

Dr. Pushpinder Kaur, M.Sc., Ph.D

Assistant Professor

Department of Chemistry

Sri Guru Gobind Singh College, Sector-26

Chandigarh, India -160019.

E-mail: sggs.pushpinder@gmail.com, pushpinderihbt@gmail.com

Mobile. No. +91- 8699165813

Orcid Id: 0000-0002-0548-0176

Vidwan Profile: <https://vidwan.inflibnet.ac.in/profile/181811>



Academic Education

S. No.	Degree (year)	Subject	Institute/College	University
1	PhD* (2013)	Chemistry	CSIR-IHBT, Palampur	GNDU, Amritsar (Pb)
2	M.Sc. (2004)	Organic Chemistry	Kurukshetra University	Kurukshetra University
3	B.Sc. (2002)	Non-Medical	PG Govt. College Kalka	Kurukshetra University

*Thesis title: 'Synthesis of biologically active γ -butyrolactone derivatives and chemical investigations of *Ginkgo biloba* and *Crataegus oxyacantha*

Guide's Name: Dr. Bikram Singh,

Emeritus Scientist and Former Chief Scientist & Head

Chemical Technology Division, CSIR-IHBT, Palampur, 176061, H.P. India

Professional Education

- ❖ Attended **Orientation Course** (2018) organized by UGC-HRDC, Panjab University Chandigarh
- ❖ Completed **Online Refresher Course in Chemistry for Higher Education** Faculty through MOOCs (2019), Swayam ARPIT Online Course, Offered by Sri Guru Tegh Bahadur Khalsa College, Delhi.
- ❖ Pursuing **Post Graduate Diploma in Food Safety and Quality Management (PGDFSQM)** from Indira Gandhi National Open University (IGNOU) in distance mode.

Work Experience

Teaching – 6+ yrs, **Research** – 8+ yrs, **Industry** – 1.1 yrs

S.No.	Year	Designation	Department	Institute
1	Dec 2016 – till date	Assistant Professor	Chemistry	Sri Guru Gobind Singh College, Sector-26, Chandigarh
2	July 2015- Dec 2016	Assistant Professor	Chemistry	Guru Gobind Singh College for Women, Sector-26, Chandigarh
3	May 2013-Jan 2015	Research Associate (Dr. Javed N. Agrewala)	Immunology Laboratory	CSIR-Institute of Microbial Technology, Sector 39A, Chandigarh
4	Apr 2006-Jun 2012	Senior Research Fellow/Junior Research Fellow/ Project assistant (Dr. Bikram Singh)	Natural Plant Product Division	CSIR-Institute of Himalayan Bioresource Technology, Palampur (HP)
7	Mar 2005-Apr 2006	Jr. Executive (QC)	Quality Control	Ind. Swift Ltd. Parwanoo (HP)

Area specializations/Research Interests

- ❖ Synthetic modifications of natural molecules for value addition
- ❖ Isolation of natural molecules/proteins from medicinal plants and microorganisms using different chromatographic techniques
- ❖ Handling of analytical & preparative HPLC, HPTLC, MPLC, GC-MS, UV, IR and other chromatographic techniques like flash, dry, ion-exchange, size exclusion and disk chromatography
- ❖ Interpretation of NMR, Mass, IR and UV spectra for structure elucidation of natural products
- ❖ Exposure to the Screening of Immunosuppressant and antimicrobial activity of natural and synthetic compounds, Handling and preservation of microbial cultures and Metabolomics study of diseased mouse model

Present Teaching Assignments

Under Graduate Classes

- ❖ Organic Chemistry, Inorganic Chemistry and Physical Chemistry

Post Graduate Classes

- ❖ Applications of Spectroscopy (UV-Visible, NMR, IR, MS, ESR and Mossbauer)
- ❖ Chemistry of Natural Products
- ❖ Practicals including the synthesis and purification of organic compounds using chromatography, and Extraction of important compounds from natural resources.

Research projects

S. No	Details of Project	Role in the Project	Amount sanctioned	Status
1.	Project title: - Extraction and in-vitro evaluation of antitumor and antibacterial activity of bioactive constituents from local fruit waste of Chandigarh Tenure: - 2017- 18 (1 year)	Principal Investigator	1.10 Lacs	Completed
2.	Project title: - Development of carbon nanotube based Biodegradable inkjet printed electrodes for routine analysis of Hemoglobin Tenure: - 2019-20, (1.5 years)	Co-Investigator	1.50 Lacs	Completed
3.	Project title: - Exploring the potential of fallen leaves in Chandigarh towards green synthesis of nanoparticles and their biological activities Tenure: - 2021-22 (1 year)	Principal Investigator	1.25 Lacs	Ongoing

Awards, Recognitions and Achievements

S. No	Name of Award	Awarding Agency	Year
1.	Junior Research Fellowship	CSIR, New Delhi	2008
2.	Life member	Indian Society of Analytical Scientists	2008 onwards
3.	Life member	Institute of Scholars (InSc) (INSC2021F4B4)	2021 onwards
4.	Senior Research Fellowship	CSIR, New Delhi	2010
5.	Best Poster award at National seminar on ' <i>Spectroscopy-An Immense tool in Chemistry</i> '	MCM DAV College, Chandigarh	2015
6.	Invited lecture on ' <i>Applications of Spectroscopy and Chromatography in medicinal plants</i> '	Chandigarh Group of Colleges, Jhanjeri, Mohali campus.	2018
7.	Delivered a lecture on the topic ' <i>Segregation – A step towards Waste Management</i> '	Sri Guru Gobind Singh College, Sector-26, Chandigarh-160019	2018
8.	3 rd Position in Oral Presentation in National Conference on ' <i>Research in Chemical Sciences: Current Scenario</i> '	Sri Guru Granth Sahib World University, Fatehgarh Sahib	2019
9.	Invited lecture on ' <i>Isolation of bioactive compounds from medicinal plants as drug candidates</i> '	State Council of Educational Research and Training (SCERT) Sector-32C, Chandigarh, 160031	2019
10.	Academic Counselor in IGNOU for Bachelor in Science (B.Sc)	IGNOU, New Delhi	2020 to till date
11.	<i>Edited a Book 'Multidisciplinary Research Vol-3';</i>	<i>Publisher Red'Shine Publication Pvt. Ltd.</i>	<i>2021</i>

List of Research Publications

S. No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1	Gopichand, Meena,	Standardization of Agro-	<i>Pharmacognosy</i>	9(6)Suppl	s69-s76	2017

	R.L., Kaur, P. and Singh, R.D.	techniques and Biochemical Assessment of <i>Crataegus oxyacantha</i> in Western Himalaya.	<i>Journal</i>			
2	Chaudhary, A., Sood, S., Das, P., Kaur, P. , Mahajan, I., Gulati, A and Singh, B.	Synthesis of novel antimicrobial aryl himachalene derivatives from naturally occurring himachalenes	<i>EXCLI</i>	13	1216-25	2014
3	Chaudhary, A., Das, P., Mishra, A., Kaur, P. , Singh, B. and Goel, R.K.	Naturally occurring himachalenes to benzocycloheptene substituted amino vinyl bromide derivatives: as antidepressant molecules.	<i>Molecular Diversity</i>	16	357-66	2012
4	Kaur, P. , Chaudhary, A., Katiyar, A., Singh, B., Gopichand and Singh, R.D.	Rapid validated RP-HPTLC method for the quantification of major bioactive constituents of <i>Crataegus oxyacantha</i> L.	<i>Journal of Planar Chromatography</i>	25	415-19	2012
5	Chaudhary, A., Kaur, P. , Katiyar, A. and Singh, B.	HPTLC densitometry method for simultaneous determination of major lignans and flavonoid in <i>Podophyllum hexandrum</i> .	<i>Journal of Planar Chromatography</i>	25	314-19	2012
6	Kaur, P. , Das, P., Chaudhary, A. and Singh, B.	Naturally occurring limonene to cinnamyl-type γ -butyrolactone substituted aldol condensation derivatives as antioxidant compounds.	<i>Natural Product Communications</i>	7	1127-30	2012
7	Chaudhary, A., Sood, S., Kaur, P. , Thakur, A., Kumar, N., Singh, B. and Gulati, A.	Antifungal sesquiterpenes from <i>Cedrus deodara</i> .	<i>Planta Medica</i>	78	186-88	2012
8	Kaur, P. , Chaudhary, A., Gopichand, Singh, R.D. and Singh, B.	Spatial and temporal variation of secondary metabolite profiles in <i>Ginkgo biloba</i> leaves.	<i>Chemistry & Biodiversity</i> .	9	409-17	2012
9	Kaur, P. , Chaudhary, A., Singh, B. and Gopichand.	An efficient microwave assisted extraction of biologically active constituents and antioxidant activity of <i>Ginkgo biloba</i> .	<i>Natural Products Communication</i>	7	203-06	2012
10	Chaudhary, A., Kaur, P. , Kumar, N. and Singh, B. and Awasthi S.	Chemical fingerprint analysis of phenolics of <i>Albizia chinensis</i> based on ultra-performance LC-electrospray ionization-quadrupole time-of-flight mass spectrometry and antioxidant activity.	<i>Natural Products Communication</i>	6	1617-20	2011
11	Kaur, P. , Chaudhary, A., Singh, B. and Gopichand	Simultaneous quantification of flavonoids and biflavonoids in <i>Ginkgo biloba</i> using RP-HPTLC densitometry method.	<i>Journal of Planar Chromatography</i>	24	507-12	2011
12	Kaur, P. , Das, P., Chaudhary, A. and Singh, B.	Amine and thiazole substituted γ -butyrolactones from naturally occurring limonene.	<i>Canadian Journal of Chemistry</i>	89	639-44	2011
13	Chaudhary, A., Kaur, P. , Singh, B. and Pathania V	Chemical composition of hydrodistilled and solvent volatiles extracted from woodchips of	<i>Natural Product Communication</i>	4	1257-60	2009

		Himalayan Cedrus: <i>Cedrus deodara</i> (Roxb.) Loud;				
14	Kaur, P. , Chaudhary, A., Singh, B. and Gopichand.	Optimization of extraction technique and development & validation of RP-HPLC-ELSD method for determination of terpene trilactones in <i>Ginkgo biloba</i> leaves;	<i>Journal of Pharmaceutical and Biomedical Analysis</i>	50	1060-64	2009
15	Singh, B., Kaur, P. , Gopichand, Singh, R.D. and Ahuja P.S.	Biology and chemistry of <i>Ginkgo biloba</i> .	<i>Fitoterapia</i>	79	401-18	2008

Books and Chapters in the book

S.No	Title	Author's Name	Publisher	Year of Publication
1	'Holistic development of school learners with reference to NEP 2020' in the edited book 'NEP 2020: A Vision Document of 21 st Century Bharat'	Sharma, B. and Kaur, P	Akhand Publishing House, Delhi	2022
2	'Development of rapid RP-HPLC method and optimization of extraction technique for the bioactive constituents in leaf, pulp, bark, flower, and fruit of <i>Crataegus oxyacantha</i> L.' in the edited book 'Applied Research Development in Physical & Chemical Sciences and Engineering'	Kaur, P* , Singh, B., Gopichand, and Sharma, B.	MKSES Publication, Lucknow	2021
3	जिकगो बाईलोबा	पुष्पिंदर कौर एवं विक्रम सिंह	विज्ञान प्रगति, अगस्त, पृष्ठ 33-34 (Popular Article).	2010

Papers Presented in Seminar/Conferences

1. **Kaur, P.**, Chaudhary, A., Gopichand, Singh, B. and Singh, R.D. (2008). "Variability Studies on bioactive constituents of *Ginkgo biloba* in India", Poster presentation at "International conference on New Developments in Drug Discovery from Natural Products and Traditional Medicines" held at NIPER, Mohali on 16-20th Nov.
2. Chaudhary, A., **Kaur, P.**, Singh, B. and Lal, B. (2008). "Antioxidant potential and HPLC analysis of *Albizia chinensis*", Poster presentation at "International conference on New Developments in Drug Discovery from Natural Products and Traditional Medicines" held at NIPER, Mohali on 16-20th Nov.
3. **Kaur, P.**, Chaudhary, A., Gopichand, Singh, B. and Singh, R.D. (2008). "Development & validation of rapid RP-HPLC-ELSD method for determination of terpene trilactones in *Ginkgo biloba* leaves", Poster presentation at "National symposium on analytical sciences" held at IHBT Palampur on 23-25th Nov.
4. Chaudhary, A., **Kaur, P.**, Singh, B. and Lal, B. (2008). "Phenolic and flavonoid content of *Albizia* Spp", Poster presentation at "National symposium on analytical sciences" held at IHBT Palampur on 23-25th Nov.
5. **Kaur, P.**, Chaudhary, A., Gopichand, Singh, B. and Singh, R.D. (2009). "Variability studies and isolation of bioactive constituents from *Ginkgo biloba*", Oral presentation at "National seminar on Environmental and Sustainable development" held at Guru Nanak Dev University Amritsar on 3-4th Nov.
6. **Kaur P.**, Das P., Chaudhary A. and Singh B. (2010). "Amine derivatives of γ -butyrolactone produced from naturally occurring limonene" Poster presentation at "12th CRSI National Symposium in Chemistry & 4th CRSI-RSC Symposium in Chemistry" held at Indian Institute of Chemical Technology, Hyderabad on 4-7th Feb.
7. Srivastava, A., Singh, B., **Kaur, P.** and Singh, V. (2010). "Testing of natural compounds/products for the control of rice stored grain pest (*Sitophilus oryzae* Linnaeus) Poster presentation at "3rd International Rice Congress and 28th International Rice Research Conference" held at Vietnam National Convention Center, Hanoi, Vietnam on 8-12th November.

8. Chaudhary A., Das P., **Kaur P.** and Singh B. (2012). "Synthesis of amino benzocycloheptene halides from naturally occurring bicyclic sesquiterpenes" Poster presentation at "4th International Conference on Drug Discovery & Therapy" held at Dubai, UAE, on 12-15th Feb.
9. **Kaur P.** and Singh B. (2015). "Optimization of extraction techniques and isolation of bioactive compounds from the fruit extract of *Crataegus oxyacantha*" Poster presentation at "National seminar on Spectroscopy-An Immense tool in Chemistry" held at MCM DAV College, Chandigarh on 21st Aug 2015.
10. **Kaur P.**, Das P. and Singh B., "Synthesis of substituted γ -butyrolactone derivatives from naturally abundant limonene" Poster presentation at Chandigarh Science Congress (CHASCON-2016) held at Punjab University Chandigarh on 29th Feb -2nd Mar, 2016.
11. **Kaur P.**, Das P. and Singh B., "Value addition of naturally abundant limonene to the synthesis of substituted γ -butyrolactone derivatives" Oral Presentation in National Conference on Research in Chemical Sciences: Current Scenario held at Sri Guru Granth Sahib World University, Fatehgarh Sahib on 29th March 2019.

Workshops attended

1. Five days International workshop on '*Heterogeneous Catalysis and applications*' organized under GIAN scheme at Panjab University Chandigarh from 1-5th Aug, 2016.
2. Two days National workshop on '*Basic ICT skills, e-Learning and MOOCs for Educators*' organized by Guru Angad Dev Teaching Learning Centre, MHRD, Govt. of India, held at Sri Guru Gobind Singh College, Sec-26 Chandigarh from 20-21st Feb, 2017.
3. Seven days Faculty Development Programme (FDP) on '*E-Skills Empowerment of Faculty*' organized by PG Department of Computer Science under the aegis of RUSA held at Sri Guru Gobind Singh College, Sec-26 Chandigarh from 15-21st Mar, 2017.
4. Six days International workshop on '*Transition metals in Organic Synthesis*' organized under GIAN scheme at Panjab University Chandigarh from 26th June-1st July, 2017.
5. Participated in the One day workshop on Natural Biodiversity '*Nature Walk and Talk/ Photography Exhibition*' organized by Department of Botany, SGGGS College Chandigarh in collaboration with Natural Biodiversity Society, Chandigarh on Nov 11, 2017.
6. Attended RUSA sponsored one day Capacity Building Workshop on '*Cultural Transformation and Rejuvenation: Mann Neevan Matt Uchhi*' organised by Faculty of Languages in collaboration with the Department of History at Sri Guru Gobind Singh College, Sector 26, Chandigarh on February 12, 2019.
7. Attended an International workshop on '*Primary Immunodeficiency Diseases from Bench to Bedside*' organized by Global Initiative for Academic Networks (GIAN), Panjab University Chandigarh from February 18-22, 2019.
8. Dr. Pushpinder Kaur (PG Department of Chemistry) attended one Invited lecture on '*International year of Periodic Table*' delivered by Dr. Alok Srivastava organised on 24.01.2020 at GGSDS College, Sector-32, Chandigarh.
9. Seven days Faculty Development Programme (FDP) on '*Hands on training on Extension*' organized by PG organized by the UGC-HRDC, Panjab University, Chandigarh from 28th Jan-3rd Feb, 2020.