankajTeli, Jay Soni, Nusrat Sahiba, Ayushi Sethiya and Shikha Agarwal, Journal of Heterocyclic Chemistry (Wiley), 58(7), 1393-1407, 2021. I.F. 2.1
34. New Insights into the microstructural analysis of graphene oxide, Jay Soni, Nusrat Sahiba, Ayushi Sethiya and Shikha Agarwal, Current Organic Synthesis (Bentham), 18(4), 388-98, 2021. I.F. 2.2
35. Urea nitrate catalyzed C-N and C-S bond formation: A mechanochemical approach for 5-chloro-2-arylbenzo[d]thiazole derivatives, AyushiSethiya, NusratSahiba, Jay Soni and Shikha Agarwal, Journal of Heterocyclic chemistry (Wiley), 58(3), 873-881, 2021. I.F. 2.1
36. Insight View on Synthetic Strategies and Biological Applications of Pyrimidobenzothiazoles, Dinesh K. Agarwal, PankajTeli, Jay Soni, NusratSahiba, AyushiSethiya and Shikha Agarwal, Mini Reviews in Organic Chemistry (Bentham), 2021. I.F. 2.5
37. Recent Advancements in Organic Synthesis Catalyzed by Graphene Oxide Metal Composites as Heterogeneous Nanocatalysts, Jay Soni, AyushiSethiya, NusratSahiba, and Shikha Agarwal, Applied Organometallic Chemistry (Wiley), 35(4), e6162, 2021. I.F. 4.1
38. Biscoumarin derivatives as potent antimicrobials: Graphene oxide catalyzed ecobenign synthesis, Biological Evaluation and Docking Studies, Jay Soni, AyushiSethiya, PankajTeli, Dinesh K. Agarwal, AnuManhas, NusratSahiba, Prakash Jha and Shikha Agarwal, Polycyclic Aromatic Compounds (Taylor& Francis), 2021. I.F. 2.1
39. Metal free sulfonic acid functionalized carbon catalyst for green and mechanochemical synthesis of perimidines, Chemistry select (Wiley), 5(42), 13076-13080, 2020.I.F. 2.1
40. Current Advances in the synthetic strategies of 2-aryl benzothiazole, , Molecular Diversity, (Springer) 1-41, 10.I.F. 3.1, 1007/s11030-020-10149-4
41. Recent Advances in the Synthesis of Perimidines and their applications, NusratSahiba and ShikhaAgarwal, Topics in Current Chemistry (Springer), 378(4), 1-47. I.F. 9.1
42. Polyethylene Glycol: A promising approach for sustainable organic synthesis, Jay Soni, NusratSahiba, AyushiSethiya, and Shikha Agarwal, Journal of Molecular Liquids (Elsevier), 315, 113766, 2020, I.F. 6.5.
43. Mechanochemical approach for the selective synthesis of 1,2-disubstituted benzimidazoles and their molecular docking studies, NusratSahiba, Dinesh K. Agarwal AyushiSethiya, Jay Soni, AnuManhas, Prakash Jha and Shikha Agarwal, Polycyclic Aromatic Compounds, 2021. I.F. 2.1.
44. Carbon-SO3H: An efficient catalyst for the synthesis of biscoumarinsinder ambient reaction conditions and their in silico studies, AyushiSethiya, PankajTeli, Dinesh K. Agarwal Jay Soni, AnuManhas, NusratSahiba, Prakash Jha and Shikha Agarwal, Synthetic Communications, (Taylor & Francis) 50(16), 2440-2460, 2020, I.F. 2.1
45. Click chemistry inspired design, synthesis and molecular docking studies of biscoumarin derivatives using carbon based acid catalyst, Dinesh K. Agarwal AyushiSethiya, PankajTeli, Jay Soni, AnuManhas, NusratSahiba, Prakash Jha and Shikha Agarwal, Journal of Heterocyclic Chemistry (Wiley), 57(9), 3294-3309, 2020. I.F. 2.1
46. Graphene Oxide Membrane:Recent Advancement in Waste Water Treatment and Its Applications, Current Nanomaterials (Bentham Science), 5(2), 111-157, 2020
47. Current Trends in Drug Delivery System of Curcumin and its Therapeutic Applications, AyushiSethiya, Dinesh K. Agarwal and Shikha Agarwal, Mini Reviews in Medicinal Chemistry, 20(13), 1190-1232, 2020
48. Saturated Five Membered Thiazolidines and their Derivatives: From Synthesis to Biological Applications, Topics in Current Chemistry (springer), 378(2), 1-90, 2020
49. Design, Synthesis and Antimicrobial Study of Novel 1-(1,3-benzothiazol-2- yl)-3-chloro-4H-spiro[azetidine-2,3'-indole]-2',4(1'H)-diones Through Ketene–imine Cycloaddition Reaction, Letters in Organic Chemistry, 17(2), 141-148, 2020.
50. An Insight View on Synthetic Protocol, Mechanistic and Biological Aspects of Biscoumarin Derivatives, PankajTeli, AyushiSethiya, and Shikha Agarwal, Chemistry Select (wiley) 4, 13772– 13787, 2019.
51. Contemporary Progress in the Synthetic Strategies of Imidazole and its Biological Activities, Jay Soni, Ayushi Sethiya, Nusrat Sahiba, Dinesh Kr. Agarwal and Shikha Agarwal, Current Organic Synthesis, 16, 1078-1104, 2019. (Bentham Science, Impact factor: 1.8)
52. Contemporary progress in the synthesis and reaction of 2-arylbenzothiazole: A Review, AyushiSethiya, NusratSahiba, Jay Soni, Divyani Gandhi, Shikha Agarwal, Current Organic Chemistry, 2018, 22, 2599-2634. (Bentham Science, Impact factor: 2.2).
53. MgO NPs catalyzed eco-friendly reaction: A highly effective and green approach for the multi-componentone pot synthesis of polysubstituted pyridines using 2-aminobenzothiazole. Divyani Gandhi, Shikha Agarwal, Journal of Heterocyclic Chemistry, 2018, 55(12), 2977-2984. (Wiley, Impact factor: 1.14)
54. Urea nitrate catalyzed synthesis of novel 2-arylbenzothiazole derivatives using the grindstone technique. Divyani Gandhi, and Shikha Agarwal, 2018, Heterocyclic communications, 2018, 24(6), 307-310. (De Gruyter, Impact factor: 0.7)
55. Synthesis, characterization and evaluation of novel benzothiazole clubbed chromene derivatives for their anti-inflammatory potential, Divyani Gandhi, PriyankaKalal, Dinesh Kr. Agarwal, Amit Bhargava, Dinesh Jangid and Shikha Agarwal, 2018, Phosphorus, sulfur, and silicon and the related elements, 1932, 2018.
56. Multicomponent One pot synthesis of substituted 4H-Pyrimido [2,1-b] [1,3] benzothiazolecurcumin derivatives and their antimicrobial evaluation, Dinesh Kr. Agarwal, Shikha Agarwal, Divyani Gandhi, KshamtaGoyal, Letters in Organic Chemistry, 15(10), 2018, I.F. 0.8, (Publisher: Bentham Science)
57. Diversity Oriented Synthesis of 4H-pyrimido[2,1-b]benzothiazole derivatives via Biginellis reaction: A review, Divyani Gandhi, PriyankaKalal, Dinesh Kr. Agarwal,Shikha Agarwal, Combinatorial Chemistry and High throughput screening, 2018, 21, 236-253. IF: 1.2 (Publisher: Bentham Science)
58. A Comparative study: Greener vs Conventional synthesis of 4H-pyrimido[2,1-b] benzothiazoles via Biginelli reaction, Shikha Agarwal, Dinesh Kr. Agarwal, Divyani Gandhi, PriyankaKalal, , AIP Proceedings, (Publisher, American Centre of Physics), 1953, 080001 ,2018. UGC No. 48438, ISSN 0094243X.
59. Thiazole containing Heterocycles with CNS activity, Priyankakalal, Shikhaagarwal, Divyani Gandhi, Prakash Prajapat, Current Drug Discovery Technologies, 15,178-195 , 2018. (Bentham Science)
60. Synthetic aspects and Biological Studies of some Heterocycles. Shikha Agarwal, Divyani Gandhi, Priyankakalal, Chemistry & biology interface, 7(2), 2017, 79-101.
61. Synthesis, Spectral Characterization and Biological Evaluation of New Substituted 2H-Pyrimido[2,1-b]benzothiazol-2-ones. KshamtaGoyal, Shikha Agarwal, Dinesh Kr. Agarwal, Naveen Gautam and DC Gautam. Letters in Organic Chemistry, 13(10), 2016,,726-733.
62. Synthesis, characterization and evaluation of Antimicrobial activity of novel hybrid moieties benzothiazoles And azetidinones. Shikha Agarwal, Dinesh K. Agarwal and AnkitaGarg Chemistry& Biology interface, 6(2), 2016, 99-108.
63. Synthesis and in vitro antimicrobial evaluation of Benzothiazole incorporated thiazolidin-4-ones derivatives, Shikha Agarwal, Dinesh Kr. Agarwal, Kshamta Agarwal, Naveen Gautam and D.C. Gautam, Journal of Korean Chemical Society , 58 (1), 2014.
64. Antioxidant & antimicrobial assessment of synthesized & spectrally characterized new nitrophenothiazines& their sulfone analogues. Naveen Gautam,AnkitaGarg, A.K. Vishnoi, Shikha Agarwal and D.C. Gautam. Phosphorus, Sulfur, Silicon and Related Elements, (Taylor & Francis) vol 190 (4), 2015, 528.
65. Synthesis, spectral characterization and biological evaluation of 10H-phenothiazines, their sulfones and ribofuranosides. Naveen Gautam, Shikha Gupta, NehaAjmera and D.C. Gautam. Journal of HeterocyclicChemistry, (Wiley), 49, 2012, 710-715.
66. Synthesis, spectral characterization and biological activity of some new substituted 10H-phenothiazines, its ribofuranosidesand sulfones. Naveen Gautam, NehaAjmera, Shikha Gupta and D.C. Gautam. Nucleosides, Nucleotides and Nucleic acids, (Taylor & Francis), 29, 2010, 178-189.
67. Synthesis, spectral characterization and biological evaluation of 4H-1,4-Benzothiazines, their sulfones and ribofuranosides. Naveen Gautam, Neha Ajmera, Shikha Gupta and D.C. Gautam, European Journal of Chemistry, 3(1), 2012, 106-111
68. Synthesis and pharmacological use of 10H-phenothiazines, their sulfones and ribofuranosides. Naveen Gautam, NehaAjmera, Shikha Gupta, Priyadarshi Meena , Ashok Kumar and D.C. Gautam. Phosphorus, Sulfur, Silicon and Related Elements, (Taylor & Francis), Vol 185(12), 2010, 2409-2417.
69. Novel synthesis and biological activity study of pyrimido[2,1-b] benzothiazoles. Shikha Gupta, NehaAjmera, Naveen Gautam, Rajni Sharma and D.C. Gautam. Indian Journal of Chemistry, Sec. B, 48B (06) , 2009, 853-857.
70. Synthesis and biological evaluation of novel 1,4-thiazine containing heterocyclic compounds. Shikha Gupta, NehaAjmera, PriyadarshiMeena, Naveen Gautam, Ashok Kumar and D.C. Gautam. Jordan Journal of Chemistry, 4(3), 2009, 209-221.

**Books:**

1. Heterocyclic Libraries: Synthetic aspects and their applications, Lambert Academic Publishing, 2017.ISBN No. 978613982542
2. Text book of organic chemistry for Undergraduate students, B.Sc I year, Ram Prasad Publications, 2018. ISBN No. 9789385630163
3. Plastic Pollution, 2019, Scholars Press, ISBN No.978613830825.
4. Chemistry, B.Sc I year, Ram Prasad Publications, 2019. ISBN No. 9789385644276
5. The Textbook of Stereochemistry, PragatiPrakashan, 2019, ISBN No. 9789351405634.
6. Imidazole Based Drug Discovery, Elsevier, 2022 978-0-323-85479-5, <https://doi.org/10.1016/C2020-0-02414-X>.

**Chapters:**

1. Self healing activity of MXene/Polymer nanocomposites, Shikha Agarwal, Ayushi Sethiya, Divyani Gandhi, Jay Soni, M-Xene filled Polymer nanocomposites, CRC Press, Taylor & Francis, 171-190. <https://doi.org/10.1201/9781003164975>
2. Nanocatalysed Synthesis and Biological Significance of Imidazoles, Hydantoins, Oxazoles, and Thiazoles, Surbhi Dhadda, Nidhi Jangir, Shikha Agarwal, Arvnabh Mishra, Dinesh Kumar Jangid, Nanocatalysis, CRC Press, Taylor & Francis, 2022, 201-218, [http://dx.doi.org/10.1201/9781003141488-9](http://dx.doi.org/10.1201/9781003141488-9%22%20%5Ct%20%22_blank)
3. Nanocatalysed Synthesis of Pyrazoles, Indazoles, and Pyrazolines, Divyani Gandhi, Ayushi Sethiya, Nusrat Sahiba, Dinesh Kumar Jangid, Shikha Agarwal, Nanocatalysis, CRC Press, Taylor & Francis, 2022, 219-243, [http://dx.doi.org/10.1201/9781003141488-10](http://dx.doi.org/10.1201/9781003141488-10%22%20%5Ct%20%22_blank)
4. Metal-Catalyzed Oxidation Reactions of Alkenes Using Eco-friendly Oxidants, JaySoni, PankajTeli, AyushiSethiya, NusratSahiba and Shikha **Agarwal,** In Tech Open, 2021.
5. Role of Click Chemistry in Organic Synthesis, Ayushi Sethiya, Nusrat Sahiba and Shikha **Agarwal,** In Tech Open, 2021.
6. Role of Carbon-based Solid Acid Catalysts in Organic Synthesis, Jay Soni, Ayushi Sethiya and **Shikha Agarwal,** Advanced Organic Synthesis, Vol 14, Bentham Science, 2021, 9789811803741.
7. “On Water” and “In Water” Strategies for Heterocyclic Transformations, NusratSahiba, PankajTeli and **Shikha Agarwal,** Advanced Organic Synthesis, Vol 14, Bentham Science, 2021, 9789811803741.

**Reviewer Recognition**

Reviewer in many esteemed publishers (Springer, ACS, Elsevier, Taylor & Francis, Wiley, MDPI, Bentham Science)

**Conferences/Symposia/Workshops**

**Participation as Paper/Oral/ Poster Presenter:**

1. **Full Paper published in Conference Proceedings:**
2. Synthesis and biological evaluation of 10H-phenothiazines, 4H-1,4-benzothiazines, and their ribofuranosides, *IV International Conference CBC 2010“Modern Aspects of Chemistry of Heterocycles*, Aug.2-6, 2010, Saint Petersburg (Russia).
3. **Conferences attended/ Paper presented:**
4. Highly efficient and Green synthesis of pyrimidine derivatives in water using thiamine hydrochloride as an organocatalyst and their antimicrobial evaluation, ICRACS-2023 held on 16-18 Jan 2023. (OP-20)
5. Synthetic Access to Acridine-1,8-diones using Chitosan-SO 3 H and their Molecular Docking Studies, International Conference on “ Energy Areas in Chemical Sciences” held on 19-20 Nov. 2022 PAHER University, Udaipur. (OP)
6. “Recent Advances in Nanoformulation and Composites of Curcumin and its Biological Significance” International virtual conference on "Covid-19 pandemic: Role, responsibilities, and challenges for Pharmaceutical Research, Industry, and Academia” by Department of Pharmaceutical Sciences, MLSU, Udaipur, held on July 10th, 2021. (OP)
7. “On Water” and “In Water” Strategies for the Synthesis of Heterocyclic Compounds, International Virtual Conference on Frontier in Chemical Sciences, Department of Chemistry, MLSU, Udaipur, 25 June, 2021. (OP-39)
8. Click Chemistry inspired green and mechanochemical synthesis of perimidines, 57th Annual Convention of Chemists, 2020 International Conference on Recent Trends in Chemical Sciences, RTCS-2020, 26-29 Dec, 2020, Indian Chemical Society, Kolkata, West Bengal(online)
9. Multilayered graphene oxide membrane for wastewater treatment, International Conference on Environmental & Climatic Consequences: Challenges & Mitigation Strategies, Sangam University, Udaipur, 21-22 Dec 2019.
10. Multicomponent Reactions: Progressive Tool for Sustainable Organic Synthesis, National Conference on a step towards Sustainable Environment, Department of Chemistry, PAHER University, Udaipur, 5 Nov, 2019.
11. Gabriel Phthalimide Synthesis, Green Chemistry and Commission for scientific and technical terminology, MHRD, Govt. of India, 3-4 Nov, 2019.
12. Anti-inflammatory potential of novel benzothiazole clubbed chromene scaffolds, APP 4th Indo Malaysian Conference on Future Scenario and Present Trends in Drug Design and Pharmacological Aspects, Bhupal Nobles’ University, Udaipur, 26 Feb 2019.
13. Ecofriendly synthesis of novel 2-aryl benzothiazole derivatives using grindstone technique, International Conference on Chemical Sciences in New Era at Department of Chemistry, PAHER University, Udaipur, 5-6 Oct 2018. (OP)

12. Role of nanoparticles as a catalyst in organic synthesis, National Symposium on Photosynthesis, Department of Botany, M.L.S.U., Udaipur, 8-9, Dec, 2017. (Poster)

1. MgO Catalyzed Multicomponent One-Pot Synthesis of Polysubstituted Pyridines, National Conference (RAIPLS-2018) at Department of Chemistry, University of Rajasthan, Jaipur, 6-7 July 2018.(CSO-04)
2. Thiamine Hydrochloride Catalysed One Pot Synthesis of Substituted 4H-pyrimido [2,1-b] [1,3] benzothiazolecurcumin derivatives and Their Antimicrobial Evaluation, International Conference , FCASI-2017, Jaipur, 22-23 July, 2017. (Poster)
3. Benzothiazoles as anticonvulsants in the field of medicinal chemistry, National Conference, Geetanjali Institute of Pharmacy, Udaipur, 4-5 Feb, 2017. (Poster)
4. A Comparative study: Greener vs Conventional Synthesis of 4H-pyrimido[2,1-b]benzothiazoles via Biginelli reaction, International conference, Govt. Engineering College, Bikaner, 12-13 Jan, 2017.
5. Design and development of curcumin derivatives as antimicrobial agents, National conference on Green Chemistry, Department of Chemistry, MLSU, Udaipur, 20 Oct, 2016. (Poster)
6. 2H-Pyrimido[2,1-b]benzothiazol-2-ones : One pot synthesis, Spectral Characterization and their antioxidant activity, National conference, Govt. Meera Girls College, Udaipur, 10 Sept., 2016.
7. Synthesis and Characterization of Heterocyclic compounds containing N and S moieties and their Biological importance. National conference on “Modern Trends in Chemical Sciences” Deptt. of Chemistry, MohanlalSukhadia University, Udaipur 30-31 January 2016. (OP-11)
8. Condensed heterocycles containing benzothiazole nucleus. National seminar on “Recent Trends in Chemical Science: Global Opportunities and Challenges” organized by Department of Chemistry, S.G.G. Government College, Banswara(Raj.) held on 18-19 January 2016. (Poster)
9. Synthesis and applications of benzothiazole, thiazolidine and azetidinone derivatives. 52nd annual convention of chemists and International conference on recent advances in Chemical Sciences at Jaipur held on 28-30 December, 2015. (PP-57)
10. Benzothiazoles and its derivatives: A Brief Review, National Conference on “Medicinal Chemistry Perspective in Drug Discovery and Therapy, organized by Pacific University, Udaipur, 12 Dec, 2015.(Poster)
11. Synthesis and pharmaceutical study of new scaffolds in heterocyclic chemistry, National conference on frontiers at the chemistry- Allied Sciences interface (FCASI-2015) by Department of Chemistry , University of Rajasthan, Jaipur**.** (Poster)
12. Synthesis, characterization & and pharmaceutical evaluation of some novel nitrogen and heterocycles, 4th International Science congress-2014, organized by Pacific University, Udaipur, 8-9 Dec, 2014. (Oral)
13. Synthesis, characterization & evaluation of the antimicrobial activity of novel hybrid moieties -Benzothiazole&azetidinones, National conference on Emerging Areas in Chemical Education & Research and National Convention of Chemistry Teachers, organized by IIS University, Jaipur, 16 -18 Oct 2014. (Poster)
14. Synthesis and pharmacological importance of benzothiazole incorporated 2-azetidinone derivatives, National Seminar on Applications of Nanotechnology in Pharmaceutical Sciences, Bhupal Nobles’ College of Pharmacy, Udaipur, 23-24 Dec 2013.
15. Synthesis and pharmacological evaluation of benzothiazole incorporated thiazolidine-4-ones derivatives, NCETCNM 13, St. Wilfred College, Jaipur 25-26 Oct 2013. (Oral)
16. Synthesis and *in vitro* antimicrobial evaluation of Benzothiazole incorporated thiazolidin-4-ones derivatives, 1st Rajasthan Science Congress Conference, Jaipur, 11-13 May 2013. (poster)
17. Global Warming-BadalDegaMausamKa Chakra, National Seminar on “Climate Change and Biodiversity”, Deptt. Of Environmental Sciences, MohanlalSukhadia University, Udaipur, 17-18 March 2013.
18. Synthesis of Pharmacologically active 6,8-Dimethyl 4*H*-1,4-benzothiazines and their sulfones, **19th ISCBC- 2013**, Dept. of Chemistry, MohanlalSukhadia University, Udaipur, 2-5 March 2013, (PP-273).
19. Synthesis, characterization, antimicrobial and antioxidant evaluation of 10*H*-phenothiazines, their sulfones, and ribofuranosides”, 31st Indian Council of Chemists, Saurashtra University, Rajkot, 26th-28th Dec. 2012, (OO-CYSA-03)
20. Synthesis, investigation and biological evaluation of 10-H benzothiazines and their sulphones, *3rd International Conference on Heterocyclic Chemistry*, Dept. of Chemistry, University of Rajasthan, Jaipur, India, 10-13 Dec. 2011 (poster).
21. Synthesis, spectral investigation and biological evaluation of 10H-phenothiazines and their ribofuranosides, *National Conference on Role of Green Chemistry for Risk-Free Environment,* Poornima Group of Institutions, Jaipur,18 Dec. 2010.
22. Novel synthesis and biological activity study of pyrimido [2,1-b] benzothiazoles from acetylenic acid and 2-amino benzothiazoles, *ETAC,* Deptt. of Chemistry, University of Rajasthan, Jaipur, Mar. 8-10, 2008, (poster)
23. Synthesis and spectral characterization of 4H-1,4-benzothiazines and their ribofuranosides, *2nd International Conference on Heterocyclic Chemistry*, Dept. of Chemistry, University of Rajasthan, Jaipur, India, 16-19 Dec. 2006, (poster).

**(b) Participation Only:**

1. Attended National Conference at MLSU, Udaipur, 23 July, 2016.
2. Attended National Conference at Geetanjali University, Udaipur, 17 Sept., 2016.
3. Attended RAJAPTICON-2015, 1st convention of the Association of Pharmaceutical Teachers of India, 13-14 Feb, 2015.
4. National Seminar on Recent Advances in Pharmaceutical Education and Research, B. N. Institute of Pharmaceutical Sciences, Udaipur, 5-6 Mar, 2014.
5. Attended National seminar on current perspectives of analytical techniques in pharmaceutical science organized by Shrinathji Institute of Pharmacy with Association of Pharmacy Professionals, 24 Sep 2014.
6. Attended Ist National Symposium on Emerging Challenges in Biotechnology: In Perspective of Out space Globe, Poddar International College, Jaipur, India, 24 Jan. 2009.
7. Attended National Symposium on New Frontiers in Chemical Sciences, Feb 25, 2010, Dept. of Chemistry, University of Rajasthan, Jaipur
8. Attended 44th Annual Convention of Chemists, Indian Chemical Society, MGIAS, Jaipur, 23-27 Dec. 2007.

**Conferences/Symposia/Other activities Organized**

1. Member of organizing committee in **ICRACS-2023,** Deptt. of Chemistry, MohanlalSukhadia University, Udaipur.
2. **Organizing Secretary,** International Virtual Conference on Frontiers in Chemical Sciences (IVCFCS-2021), Department of Chemistry, MLSU, Udaipur.
3. **Organizing Secretary** in different Departmental activities viz. Extension Lectures (14 July 2020, 14 May 2021), e-quiz on Environmental Day, 5 Jun 2020.
4. Member of organizing committee in **19th ISCBC- 2013**, Dept. of Chemistry, MohanlalSukhadia University, Udaipur.
5. Member of organizing committee in **MTCS-2016,** Deptt. of Chemistry, MohanlalSukhadia University, Udaipur.

**Orientation/RefresherCourses/FDPAttended:**

1. National Level One Week Faculty Development Programme on Research Methodology, Kamla Nehru Mahavidhalaya, Nagpur, 23 May 2022-28 May 2022).
2. National Level One Week Faculty Development Programme on Research Methodology, Kamla Nehru Mahavidhalaya, Nagpur, 2 May 2021- 7 May 2022).
3. AICTE ATAL Academy Online Elementary FDP on Capacity Building through Emotional Intelligence for Women by DR SNRAJALAKSHMI College of Arts and Science, 16 August, 2021-20 August, 2021.
4. National Level One Week Faculty Development Programme on Research Methodology, Kamla Nehru Mahavidhalaya, Nagpur, 26 Apr 2021-1 May 2021).
5. Three Days National Faculty Development Programme on ICT Tools for Effective Teaching –Learning, Kamla Nehru Mahavidhalaya, Nagpur, 8 Jun 2021-10 Jun, 2021).
6. Faculty Development Program on Advancements in Green and Sustainable Energy (Online), Vivekananda Institute of Technology, Jaipur, TEQIP-III, 1 week (26 Dec 2020 to 30 Dec 2020)
7. Online Refresher Course in Chemistry for Higher Education Faculty, SGBTKhalsa College, University of Delhi, AICTE (SWAYAM), 16 weeks (1 Sept 2019 to 31 Dec 2019).
8. Academic Writing (4 credit course) (Online), H.N.B. Garhwal University, Srinagar, UGC (SWAYAM) 15 weeks(15 Jul 2019 to 1 Nov 2019)
9. Online Refresher course in Chemistry, SGBT Khalsacollege, University of Delhi, Swayam, MHRD, 16 weeks (1 Nov 2018 to 28 Feb 2018).
10. Faculty development programme, Entrepreneurship Development Institute of India, Gandhinagar under DST NIMAT Project by Department of Geology, MohanlalSukhadia University, Udaipur, 2 weeks (20 Nov 2016 to 3 Dec 2016)
11. Orientation course at Academic Staff College, Jaipur, Raj. India (19 May- 14 June 2014)
12. RefresherCourse at MohanlalSukhadia University, Udaipur

**Distinctions and Awards:**

**Invited Talks:**

1. Reduction of Graphene oxide using Tulsi seed and Curry leaf Extracts and their Catalytic Applications in Reduction of α,β-unsaturated Aldehydes, and Dye Degradation, International Online Conference on Nano Materials (ICN 2022), 12-14 August 2022 organized by MGU, Kottayam, Kerala, India.
2. Graphene oxide Nanoparticle Catalyzed Synthesis of Bioactive BiscoumarinDerivatives: A Green and Sustainable Approach, International Online Conference on Nanomaterials (ICN 2021), School of Energy Materials, Mahatma Gandhi University, Kottayam, Kerala (online), 9-11 Apr 2021.
3. Metal-free carbon based acid-catalyzed synthesis of bis coumarins under ambient reaction conditions at 26th International Conference (Online) of International Academy of Physical Sciences (CONIAPS XXVI), School of Energy Materials, Mahatma Gandhi University, Kottayam, Kerala (online), 18-20 Dec, 2020
4. Magnesium oxide nanoparticles as recyclable heterogeneous catalyst for the synthesis of substituted thiazolo[4,5-b]pyridine-6-carbonitrile derivatives, National Conference on Trends and Innovation in Chemistry (NCTIC-2019), RNT PG College, Kapasan, Chittorgarh, 6-7 Dec, 2019
5. Versatilities of Benzothiazole Based Compounds in Organic Chemistry, National Conference on Current Trends in Chemical, Biological, Environmental and Allied Sciences, Association of Chemists and Biologists, Sheth M.N. Science College, Patan, Gujarat, 27-28 July 2019

**Life Membership:**

1. Lifetime membership of Rajasthan Science Congress.
2. Lifetime membership of the Association of Chemistry Teachers.
3. Lifetime membership of the Indian Science Congress.
4. Lifetime membership of the Indian Council of Chemists.
5. Lifetime membership of IUPAC.
6. Lifetime membership of the Indian Chemical Society and selected as a Fellow.
7. Membership of American Chemical Society-2016, 2017.

**Awards:**

1. Women Scientist Appreciation by DST Rajasthan.
2. **Best oral presentation** in MTCS-2016 and awarded with the S.K. Banerjee award.
3. RC Mehrotra Gold medal award, Department of Chemistry, University of Rajasthan, Jaipur, 2006.
4. BC Joshi Memorial Award (Gold Medal for highest marks in organic chemistry), Department of Chemistry, University of Rajasthan, Jaipur, 2006.
5. **M.Sc. Gold Medalist-2006** in University of Rajasthan, Jaipur.
6. NET + CSIR-JRF Qualified in Dec. 2005.
7. Gate-2006 (IIT, Kanpur), Rank-195 with 97 percentile.
8. Got the third rank in the University of Rajasthan, in B.Sc.
9. Got 28th rank in Senior Sec. Exam in RBSE.
10. Got 42nd rank in the Secondary Exam in RBSE and awarded with Gargi award.

**Session Chair & Judge:**

1. Chaired Session in International Conference on Recent Advances in Chemical Sciences, Department of Chemistry, MLSU, Udaipur, 16-18 Jan, 2023.
2. Acted as Judge in Poster Session in International Conference on “ Energy Areas in Chemical Sciences” held on 19-20 Nov. 2022 PAHER University, Udaipur.
3. Chaired Session in International Online Conference on Nanomaterials (ICN 2022), School of Energy Materials, Mahatma Gandhi University, Kottayam, Kerala (online), 12-14 Aug, 2022.
4. Chaired Session in International Virtual Conference on Frontier in Chemical Sciences, Department of Chemistry, MLSU, Udaipur, 25 June 2021.
5. Chaired Session in International Online Conference on Nanomaterials (ICN 2021), School of Energy Materials, Mahatma Gandhi University, Kottayam, Kerala (online), 9-11 Apr, 2021.
6. Chaired Session in 26th International Conference (Online) of International Academy of Physical Sciences (CONIAPS XXVI), School of Energy Materials, Mahatma Gandhi University, Kottayam, Kerala (online), 18-20 Dec, 2020
7. Acted as Judge in Poster session in National Conference on Current Trends in Chemical, Biological, Environmental and Allied Sciences, Association of Chemists and Biologists, Sheth M.N. Science College, Patan, Gujarat, 27-28 July 2019.
8. Chaired Session in National conference on “Modern Trends in Chemical Sciences” Deptt. of Chemistry, MohanlalSukhadia University, Udaipur 30-31 January 2016.