



Department of Environmental Sciences

Faculty of Life Sciences, IGU Meerpur

1. Research Projects

SNo .	PI/Co-PI	Title of the Project	Funding Agency	Duration	Year of Award	Amount in INR	Status

2. Patents

Application No.	Title	Applicant(s)/ Inventor(s)	Filing date	Applicatio n status	Published /Granted	Vali dity
202511012672		Suman , Ramesh Kumar and Rahul			Published, 9/2025	
202511012072	“Non- Enzymatic Colorimetric Method for Direct Detection and Quantification of Nitrate in Different Matrices.”	Suman , Ramesh Kumar and Rahul	14/2/25		Published	
202211066869	“Smart optical capsule for on-spot detection of fluoride”	Suman and Rahul	21.11.2022	Link	Published	
202211001066	“Smart Agriculture Control System based on the Internet of Things”	Mr.Zatin Gupta,Dr .Meenakshi Karwal, Dr.Amit Kumar Bindal,Er. Sonia Bhankhor	7.01.2022	Link	Published	

		(EVS), Deepak Kumar Yadav.				
--	--	-------------------------------	--	--	--	--

3. Books/Book Chapters

Sl. No.	Name of the teacher	Title of the book published	Title of the chapters published	Year of publication	ISBN number	Name of the publisher

4. MoUs

Year of signing MoU	Name of the organization with whom MOU/Collaboration being signed	Duration	Purpose of MOU/Collaboration	List the actual activities under each MOU year-wise	Date of the activity conducted
7, Dec.2023 Link	CSIR-IHBT, Palampur	05Years	Internships, Student training, Placement & Research Collaboration	-	Link
7th June 2022 Link	Exigo Recycling, Pvt .Ltd., Panipat, Haryana	05 Years	Internships, Student training, Placement & Projects on Environmental issues	Placement drive	Extension Lecture 16, October 2023
					Educational Trip/Visit 09.Nov.2024

5. Research Papers

S. No.	Title of Paper	Author(s)	Journal, Volume, Page (Year)	ISSN Number(s)	Journal WebLink	Abstract Link	SCI/SCOPUS/UGC Care

1..	Remediation of chlorpyrifos by utilizing waste packaging wood as magnetic biochar.	Devanand, D., Khatkar, R., Nahar, S., & Nagpal, S.	<i>Remediation</i> Volume34, Issue3,(2024). Impact factor: 3.0	ISSN 1051-5658 eISSN 1520-6831	link	Link	Yes
2.	A novel fusion -5 Filter based Microchip: A highly efficient, on chip DNA extraction and onchip PCR amplification for rapid detection.	.Suman and Ramesh Kumar	<i>Chem Bio Lett.</i> , 2024, 11(3) 665 Impact factor 2.3	ISSN 2347–9825	Link	Link	Yes
3..	Defluorination Techniques: Past, Present and Future Prospective	Rahul Khatkar and Suman Nagpal	<i>Korean Journal of Chemical Engineering</i> Volume 41, pages 553–569, (2024)	Print ISSN 0256-1115	Link	Link	Yes
4.	The Removal of Fluoride from the Water Using <i>Epipremnum aureum</i> (Money Plant)	Rahul Khatkar, Ramesh Kumar and Suman Nagpal	<i>Water Conserv Sci Eng</i> 8, 44 (2023)	ISSN 2364-5687	Link	Link	Yes
5..	Development of SiNWs based electrochemical sensor for trace level detection of arsenic,	Shalvi, Varsha Gautam, Avshish Kumar, V.K.Jain and Suman Nagpal	<i>Materials Science and Technology</i> , 2024, 41(2) Impact factor 1.7	ISSN: 0267-0836 ISSN: 1743-2847	Link	Link	Yes
6..	A novel approach to detect barium in gunshot residue using a handheld device: a forensic application	Priya Shrivastava, B.P.Singh, V.K.Jain and Suman Nagpal	<i>Anal. Methods</i> , 2021, 13 , 4379-4389 Impact factor: 3.1	1759-9679	Link	Link	Yes
7.	An Overview of advanced approaches for detecting arsenic at trace levels	Shalvi, Varsha Gautam, Avshish Kumar, V.K.Jain and Suman Nagpal	<i>Environmental Nanotechnology, Monitoring & Management</i> Volume 18 , 2022, 100730	Online ISSN: 2215-1532	Link	Link.	Yes

8.	Nanoparticle Intervention for Heavy Metal Detection: A Review	Priya Shrivastava, V.K.Jain and Suman Nagpal	<i>Environmental Nanotechnology, Monitoring & Management</i> <i>Volume 17, May 2022, 100667</i> Impact factor: 9.3	Online ISSN: 2215-1532	Link	Link	Yes
9.	Ultrafast Trace-level detection of Methyl Nicotinate Biomarker using TiO ₂ /SiNWs nanocomposite-based sensing platform	Varsha Gautam; Avshish Kumar; Ramesh Kumar; V. K. Jain; Suman Nagpal	<i>J Mater Sci: Mater Electron</i> 33, 3411–3423 (2022) Impact factor: 2.8	1029-0397	Link	Link	Yes
10.	Trace level Electrochemical analysis of arsenite in human serum Utilizing GO/AuNPs based sensor	Suman Nagpal	<i>Int. J of Env. Anal Chem</i> March 2022 Impact factor: 2.7	1029-0397	Link	Link	Yes
11.	Electrostatic Graphene Oxide based Biosensor for rapid direct detection of E. coli	Sneha, Ramesh Kumar, V. K. Jain and Suman Nagpal	<i>International Journal of Materials Research</i> 2022	2195-8556	Link	Link	Yes
12.	A novel sensing platform using silicon nanowires/reduced graphene oxide to detect pathogenic E. coli (MTCC4430) and its application in water samples	Suman Nagpal	<i>Toxicology and Environmental Health Science</i> 14, 253-260 2022	2005-9752	Link	Link	Yes
13.	Conventional and advanced detection approaches of fluoride in water: a review	Suman Nagpal Rahul khatkar	<i>Environ Monit Assess.</i> 195(2):325 2023	0167-6369	Link	Link	Yes
14.	An overview of advancement in aptasensors for influenza detection	Varsha Gautam, Ramesh Kumar, & Suman Nagpal	<i>Expert Review of Molecular Diagnostics.</i>	1744-8352	Link	Link	Yes

			7(22): 705-724 2022				
15.	Development and validation of hand-held device for the metformin in biological samples: A forensic application	Priyanka Verma, Nitesh Kumar, Suman Nagpal	<i>Chemical Biology Letters.</i> 10(1) 2023	2347-9825	Link	Link	Yes
16.	Ultrasensitive detection of formaldehyde at room temperature using Si-chip assisted MOS/SiNWs nanocomposite based sensor	Suman Nagpal	<i>Journal of Alloys and Compounds</i> VOL.919, 165840 2022	0925-8388	Link	Link	Yes
17.	Molecular imprinted polymer biosensor for selective detection of pathogenic microbes.	Pooja, Suman Nagpal, Teena Gakhar & Ramesh Kumar	<i>Micro chemical Journal (I.F 5.9)</i>	0026-265 X			Yes
18	Interventions in Biosensor Surfaces for Arsenic Detection	Shalvi, Varsha Gautam, Suman Nagpal & Kanak lata Verma	<i>Journal of Regenerative medicine and biology Research (I.F 1.0)</i>	E-ISSN 3068-505 2			Yes
19	A novel fusion -5 Filter based Microchip: A highly efficient, on chip DNA extraction and onchip PCR amplification for rapid detection	Suman and Ramesh Kumar	<i>Chemical Bio Letter, (I.F 6.9)</i>	2347-982 5	http://pubs.science.in/journal/index.php/cbl		Yes

