

NAME	Dr. Seema Bhatnagar	
DESIGNATION	Professor and Assistant Director	
EMAIL ID	sbhatnagar1@amity.edu	
CONTACT NUMBER	+91-9810826685	
RESEARCH INTERESTS	Small Molecule Drug Discovery, Smart Drug Delivery, Natural Products, Heterocyclic Chemistry, Organic Synthesis.	

EDUCATIONAL QUALIFICATIONS:

Name of College / University	Degree	Year
Central Drug Research Institute, Lucknow	Ph.D Organic Chemistry (Awarded 2000)	1994-1998
Lucknow University	MSc Organic Chemistry	1992-1994
Isabella Thoburn College, Lucknow University	Bachelor of Science (Chemistry, Botany)	1989-1992

Title of Ph.D. thesis: Synthesis of Possible Spermicidal Agents

EXPERIENCE (in chronological order): Total 20 Years Research & Teaching

Designation	Type of post held (teaching/ research)	Name of the Institute	Year (From – To)
Senior Research Fellow (Extended)	Research	New Drug Discovery Research, Ranbaxy laboratories Ltd, New Delhi	1999
Project Associate	Research	National Institute of Immunology, New Delhi	2000-2004
Lecturer	Teaching	Amity Institute of Biotechnology, Amity University, Noida	2005-2007
Sr. Lecturer	Teaching	Amity Institute of Biotechnology, Amity University, Noida	2007-2009
Asstt. Professor	Teaching	Amity Institute of Biotechnology, Amity University, Noida	2009-2010
Professor	Teaching	Amity Institute of Biotechnology, Amity University, Noida	2010-2014
Professor & Asstt. Director	Teaching	Amity Institute of Biotechnology, Amity University, Noida	2014-Till Date
Courtesy Research Scholar	Research	Luddy School of Informatics Computing and Engineering, Indiana University, USA	*2024-onwards (3years)
No. of Ph.D. students supervised		Ongoing: 5	
		Completed: 2	
No. of Post-Doc			
No. of M.Tech. Students supervised:		20	
No. of B.Tech. Students supervised:		30	

PUBLICATIONS

(mention total no. here) 22

1. Evaluating the Antiangiogenic Potential of *Clerodendrum infortunatum* Linn. through Chorioallantoic Membrane Image Analysis Journal: Pharmacological Research - Natural Products PRENAP-D-25-00261
2. Chaudhary S, Rana A, **Bhatnagar S**. Drug Repurposing: A Conduit to Unravelling Metabolic Reprogramming for Cancer Treatment. *Mini Rev Med Chem*. Published online January 17, 2025. doi:10.2174/0113895575339660250106093738
3. Complete genome resource unravels the close relation of an Indian *Xanthomonas oryzae* pv. *oryzae* strain IXOBB0003 with Philippines strain causing bacterial blight of rice N. S. Kalaivanan, Thungri Ghoshal, M. Amrutha Lakshmi, Kalyan K. Mondal, Aditya Kulshreshtha, Kajol B. M. Singh, Jithendra K. Thakur, P. Supriya, **Seema Bhatnagar** & Chandra Mani 3 Biotech, 2003 13(6)187
4. Smart" drug delivery: A window to future of translational medicine *Rana A, Adhikary M, Singh PK, Das BC, Bhatnagar S** Front Chem 2023 Jan 4;10:1095598. (doi: 10.3389/fchem.2022.1095598) **(Impact Factor 5.5)**
5. Advancements in folate receptor targeting for anti-cancer therapy: A small molecule-drug conjugate approach *Abhilash Rana Seema Bhatnagar** Bioorganic chemistry 2021 ,112,pp 104946 (DOI:10.1016/j.bioorg.2021.104946) **(Impact factor 5.3)**
6. Multi-parametric disease dynamics study and analysis of the COVID-19 epidemic and implementation of population-wide intrusions: The Indian perspective *Samuel Bharti1, Priyanka Narad, Parul Chugh, Alakto Choudhury, Seema Bhatnagar*, Abhishek Sengupta** MedRxiv June 4th 2020 (doi10.1101/2020.06.02.20120360).
7. ER alpha selective chromone, Isoxazolylchromones induces ROS mediated cell death without Autophagy *Swati Kaushik, Rahul Sanawar, Asha Lekshmi1, Leena Chandrasekhar, Mydhily Nair, Seema Bhatnagar*T. R. Santhosh kumar** Chemical Biology and Drug design February 2019 DOI: 10.1111/cbdd.13510) **(Impact Factor 2.87 ISSN:1747-0285)** (Web of Science).
8. Nonsteroidal estrogen receptor isoform-selective biphenyls. **Seema Bhatnagar*** Anjali Soni Swati

*Kaushik Megha Rikhi Thankayyan Retnabai Santhosh Kumar Bhyravabhotla Jayaram** Chemical Biology and drug Design 2018, 91(2), 620-630. (Impact Factor **2.87**,ISSN:1747-0285) (Web of Science).

9. Antibiofilm Profiling of helicobacter pylori strains and the efficacy of Brassica Capitata against resistant strains isolated from patients suffering from gastroduodenal diseases in guwahati Assam. *Shweta Mahant, Valentina Gehlot, Seema Bhatnagar, Megha Rikhi, Asish Kumar Mukhopadhyaya, Sangeetanjan Dutta, Anil Aggarwal, Kunal Das, Rajashree Das* *Asian Journal of Pharmaceutical and Clinical Research Vol 8(11) **2018**
10. 162P Novel isoxazolyl chromones antagonizing ER α induces anticancer activity via triggering caspase-3 activation. Annals of Oncology, *S. Kaushik M. Rikhi T.R.S. Kumar S. Bhatnagar* *2016, 27(suppl_9).(Impact Factor **57**,ISSN: 0923-7534 (print) (Web of Science)
11. Docking and cytotoxicity studies of 2-vinylchromone derivatives on human breast cancer cell lines. *Swati Kaushik, Megha Rikhi, Seema Bhatnagar**. International Journal of Pharmacy and Pharmaceutical Sciences 2015,7(12). (Impact Factor:0.51 ISSN No: 0975 - 1491)(Thomson Reuters)
12. In Vitro Antioxidant Activity of Biphenyl-2,6-diethanone Derivatives.*Megha Rikhi, Dinesh Kumar Bharadwaj, Seema Bhatnagar**. International Journal of ChemTech Research 2015,8(12) (Impact Factor 0.41 ISSN 09744290, 24559555) (Thomas Reuters)
13. Antimicrobial Properties of Indian Medicinal Plants and Their Effect in Attenuating Fungal Virulence: A Herbal Approach. International Journal of Pharmaceutical Research & Allied Sciences, *Rikhi, M., Bhatnagar, S., Sanwal, H., & Pooja, V.* (2015) 4(2).(Impact Factor 0.5 ISSN 22773657) (Thomas Reuters)
14. Efficacy of natural extracts againstCandida albicansbiofilms: P101 V Pooja, *Seema Bhatnagar, Hina Sanwal*, Mycoses 2012, 55.
15. Stereoselective brominations of 2-vinyl chromones using NBS, Synthetic Communications *Seema Bhatnagar** „*Swati Kaushik ,Shakti Sahi* 2011, 41pp 219-226. .(Impact Factor : 1.439, ISSN: 1532-2432) (Scopus)

	<p>16. Synthesis and docking studies on styryl chromones exhibiting cytotoxicity in human breast cancer cell line Bioorganic Medicinal Chemistry Letters Bhatnagar S*, Sahi S, Kackar P, Kaushik S, Dave MK, Shukla A, Goel A.2010, 20(16) , pp4945-4950 (Impact Factor 2.42, ISSN 0960-894X) (Web of Science)</p> <p>17. Search for new chemical entities as menses inducing agents. Mehrotra PK, Kitchlu S, Batra S, Srivastava S, Bhaduri AP.Contraception. 2001;64(3):187-91.(Impact Factor: 2.335, ISSN: 2590-1516)(Web of Science)</p> <p>18. Syntheses and Biological evaluation of 3-substituted amino-1- aryl-6-hydroxy-hex-2-ene-1-one as antioxidant and Hypolipidemic agents Sanjay Batra, Seema Srivastava,Kavita Singh, Ramesh P.Bhaduri* Bioorganic Medicinal Chemistry,2000, 8(8), pp2195-2209(Impact Factor 2.79, ISSN 0968-0896) (Web of science)</p> <p>19. In search of new chemical entities with spermicidal and anti HIV activity Seema Srivastava, Lakshmi Kant Bajpai, SanjayBatra, Amiya P.Bhaduri*, J.P.Maikhuri, Gopal Gupta,J.D.Dhar Bioorganic Medicinal Chemistry 11) 1999 pp2607-2613(Impact Factor 2.79, ISSN 0968-0896) (Web of science)</p> <p>20. Syntheses and Biological evaluation of 3-substituted amino-1-aryl-6-hydroxy-hex-2-ene-1-one as antioxidant and Hypolipidemic agents ,Sanjay Batra, Seema Srivastava, Kavita Singh, Ramesh Chander, Ashok K.Khanna and Amiya P.Bhaduri* Bioorganic Medicinal Chemistry, 8(8) 2000 pp2195-2209(Impact Factor 2.79, ISSN 0968-0896) (Web of science)</p> <p>21. Reactions of cyclohexanone with arylidene malononitriles: A reinvestigation Seema Srivastava, Sanjay Batra, Raja Roy and A.P.Bhaduri* Indian Journal of Chemistry. Vol.36B, January 1997, pp.25-28(Impact Factor: 0.1 ISSN: 037646991) (Thomas Rueters)</p> <p>22. A facile acid catalyzed ring .transformation of 4H-pyrans to 1,2,3,4-tetrahydropyridin-2-ones and 3,4 dihydronaphtho [1,2-b]-pyran-2[H]-ones.Seema Srivastava, Sanjay Batra and A.P.Bhaduri*. Indian Journal of Chemistry, Vol.35B, June1996, pp 602-604 (Impact Factor: 0.1 ISSN: 037646991) (Thomas Rueters)</p>
PATENTS (total no.) 14	<p>Details:</p> <p>1. Patent No 439723 1112/DEL/2015 Grant date 20/07/2023</p>

A method for the synthesis of a novel bioconjugate drug for targeted treatment of cancer and cancer stem cells *Inventors Seema Bhatnagar, Bhudev C Das*

2. Grant Date: 20/07/2023

Patent Appl. No.:(1627/DEL/2011) Filing Date: 09/06/2011

Title: novel effect of spices on demelanization of pathogenic fungus *Inventors: Seema Bhatnagar, Hina Sanwal, Pooja Vijayaraghavan, Ashwani K Srivastava*

3. Patent No **416871 (2740/DEL/2011) Granted 05/01/2023**
Filing Date: 21/09/2011

Title: a method for the preparation of disinfectant, air purifier and hand sanitizer using combination of plant extracts *Inventors: Pooja Vijayaraghavan, Hina Sanwal, Megha Rikhi, Swati Kaushik, Seema Bhatnagar, Ashwani K Srivastava*

4. Patent No 403313 Grant date 10/08/2022

Patent Appl. No.:(978/DEL/2015) Filing Date: 07/04/2015

Title: isoxazoyl styrylchromones as selective estrogen receptor modulators *Inventors: Swati Kushik, Megha Rikhi, Seema Bhatnagar*

5. Patent No 359963 Grant Date 02/03.2021 Patent Appl. No.:(979/DEL/2015)

Title: a method for the synthesis of 3-aminoalkyl-2-styryl chromone derivatives for anticancer and antioxidant activity *Inventors: Swati Kushik, Megha Rikhi, Seema Bhatnagar*

6. Patent No. 304060 Grant Date: 05/12/2018

Patent Appl. No.:(768/DEL/2009) Filing Date: 15/04/2009

Title: a process for the preparation of 3-substituted-2-(phenyl ethyl) chromones. *Inventors: Seema Bhatnagar, Swati Kaushik*

7. Patent No. 289169 Grant Date: 02/11/2017

Patent Appl. No.:(674/DEL/2009) Filing Date: 31/03/2009

Title: A process for the synthesis of E-3- halo-2-styryl/vinyl chromones as therapeutic agents *Inventors: Seema Bhatnagar, Swati Kaushik*

8. Patent No. 292375 Grant Date:: 4/2010

Patent Appl. No.:(538/DEL/2009), Filing Date: 20/03/2009

Title: A process for the synthesis of Z-3- halo-2-styryl/vinyl chromones as therapeutic agents *Inventors: Seema Bhatnagar, Swati Kaushik*

9. Patent No.: 191519 Grant Date: 30/06/04

Patent Appl. No.: 2716/DEL/1998 Filing Date 11/09/98

Title: a process for the preparation of 1-aryl-6- halo-3-

	<p>hydroxy-hex-2-ene-1-one <i>Inventors: Seema Srivastava, Sanjay Batra, Amiya Prasad Bhaduri, Nidhi Srivastava, et al</i></p> <p>10. Patent No.: 191084 Grant Date: 12/04/04 Patent Appl. No.: 2715/DEL/1998 Filing Date 11/09/98 Title: A process for the preparation of 1-aryl-3-aminoalkyl(N,N-disubstituted aminohex-2-ene-1-ones-6-hydroxy useful as therapeutic agents <i>Inventors: Seema Srivastava, Sanjay Batra, Amiya Prasad Bhaduri, Nidhi Srivastava, et al</i></p> <p>11. Patent No.: 190789 Grant Date: 15/03/04 Patent Appl. No.: 2714/DEL/1998 Filing Date 11/09/98 Title: A process for the preparation of 1-substituted-aminohex-2-ene-1-one-6-hydroxy useful as therapeutic agents <i>Inventors: Seema Srivastava, Sanjay Batra, Amiya Prasad Bhaduri, Nidhi Srivastava, et al'</i></p> <p>12. Patent No.: 190787 Grant Date: 16/03/04 Patent Appl. No.: 2711/DEL/1998 Filing Date 11/09/98 Title: A process for the simultaneous preparation of 3-(2-morpholin-4-yl) ethyl amino-1-aryl -hex-2-ene-1-one-6 hydroxy and 2-(1-(2-morpholin-4-yl) ethyl)-pyrrolidin -2-yl) -1- aryl -1-oxo-ethylidene useful as therapeutic Agents <i>Inventors: Seema Srivastava, Sanjay Batra, Amiya Prasad Bhaduri, Nidhi Srivastava, et al</i></p> <p>13. Publication Date: 08/03/2013 Patent Appl. No.:(2590/DEL/2011) Filing Date: 08/09/2011 Title: Herbal formulation effective against acne vulgaris <i>Inventors: Pooja Vijayaraghavan, Seema Bhatnagar, Ashwani K Srivastava</i></p> <p>14. Publication Date: 01/03/2013 Patent Appl. No.:(2471/DEL/2011) Filing Date: 30/08/2011 Title: novel composition of natural extracts as disinfectant, air purifier and hand sanitizer <i>Inventors: Pooja Vijayaraghavan, Seema Bhatnagar, Ashwani K Srivastava, Swati Kaushik, Megha Rikhi</i></p>
<p>RESEARCH PROJECTS Completed: (total no.) 4 Ongoing: (total no.) 3</p>	<p>Details: Ongoing</p> <ol style="list-style-type: none"> 1. Development of an AI driven Imaging Platform for In-Ovo image analysis for preclinical testing of anticancer agents Granted by Union of International Cancer Control (UICC) Geneva Switzerland. Work carried out at Prof Sarath Chandra Janga's lab at Indiana University Purdue University USA as exchange scholar. (2024) 2. To study effect of Curcumin Cyclodextrin Inclusion complex to target CFTR protein as potentiator for

	<p>treatment of Cystic Fibrosis funded by Indian Council of Medical Research, Govt of India. (technically approved)</p> <p>3. FIST- PROJECT (SR/FST/CS-I/2023/310) approved for financial support to Amity University Uttar Pradesh</p> <p><i>Completed</i></p> <p>1. Design and Development of Tamoxifen-Aspirin conjugate using self Immolating Azobenzene Linker to Overcome Tamoxifen Resistance”.3/2/2/99/2022 NCD III</p> <p>2. Development of Novel curcumin folate Drug conjugates for targeted delivery of drug and curcumin together to cancer and cancer stem cells for effective treatment funded by Indian Council of Medical Research, Govt of India 5/13/15/2015 NCD III</p> <p>3. Principal Investigator of a three year duration project titled “Synthesis of novel heterocycles of biological Interest using 1,3 dipolar cycloaddition reactions” sanctioned by the Department of Science and Technology, Govt. of India</p> <p>4. Validation of the efficacy of various cleaning and disinfectant products Luxor Nano Technology Pvt. Ltd. Industry Consultancy Project</p>
<p>AWARDS & HONOURS/ DISTINCTIONS</p>	<p><i>Details:</i></p> <ol style="list-style-type: none"> Received Yamagiwa Yoshida (YY) Memorial Cancer Study Grant by Union of International Cancer Control Geneva Switzerland (8th Jan 2024). duration 8th April 2024-9th July 2025. Conferred* Fellowship of the Society (ISAB), Indian Society of Agricultural Biochemists. (2023) Awarded Senior Research Fellowship (Extended) by the Council of Scientific and Industrial Research, New Delhi. (06/99-12/99) Nominated member of the Jury Panel (level 1) for the ‘Dupont India Challenge-2002 Science Paper Contest ‘(07/02) Received travel Award by Council of Scientific and Industrial Research to attend Target Discovery World Congress in 2009 Awarded Bursary by Wellcome Trust to attend Wellcome Trust advanced course Practical Aspects of Small Molecule Drug Discovery: At the Interface of Biology, Chemistry and Pharmacology organized by Wellcome Trust at the Wellcome Trust Genome Center,Cambridge UK.1st-6th June 2014. Nominated for award of Honorary Fellowship of

	Indian Society of Agricultural Biochemists (FISAB) on 24th November 2023
MEMBERSHIP with Professional/ Academic bodies	<i>Details:</i> <ol style="list-style-type: none"> 1. Member , Association of Union of International Cancer Control Fellows 2. Member of Royal Society of Biologists 3. Member Indian Society for Agricultural Biochemists 4. Member Indian Society for Chemists and Biologists 5. Member International Union of Pure and Applied Chemistry