

Curriculum Vitae			
Name:		Dr. Sunil Kumar	
Career Profile			
Designation	Assistant Professor		
Department	Chemistry		
Organization / Institution	Sant Kavi Baba Baijnath Government PG College Harakh Barabanki		
Duration	17 December, 2015 to Present		
Role	Teaching and Research		
Contact	8052608460, 7985998474, sunilchem1986@gmail.com		
Web-Page	https://gpgchb.org/		
Publications	38 Research papers (IF: 0-5.645): Elsevier, Wiley Online Library, Taylor & Francis Online, Springer, SAGE Publications 2 Books: Routledge & CRC Press Logo - Taylor & Francis Group. 7 Chapters: Springer Nature, Apple Academic Press & CRC Press,		
Education			
Degree	Institution	Year	Details
Ph.D.	Jawaharlal Nehru University, New Delhi (Worked in CSIR-Central Drug Research Institute, Lucknow)	2013- 2017	<i>Thesis Title:</i> Application of mass spectrometric techniques in qualitative and quantitative analysis of phytoconstituents and identification of chemical markers by chemometric technique in <i>Phyllanthus</i> and <i>Rauwolfia</i> Spp.
M.Sc.	CSJM University, Kanpur	2010	Chemistry
B.Sc.	CSJM University, Kanpur	2008	Chemistry, Zoology, Botany
10+2 th	UP Board	2005	Hindi, English, Physics, Chemistry, Biology
10 th	UP Board	2003	Hindi, English, Science, Social Science, Mathematics, Drawing
Fellowships/Awards			

- CSIR-Junior Research Fellowship (JRF) -2013
- CSIR- Senior Research Fellowship (SRF)-2015
- Graduate Aptitude Test in Engineering (GATE)-2012
- Common Eligibility Test (CET)-2012
- Award from CSJM University Kanpur for the contribution in Nation Education Policy (NEP).
- **Gold Award** from Elsevier- Amsterdam, Netherlands, for *Top Cited Papers 2020* of *Journal of Pharmaceutical Analysis* for article entitled “Identification and characterization of phenolics and terpenoids from ethanolic extracts of *Phyllanthus* species by HPLC-ESI-QTOF-MS/MS”
- **Silver Award** Elsevier- Amsterdam, Netherlands, for *Top Cited Papers 2020* of *Journal of Pharmaceutical Analysis* for article entitled “Analysis of isoquinoline alkaloids from *Mahonia leschenaultia* and *Mahonia napaulensis* roots using UHPLC-Orbitrap-MSn and UHPLC-QqQLIT-MS/MS”

Professional Societies Memberships

- Member of Indian Science Congress Association (Life time Member)
- Assistant Zonal Officer (Spoken Tutorial-Indian Institute Bombay)
- Editorial Board Member for Journal of Complementary and Alternative Medicine
- Editorial Board Member for Journal of Exploratory Research in Pharmacology
- Editorial Board Member for Pharmacy and Drug Development
- Invited reviewer in PLOS ONE
- Invited reviewer in Springer Nature
- Invited reviewer in Journal of Food Function, Royal Chemistry Society
- Invited reviewer in Natural Product Research
- Invited reviewer in Asian Journal of Natural Product Biochemistry
- Invited reviewer in Frontiers in Sustainable Food Systems

Publications

S. No.	Authors	Title	Name of Journal	Volume	Issue	Page	Year
1.	Katare,A.K., Singh, B, Kumar, S. , Roy, S., Gupta,A.P., Kumar, A., Singh, B., Tabassum,	Optimisation of Extraction Process for negundoside and agnuside from <i>Vitex Negundo</i> L. leaves using soxhlet extraction, HPLC-	Chemistry Africa, Springer	5	3	1-9	2022

	A., and Sharma, A.K.	MS/MS and CCD-RSM Methods.					
2.	Kumar, S., Kumari, D., B. and Singh, R.	<i>Genus Rauwolfia</i> : A review of its ethnopharmacology, phytochemistry, quality control/quality assurance, pharmacological activities and clinical evidence.	Journal of Ethnopharmacology (IF: 4.360), Elsevier	296	15	1153 27	2022
3.	Kumar, S., Singh, B. and Bajpai, V.,	Traditional uses, phytochemistry, quality control and biological activities of genus <i>Grewia</i> .	Phytomedicine Plus, Elsevier	2	3	1002 90	2022
4.	Kumar, S., Singh, B. and Singh, R.	<i>Catharanthus roseus</i> (L.) G. Don: A review of its ethnobotany, phytochemistry, ethnopharmacology and toxicities.	Journal of Ethnopharmacology (IF: 4.360), Elsevier	285	-	1146 47	2022
5.	Kumar S., Bajpai V., Singh B.	<i>Andrographis paniculata</i> (Burm.f.) Nees: Traditional uses, phytochemistry, pharmacological properties and quality control/quality assurance.	Journal of Ethnopharmacology (IF: 4.360), Elsevier	275	-	1140 54	2021
6.	Kumar S., Singh A., Kumar B.	Screening of monoterpene indole alkaloids in six <i>Rauwolfia</i> species by ultra-high performance liquid chromatography Orbitrap Velos Pro mass spectrometer.	Separation Science Plus, Wiley Online Library	2	8	300- 308	2019
7.	Kumar S., Singh A., Bajpai V., Sharma K.R., Kumar B.	Identification and characterization of terpenoid lactones and flavonoids from ethanolic extract of <i>Andrographis paniculata</i> (burm. F.) Nees using liquid chromatography/tandem mass spectrometry.	Separation Science Plus, Wiley Online Library	1	12	762- 770	2018
8.	Kumar, S., Singh A., Singh B., Maurya, R., Kumar, B.	Structural characterization and quantitative determination of bioactive compounds in ethanolic	Separation Science Plus, Wiley Online Library	1	9	588- 596	2018

		extracts of <i>Boerhaavia diffusa</i> L. by liquid chromatography-tandem mass spectrometry.					
9.	Kumar, S., Bajpai, and Srivastava, M.; Kumar, B	Study of geographical variation in <i>Phyllanthus amarus</i> Schum & Thonn using DART-TOF-MS combined with PCA.	Brazilian Journal of Analytical Chemistry	4	17	16-23	2018
10.	Kumar, S., Singh, A., Kumar, B., Singh, B., Bahadur, L. and Lal, M.	Simultaneous quantitative determination of bioactive terpene indole alkaloids in ethanolic extracts of <i>Catharanthus roseus</i> (L.) G. Don by ultra high performance liquid chromatography-tandem mass spectrometry.	Journal of Pharmaceutical and Biomedical Analysis (IF: 3.935), Elsevier	151	-	32-51	2018
11.	Kumar, S., Bajpai, V., Singh, A. and Kumar, B.	Identification, characterization and distribution of terpene indole alkaloids in ethanolic extracts of <i>Catharanthus roseus</i> using HPLC/ESI-QTOF-MS/MS and the study of their geographical variation.	Rapid Communications in Mass Spectrometry (IF: 2.419), Wiley Online Library	32	4	319-332	2018
12.	Singh, A., Kumar, S. and Kumar, B.,	LC-MS Identification of Proanthocyanidins in Bark and Fruit of six <i>Terminalia</i> species.	Natural Product Communications (IF: 0.986), SAGE Publications	13	5	555 - 560	2018
13.	Kumar, S., Singh, A., Kushwaha, A. K., Tiwari, R., Chaudhary, L. B.; Srivastava, M., Kumar, B.	UPLC-ESI-QqQLIT-MS/MS method for quantitative determination of phytochemicals in ethanolic extracts of different parts of eight <i>Ficus</i> species	International Journal of Food Properties (IF: 2.727), Taylor & Francis Online	21	1	343-359	2017
14.	Singh, D., Kumar, S., Pandey, R., Hasanain, M., Sarkar, J. and	Bioguided chemical characterization of the antiproliferative fraction of edible	Medicinal Chemistry Research (IF: 1.965), Springer	26	26	3307-3314	2017

	Kumar, B.	pseudo bulbs of <i>Malaxis acuminata</i> D. Don by HPLC-ESI-QTOF-MS					
15.	Kumar, S., Singh, A., Bajpai, V., Singh, B. and Kumar, B.	Development of a UHPLC–MS/MS method for the quantitation of bioactive compounds in <i>Phyllanthus</i> species and its herbal formulations.	Journal of Separation Science (IF: 3.645), Wiley Online Library	40	17	3422-3429	2017
16.	Bajpai, V., Kumar, S., Singh, A., Bano, N., Pathak, M., Kumar, N., Misra-Bhattacharya, S., Kumar, B.	Metabolic fingerprinting of dioecious <i>Tinospora cordifolia</i> (Thunb) Miers stem using DART TOF MS and differential pharmacological efficacy of its male and female plants.	Industrial Crops Products (IF: 5.645), Elsevier	101	-	46-53	2017
17.	Singh, P., Bajpai, V., Kumar, S., Srivastava, M. and Kumar, B.	Metabolic profiling and discrimination of <i>Cymbopogon</i> species using direct analysis real time mass spectrometry and principal component analysis.	Journal of Medicinal Plants	4	3	384-391	2017
18.	Bajpai, V., Kumar, S., Singh, A., Singh, J., Negi, M.P.S., Bag, S.K., Kumar, N., Konwar, R. and Kumar, B.	Chemometric based identification and validation of specific chemical markers for geographical, seasonal and gender variations in <i>Tinospora cordifolia</i> stem using HPLC-ESI-QTOF-MS Analysis.	Phytochemical Analysis (IF: 3.373), Wiley Online Library	28	4	277-288	2017
19.	Kumar, S., Singh, A. and Kumar, B.	Identification and characterization of phenolics and terpenoids from ethanolic extracts of <i>Phyllanthus</i> species by HPLC-ESI-QTOF-MS/MS.	Journal of Pharmaceutical Analysis (IF: 4.769), Elsevier	7	7	214-222	2017
20.	Bajpai, V., Singh, A., Kumar, S., Sharma K. R. and Kumar, B.,	Determination of bioactive isoquinoline alkaloids in <i>Thalictrum reniforme</i> Wallich and <i>Thalictrum neurocarpum</i> Royale	Journal of Medicinal Plants Studies	5	3	234-240	2017

		using ultra performance liquid chromatography with hybrid triple quadrupole linear ion trap mass spectrometer					
21.	Singh, A., Bajpai, V., Kumar, S. , Rawat, A.K.S. and Kumar, B.,	Analysis of isoquinoline alkaloids from <i>Mahonia leschenaultia</i> and <i>Mahonia napaulensis</i> roots using UHPLC-Orbitrap-MSn and UHPLC-QqQLIT-MS/MS.	Journal of Pharmaceutical Analysis (IF: 4.769), Elsevier	7	2	77-86	2017
22.	Singh, A., Bajpai, V., Kumar, S. , Kumar, B., Srivastava, M., Arya, K.R. and Sharma, K.R.	Distribution and discrimination study of bioactive compounds from Berberis species using HPLC-ESI-QTOF-MS/MS with principle component analysis	Natural Product Communications (IF: 0.986), SAGE Publications	12	11	1807-1812	2016
23.	Singh, A., Bajpai, V., Kumar, S. , Kumar, B., Srivastava, M. and Rameshkumar, K.B.	Comparative profiling of phenolic compounds from different plant parts of six <i>Terminalia</i> species by liquid chromatography–tandem mass spectrometry with chemometric analysis.	Industrial Crops and Products (IF: 5.645), Elsevier	87	-	236-246	2016
24.	Singh, A., Kumar, S. , Bajpai, V. and Kumar, B.,	Simultaneous determination of pyroquinazoline alkaloids and flavonoids in <i>Adhatoda beddomei</i> and <i>Adhatoda vasica</i> and their marketed herbal formulations using ultra-high-performance liquid chromatography coupled with triple quadrupole linear ion trap mass spectrometry.	Biomedical Chromatography (IF: 1.902), Wiley Online Library	31	3	e3847 (1-10)	2017
25.	Kumar, S. , Singh, A., Bajpai, V., Srivastava, M., Singh, B.P., Ojha, S. and Kumar, B.	Simultaneous determination of bioactive monoterpene indole alkaloids in ethanolic extract of seven <i>Rauvolfia</i> species using UHPLC with hybrid triple	Phytochemical Analysis (IF: 3.373), Wiley Online Library	27	5	296-303	2016

		quadrupole linear ion trap mass spectrometry.					
26.	Kumar, S., Singh, A., Bajpai, V., Srivastava, M., Singh, B.P. and Kumar, B	Structural characterization of monoterpene indole alkaloids in ethanolic extracts of <i>Rauwolfia</i> species by liquid chromatography with quadrupole time-of-flight mass spectrometry.	Journal of Pharmaceutical Analysis (IF: 4.769), Elsevier	6	6	363-373	2016
27.	Singh, A., Bajpai, V., Kumar, S.; Rameshkumar, KB., Kumar, B.	Simultaneous quantification of protoberberine and aporphine alkaloids in different plant parts of <i>Coscinium fenestratum</i> (Gaertner) Colebr. By liquid chromatography-hybrid triple quadrupole/linear ion trap mass spectrometer.	Journal of Medicinal Plants	4	3	144-148	2016
28.	Singh, G., Passsari, A.K., Leo, V.V., Mishra, V.K., Subbarayan, S., Singh, B.P., Kumar, B., Kumar, S., Gupta, V.K., Lalhlemawia, H. and Nachimuthu, S.K.	Evaluation of phenolic content variability along with antioxidant, antimicrobial, and cytotoxic potential of selected traditional medicinal plants from India.	Frontiers in plant science (IF: 5.753)	7	-	407	2016
29.	Singh, A., Bajpai, V., Kumar, S., Sharma, K.R. and Kumara, B.	Profiling of gallic and ellagic acid derivatives in different plant parts of <i>Terminalia arjuna</i> by HPLC-ESI-QTOF-MS/MS.	Natural Product Communications (IF: 0.986), SAGE Publications	11	2	239-244	2016
30.	Kumar, S., Singh, A., Bajpai, V. and Kumar, B.	Identification, characterization and distribution of monoterpene indole alkaloids in <i>Rauwolfia</i> species by Orbitrap Velos Pro mass spectrometer	Journal of Pharmaceutical and Biomedical Analysis (IF: 3.935), Elsevier	118	-	183-194	2016
31.	Kumar, S., Chandra,	Rapid qualitative and quantitative	Industrial Crops and	69	-	143-	2015

	P., Bajpai, V., Singh, A., Srivastava, M., Mishra, D.K. and Kumar, B.	analysis of bioactive compounds from <i>Phyllanthus amarus</i> using LC/MS/MS techniques	Products (IF: 5.645), Elsevier			152	
32.	Kumar, S. , Bajpai, V., Singh, A., Bindu, S., Srivastava, M., Rameshkumar, K.B. and Kumar, B.	Rapid fingerprinting of <i>Rauwolfia</i> species using direct analysis in real time mass spectrometry combined with principal component analysis for their discrimination	Analytical Methods (IF: 2.896)	7	14	6021-6026	2015
33.	Singh, A., Kumar, S. , Bajpai, V., Reddy, T.J., Rameshkumar, K.B. and Kumar, B.	Structural characterization of flavonoid C- and O-glycosides in an extract of <i>Adhatoda vasica</i> leaves by liquid chromatography with quadrupole time-of-flight mass spectrometry	Rapid Communications in Mass Spectrometry, (IF: 2.419) Wiley Online Library	29	12	1095-1106	2015
34.	Singh, A., Bajpai, V., Kumar, S. , Arya, K.R., Sharma, K.R. and Kumar, B.	Quantitative determination of isoquinoline alkaloids and chlorogenic acid in <i>Berberis</i> species using ultra high performance liquid chromatography with hybrid triple quadrupole linear ion trap mass spectrometry	Journal of Separation Science (IF: 3.645), Wiley Online Library	38	2007-2013		2015
35.	Singh, A., Kumar, S. , Reddy, T.J., Rameshkumar, K.B. and Kumar, B.	Screening of tricyclic quinazoline alkaloids in the alkaloidal fraction of <i>Adhatoda beddomei</i> and <i>Adhatoda vasica</i> leaves by high-performance liquid chromatography/electrospray ionization quadrupole time-of-flight tandem mass spectrometry	Rapid Communications in Mass Spectrometry (IF: 2.419), Wiley Online Library	29	485-496		2015
36.	Singh, A., Bajpai, V., Kumar, S. , and	Identification and quantification of flavonoids and their glycosides for	Bio analysis and Biomedicine	7	5	75	2015

	Kumar, B.	quality assessment of <i>Terminalia</i> species applying liquid chromatography hyphenated with mass spectrometric techniques					
37.	Kumar, B, Singh, A., Pandey, R., Bajpai, V., Chandra, P., and Kumar, S.	Evidence based research for quality control of Indian medicinal plants using HRMS and hyphenated LC/MS instruments	Bio analysis and Biomedicine	7	5	85	2015
38.	Bajpai, V., Singh, A., Kumar, S. and Kumar, B., Singh, B., Kumar S.	Ultra performance liquid chromatography mass spectrometric analysis for rapid quantitation of isoquinoline alkaloids in <i>Thalictrum reniforme</i>	Bio analysis and Biomedicine	7	5	79	2015
Book chapters							
1.	Sunil Kumar	The Overview of Potential Antiviral Bioactive Compounds in Poxviruses	Springer- <i>Advances in Experimental Medicine and Biology</i>	ISBN 978-3-031-57165-7	331–336		2024
2.	Sunil Kumar and Bikarma Singh	Phytochemistry and pharmacology of <i>Catharanthus roseus</i> (L.) G. Don and <i>Rauvolfia serpentina</i> (L.) Benth. ex Kurz	Springer Nature- <i>Bioprospecting of Tropical Medicinal Plants</i>	ISBN 978-3-031-28779-4	511–527		2023
3.	Sunil Kumar and Bikarma Singh	Traditional uses, phytochemical and pharmacological properties of <i>Grewia</i> sps (<i>Grewia asiatica</i> and <i>Grewia serrulata</i>)	Elsevier– Himalayan Fruits and Berries	ISBN-978-0-323-85591-4	203–219		2023
4.	Bikarma Singh and Sunil Kumar	Biological and Chemical Aspects of the Genus <i>Ajuga</i> L.	Apple Academic Press & CRC Press- Bioactives and Pharmacology of Lamiaceae	ISBN-9781003346142	1-27		2023
5.	Sunil Kumar and	Phytochemical and	Apple Academic	ISBN:978	293-301		2022

	Bikarma Singh	Pharmacological Profile of <i>Rauvolfia verticillata</i> (Lour.) Baill.	Press & CRC Press- <i>Bioactives and Pharmacology of Medicinal Plants</i>	1774910283		
6.	Sunil Kumar and Bikarma Singh	An Overview on Bioactives and Pharmacology of <i>Rauvolfia vomitoria</i> Afzel.	Apple Academic Press & CRC Press- <i>Bioactives and Pharmacology of Medicinal Plants</i>	ISBN:9781774910283	303-31	2022
7.	Sunil Kumar	<i>Phyllanthus amarus</i> Schum. and Thonn. as Herbal Medicine: Ethnobotany, Phytochemistry, and Pharmacology Aspects.	Springer Singapore- <i>Botanical Leads for Drug Discovery</i>	ISBN 978-981-15-5916-7	179-199	2020

Books

1.	Brijesh Kumar, Sunil Kumar , KP Madhusudana	Phytochemistry of Plants from Genus <i>Phyllanthus</i> .	Routledge & CRC Press Logo - Taylor & Francis Group.	Book	ISBN 9780367857554	2020
2.	Brijesh Kumar, Sunil Kumar , Vikas Bajpai KP Madhusudana	Phytochemistry of Plants from Genus <i>Rauvolfia</i> .	Routledge & CRC Press Logo - Taylor & Francis Group.	Book	ISBN 9780367857523	2020

Conference/Seminar/workshop/ Faculty Development Programme (FDP)

S. No.	Paper Title	Title of Conference/ Seminar etc.	Organized by	International/ National
	Chemical fingerprinting of <i>Phyllanthus amarus</i> by liquid chromatography quadrupole time of flight mass spectrometry.	Chemistry and Medicinal Plants in Translational Medicine for Healthcare (1-4 march 2014)	Department of Chemistry University of Delhi	International
1.	Rapid screening of indole alkaloids in	National seminar on	Sophisticated Analytical	National

	<i>Rauwolfia</i> species by HPLC/ESI-QTOF MS/MS.	application of mass and NMR techniques in drug research (24 September 2014)	Instrument Facility, CSIR – Central Drug Research Institute, Lucknow	
2.	Determination of bioactive components and its geographical variation in <i>Phyllanthus amarus</i> using UPLC QTRAP-MS/MS.	National seminar on application of mass and NMR techniques in drug research (24 September 2014)	SAIF-CDRI, Lucknow	National
3.	Rapid profiling and structural characterization of <i>Berberis aristata</i> applying hyphenated mass spectrometric technique.	Drug discovery in India: past, present and future (01 January 2015)	CDRI, Lucknow	National
4.	Characterization of diterpenoids and flavonoids in herbal medicinal <i>Andrographis paniculata</i> by HPLC-ESI-QTOF-MSMS	Current Trends in Drug Discovery and Development (25-28 February 2015)	India Society of Chemists and Biologists and CDRI Lucknow	International
5.	Study of geographical variation I <i>Phyllanthus amarus</i> using Direct Analysis in Real Time Mass spectrometry.	Fifth Uro-India International Conference on Holistic Medicine (11-13 September 2015)	Institute of Holistic Medicine Science Kerala, India & Ayurveda and the Ayurveda-Und Venen-Klink, St. Primus Weg 68, A-9020, Klagenfurt, Austria	International
6.	Identification and quantification of flavonoids and their glycosides for quality assessment of <i>Terminalia</i> species applying liquid chromatography hyphenated with mass spectrometric techniques.	4 th International Conference and Exhibition on Biologics and Biosimilars (26-28 October, 2015)	Baltimore, USA	International
7.	Evidence based research for quality	4 th International Conference	Baltimore, USA	International

	control of Indian medicinal plants using HRMS and hyphenated LC/MS instruments.	and Exhibition on Biologics and Biosimilars (26-28 October, 2015)		
8.	Ultra performance liquid chromatography mass spectrometric analysis for rapid quantitation of isoquinoline alkaloids in <i>Thalictrum reniforme</i> .	4Th International Conference and Exhibition on Biologics and Biosimilars (26-28 October, 2015)	Baltimore, USA	International
9.	Identification, characterization and distribution of monoterpene indole alkaloids in <i>Rauwolfia</i> species by Orbitrap Velos Pro mass spectrometer	Current Trends in Drug Discovery and Research (25-28 February 2016)	CSIR-CDRI Lucknow	International
10.	Faculty Development Programme	Personality development, Communication skill, teaching and research aptitude (24-30 September 2016)	Department of Applied Economics, University of Lucknow	National
11.	Participation	National Seminar-Cum-Exhibition on Kisan Mela, Entrepreneurship program and Flower show (05 March 2017)	CSIR–Indian Institute of Integrative Medicine (CSIR–IIIM), Jammu	National
12.	Workshop	Workshop on The applications of HRMS and LC-HRMS/MS instruments for the analysis of natural products (small molecules) (27-29 March, 2017)	SAIF-CDRI, Lucknow	National
13.	Improvement socio and economy of Uttar Pradesh By DART-MS	Growth and Social Sector Development Uttar Pradesh (6-7 April, 2017)	Department of Economics, University of Lucknow	National
14.	Identification, characterization and	International conference -	CSJM University	International

	distribution of anticancer terpene indole alkaloids in ethanolic extracts of <i>Catharanthus roseus</i> using HPLC-ESI-QTOF-MS/MS and their geographical variation study.	Fight Against Cancer -2017 (Fac Con -2017) (05-07 October 2017)	Kanpur	
15.	Workshop on data analysis on SPSS	Workshop on data analysis on SPSS (October 10-16, 2017)	Department of Statistics, University of Lucknow	National
16.	Analysis of herbal drugs by DART-MS	Science and Technology for New India (20 Nov, 2017)	Shri Jai Naran P.G. College Lucknow & CSIR-National Botanical Research Institute (CSIR–NBRI)	National
17.	Social conflicts and environment	Recent Advances in Socio-Economic development of India: Issues and Challenges (25-25 Feb, 2018)	Shri Jai Naran P.G. College Lucknow	National
18.	Soil health in agriculture, organic farming, bio-fertilizers and micronutrients	Sustainable development : Strategies and emerging trends (16-17 Nov, 2018)	Netaji Subhash Chandra Bose Govt. Girls P.G. College Aliganj, Lucknow	International
19.	Effect of the menstrual cycle on medical disorders	International conference- Toward sustainable women health: Decoding the menstruation taboo (1-2, Feb, 2019)	Hanaraj Bijli Pasi Govt. P.G. College Aasiana, Lucknow	International
20.	Benefits of green technology	Green Technology: A roadmap for sustainable Development (23-24 Feb 2020)	Hemwati Nandan Bahuguna Govt. P.G. College Naini, Prayagraj	National
21.	Smog and human health	भारतीय संस्कृति और पर्यावरण संरक्षण (27-28 Feb, 2020)	Dr. Bheemrao Ambedkar Govt. Degree	National

			College, Odndia Padariya, Mainpuri	
22.	Introduction to Information and Communications Technology	Faculty Development Program (6-19 Jan, 21)	E & ICT Academy, IIT Kanpur	National
23.	Advanced Excel With Data Visualization	Faculty Development Program (5-16 June, 21)	E & ICT Academy, IIT Kanpur	National
24.	Data Science	Faculty Development Program (5-16 July. 21)	E & ICT Academy, IIT Kanpur	National
25.	Advanced Excel With Data analysis	Faculty Development Program (13-24 September, 21)	E & ICT Academy, IIT Kanpur	National
26.	<i>Catharanthus roseus</i> (L.) G. Don: A review of its ethnobotany, phytochemistry, quality control, ethnopharmacology, toxicities	Current Trends in Drug Discovery Research, Ageing associated Metabolic and CNS disorders (12-14 March, 2022)	CSIR-CDRI Lucknow	International

Training & Program

- Orientation Program, ASC-Lucknow University – 128, 1-29 Jan, 2018.
- Short Term Course on Research Methodology, AS-+C-Lucknow University, 19-25 Jan, 2019.
- Refresher Course in Chemistry and Biochemistry, ASC-Lucknow University, 17 - 31 Aug, 2019.
- Advanced Excel With Data Visualization, Faculty Development Program E & ICT Academy, IIT Kanpur, 5-16 June, 21.
- Data Science Faculty Development Program, E & ICT Academy, IIT Kanpur, 5-16 July. 21
- Advanced Excel With Data analysis Faculty Development Program, E & ICT Academy, IIT Kanpur, 13-24 September, 21