

# MOHANLAL SUKHADIA UNIVERSITY

## **Faculty Profile**

Title	Dr.	First Name	SHIKHA	Last Name	AGARWAL	Photograph	
Designation							
Address		Department of Chemistry, Mohanlal Sukhadia University, Udaipur (Rajasthan) India					
Phone No.		09460182930,09828257111					
E-mail		shikha_urj@yahoo.com, shikhaagarwal@mlsu.ac.in					
Educational Qualifications:							
Degree		Institution			% age	Year	
Ph.D.		Depart	ment of Chemis Rajasthan,	of	2011		
Title of Ph.D. Thesis: Synthetic strategies, spectral investigation and deduction of biological properties of novel heterocyclic compounds							
M.Sc. (Cher	mistry)	Dept. of Chemistry, University of Rajasthan, Jaipur			nn, 80% (Gold Medalist)	2006	
B Sc (Chem Botany, Zoo		Kanoria College, University of Rajasthan, Jaipur			n, 84%	2004	
Sr. Hr. Seco	ondary	RBSE, Ajmer			85%	2000	

#### **Career Profile:**

**Secondary** 

## **Employment Details:**

1. Assistant Professor, Department of Chemistry, Mohan Lal Sukhadia University, Udaipur (Feb 2012-continued)

86%

1998

### Fellowship Awarded:

1. Senior Research Fellow (CSIR-SRF), Dept. of Chemistry, University of Rajasthan, Jaipur (July 2009- June 2011)

RBSE (Ajmer)

2. **Junior Research Fellow (CSIR-JRF),** Dept. of Chemistry, University of Rajasthan, Jaipur (**July 2006- June 2009**)

**Area of Research Interest/Specialization:** Organic Chemistry, Organic Synthesis, Heterocyclic Chemistry, Medicinal Chemistry, Drug Design etc.

## **Subject/Papers Taught:**

Organic Chemistry

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

#### Job Responsibilities:

#### Current:

- Presiding Officer, Commerce College Election, 2016-2017, 2017-2018.
- Admission Committee convenor M.Sc. Chemistry 2018-19.
- Admission Committee Co-convenor M.Sc. Chemistry 2015-18.
- Skill Course Green Chemistry, Convener, 2016-2018.
- Member-Committee of Course, 2015-2018.
- Member-Central Admission Committee-College of science, 2015--2018.
- Member-Departmental Purchase committee, 2015-2016, 2016-2017.
- Member-Discipline Committee, 2015-2016, 2016-2017.
- Member-Cultural Programme, Science College, 2013-2018.
- Member-College Election, 201216.

#### Research Guidance: 05

1. Divyani Gandhi

4. Nusrat Sahiba

Name of PhD Scholars			
2. Ayushi Sethiya	3. Priyanka kalal		
5. Jai Soni			

## **Research Projects:**

Title of Project	Amount	Funding Agency	Duration
Synthesis and biological evaluation of novel substituted benzothiazole compounds	6 lakhs	UGC, New Delhi. (F.20-20/2013(BSR), 09/12/2013).	2 years (2014-2016)

#### **Publication Profile: Selected papers:**

- (a) Research Papers published in Refereed/Peer Reviews Journals: Total citations: 144, h-index: 5
- Multicomponent One pot synthesis of substituted 4H-Pyrimido [2,1-b] [1,3] benzothiazole curcumin derivatives and their antimicrobial evaluation, **Dinesh Kr. Agarwal**, Shikha Agarwal, Divyani Gandhi, Kshamta Goyal, Letters in Organic Chemistry, 15, 2018, <a href="https://doi.org/10.2174/1570178615666180326161710">https://doi.org/10.2174/1570178615666180326161710</a>. J.F. 0.8, (Publisher: Bentham Science) UGC No. 4591, ISSN 15701786.
- 2. Diversity Oriented Synthesis of 4H-pyrimido[2,1-b]benzothiazole derivatives via Biginellis reaction: A review, Divyani Gandhi, Priyanka Kalal, **Dinesh Kr. Agarwal**, Shikha Agarwal, Combinatorial Chemistry and High throughput screening, 2018, 21, 236-253. **IF: 1.2** (Publisher: Bentham Science), UGC No. 16181, ISSN 13862073.
- A Comparative study: Greener vs Conventional synthesis of 4H-pyrimido[2,1-b] benzothiazoles via Biginelli reaction, Shikha Agarwal, **Dinesh Kr. Agarwal**, Divyani Gandhi, Priyanka Kalal, , AIP Proceedings, (Publisher, American Centre of Physics), 1953, 080001, 2018. UGC No. 48438, ISSN 0094243X.
- 4. Thiazole containing Heterocycles with CNS activity, Priyanka kalal, Shikha agarwal, Divyani Gandhi, Prakash Prajapat, *Current Drug Discovery Technologies*, 14, 2017. (Bentham Science)
- 5. Synthetic aspects and Biological Studies of some Heterocycles. Shikha agarwal, Divyani Gandhi, Priyanka kalal, *Chemistry & biology interface*, 7(2), 2017, 79-101.
- 6. Synthesis, Spectral Characterization and Biological Evaluation of New Substituted 2H-Pyrimido[2,1-b]benzothiazol-2-ones. Kshamta Goyal, Shikha Agarwal, Dinesh Kr. Agarwal, Naveen Gautam and DC Gautam. *Letters in Organic Chemistry*, 13(10), 2016, 726-733, (Bentham Science)
- 7. Synthesis, characterization and evaluation of Antimicrobial activity of novel hybrid moieties benzothiazoles And azetidinones. **Shikha Agarwal,** Dinesh K. Agarwal and Ankita Garg Chemistry& Biology interface, 6(2), 2016, 99-108.
- 8. Antioxidant & antimicrobial assessment of synthesized & spectrally characterized new nitrophenothiazines & their sulfone analogues. Naveen Gautam, Ankita Garg, A.K. Vishnoi, **Shikha Agarwal** and D.C. Gautam. *Phosphorus, Sulfur, Silicon and Related Elements*, (Taylor & Francis) vol 190 (4), 2015, 528.
- 9. 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.

- 10. Synthesis, spectral characterization and biological evaluation of 10H-phenothiazines, their sulfones and ribofuranosides.
  - Naveen Gautam, **Shikha Gupta**, Neha Ajmera and D.C. Gautam. *Journal of Heterocyclic Chemistry*, (Wiley), **49**, 2012, 710-715.
- 11. Synthesis, spectral characterization and biological activity of some new substituted 10H-phenothiazines, its ribofuranosides and sulfones. Naveen Gautam, Neha Ajmera, **Shikha Gupta** and D.C. Gautam. *Nucleosides, Nucleotides and Nucleic acids*, (Taylor & Francis), **29**, 2010, 178-189.
- 12. 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.
- 13. Synthesis and pharmacological use of 10H-phenothiazines, their sulfones and ribofuranosides. Naveen Gautam, Neha Ajmera, Shikha Gupta, Priyadarshi Meena, Ashok Kumar and D.C. Gautam. Phosphorus, Sulfur, Silicon and Related Elements, (Taylor & Francis), Vol 185(12), 2010, 2409-2417
- Novel synthesis and biological activity study of pyrimido[2,1-b] benzothiazoles.
  Shikha Gupta, Neha Ajmera, Naveen Gautam, Rajni Sharma and D.C. Gautam. *Indian Journal of Chemistry, Sec. B*, 48B (06), 2009, 853-857.
- 15. Synthesis and biological evaluation of novel 1,4-thiazine containing heterocyclic compounds. **Shikha Gupta**, Neha Ajmera, Priyadarshi Meena, Naveen Gautam, Ashok Kumar and D.C. Gautam. *Jordan Journal of Chemistry*, **4(3)**, 2009, 209-221.
- (b) Books:
- 1. Heterocyclic Libraries: Synthetic aspects and their applications, Lambert Academic Publishing, 2017.
- 2. Text book of organic chemistry for Undergraduate students B.Sc I year, Ram Prasad Publications, 2018.

- (c) Research Papers published in as Book Chapter:
- 1. Synthesis and antioxidative evaluation of 4H-1,4-Benzothiazines and their sulfones. New Trends in Heterocyclic Chemistry, RBSA Publishers, Jaipur. ISBN No.978-81-7611-589-6.
- **2.** Design, Synthesis and antimicrobial study of pyrimido[2,1-b] benzothiazol-2-ones, Oxford Book Company, New Delhi. ISBN No. 9789350302132.

### Conferences/Symposia/Workshops:

### (a) Participation as Paper/Poster Presenter:

### Full Paper published in Conference Proceedings:

1. 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).

### **Conferences attended/ Paper presented:**

- 2. Synthesis and spectral characterization of 4H-1,4-benzothiazines and their ribofuranosides, 2<sup>nd</sup> *International Conference on Heterocyclic Chemistry*, Deptt. of Chemistry, University of Rajasthan, Jaipur, India, 16-19 Dec., 2006, (poster).
- 3. Novel synthesis and biological activity study of pyrimido [2,1-b] benzothiazoles from acetylenic acid and 2-aminobenzothiazoles, *ETAC*, Deptt. of Chemistry, University of Rajasthan, Jaipur, Mar. 8-10, 2008, (poster)
- 4. Synthesis, spectral investigation and biological evaluation of 10H-phenothiazines and their ribofuranosides, *National Conference on Role of Green Chemistry for Risk Free Enviornment*, Poornima Group of Institutions, Jaipur, 18 Dec., 2010.
- 5. Synthesis, investigation and biological evaluation of 10-H benzothiazines and their sulphones, 3<sup>nd</sup> International Conference on Heterocyclic Chemistry, Deptt. of Chemistry, University of Rajasthan, Jaipur, India, 10-13 Dec., 2011 (poster).
- 6. Synthesis, characterization, antimicrobial and antioxidant evaluation of 10*H*-phenothiazines, their sulfones and ribofuranosides", 31<sup>st</sup> Indian Council of Chemists, Saurashtra university, Rajkot, 26<sup>th</sup>-28<sup>th</sup> Dec. 2012, (OO-CYSA-03), **Shikha Agarwal**, Dinesh Kr. Agarwal, Naveen Gautam, D. C. Gautam.(Oral)
- 7. Synthesis of Pharmacologically active 6,8-Dimethyl 4*H*-1,4-benzothiazines and their sulfones, **19**<sup>th</sup> **ISCBC- 2013**, Deptt. of Chemistry, Mohanlal Sukhadia University, Udaipur, 2-5 March, 2013,(PP-273), **Shikha Agarwal**, Dinesh Kr. Agarwal, Naveen Gautam, D. C. Gautam.

- 8. Global Warming-Badal Dega Mausam Ka Chakra, National Seminar on "Climate Change and Biodiversity", Deptt. Of Envionmental Sciences, Mohanlal Sukhadia University, Udaipur, 17-18 March, 2013. **Shikha Agarwal**, Dinesh Kr. Agarwal, Naveen Gautam, D. C. Gautam.
- 9. Synthesis and *in vitro* antimicrobial evaluation of Benzothiazole incorporated thiazolidin-4-ones derivatives, 1<sup>st</sup> Rajasthan Science Congress Conference, Jaipur, 11-13 May, 2013. **Shikha Agarwal**, Dinesh Kr. Agarwal, Naveen Gautam, D.C. Gautam.(poster)
- 10. Synthesis and pharmacological evaluation of benzothiazole incorporated thiazolidin-4-ones derivatives, NCETCNM 13, St. Wilfred College, Jaipur 25-26 Oct, 2013. **Shikha Agarwal**, Dinesh Kr. Agarwal, Mahima Kapoor, Naveen Gautam, D. C. Gautam. (Oral)
- 11. 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. **Shikha Agarwal**, Dinesh Kr. Agarwal, D. C. Gautam.
- 12. Synthesis, characterization & evaluation of 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. **Shikha Agarwal** and Dinesh Kr. Agarwal (Poster)
- 13. Synthesis, characterization & pharmaceutical evaluation of some novel nitrogen and heterocycles, 4<sup>th</sup> International Science congress-2014, organized by Pacific University, Udaipur, 8-9 Dec, 2014. **Shikha Agarwal** and Dinesh Kr. Agarwal (Oral)
- 14. 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. Shikha Agarwal, Dinesh Kr. Agarwal, Naveen Gautam, D. C. Gautam.(Poster)
- 15. 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)
- 16. Synthesis and applications of benzothiazole, thiazolidine and azetidinone derivatives. 52<sup>nd</sup> annual convention of chemists and International conference on recent advances in Chemical Sciences at Jaipur held on 28-30 December, 2015. (PP-57)
- 17. 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)

- 18. 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, Mohanlal Sukhadia University, Udaipur 30-31 January 2016. (OP-11)
- 19. 2*H*-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.
- 20. Design and development of curcumin derivatives as antimicrobial agents, National conference on Green Chemistry, Department of Chemistry, MLSU, Udaipur, 20 Oct, 2016. (Poster)
- 21. 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.
- 22. Benzothiazoles as anticonvulsants in the field of medicinal chemistry, National Conference, Geetanjali Institute of Pharmacy, Udaipur, 4-5 Feb, 2017. (Poster)
- 23. Thiamine Hydrochloride Catalysed One Pot Synthesis of Substituted 4*H*-pyrimido [2,1-b] [1,3] benzothiazole curcumin derivatives and Their Antimicrobial Evaluation, International Conference, FCASI-2017, Jaipur, 22-23 July, 2017. (Poster)
- 24. 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)

### (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, 1<sup>st</sup> convention of 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.
- 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 I<sup>st</sup> 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, Deptt. of Chemistry, University of Rajasthan, Jaipur
- 8. Attended 44<sup>th</sup> Annual Convention of Chemists, Indian Chemical Society, MGIAS, Jaipur, 23-27 Dec., 2007.

## Conferences/Symposia/Other activities Organized:

- 1. Member of organising committee in **19<sup>th</sup> ISCBC- 2013**, Deptt. of Chemistry, Mohanlal Sukhadia University, Udaipur.
- 2. Member of organising committee in **MTCS-2016**, Deptt. of Chemistry, Mohanlal Sukhadia University, Udaipur.

#### **Orientation/Refresher Courses Attended:**

- 1. Orientation course at Academic Staff College, Jaipur, Raj. India (19 May- 14 June 2014)
- 2. Refresher Courses at Mohanlal Sukhadia University, Udaipur
- 3. Faculty development programme, Department of Geology, Mohanlal Sukhadia University, Udaipur

### **Distinctions and Awards:**

#### **Awards:**

- 1. Best oral presentation in MTCS-2016 and awarded with S.K. Banerjee award.
- 2. RC Mehrotra Gold medal award, Department of Chemistry, University of Rajasthan, Jaipur, 2006.
- 3. BC Joshi memorial award (Gold Medal for highest marks in organic chemistry), Department of Chemistry, University of Rajasthan, Jaipur, 2006.
- 4. **M.Sc. Gold Medalist-2006** in University of Rajasthan, Jaipur.
- 5. NET + CSIR-JRF Qualified in Dec. 2005.
- 6. Gate-2006 (IIT, Kanpur), Rank-195 with 97 percentile.
- 7. Got third rank in University of Rajasthan, in B.Sc.
- 8. Got 28<sup>th</sup> rank in Senior Sec. Exam in RBSE.

# Life membership:

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