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Webpage- [Microbial Ecology & Applied Microbial Sciences Research Group](#)

Field of Specialization and Research Interest

Area of expertise –
 Microbial Ecology (Himalayan agro-ecosystem)
Research interests –

- Interactions of microorganisms with
 - Their environment; each other; plant and animal species.
 - Anthropogenic effects viz. pollution and climate change.
- Microbial functional diversity of natural habitats.
- Integrated -omics; post-genomics approaches
 - Microbial ecology and microbial evolutionary genetics.
- Waste to Wealth: Harnessing microbes for lignocellulosic biomass utilization.

Educational Qualification

Degree	Year	Subject	University/Institution
Doctorate (Ph.D.) Microbiology	2013	Microbiology	Dr Y.S. Parmar, University of Horticulture and Forestry, Nauni, Solan (H.P.), India
Masters (M.Sc.) Microbiology	2008	Microbiology	Dr Y.S. Parmar, University of Horticulture and Forestry, Nauni, Solan (H.P.), India
Bachelor of Sciences (B.Sc.)	2005	Botany, Zoology, Chemistry	Himachal Pradesh University, Shimla, India
Bachelor Degree in Information Technology	2007	Information Technology	Indira Gandhi National Open University (IGNOU), New Delhi, India
Level 5 BTEC Higher National Diploma in Computing and Multimedia	2006	Computing and Multimedia	IGNOU in collaboration with Edexcel, England and Wales, United Kingdom

Employment Record along with Professional Experience

Positions held	From	To	Organization
Assistant Professor	28 th January, 2019	Continuing	CSK Himachal Pradesh Agricultural University, Palampur, India
National Post-Doctoral Fellow (SERB, DST funded)	23 rd April, 2018	27 th January, 2019	Department of Biotechnology and Bioinformatics, Jaypee University of Information Technology, Waknaghat, India
Research Associate (Post-Doctoral) (CSIR, funded)	3 rd November, 2016	20 th April, 2018	Department of Chemistry and Environmental Sciences, Central University, Himachal Pradesh, India
Research Associate (Post-Doctoral) & Visiting Researcher (DST RFBRA funded)	2 nd June 2014	31 st October, 2016	Department of Biotechnology and Bioinformatics, Jaypee University of Information Technology, Waknaghat, India. Winogradsky Institute of Microbiology, Russia Academy of Science, Moscow

Research Associate (DBT funded)	11 th July 2013	16 th December 2013	Department of Mycology and Plant Pathology, Dr Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan (H.P.), India
Research Associate (NAEBF funded)	15 th December 2011	31 st July 2012	Dr Y.S. Parmar, University of Horticulture and Forestry, Nauni, Solan (H.P.), India
Senior Research Fellow (NFBRA ICAR)	14 th September 2010	15 th December 2011	Department of Mycology and Plant Pathology, Dr Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan (H.P.), India

Research Projects Handled/Ongoing	Title	Cost in Lakh	Duration	Role as PI/ Co-PI	Agency
	“Protected Agriculture and Natural Farming”	1891.05	2020-2023	Part of the team of Scientists working in the project <u>Role as Component PI</u> of the Microbiological component	NAHEP -ICAR National Agricultural Higher Education Project -Indian Council of Agricultural Research funded (Govt. of India and World Bank funded)
	Evaluating effect of phthalate exposure on human gut microbiota in a dynamic <i>in vitro</i> human digestive simulation model	19.20	2018-2020	PI	Science and Engineering Research Board - Department of Science and Technology, Govt of India
	Microbial interventions for generating renewable bio-energy in Himachal Pradesh using Pine needle forest litter	5.80	2016-2018	Co-PI	Himachal Pradesh State Council of Science, Technology and Environment, Himachal Pradesh

Research Publications	Total Publications in Journals: Thirty (30) For latest updates please visit Google Scholar Profile ; ResearchGate Profile
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Five Best Publications:

- Mahajan, R., Verma, S., Kushwaha, M., Singh, D., Akhter, Y., & Chatterjee, S. (2019). Biodegradation of di-n-butyl phthalate by psychrotolerant *Sphingobium yanoikuyae* strain P4 and protein structural analysis of carboxylesterase involved in the pathway. *International journal of biological macromolecules*, 122, 806-816
- Mahajan, R., Chandel, S., Puniya, A. K., & Goel, G. (2020). Effect of pretreatments on cellulosic composition and morphology of pine needle for possible utilization as substrate for anaerobic digestion. *Biomass and Bioenergy*, 141, 105705.
- Sharma, K., Mahajan, R., Attri, S., & Goel, G. (2017). Selection of indigenous *Lactobacillus paracasei* CD 4 and *Lactobacillus gastricus* BTM 7 as probiotic: Assessment of traits combined with principal component analysis. *Journal of applied microbiology*, 122(5), 1310-1320.
- Mahajan, R., Nikitina, A., Litt, Y., Nozhevnikova, A., & Goel, G. (2016). Autochthonous microbial community associated with pine needle forest litterfall influences its degradation under natural environmental conditions. *Environmental monitoring and assessment*, 188(7), 1-10.
- Junta, M. K., Gupta, A. K., & Mahajan, R. (2021). Biological control of hairy root (*Rhizobium rhizogenes*) in apple nurseries through *Rhizobium radiobacter* antagonists (strain K-84 and native strain UHFBA-218). *Biological Control*, 164, 104762.

Books published/Book Chapters/ Manual (Teaching/Trainings)	06 book chapters; 02 Teaching Manual For latest updates please visit Google Scholar Profile ; ResearchGate Profile		
Conference/Seminar/Symposium papers	30 Conference/Seminar/Symposium papers For latest updates please visit Google Scholar Profile ; ResearchGate Profile		
Extension activity including Popular articles/pamphlets/leaflets	For latest updates please visit Google Scholar Profile ; ResearchGate Profile		
Students Guided	PG: 01 M.Sc.: Rishika Mahajan (S-2021-30-005) Exploring niche specific bacterial communities in phyllosphere of traditional red rice (<i>Oryza sativa</i> L.) varieties from Chamba district of Himachal Pradesh		
Awards/Fellowships	Name of Award/Fellowship	Awarding Agency	Year
	On International Platform		
	Best Research Poster/Paper award	International Conference on Bioresource Technology for Bioenergy, Bioproducts & Environmental Sustainability, In Spain	2018
	Young Scientist Travel Grant to Spain	Department of Science and Technology	2018
	Outstanding Contribution in Reviewing	The Editors of BIOLOGICAL CONTROL Elsevier, Amsterdam, The Netherlands	2018
	FEMS' Young Scientist Congress Grant for attending 6 th FEMS Congress of European Microbiologists	FEMS Congress of European Microbiologists	2015
	Visiting Researcher at Winogradsky Institute of Microbiology, Russia Academy of Science, Moscow	DST RFBRA funded Indo-Russian Project	2015
	Certificate for Best Research Paper and Cash Prize	British Crop Protection Council (BCPC) during International conference Crop World Global 2012	2012
	On National Platform		
	Post-Doctoral Fellowship	DST SERB	2018
	CSIR Research Associateship	Council of Scientific & Industrial Research (CSIR), India	2016
	Awarded Research Funding as Co-PI (INR 5.80 lack)	Himachal Pradesh State Council for Science and Technology and Environment	2016
	Best Research Paper Award for Oral Presentation	State Council for Science, Technology & Environment, Himachal Pradesh during Himachal Pradesh Science Congress	2014
	DBT Research Associateship	DST RFBRA funded Indo-Russian Project	2014
	Developed Microbial Biofertilizer Technology accepted in State Package and Practices available for Farmers in Himachal Pradesh	Dr Y.S. Parmar University of Horticulture and Forestry, Solan, India	2013
Research Associateship	National Afforestation and Eco-Development Board	2011	
Senior Research Fellowship	Indian Council of Agricultural Research, New Delhi	2010	

<p>International Exposure/Visits Abroad</p>	<ol style="list-style-type: none"> 1. London, United Kingdom, 2012: Participation in British Crop Protection Council (BCPC) during International conference Crop World Global 2012. 2. Moscow, Russia, 2015: Visiting Researcher at Winogradsky Institute of Microbiology, Russia Academy of Science, Moscow. 3. Sitges, Spain, 2018: Participation in International Conference on Bioresource Technology for Bioenergy, Bioproducts & Environmental Sustainability, 2018.
<p>Miscellaneous achievements/activities</p>	<p>Reviewer for following Journals</p> <ol style="list-style-type: none"> 1. Biological Control 2. Archives of Microbiology 3. BMC Microbiology 4. Letters in Applied Microbiology <p>For details, please visit Webpage- Microbial Ecology & Applied Microbial Sciences Research Group</p>