

CURRICULUM VITAE

Professor Rajesh Kumar

Head

Department of Microbiology

Ph.D. Microbiology (IARI, New Delhi)



Area of Research: Immunosensors/nanosensors for environmental monitoring

Bioremediation of petroleum and heavy metal affected sites using microbial metabolites from PGPRs

Post graduate and doctorate in Microbiology, having 17 years of experience (excluding doctorate) in teaching and research of which initial ten years at G.B.Pant University of Agriculture and Technology, Pantnagar. Presently, Professor of Microbiology and Head of the Department of Microbiology at Babasaheb Bhimrao Ambedkar University, (A Central University), Lucknow. Awarded Senior Research Fellowship, INSA Visiting Fellowship at National Environmental Engineering Research Institute, Nagpur. Awarded Innovator of the year award at Kasetsart University, Thailand in the year 2016. Guided more than a dozen of research students and published research papers in peer reviewed Journals of National and International repute with good impact factor. Handled, One Young Scientist Project of DST, New Delhi, two consultancy projects from Industry as Principal Investigator, Water Technology Initiative Project of DST as Co-PI, Uttarakhand Council of Science and Technology Project as Co-PI, Organic Faring Project of Govt. of Uttarakhand as Co-PI worth more than 2.3 crores of rupees. Hosted CV Raman International Fellow under DST-CV Raman International Fellowship for International Visiting Researchers in the year 2017-18. Working on microbial secondary metabolites and their usage for remediation of hydrocarbons and heavy metal contaminated sites. Submitted around 93 DNA sequences to NCBI gene bank with Accession number, available in public domain. Developed, ELISA and QCM based immunosensors for PGPR monitoring. Developed vermicomposting unit for utilization of animal and agro-waste. Reviewer of many journals of repute from Springer, Elsevier, Taylor and Francis, Wiley etc. Reviewer for research projects at UCOST, UPCST and Subject Expert in many panels for selection including MP Public Service Commission for various posts. Chairman of Post Graduate studies, DRC, School Board member. Organised Industry-Academia workshops (2005-2010), conferences, trainings on water technology for CPCB and handled different administrative positions in various capacities at varied places.

Doctorate in Microbiology from Post Graduate School, Indian Agricultural Research Institute, New Delhi in October 2000 with First Division. Programme involved course as well as research work. Microbiology was the major subject while Molecular Biology & Biotechnology and Biochemistry were the minor subjects.

Master of Science in Microbiology from Nagpur University in 1994 with First Division. Main emphasis was on Medical Microbiology and Immunology

Indian National Science Academy: Awarded INSA, New Delhi visiting fellowship for two months in the year 2007 (NEERI, CSIR Lab., Nagpur).

Doctorate Research Topic (Self): "Competitiveness of Cin^+ and Cin^- strains of *Cicer-rhizobia* using Immunological Techniques".

Professional Experience/s

(A) Employment Record

- Presently working as Head, Department of Environmental Microbiology, Babasaheb Bhimrao Ambedkar University (A Central University), Rbl. Rd. Lucknow, India.
- Professor of Microbiology at Babasaheb Bhimrao Ambedkar University (A Central University), Rbl. Rd. Lucknow, India.
- Associate Professor of Microbiology at Babasaheb Bhimrao Ambedkar University (A Central University), Rbl. Rd. Lucknow, India.
- Assistant Professor of Microbiology at G.B.Pant University of Agriculture & Technology, Pantnagar, India (2001-2011).

Professional Experience/s

(B1) Research Projects Completed Successfully

Sr. No.	Title of the project	Amount sanctioned (Rs. Lakhs)	Funding Agency
1	Immunological probe for cadmium resistant fluorescent pseudomonads and their monitoring for reclamation of cadmium affected soils (2004-2007)	8.76	DST-Young Scientist (Ministry of Sc. & Technol.)
2	Effective utilization of treated distillery effluent (2004-2007)	8.32	M/s Jubilant Organosys Ltd., Gajraula- Consultancy
3	Production of vermicompost (2004-2008)	2.50	GBPUA&T, Pantnagar
4	Development of low cost electrochemical nanobiosensor for detection of Enterobacteriaceae in drinking water (2012-2013 Nov-18 months).	36.59	Department of Science & Technology, GOI, New Delhi
5	Isolation, characterization and evaluation of indigenous strains of plant growth promoting rhizobacteria for important crops of Uttarakhand (2012-2015).	Rs. 10.00 lakhs approx.	Uttarakhand Council for Science and Technology, Dehradun and Shriram Solvents Ltd., Kashipur.
6	Development of Organic Farming practices for Uttarakhand.	Rs 2.31 Crores	Govt. of Uttarakhand

C-HUMAN RESOURCE DEVELOPED

(RESOURCE DEVELOPED, THEIR SPECIAL ACHIEVEMENTS AND PLACEMENTS)

Ph.D. Degrees : Five completed; One submitted, six under guidance
M.Sc. Thesis : Eleven completed
M.Sc. Dissertation : Fifty one

i. Placements

Sr. No.	Name	Degree completed under my guidance	Placement
1	Deepak Kumar Arya	M.Sc. Ph.D. from JNU, New Delhi	Assistant Professor -Kumaun University, Nainital
2	Subhabrata Sarkar	M.Sc.	Assistant General Manager-Reliance Life Sciences
3	Ms. Shalini Phartyal	M.Sc. Ph.D.from other lab.	Technical Officer in National Centre for Organic Farming (Min. of Agriculture), Jabalpur
4	Ms. Swati Chauhan	M.Sc., Ph.D.	Research Officer in National Institute of Communicable Diseases
5	Mr. Subhadip Bagchi	M.Sc. MBA from Austria	CEO in a Multinational Company
6	Ms Reshu Saxena	M.Sc.	JRF and NET, Ph.D. from CDRI
7	Ms. Disha Sharma	M.Sc.	Ph.D. from Pantnagar
8	Mr K.Pandiyani	M.Sc. Ph.D.from IARI, New Delhi	ARS Scientist posted at NBAIM, Mau, ICAR
9	Ms Gunjan Saini	M.Sc.	JRF in IIT Roorkee
10	Dr Govind Kumar	Ph.D.	ARS Scientist
11	Dr Swati Chauhan	M.Sc. & Ph.D.	Research Scientist in Ministry of Health, Delhi
12	Dr Poonam Gusain	Ph.D.	Uttarakhand Council for Science and Technology-Research Scientist
13	Dr Pooja Shrivastava	Ph.D.	DAV, Indore-Guest Faculty
14	Dr Sadhana Singh Sagar	Ph.D.	Rani Laxmi Bai Central Agricultural University, Jhansi-Guest Faculty
15	Vijay Kant Dixit	M.Sc. Dissertation	JRF-NBRI, Lucknow
16	Shatrohan Lal	M.Sc. Dissertation	Doing Ph.D.under my supervision
17	Vinay Verma	M.Sc. Dissertation	Malaria Inspector-UP Govt.
18	Amar Jyoti Das	M.Sc. Dissertation	Doing Ph.D.under my supervision
19	Manoj Kumar	M.Sc. Dissertation	Pursuing Ph.D. at Central University, Gujarat
20	Manish Kumar	M.Sc. Dissertation	Pursuing Ph.D. at Central University, Rajasthan

ii. Fellowships

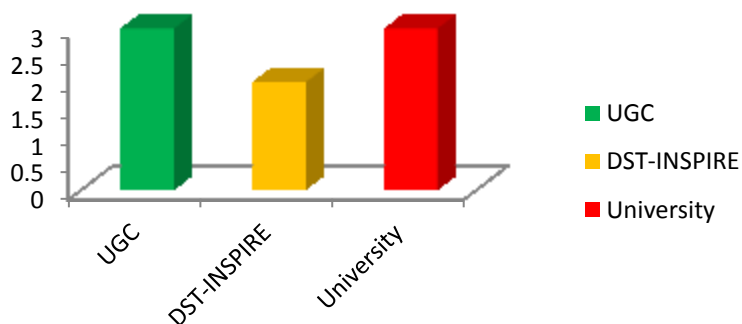


Fig.: Fellowships awarded to students under my guidance

Table : List of Students who qualified various fellowship examinations under supervision

Sr. No.	ICAR NET	UGC JRF	CSIR-JRF	DST INSPIRE	RGNF
	Eleven	One	Four	Two	Five
1	Shalini Phartyal	Sheel Ratna	Reshu Saxena	Poonam Gusain	Govind Kumar
2	Disha Sharma	-	Saumya Mishra	Amar Jyoti Das	Sadhana Singh Sagar
3	Swati Chauhan		K Pandiyan		Chhaya Verma
4	Gunjan Saini		Deepak Kumar Arya		Shatrohan Lal
5	Govind Kumar				Beenu Shastri
6	Manish Kumar				
7	Chhaya Verma				
8	Shatrohan Lal	-			
9	Beenu Shastri	-			
10	Shweta Ambust	-	-		
11	Sheel Ratna	-	-		
12	Saumya Mishra	-	-		
13	K.Pandiyan				
14	Poonam Gusain				
15	Reshu Saxena				

iii. Special Attainments

- a) Priya Dwivedi, Amar Jyoti Das and Rajesh Kumar (2015). Biosurfactant mediated synthesis of silver nanoparticles and their antimicrobial activity at National Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal– **Consolation award for Poster presentation**
- b) Pooja Shrivastava and Rajesh Kumar (2015). Halotolerant *Streptomyces* strain with IAA and proline production capacity isolated from salt affected soil at National Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal–**First prize –Poster presentation.**
- c) Rajesh Kumar and Amar Jyoti Das (2015). Rhamnolipid mediated synthesis of silver nanoparticles and exploring their antibacterial properties presented at Indo-US symposium on Recent trends in Nanobiotechnology organized by Uttarakhand Council for Biotechnology, Haldi, Uttarakhand on 10th March, 2015 at UCB Bhavan Haldi–**Best Poster Award.**
- d) Deependra Singh, Deepika Singh (2015). Nanotechnology in agriculture and food industry, Hi tech Horticulture conference organized by Department of Applied Plant Sciences, BBAU, Lucknow 26-27th February, 2015.
- e) Das AJ; **Kumar R** (2013). *Mangifera indica* bark can be a best indicator of air pollution monitoring. Presented at National seminar on Environmental issues and challenges in the 21st century sponsored by DST, New Delhi and organized by Bareilly College, Bareilly, Feb 3-5, 2013, published in Abstract Souvenir–**Best Poster Award.**
- f) Amar Jyoti Das (2013). Participated in Power point Competition on the topic entitled “Wetlands in Biodiversity Conservation’ organized by UP State Biodiversity Board Lucknow and Department of Applied Animal Science, Babasaheb Bhimrao Ambedkar Central University, Lucknow on the occasion of World Wetland Day on 02nd February, 2013 and won **First Prize.**
- g) Amar Jyoti Das and Mohd. Athar (2012). A new vista in the field of Biotechnology for developing ecofriendly pesticides presented at National Biotechnology Conference “Leading ideas and future encampment-2012 organised by Department of Biotechnology, ITS

paramedical College, Muradnagar, Ghaziabad, UP on 28th April, 2012 (**Best Paper Presentation Award**).

- h) Late Das D; Das AJ and **Kumar R.** (2012). Study of threatened plant diversity of Assam an imperative focus on conservation presented at National Biotechnology Conference “Leading ideas and future encampment-2012 organised by Department of Biotechnology, ITS paramedical College, Muradnagar, Ghaziabad, UP on 28th April, 2012 (**Best Paper Presentation Award**).

Trainings/ Conferences/Symposium/Science Quiz attended by students

- Shatrohan Lal (2015). Attended ‘Hands on Training’ on SEM, FTIR, FPLC and Ion Chromatography organized by University Science Instrumentation Centre, Babasaheb Bhimrao Ambedkar Central University, Lucknow, UP from 18-20 Feb., 2015.
- Harshit Khare (2015). Participated in one day symposium on drug discovery in India: Past, present and future and presented a paper organized by Central Drug Research Institute (CSIR), Lucknow on 1st January, 2015 at Lucknow.
- Shatrohan Lal (2013). Attended a Seminar on Environment, Education and Society organized by Department of Environmental Science, BBAU, Lucknow on 5th June, 2013 at BBAU, Lucknow on the occasion of World Environment Day.
- Chhaya Verma (2013). Attended a workshop on enhancing communication skill of student in higher education: Role of libraries, May 22, 2013, at BBAU Lucknow organized by Information and Guidance Bureau, Placement Cell and DLIS, BBAU, Lucknow.
- Chhaya Verma (2013). Participated in Earth hour day on energy conservation jointly organized by BBAU Lucknow and 20 U.P Girls BN, NCC, LKO, March 23, 2013 at BBAU Lucknow.
- Chhaya Verma (2013). Attended a workshop on placement and employment prospects in Indian patent office and hands on training for patenting the research work, jointly organised by Placement Cell and Information and Guidance Bureau on March 18, 2013 at Babasaheb Bhimrao Ambedkar Central University, Lucknow.
- Shatrohan Lal (2013). Participated in science quiz on February 18, 2013 at Indian Institute of Sugarcane Research, Lucknow organized during IISR Diamond Jubilee Celebrations and National Sugar Fest-2013 at Lucknow.
- Amar Jyoti Das (2013). Participated in Power point Competition on the topic entitled “Wetlands in Biodiversity Conservation’ organized by UP State Biodiversity Board Lucknow and Department of Applied Animal Science, Babasaheb Bhimrao Ambedkar Central University, Lucknow on the occasion of World Wetland Day on 02nd February, 2013 and won **First Prize**.
- Pooja Shrivastava (2012). DBT Sponsored workshop on Microbial enzyme technology. Organised by Department of Biochemistry and Molecular Biology, Pondicherry University, May 16-19, 2012.
- Amar Jyoti Das and Mohd. Athar (2012). A new vista in the field of Biotechnology for developing ecofriendly pesticides presented at National Biotechnology Conference “Leading ideas and future encampment-2012 organised by Department of Biotechnology, ITS paramedical College, Muradnagar, Ghaziabad, UP on 28th April, 2012 (**Best Paper Presentation Award**).
- Sadhana Singh Sagar (2012). Attended a short term training on Bioinformatics tools and techniques and their applications held at Bioinformatics Infrastructure Facility, Centre of Excellence in Bioinformatics, Department of Biochemistry, University of Lucknow, Lucknow from February 11-12th, 2012.

- Pooja Shrivastava (2012). Attended a short term training on Bioinformatics tools and techniques and their applications held at Bioinformatics Infrastructure Facility, Centre of Excellence in Bioinformatics, Department of Biochemistry, University of Lucknow, Lucknow from February 11-12th , 2012.

(C-I) RESEARCH THESIS GUIDED

- 1) Mr. Deepak Kumar Arya (2005) Bioremediation of cadmium affected soil using fluorescent *Pseudomonas* and its monitoring using immunological technique, M.Sc. Thesis, GBPUAT, Pantnagar, India, pp-112.
- 2) Mr Subhabrata Sarkar (2006) Biostabilization Potentiality and Biophysical Characterization of Cadmium Resistant Fluorescent *Pseudomonads*, M.Sc. Thesis, GBPUAT, Pantnagar, India, pp-116.
- 3) Ms. Shalini Phartyal (2007) Quantitative estimation of secondary metabolites of cadmium resistant plant growth promotory strains , M.Sc. Thesis, GBPUAT, Pantnagar, India, pp-100.
- 4) Ms. Meenakshi Chaudhary (2007) Effect of treated distillery effluent on siderophore production potentiality of cadmium resistant plant growth promotory strains, M.Sc. Thesis, GBPUAT, Pantnagar, India, pp-103.
- 5) Ms. Swati Chauhan (2008) Characterization of biosurfactant produced by bacteria from oil contaminated soil and their application for heavy metal remediation. M.Sc. Thesis, GBPUAT, Pantnagar, India, pp-127.
- 6) Mr. Subhadip Bagchi (2008) Characterization of biosurfactants from plant growth promotory bacterial strains and their oil emulsifying ability. M.Sc. Thesis, GBPUAT, Pantnagar, India, pp-98.
- 7) Ms Reshu Saxena (2009) Bioremediation of cadmium affected soil with biosurfactants from plant growth promotory rhizobacteria. M.Sc. Thesis, GBPUAT, Pantnagar, India, pp-128.
- 8) Ms. Disha Sharma (2010). Characterization of bacterial strains from oil contaminated sites and their lead remediation potential. M.Sc. Thesis, GBPUAT, Pantnagar, India, pp-103.
- 9) Mr K.Pandiyani (2010). Studies on interaction between biosurfactant producing fluorescent pseudomonads and Ashwagandha (*Withania somnifera*) in petroleum contaminated soil. M.Sc. Thesis, GBPUAT, Pantnagar, India, pp-107.
- 10) Ms. Hemlata Arya (2010). Expression of plant growth promotory properties by cadmium resistant fluorescent pseudomonads under abiotic stress posed by different cadmium salts. M.Sc. Thesis, GBPUAT, Pantnagar, India, pp-77.
- 11) Ms Gunjan Saini (2011). Bioremediation of cadmium and lead contaminated soil using PGPR consortia and hyperaccumulator plants. M.Sc. Thesis, GBPUAT, Pantnagar, India, pp-100.

Ph.D. Thesis Guided and Degree Awarded

- 1) Mr Govind Kumar (2012). Bioremediation of oil contaminated sites using biosurfactant from fluorescent pseudomonads. Ph.D. Thesis, GBPUAT, Pantnagar, India, pp-284.

- 2) Ms Swati Chauhan (2012). Bio-phyto-remediation of cadmium contaminated soil with PGPR consortia and hyperaccumulator crops. Ph.D. Thesis, GBPUAT, Pantnagar, India, pp-223.
- 3) Ms. Poonam Gusain (2013). Siderophore characterization and their usage for remediation of cadmium and arsenic affected soil. Ph.D. Thesis, GBPUAT, Pantnagar, INDIA pp-200.
- 4) Ms. Sadhana Singh Sagar (2016). Isolation and characterization of host specific bacteriophage and determination of their potency to inhibit multiplication of multiple drug resistant (MDR) biofilm forming *Pseudomonas aeruginosa* isolates. Ph.D. Thesis, Babasaheb Bhimrao Ambedkar Central University, Lucknow, INDIA pp-GBPUAT, Pantnagar, INDIA pp-299.
- 5) Ms. Pooja Shrivastava (2016). Exploration of halotolerant actinomycetes from salt affected soil and their utilization to ameliorate salinity stress in wheat (*Triticum aestivum* L.). Ph.D. Thesis, Babasaheb Bhimrao Ambedkar Central University, Lucknow, INDIA pp-GBPUAT, Pantnagar, INDIA pp-251.

(C-II) M.Sc. DISSERTATION GUIDED

1. Mr Vijaykant Dixit (2012). Bacterial diversity in wheat rhizosphere of Lucknow district. M.Sc. Dissertation Thesis, BBAU, Central University, Lucknow pp-51.
2. Mr Shatrohan Lal (2012). Heavy metal concentration and bacterial load on spinach (*Spinacia oleracia*) phyllosphere under different regions of Lucknow, UP. M.Sc. Dissertation Thesis, BBAU, Central University, Lucknow pp-55.
3. Mr Vinay Kumar Verma: Isolation and screening of plant growth promoting rhizobacteria from mango growing region of Malihabad, Lucknow. Dissertation Thesis, BBAU, Central University, Lucknow pp-39.
4. Mr Amar Jyoti Das (2013). Exploration of biocontrol mechanism of *Rhynchostylis retusa* (A threatened Orchid species of Assam, North East India): A novel approach for the sake of its conservation. Dissertation Thesis, BBAU, Central University, Lucknow pp-40.
5. Mr Manoj Kumar (2013). Biocontrol potential of fluorescent pseudomonas against *Colletotrichum falcatum*, a fungus causing red rot in sugarcane. Dissertation Thesis, BBAU, Central University, Lucknow pp-28.
6. Ms Manish Kumar (2013). Isolation and screening of plant growth promoting rhizobacteria for biosurfactant production using industrial wastes as a substrate. Dissertation Thesis, BBAU, Central University, Lucknow pp-48.
7. Ms Deep Shikha (2013). Isolation and characterization of zinc and copper solubilising bacteria from rhizospheric soil. Dissertation Thesis, BBAU, Central University, Lucknow pp-42.

8. Ms Pooja Nagar (2013). Copper induced inhibition of *Escherichia coli* in drinking water. Dissertation Thesis, BBAU, Central University, Lucknow pp-36.
9. Ms Priyanka Singh (2013). Isolation and characterization of bacteriocin producing *Mesorhizobium* isolates from *Cicer arietinum*. Dissertation Thesis, BBAU, Central University, Lucknow pp-45.
10. Ms. Kumkum Ashya (2014). Isolation, biochemical characterization and antibiotic sensitivity of lead resistant bacteria from heavy metal contaminated soil. Dissertation Thesis, BBAU, Central University, Lucknow pp-60.
11. Ms. Anamika Singh (2014). Bacterial Assisted Phytoremediation of Cadmium by *Brassica juncea* (Indian mustard) Based on Phosphate Solubilising Activity: An Old Concept with New Idea. Dissertation Thesis, BBAU, Central University, Lucknow pp-56.
12. Ms. Preeti Ranjan Rao (2014). Isolation, Biochemical characterization and Identification of cadmium tolerant bacteria from Metal contaminated soil. Dissertation Thesis, BBAU, Central University, Lucknow pp-74.
13. Mr Ravishankar Chaurasiya (2014). Screening the Physiochemical parameter and Beneficial Microflora of Biocompost made from Kitchen waste by both Aerobic and Anaerobic Method: An Approach for Organic Waste Management. Dissertation Thesis, BBAU, Central University, Lucknow pp-68.
14. Ms. Anju Rawat (2014). Isolation and characterization of antibiotic and cadmium resistant siderophore producing bacteria isolated from heavy metal contaminated sites. Dissertation Thesis, BBAU, Central University, Lucknow pp-48.
15. Ms. Shatbhisha Pal (2014). Microbiological Quality Determination of River Ganges Water in Allahabad Region and Assessment of Bacterial Isolates for Antibiotic Resistance. Dissertation Thesis, BBAU, Central University, Lucknow pp-67.
16. Ms. Aditi Singh (2015). Exploring the detergent activity of Rhamnolipid extracted from *Pseudomonas* Sp.: A search for low toxic & Biocompatible Detergent. Dissertation Thesis, BBAU, Central University, Lucknow pp-67.
17. Ms. Kirti Singh (2015). Comparative study of PGPR isolated from crop plants (Mustard & Maize) and wild medicinal plant (Lantana) & their Potency for enhancement of wheat plant. Dissertation Thesis, BBAU, Central University, Lucknow pp-67.
18. Mr. Sheel Ratna (2015). Isolation & Characterization of heavy metal resistant Siderophore producing Bacteria (SPB) from heavy metal contaminated. Dissertation Thesis, BBAU, Central University, Lucknow pp-67.
19. Mr. Prince Charles (2015). Isolation & Characterization of Lead resistant Phosphate solubilizing bacteria (PSB) from heavy metal contaminated sites. Dissertation Thesis, BBAU, Central University, Lucknow pp-67.
20. Ms. Shweta Ambust (2015). Extraction characterization of Glycolipid surfactant from *Pseudomonas* sp. and development of cosmetic formulation of toothpaste. Dissertation Thesis, BBAU, Central University, Lucknow pp-67.

21. Ms. Pooja Singh (2015). Isolation & Characterization of heavy metal resistant PGPR and their role in enhancement of growth of wheat plant under metal (Cadmium) stress. Dissertation Thesis, BBAU, Central University, Lucknow pp-67.
22. Mr. Deependra Singh (2015). Comparative study of co resistant of Bacteria (Antibiotic and cadmium) isolated from polluted water and soil. Dissertation Thesis, BBAU, Central University, Lucknow pp-67.
23. Ms. Deepika Singh (2015). Evaluation of antibiotic resistant pattern in Bacteria isolated from hospital and non hospital waste. Dissertation Thesis, BBAU, Central University, Lucknow pp-67.
24. Mr. Akash Nigam (2016). Quantitative analysis of indole acetic acid production in cadmium resistant plant growth promotory rhizobacteria (PGPR) and its optimization. Dissertation Thesis, BBAU, Central University, Lucknow pp-57.
25. Ms. Soni Manola (2016). Production, extraction and characterization of biosurfactant from *Bacillus* sp. And development of biosurfactant based herbal shampoo formulation. Dissertation Thesis, BBAU, Central University, Lucknow pp-56.
26. Ms. Annu Prabhakar (2016). Growth promotion of mung plant in saline soil with the help of halotolerant Actinomycetes consortia. Dissertation Thesis, BBAU, Central University, Lucknow pp-72.
27. Ms. Vinita Verma (2016). Saline soil amelioration and growth promotion in maize (*Zea mays*) by plant growth promotory Actinomycetes. Dissertation Thesis, BBAU, Central University, Lucknow pp-76.
28. Ms. Anjali Gupta (2016). Biosurfactant mediated synthesis of silver nanoparticles and exploring its antibacterial properties. Dissertation Thesis, BBAU, Central University, Lucknow pp-56.
29. Ms. Apoorva Dixit (2017). Production and optimization of Siderophore by *Pseudomonas* sp. and its application to control the growth of *Proteus mirabilis* and *Bipolaris*. Dissertation Thesis, BBAU, Central University, Lucknow pp-51.
30. Mr. Anil Kumar (2017). Assessment of bacterial diversity and their antifungal potential against *C. falcatum* isolated from the endophytic and rhizospheric region of Sugarcane crop. Dissertation Thesis, BBAU, Central University, Lucknow pp-54.
31. Mr. Shubham Verma (2017). Amelioration of heavy metal toxicity in tannery waste water through heavy metal resistant plant growth promoting bacteria. Dissertation Thesis, BBAU, Central University, Lucknow pp-106.
32. Ms. Tripti Singh (2017). Extraction and characterization of biosurfactant from *Pseudomonas* sp and development of a novel cost effective technique for management of petroleum contaminated soil. Dissertation Thesis, BBAU, Central University, Lucknow pp-60.
33. Mr Amit Singh (2018). Bioremediation of petroleum contaminated soil through biosurfactant producing *Pseudomonas* sp. for growing maize crop. M.Sc. Environmental

Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-60.

34. Ms Kirti Tripathi (2018). Comparative study of PGPR properties of bacteria isolated from the rhizospheric and non-rhizospheric zone of castor plant. M.Sc. Environmental Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-82.
35. Ms Akanksha Singh (2018). Exploring the biocontrol activity of biosurfactant against phyto-pathogenic *Fusarium oxysporum*. M.Sc. Environmental Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-72.
36. Mr Jeetendra Kumar (2018). An investigation into the efficiency of fungal biomass as a low cost bioadsorbent for the removal of lead from aqueous solutions. M.Sc. Environmental Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-70.

M.Sc. Nanoscience and Nanotechnology

1. Mr. Ajeet Kumar Singh (2015). Characterization of silver nanoparticles synthesized by using plants extract and their utilization for the control of drug resistant pathogens. Dissertation Thesis, BBAU, Central University, Lucknow pp-53.
2. Mr. Ahmaduddin Khan (2015). Biogenic synthesis of Silver nanoparticles and their utilization against multiple drug resistant pathogens. Dissertation Thesis, BBAU, Central University, Lucknow pp-67.
3. Ms. Astha Singh (2015). A Novel approach for synthesis of silver nanoparticles by root Exudates & exploring its Antimicrobial & Anti-insecticidal activity. Dissertation Thesis, BBAU, Central University, Lucknow pp-49.
4. Mr. Harshit Khare (2015). Synthesis & characterization of metal Nanoparticles using leaf extract. Dissertation Thesis, BBAU, Central University, Lucknow pp-40.
5. Mr. Hitesh Narayan (2015). Eco-friendly synthesis of silver nanoparticles and their application for the control of multiple drug resistant pathogens. Dissertation Thesis, BBAU, Central University, Lucknow pp-62.
6. Ms. Priya Dwivedi (2015). Biosurfactant Mediated Synthesis of silver nanoparticles & exploring its antimicrobial activity. Dissertation Thesis, BBAU, Central University, Lucknow pp-47.
7. Ms. Shama Parween (2016). Investigation of anti-bacterial activity of surface modified iron oxide nanoparticles. Dissertation Thesis, BBAU, Central University, Lucknow pp-43.
8. Mr. Prashant Priya Chandra (2016). Exploring the antibacterial activity of ferrous nanoparticles synthesized through reverse micelle process. Dissertation Thesis, BBAU, Central University, Lucknow pp-57.

9. Mr. Abhinav Kumar (2016). Surfactant mediated synthesis of zinc nanoparticles and exploring its antibacterial activity through qualitative and quantitative analysis. Dissertation Thesis, BBAU, Central University, Lucknow pp-41.
10. Mr. Naveen Kumar (2018). Synthesis of TiO₂ nanoparticle and exploring their role in management of sewage water. M.Sc. Nanoscience and Nanotechnology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-56.
11. Ms. Ritika Bansal (2018). Synthesis of biosurfactant mediated synthesis of ZnO nanoparticle and exploring its role in controlling coliform bacteria of sewage water. M.Sc. Nanoscience and Nanotechnology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-58.

M.Sc. Food Microbiology and Toxicology

1. Mr. Ravi Kumar. Study of bacteriological analysis of drinking water of different dug well of Lucknow city. M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-92.
2. Ms. Simran Kaur. Accumulation of mercury in vegetables and grains in vicinity of coal-fired power plant and associated with potential health risks. M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-49.
3. Ms. Namita Singh. Bacteriological & physiological analysis of different submersible water samples of Lucknow city. M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-93.
4. Mr. Mrityunjay Kumar. Shelf life of milk and milk products. (under supervision of Dr Prabhat Soni), M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-44.
5. Ms. Shraddha Singh. Microbiological quality analysis of branded and non-branded ice creams related to human health risk. M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-39.
6. Mr. Ashank Shekhar Nigam. Assessment of mercury contamination in agriculture soil surrounding the coal fire power plant. M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-67.
7. Mr. Anurag Kumar. Isolation and biochemical characterization of microorganisms responsible for different type of food spoilage (Raw Vegetables). M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-86.

8. Ms. Babita Bharti. Isolation and characterization of pathogenic bacteria from Garra river, U.P. M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-46.
9. Ms. Ankita Singh. Isolation and screening of protease enzyme producing bacteria from industrial effluent contaminated soil. M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-45.
10. Mr. Pradeep Kumar. Assessment of mercury contamination in surface water surrounding the coal fire power plant. M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-60.
11. Ms. Karishma. Quality analysis of drinking water of India mark II hand pump by MPN method of Lucknow city. M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-99.
12. Mr. Ram Chandra Prasad. Isolation and characterization of pathogenic bacteria from local fish market, Lucknow. M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-61.
13. Ms. Pratibha Rawat. Isolation and biochemical characterization of pathogenic bacteria from sewage waste water irrigated soil. M.Sc. Food Microbiology & Toxicology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-44.

M.Sc. Industrial Microbiology

14. Mr. Rishabh Garg (2018). Biosurfactant reformation of commercial detergent: a new perspective for laundry and cosmetic industry. M.Sc. Industrial Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-68.
15. Mr. Prashant Tripathi . Isolation, biochemical characterization and partial purification of bacterial amylase enzyme from tannery effluent. M.Sc. Industrial Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-48.
16. Ms. Shaline Paswan. Fluorescent pseudomonads and their plant growth promoting activities. M.Sc. Industrial Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-38.
17. Ms. Divya Singh. A study on isolation and characterization of fluorescent pseudomonads. M.Sc. Industrial Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-38.
18. Ms. Deeksha Gupta (2018). Synthesis of silver nanoparticles through surface-active metabolite produced by *Pseudomonas* sp. and exploring its ability to control coliform

bacteria. M.Sc. Industrial Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-61.

19. Mr. Ramashankar. Zinc solubilizing fluorescent pseudomonads and their role in growth promotion of *Solanum lycopersicum* L. M.Sc. Industrial Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-43.
20. Mr. Kishan Lal. Isolation and biochemical characterization of amylase producing bacteria from central effluent treatment plant. M.Sc. Industrial Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-38.
21. Mr. Pulkit Srivastava (2018). Production and characterization of biosurfactant from *Bacillus* sp. and exploring its role as biopreservative for food industry. M.Sc. Industrial Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-77.
22. Mr. Anit Kumar Dubey. Phosphate solubilizing fluorescent pseudomonads and their role in growth promotion of *Solanum lycopersicum* L. M.Sc. Industrial Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-47.
23. Mr. Ram Pal Chaudhary. Isolation and characterization of protease producing bacteria from Ganga river. M.Sc. Industrial Microbiology Dissertation Thesis, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, pp-49.

(C-III) STUDENTS UNDER GUIDANCE (2016-2017)

Ph.D.:- 06

(C-IV) Co-CHAIRMAN/MEMBER ADVISORY COMMITTEE

Microbiology	= Total 6
Animal Biotechnology	= Total 4
Floriculture	= Total 3
Biophysics	= Total 3
Environmental Sciences	= Total 3

(D) TEACHING : TEACHING VARIOUS COURSES IN MICROBIOLOGY/BIOTECHNOLOGY TO UG, M.Sc. AND PH.D. STUDENTS UNDER SEMESTER SYSTEM AS GIVEN IN TABLE BELOW:

COURSES TAUGHT AT G B PANT UNIVERSITY OF AGRICULTURE & TECHNOLOGY, PANTNAGAR-263 145

- Introductory Microbiology
- Microbial Biotechnology

- Microbial Metabolism
- Microbiological Techniques
- Applied Microbiology
- Application of Microbial Methods
- Molecular Biology of Protists & Viruses
- Research Techniques in Microbiology
- Seminar

COURSES TAUGHT AT BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY (A CENTRAL UNIVERSITY), LUCKNOW

- Instrumentation, analytical tools and techniques
- Microbial Biochemistry
- Practicals
- Microbiology of water & human health
- Food and Industrial Microbiology
- Microbial toxicology & bioremediation
- Microbial genetics & Molecular biology
- Soil Microbiology
- Environmental Stresses and Adaptations
- Concept of Microbiology and Microbial Ecology
- Microbiology of Agro-environment

Ph.D. Courses

- EMP 501-Unit-B) Advanced Tools and Technique
- EMP504: Review of Literature and Seminar
- EMP 501-Unit-D) Computer Fundamentals

**PG Programme: M.Sc. NANOSCIENCE AND NANOTECHNOLOGY
(Initiated Course under Self Financing Mode, Co-ordinator of the course)**

Course Code	Course Title	Credits
	Ist Semester	
NSNT 101	General Microbiology and	6

	Biochemistry	
NSNT 102	Basics of Materials	6
NSNT 103	Nanomaterials and Nanoscience	6
NSNT 104	Microbiological and Molecular biology techniques-Practical	6
NSNT105 (Optional)	Microbiology and Immunology	6
MPDC 105	Remedial Language Course	1
NSNT R1 (Remedial Course)	Remedial course-Communication skills	1

2nd Semester

Course Code	Course Title	Credits
NSNT 201 (Optional)	Biostatistics and Bioinformatics (Optional)	6
NSNT 202	Nanoparticles, Microorganisms and Bio-nanocomposites	6
NSNT 203	Analytical Instrumentation techniques and characterization of nanomaterials	6
NSNT 204	Hands on practical training on synthesis and measurements-I (Practical)	6
		6
MPDC 205	Moral Studies	1
NSNT R1 (Remedial Course)	Remedial course-Communication skills	1

3rd Semester

Course Code	Course Title	Credits
NSNT 301	Nanotechnology and its applications	6
NSNT 302	Industrial applications of nanosized materials	6
NSNT 303	Nanoparticles in Medicine and bioanalytical applications	6
NSNT 304	Hands on practical training on synthesis and measurements-II (Practical)	6
NSNT 305 (Optional)	IPR's (Optional)	6
MPDC 305	Community Service	1

4th Semester

Course Code	Course Title	Credits
NSNT 401	Dissertation (20 weeks)	24
MPDC 405	Ambedkar Studies	1

*Elementary biology to be offered to students from Maths background in 1st Semester if need arises while Basic Mathematics to be offered to students from Biology background if need arises.

NSNT: Nanoscience & Nanotechnology

- NSNT 105 and 305 are optional courses for the students of Nanoscience and Nanotechnology and will not be compulsory for the degree programme,
- Optional courses as listed in the table can be opted by any student of the University.

Teaching Experience

Courses Taught	Name of University/ College / Institution	Duration
i) U. G.	G. B. P. U. A &T Pantnagar Bundelkhand University, Jhansi	2001 to 2011 (10 years)
ii) P. G. (M. A. / M. Sc., etc.)	Babasaheb Bhimrao Ambedkar (A Central University) University, Lucknow G. B. P. U. A &T Pantnagar Bundelkhand University, Jhansi	2011-Continued (2001-2011) Total 17 Years)
iii) M. Phil. iv) Ph.D.	- G.B Pant University of Agriculture & Technology, Pantnagar Babasaheb Bhimrao Ambedkar (A Central University) University, Lucknow	- 2001- Continued (17 years approx.)
Any other	Imparted UGC /NET coaching at BBAU, Lucknow to SC/ST students. Delivered lectures as Guest Faculty at DDU Gorakhpur University, Department of Biotechnology for M.Sc. Biotechnology students Delivered lecture in different summer school training(Dissertation) organized by the Department Computer Training to non-teaching staff of the Department under Vice- Chancellor's HRD prog. in Computers.	2011-2012 2011-2012 2005-2011 2003
	Imparted training to PG students from different University's under CRBA Project, Ministry of Env. & Forests, Govt. of India	2003-2009

Total Teaching Experience :Seventeen years

(a) Under- graduate (Pass) : **Ten years**

(b) Post-Graduate : **Seventeen years**

(c) Doctorate (Ph.D.) : **Seventeen years**

Innovations / Contributions in Teaching

1. **Design of curriculum** : at G.B.Pant Univ. Agri. & Tech. Pantnagar

Revision of P.G. and Ph.D. courses of the Department (GBPUAT, Pantnagar) as per the ICAR guidelines 2010.

- (i) **Microbiological Techniques** **BBM 510**
- (ii) **Application of Microbial Methods** **BBM 610**
- (iii) **Microbes in Extreme Environment** **BBM 654**

2. **Revision of PG courses Department of Environmental Microbiology as per UGC guidelines (2015)**

Revised complete syllabus and all the papers (EM-101, 102, 103, 104, 105; EM201, 202, 203, 204; EM 301, 302, 303, 304, 305) for choice based credit system in the Board for Post Graduate Studies meeting held on 19-05-2015.

E) TEACHING MANUALS AND NOTES DEVELOPED

Sr. No.	Name of the Course	Manual	Virtual Lab	Smart class room notes
1	Microbiological Techniques (Lab course)	Yes	Yes	-
2	Application of Microbial Methods (Lab. Course)	Yes	-	-
3	Applied Microbiology (Theory)	-	-	Yes
4	General Microbiology	-	-	Yes
5	Introductory Microbiology	-	-	Yes

F) EXAMINER/PAPER SETTER

- **DIFFERENT UNIVERSITIES, CENTRAL INSTITUTIONS, DEEMED UNIVERSITIES THROUGHOUT THE COUNTRY.**

G) SELECTION PANELS: MANY PLACES, SOME OF THE IMPORTANT ARE LISTED

- **MP PUBLIC SERVICE COMMISSION**
- **UP COUNCIL FOR AGRICULTURAL RESEARCH**
- **UTTRAKHAND COUNCIL FOR BIOTECHNOLOGY**
- **GB PANT UNIVERSITY OF AGRICULTURE & TECHNOLOGY**

- HARYANA AGRICULTURAL UNIVERSITY, HISAR

H) EXTENSION ACTIVITIES-COMMUNITY SERVICES

Sr. No.	Activity undertaken	Role	Year
1	Kisan Mela, Pantnagar	Coordinator , College of Basic Sciences and Humanities	March 3-6, 2010
2	Kisan Mela, Pantnagar	Co-cordinator College of Basic Sciences and Humanities	October, 2009
3	Kisan Mela, Pantnagar	Departmental Representative	March-2002 October-2002 October-2003 March-2004 March-2005 October-2006 March-2007 October 8-11, 2010
4	India International Trade Fair, New Delhi	University representative	November 14-27, 2005
5	Agriculture Technology Information Centre (ATIC) Kisan helpline (1551)	Subject expert-biofertilizers and vermicomposting	2003 2004 2005 2006 2007

I) **Computer Skills:** Well versed with good computer skills

J) PUBLICATIONS

J 1 RESEARCH AND REVIEW PAPERS (LAST FIVE YEARS)

1. Amar Jyoti Das and Rajesh Kumar (2018). Utilization of agro-industrial waste for biosurfactant production under submerged fermentation and its application in oil recovery from sand matrix. *Bioresource Technology* 260: 233-240.
2. Sadhana Singh Sagar, Ram Narain, **Rajesh Kumar** and Shilpa Deshpande Kaistha (2018). Reversal of antibiotic resistance by phage resistant *Pseudomonas aeruginosa* PA01. *Bioengineering and Bioscience* 6(1): 11-15, 2018 <http://www.hrpub.org> DOI: 10.13189/bb.2018.060102.
3. Shatrohan Lal, Sheel Ratna, Olfa Ben Said and **Rajesh Kumar** (2018). Biosurfactant and exopolysaccharide-assisted rhizobacterial technique for the remediation of heavy metal contaminated soil: An advancement in metal phytoremediation technology. *Environmental Technology & Innovation* 10 (2018) 243–263.

4. Amar Jyoti Das and **Rajesh Kumar** (2017). Bioslurry phase remediation of petroleum-contaminated soil using potato peels powder through biosurfactant producing *Bacillus licheniformis* J1 Int. J. Environ. Sci. Technol DOI 10.1007/s13762-017-1410-3 (IF: **2.344**)
5. Chhaya Verma, Amar Jyoti Das and Rajesh Kumar (2017). PGPR-assisted phytoremediation of cadmium: An advancement towards clean environment. Current Science, 113 (4): 715-724. (IF: **0.843**; NAAS rating: 6.97).
6. Govind Kumar , Kavita Arya , Amit Verma , Pankaj , Priyanka Khati , Saurabh Gangola , **Rajesh Kumar**, Anita Sharma and Hukum Singh (2017). Bioremediation of petrol engine oil polluted soil using microbial consortium and wheat crop. J Pure App Microbiol. 11(3): 1583-1588. (IF: **0.073**; NAAS rating 5.0).
7. Gautam Rajneesh K, Islamuddin, More NK, Verma Saumya, Pandey Spriha, Mumtaz Neha, **Kumar Rajesh** and Usama Md. (2017). Sewage generation and treatment status for the city of Delhi, its past, present and future scenario-A statistical analysis. International Journal for Research in Applied Science and Engineering Technology (IJRASET), 5(V): 926-933. ISSN:2321-9653.
8. Sadhana Singh Sagar, **Rajesh Kumar** and Shilpa Deshpande Kaistha (2017). Efficacy of phage and ciprofloxacin co-therapy on the formation and eradication of *Pseudomonas aeruginosa* biofilms. Arab J Sci Engg 42: 95-103. DOI: 10.1007/s13369-016-2194-3. Springer IF: **0.728**. (Online copy available since July, 2016).
9. Pooja Shrivastava, **R. Kumar**, M.S. Yandigeri (2017). *In vitro* biocontrol activity of halotolerant *Streptomyces aureofaciens* K20: A potent antagonist against *Macrophomina phaseolina* (Tassi) Goid. Saudi J Biological Sciences, Elsevier, 24: 192-199. (IF:**1.257**).(Online copy available since 2015)
10. A Verma, S Singh, N Dhusia, RN Bhargava, **R Kumar**, R Gautam, Islamuddin, KR Venkatesh, N More (2017). Qualitative determination of virgin and recycled plastic used for drinking and storing foodstuff: an analytical study using SEM/EDX. International Journal of Health Sciences and Research 7(3): 275-283. ISSN:2249-9571.
11. Chhaya Verma, Deependra Singh and **Rajesh Kumar** (2016). Comparative study of co-resistance pattern of bacteria isolated from waste water of hospital discharge and soil of industrial area. International Journal of Contemporary Pathology. 2(1): 19-23. doi 10.5958/2395-1184.2016.00005.X
12. Sadhana Singh Sagar, **Rajesh Kumar** and Shilpa Deshpande Kaistha (2016). Biofilm-enternal chronicle of bacteria. Indian journal of Comparative Microbiology Immunology and Infectious Diseases. 37(2): 45-56. Print ISSN:0970-9320.
13. Amar Jyoti Das, S Lal, **R Kumar** and C Verma (2016). Bacterial biosurfactants can be an ecofriendly and advanced technology for remediation of heavy metals and contaminated soils. Int. J. Environ. Sci.Technol. doi: 10.1007/s13762-016-1183-0. IF: **2.344**

14. **Rajesh Kumar**, Amar Jyoti Das (2016). Scenario of Intellectual Property Rights on microorganisms and Microbiological research: An imperative need to amend. *International Journal of Intellectual Property Management*. DOI: 10.1504/IJIPM.2016.079571.
15. Amar Jyoti Das, **Rajesh Kumar**, Surya Pratap Goutam and Sadhana Singh Sagar (2016). Sunlight Irradiation Induced Synthesis of Silver Nanoparticles using glycolipid bio-surfactant and exploring the antibacterial activity. *J Bioengineering and Biomedical Sc.* DOI: 10.4172/2155-9538.1000208 (in press)-OMICS online.
16. Amar Jyoti Das and **Rajesh Kumar** (2016). Bioremediation of petroleum contaminated soil to combat toxicity on *Withania somnifera* through seed priming with biosurfactant producing plant growth promoting rhizobacteria. *J Env Mgmt., Elsevier*, 174: 79-86. **(IF:4.010, NAAS Rating: 9.13)**.
17. **Kumar R** (2016). Microbial population dynamics under fertigation by distillery effluent in sugarcane-ratoon cropping system. *Environ Dev Sustain., Springer ISSN* 1387-585X, 18:188-196. DOI: 10.1007/s10668-015-9633-2 (Online copy available since 11-02-2015).
18. Pooja Shrivastava, **Rajesh Kumar**, Mahesh S Yandigeri, Nityanand Malviya and Dilip K Arora (2015). Isolation and characterization of *Streptomyces* with plant growth potential from mangrove ecosystem. *Polish J Microbiol.* 64 (4): 339-349. **(IF:0.697)**.
19. Sadhana Singh Sagar, **Rajesh Kumar**, Shilpa Deshpande Kaistha (2015). Inhibition of different stages of biofilm of *Pseudomonas aeruginosa* PA01 by isolated bacteriophage P2. *Asian J Pharmaceutical and Clinical Research*, 8 (2), online. **ISSN: 0974-2441**.
20. Chhaya Verma, Pooja Singh and **Rajesh Kumar** (2015). Isolation and characterization of heavy metal resistant PGPR and their role in enhancement of growth of wheat plant under metal (cadmium) stress condition. *Scholars research library* 7(7): 37-43. **ISSN: 0975-508X**.
21. Chhaya Verma, Kirti Singh and **Rajesh Kumar** (2015). Comparative study of PGPR isolated from crop plants (mustard and maize) and wild plant (Lantana) and their potency for enhancement of wheat plant. *International J Pharmaceutical and Biological Archives* 6(1): 42-48. **ISSN 0976-3333**.
22. Hitesh Narayan, Sadhana Singh Sagar and **Rajesh Kumar** (2015). Evaluation of antimicrobial activity of silver nanoparticles synthesized by green route. *Int J Chem Tech Research* 8 (3): 975-980. **ISSN: 0974-4290**.
23. Govind Kumar, **Rajesh Kumar** and Anita Sharma (2015). Characterization of biosurfactants from indigenous soil bacteria recovered from oil contaminated sites. *Journal of Environmental Biology* 36(5): 1101-1104. **ISSN: 0254-8704. (IF:0.640 ; NAAS rating:6.55)**.

24. Govind Kumar, **Rajesh Kumar**, Anita Sharma (2015). Rhizoremediation of petrol engine oil using biosurfactants producing microbial consortium in mustard crop. Intl. J. Appl. Sci. Biotechnol. (Open Access) 3(2): 261-266. doi: <http://dx.doi.org/10.3126/ijasbt.v3i2.12475>.
25. Shrivastava P and **Kumar R** (2015). Soil salinity: A serious environmental issue and plant growth promoting bacteria as one of the tools for its alleviation. Saudi Journal of Biological Sciences, Elsevier. <http://dx.doi.org/10.1016/j.sjbs.2014.12.001>, March 2015, Pages 123–131 (**IF:0.741**).
26. **Rajesh Kumar**, Amar Jyoti Das and Asha A Juwarkar (2015). Reclamation of petrol oil contaminated soil by rhamnolipids producing PGPR strains for growing *Withania somnifera* a medicinal shrub. World J Microbiol. Biotechnol. Online doi:10.1007/s11274-014-1782-1, 31:307-313 (**IF:1.353, NAAS IF-7.26**).
27. Chhaya Verma and **Rajesh Kumar** (2014). Utilization of distillery wastewater in fertigation: a beneficial use. International Journal of Research in Chemistry and Environment Vol. 4 Issue 4: 1-9, October 2014 (**IF:, NAAS IF-**).
28. Shatrohan Lal and **Rajesh Kumar** (2014). Remediation of pentachlorophenol contaminated soil by rhizoremediation-assisted bioaugmentation In Proceedings of International Conference on future prospects of advancements in biological sciences, health issues and environmental pollution. Division of Biotechnology, Cytogene R & D, Lucknow, India and Society for Bioscience, Health Issues and Environmental Perception, Lucknow, India, 7-8th Feb, 2014, Lucknow.
29. **Rajesh Kumar** and Shatrohan Lal (2014). Synthesis of Organic Nanoparticles and their Applications in Drug delivery and Food Nanotechnology: A Review. *J.Nanomaterials and Molecular Nanotechnology, Sci Technol.* 3:4, doi 10.4172/2324-8777.1000150 (**IF: 1.06**).
30. **Rajesh Kumar** and Amar Jyoti Das (2014). Climate change and its impact on land degradation: imperative need to focus. J Climatol Weather Forecasting 2:108. doi: <http://dx.doi.org/10.4172/2332-2594.1000108> OMICS online.
31. **Kumar R**, Das AJ, Juwarkar AA (2014) Restoration of Petrol Contaminated Soil by PGPR Consortium Producing Rhamnolipids and Enhancement of Growth and Antioxidant activity of *Withania somnifera*. J Pet Environ Biotechnol S5:001. doi: 10.4172/2157-7463.S5-001 (**IF: 4.07, NAAS IF-8.1**).
32. Sadhna Sagar and **Rajesh Kumar** (2014). Role of SOS response in bacterial drug resistance. Int J Pharm. Sci. Rev. Res. 25 (1): 102-105. ISSN0976-044X (**IF: 1.39; NAAS IF: 7.1**).

J 2 BOOK CHAPTERS (LAST FIVE YEARS)

1. Amar Jyoti Das, Shweta Ambust and Rajesh Kumar. Management of petroleum industry waste through biosurfactant producing bacteria: A step towards sustainable environment *In* Bioremediation of Industrial Waste for Environmental Safety - Vol. I: Industrial Waste and Its Management published by Springer Nature, Singapore, Chapter 9 (In press).

2. Pooja Shrivastava and Rajesh Kumar. Actinobacteria. *In* New and Future Developments in Microbial Biotechnology and Bioengineering (Eds) Bhim Pratap Singh and Ajit Kumar Passari. Elsevier. DOI 10.1016/B978-0-444-63994-3.00005-9.
3. Y.D.Gaur and Rajesh Kumar. Autoecology of rhizobium: a review. *Advances in Life Sciences*, Prof. MU Charaya Felicitation Volume SR Press, New Delhi, 35-57.
4. Beenu Shastri and Rajesh Kumar. Screening of antagonistic endophytic bacteria against *Colletotrichum falcatum* causing red rot in sugarcane crop *In* Proceedings of National Seminar "Recent trends and experimental approaches in Science, Technology and nature (December 23-24th, 2016) RTEASTN/Proceeding/2016/211-215. ISBN: 978-81-932601-6-6.
5. Chhaya Verma and Rajesh Kumar. Improvement of growth and productivity of *Brassica juncea* by fluorescent pseudomonad through exploitation of plant microbe partnership *In* Proceedings of National Seminar "Recent trends and experimental approaches in Science, Technology and nature (December 23-24th, 2016) RTEASTN/Proceeding/2016/220-225. ISBN: 978-81-932601-6-6.
6. Rajesh Kumar and Beenu Shastri. Role of phosphate solubilising microorganisms in sustainable agricultural development *In* Agro-Environmental Sustainability (Eds) J S Singh and G Seneviratne. Springer Cham AG2017: 271-303. DOI: 10.1007/978-3-319-49724-2_13.
7. Amar Jyoti Das, Beenu Shastri, Shatrohan Lal and Rajesh Kumar. Bioremediation of petroleum hydrocarbons and heavy metal contaminated sites by biosurfactants: an eco-friendly and sustainable technology *In* Bioremediation of industrial pollutants (Eds) Ram Naresh Bharagava and Gaurav Saxena, Write and Print Publications, New Delhi-15 Page no. 91-118, ISBN: 978-93-84649-60-9.
8. Chhaya Verma, Sadhana Singh Sagar and Rajesh Kumar. Genetically modified organisms (GMO's): Utility, prospects and challenges in bioremediation of environmental pollutants *In* Bioremediation of industrial pollutants (Eds) Ram Naresh Bharagava and Gaurav Saxena, Write and Print Publications, New Delhi-15 Page no. 206-226, ISBN: 978-93-84649-60-9.
9. Rajesh Kumar, Amar Jyoti Das and Shatrohan Lal. Petroleum hydrocarbon stress management in soil using microorganisms and their products. Edited book Environmental Stress Management (Ed.) Ram Chandra, CRC press, Taylor and Francis Boca Raton, Florida, USA. Page no. 525-550. **ISBN: 13:978-1-4987-2475-3.**

K. INTERNATIONAL AND NATIONAL CONFERENCES /PROCEEDINGS/ CONFERENCES ATTENDED/ORAL PAPERS PRESENTED/ POSTERS PRESENTED/ABSTRACTS IN SOUVENIRS (LAST FIVE YEARS ONLY)

1. Chhaya Verma, Rajesh Kumar, and Apoorva Dixit (2017). Production, Optimization and Characterization of Siderophore by *Pseudomonas aeruginosa* (C₃) Isolated From Rhizospheric Soil presented at 1st International Conference on Biotechnology &

- Biological Sciences organized by the University of Engineering & Management, Kolkata from 25-26th August, 2017 at Kolkata, Abstract on Page No.61
2. Beenu Shastri, Rajesh Kumar, Anil Kumar (2017). Exploration of Biocontrol and growth Promoting Activity of Bacterial strains Isolated from the Sugarcane Crop presented at 1st International Conference on Biotechnology & Biological Sciences organized by the University of Engineering & Management, Kolkata from 25-26th August,2017 at Kolkata, Abstract on Page No.62
 3. Beenu Shastri, Rajesh Kumar (2017) Intellectual Property Rights (ipr): Role and its importance in sugarcane Development Research presented at National Symposium on "IPRs" in Agriculture Research jointly organized by Babasaheb Bhimrao Ambedkar University, Lucknow and U.P Council of Agricultural Research, Lucknow from 30-31st, August 2017 at Lucknow, Abstract on Page no. 62
 4. Chhaya Verma, Rajesh Kumar (2017) Role of Intellectual Property Rights for adaptation of new technologies in agriculture presented at National Symposium on "IPRs" in Agriculture Research jointly organized by Babasaheb Bhimrao Ambedkar University, Lucknow and U.P Council of Agricultural Research, Lucknow from 30-31st, August 2017 at Lucknow, Abstract on Page no. 102
 5. Sheel Ratna, Rajesh Kumar (2017) Awareness about IPR, sin Indian Agricultural research presented at National Symposium on "IPRs" in Agriculture Research jointly organized by Babasaheb Bhimrao Ambedkar University, Lucknow and U.P Council of Agricultural Research, Lucknow from 30-31st, August 2017 at Lucknow, Abstract on Page no. 106
 6. Shweta Ambust, Rajesh Kumar (2017) Intellectual Property Rights in Indian Agriculture presented at National Symposium on "IPRs" in Agriculture Research jointly organized by Babasaheb Bhimrao Ambedkar University, Lucknow and U.P Council of Agricultural Research, Lucknow from 30-31st, August 2017 at Lucknow, Abstract on Page no. 105
 7. Shweta Ambust, Rajesh Kumar (2017) Scenario of Intellectual Property Rights (IPR) in Agriculture presented at National Symposium on "IPRs" in Agriculture Research jointly organized by Babasaheb Bhimrao Ambedkar University, Lucknow and U.P Council of Agricultural Research, Lucknow from 30-31st, August 2017 at Lucknow, Abstract on Page no. 65
 8. Rajesh Kumar (2016). Synthesis of stable nanoparticles using biosurfactant through reverse micelle process presented at International Conference on Innovative Approaches in applied sciences and technologies ICIAS-2016 at Faculty of Science, Kasetsart University, Bangkok, 10900,Thailand from Feb 1st, 2016 to February 5th, 2016.
 9. Amar Jyoti Das and Rajesh Kumar (2016). Development of Low Toxic and Biocompatible Biosurfactant Based Detergent: A Novel Approach. 56th Annual Conference of Association of Microbiologists of India (AMI-2015) and International Symposium on emerging discoveries in Microbiology organized by School of Life Sciences, Jawaharlal Nehru University, New Delhi from 7th Dec to 10th Dec, 2015.
 10. Beenu Shastri and Rajesh Kumar (2015). ISR as a mechanism of red rot suppression by PGPR presented at 56th Annual Conference of Association of Microbiologists of India (AMI-2015) and International Symposium on emerging discoveries in Microbiology organized by School of Life Sciences, Jawaharlal Nehru University, New Delhi from 7th Dec to 10th Dec, 2015.
 11. Chhaya Verma and Rajesh Kumar (2015). Study of heavy metal resistant PGPR and their role in growth enhancement of maize under stress condition presented at 56th Annual Conference of Association of Microbiologists of India (AMI-2015) and

International Symposium on emerging discoveries in Microbiology organized by School of Life Sciences, Jawaharlal Nehru University, New Delhi from 7th Dec to 10th Dec, 2015.

12. Chayya Verma and Rajesh Kumar (2015). Remediation of cadmium contaminated soil with PGPR consortia and hyper-accumulator plants, 3rd LUSCON-2015 and National Conference on Science for Society an Interdisciplinary approach, held at Babasaheb Bhimrao Ambedkar Central University, Lucknow, India, 31st October, 2015 to 2nd November, 2015, page no. 159.
13. Shatrohan Lal and Rajesh Kumar (2015). Characterization of cadmium and lead resistant plant growth promotory rhizobacteria isolated from *Vetivera zizanoides* rhizosphere presented at 25th Asian-Pacific Weed Science Society Conference on “Weed Science for Sustainable Agriculture, Environment and Biodiversity, Hyderabad, India 13-16 October, 2015, short communication, page no. 15.
14. Priya Dwivedi, Amar Jyoti Das and Rajesh Kumar (2015). Biosurfactant mediated synthesis of silver nanoparticles and their antimicrobial test presented at National Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal, Abstract on page no. 134.
15. Ahmaduddin Khan, Sadhana Singh Sagar and Rajesh Kumar (2015). Rapid synthesis of silver nanoparticles by using lemon juice and their application for control of multiple drug resistant *Escherichia coli* presented at National Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal, Abstract on page no. 111.
16. Ajeet Kumar Singh, Sadhana Singh Sagar and Rajesh Kumar (2015). Silver nanoparticles synthesis by using Aloe vera plant extract and their antimicrobial activity against *Bacillus cereus* presented at National Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal, Abstract on page no. 111.
17. Kirti Singh, Chhaya Verma and Rajesh Kumar (2015). Plant growth promoting rhizobacteria: a best alternative of chemical fertilizer in agriculture presented at National Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal, Abstract on page no. 110.
18. Pooja Singh, Chhaya Verma and Rajesh Kumar (2015). Role of PGPR in enhancement of growth of wheat plant under metal stress condition presented at National Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal, Abstract on page no. 109.
19. Pooja Shrivastava and Rajesh Kumar (2015). Halotolerant *Streptomyces* strain with IAA and proline production capacity isolated from salt affected soil presented at National

Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal, Abstract on page no. 47 (**First Prize**).

20. Aditi Singh, Amar Jyoti Das and Rajesh Kumar (2015). Characterization of rhamnolipid biosurfactant extracted from *Pseudomonas aeruginosa* presented at National Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal, Abstract on page no. 52.
21. Shweta Ambust, Amar Jyoti Das and Rajesh Kumar (2015). Exploring the antibacterial properties of glycolipid biosurfactant from *Pseudomonas aeruginosa* presented at National Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal, Abstract on page no. 52.
22. Chhaya Verma and Rajesh Kumar (2015). Applications of siderophore: current perspective presented at National Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal, Abstract on page no. 108.
23. Sadhana Singh Sagar, Rajesh Kumar and Shilpa Deshpande Kaistha (2015). Bacteriophage: an ideal approach for the control of pathogen *Pseudomonas aeruginosa* presented at National Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal, Abstract on page no. 36.
24. Hitesh Narayan, Sadhana Singh Sagar and Rajesh Kumar (2015). Biogenesis of silver nanoparticles by using bacteria and evaluation of their antimicrobial activity presented at National Seminar on Recent trends in science and technology organized by The Indian Science Congress Association, Bhopal Chapter and MP Council for Science and Technology from 30-31st March, 2015 at Bhopal, Abstract on page no. 113.
25. Rajesh Kumar and Amar Jyoti Das (2015). Rhamnolipid mediated synthesis of silver nanoparticles and exploring their antibacterial properties presented at Indo-US symposium on Recent trends in Nanobiotechnology organized by Uttarakhand Council for Biotechnology, Haldi, Uttarakhand on 10th March, 2015 at UCB Bhavan Haldi. (**Best Paper Award**).
26. Deependra Singh, Deepika Singh (2015). Nanotechnology in agriculture and food industry, Hi tech Horticulture conference organized by Department of Applied Plant Sciences, BBAU, Lucknow 26-27th February, 2015.
27. Sadhana Singh Sagar, Rajesh Kumar and Shilpa Deshpande Kaistha (2015). Study of bacteriophages P1 as a biocide for the control of biofouling agent *Pseudomonas aeruginosa* presented at 5th International Conference on Plants and Environmental pollution (ICPEP-5), 24-27th Feb, 2015, NBRI Lucknow.

28. Pooja Shrivastava and Rajesh Kumar (2014). IAA producing halotolerant actinomycetes from salt affected soils presented at National Workshop on "Advances in PGPR Research" scheduled during 7-8 October, 2014, at BHU, Varanasi.
29. Pooja Shrivastava and Rajesh Kumar (2014). Isolation of halotolerant actinomycetes from salt affected soil and their valuation for plant growth promotory attributes presented at 55th Annual Conference (AMI): National Conference on Empowering Mankind with Microbial Technologies November 12th – 14th, 2014, at TNAU, Coimbatore.
30. Sadhana Sagar and **Rajesh Kumar** (2014). Control of water borne pathogen *Pseudomonas aeruginosa* by lytic bacteriophage. International conference on Environmental Technology and Sustainable Challenges and Remedies, organized by Department of Environmental Sciences, BBAU, Lucknow 21-23rd February, 2014. Abstract published in Abstract Souvenir p.no.110.
31. Rajesh Kumar, Amar Jyoti Das, Shatrohan Lal (2014). Requisite for Production of Nano Based Pesticide. Workshop on Innovation and Technology Transfer from University to Industrial level organized by Department of Environmental Sciences, BBAU, Lucknow from 7-8th February, 2014.
32. Shatrohan Lal, **Rajesh Kumar**, Amar Jyoti Das, Chhaya Verma and H K Bhargava (2014). Remediation of pentachlorophenol contaminated soil by rhizoremediation-assisted bioaugmentation. International Conference on future prospects of advancements in biological sciences, health issues and environmental pollution organized jointly by Division of Biotechnology, Cytogene R & D, Lucknow, India and Society for Bioscience, Health Issues and Environmental Perception, Lucknow, India, 7-8th Feb, 2014, Lucknow.

L) PRODUCT / NUCLEOTIDE SEQUENCES SUBMITTED TO NCBI DATABASE (LAST FIVE YEARS LISTED)

- 93 till date

1. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331746>
2. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331747>
3. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331748>
4. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331749>
5. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331750>

6. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331751>
7. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331752>
8. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331753>
9. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331754>
10. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331755>
11. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331756>
12. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331757>
13. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331758>
14. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331759>
15. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331760>
16. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331761>
17. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331762>
18. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331763>
19. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331764>
20. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331765>
21. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331766>
22. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331767>
23. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)

- <http://www.ncbi.nlm.nih.gov/nuccore/KP331768>
24. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331769>
25. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331770>
26. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331771>
27. Shrivastava,P., Yandigeri,M., **Kumar,R.**, Malviya,N. (2015)
<http://www.ncbi.nlm.nih.gov/nuccore/KP331772>
28. Amar Jyoti Das and **Rajesh Kumar** (2016)
<http://www.ncbi.nlm.nih.gov/nuccore/KT951266>
29. Amar Jyoti Das and **Rajesh Kumar** (2016)
<http://www.ncbi.nlm.nih.gov/nuccore/KT951267>
30. Amar Jyoti Das and **Rajesh Kumar** (2016)
<http://www.ncbi.nlm.nih.gov/nuccore/KU671026>
31. Amar Jyoti Das and **Rajesh Kumar** (2016)
<http://www.ncbi.nlm.nih.gov/nuccore/KU680817>
32. Lal Shatrohan and Kumar Rajesh (2016)
<http://www.ncbi.nlm.nih.gov/nuccore/KX668493>
33. Lal Shatrohan and Kumar Rajesh (2016)
<http://www.ncbi.nlm.nih.gov/nuccore/KX668494>
34. Lal Shatrohan and Kumar Rajesh (2016)
<http://www.ncbi.nlm.nih.gov/nuccore/KX668495>
35. Lal Shatrohan and Kumar Rajesh (2016)
<http://www.ncbi.nlm.nih.gov/nuccore/KX668496>
36. Verma C and Kumar Rajesh (2017).
<http://www.ncbi.nlm.nih.gov/nuccore/KX681787>
37. Verma C and Kumar Rajesh (2017).
<http://www.ncbi.nlm.nih.gov/nuccore/KX681788>
38. Verma C and Kumar Rajesh (2017).
<http://www.ncbi.nlm.nih.gov/nuccore/KX681789>
39. Verma C and Kumar Rajesh (2017).
<http://www.ncbi.nlm.nih.gov/nuccore/KX681790>

M) LECTURES DELIVERED AS RESOURCE PERSON: MORE THAN 20 (SIGNIFICANT IN REFRESHER COURSES/POPULAR LECTURES- LISTED HERE)

- Invited talk entitled 'Synthesis of stable nanoparticles using biosurfactant through reverse micelle process' presented at International Conference on Innovative Approaches in applied sciences and technologies ICIAS-2016 at Faculty of Science, Kasetsart University, Bangkok, 10900, Thailand from Feb 1st, 2016 to February 5th, 2016.
- Delivered lecture on Immunodiagnosics as Resource person entitled "Immunodiagnosics" at UGC-Academic staff college, Kumaun University, Nainital on 20th July, 2013 in Refresher course vide their letter no. Ref. No: UGC ASC-KU/PRO/RC-48/13-14.
- Delivered lecture on ELISA and its variants for diagnosis of bacterial disease in plants. Deptt. of Biotechnology, Sardar Vallabh Bhai Patel University of Agriculture and Technology, Meerut, January 25th, 2012.
- Delivered lecture to students, researchers and local villagers in Nov. 2011 under "*Sparsh Ganga Abhiyaan*" of Uttarakhand Government.
- Delivered lecture on Microbiological and Molecular techniques for analysis of water and wastewater, 2011, 2012.
- Delivered lecture to farmers and extension workers on composting and vermicomposting-2001 onwards almost every year till 2010.
- Delivered lecture as subject expert in various summer and winter schools.

N) FELLOWSHIPS AND AWARDS

- Awarded "**Innovator of the year award 2015**" in the field of Microbiology on the occasion of International Conference on Innovative Approaches in applied sciences and technologies, ICIAS-2016 by SARC Society during 1-5th Feb., 2016 at Kasetsart University, Bangkok 10900, Thailand.
- Poster entitled Rhamnolipid mediated synthesis of silver nanoparticles and exploring their antibacterial properties by Rajesh Kumar and Amar Jyoti Das (2015) presented at Indo-US symposium on Recent trends in Nanobiotechnology organized by Uttarakhand Council for Biotechnology, Haldi, Uttarakhand on 10th March, 2015 at UCB Bhavan Haldi-**Best Poster Award**.
- Poster entitled Management of native chickpea rhizobia for enhanced crop productivity (**Rajesh Kumar**, Gunjan Saini and K.P.Singh ,2010) **awarded first prize** at Zonal Seminar on Physiological and Molecular interventions for yield and quality improvement in crop plants organized by ISPP and Sardar Vallabh Bhai Patel University of Agriculture and Technology, Modipuram, Meerut, 17-18th October, 2010.
- Awarded **Indian National Science Academy (INSA) Visiting Fellowship (2007-2008)**. Visited Environmental Biotechnology Division, National Environmental Engineering Research Institute, Nagpur from October 3, 2007 to December 3, 2007. Title of the project work undertaken "Biosurfactant(s) production, characterization and their usage for remediation of heavy metal affected soil".
- Awarded Young Scientist Fellowship/Project, Department of Science and Technology, Govt. of India, New Delhi (2004).

- Qualified National Eligibility Test conducted by ICAR (2001), New Delhi and recognized by CSIR and UGC.
- Recipient of IARI Senior Research Fellowship during Doctoral Degree Program

O) PROFESSIONAL SOCIETIES MEMBERSHIP

- Life Member of Association of Microbiologists of India. Membership No.1224-1998
- Life Member, Indian Science Congress, Membership No. L23732, Agriculture and Forestry Sciences.
- Life and Honourary Member, Asean PGPR Society, ICRISAT Patancheru, Hyderabad
- Society for Applied and Basic Research, Meerut

P) ADMINISTRATIVE/GOVERNMENT ASSIGNMENTS

- Head, Department of Environmental Microbiology, Babasaheb Bhimrao Ambedkar University, A Central University, Lucknow, India (2018 onwards).
- Chairman, Board for Post Graduate Studies in Environmental Microbiology, Babasaheb Bhimrao Ambedkar University, A Central University, Lucknow, India (2018 onwards).
- Chairman, Departmental Research Committee of Department of Environmental Microbiology, Babasaheb Bhimrao Ambedkar University, A Central University, Lucknow, India (2018 onwards).
- Member School Board, School for Environmental Sciences, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow (2014-2017)
- Member, Departmental Research Committee, Department of Environmental Microbiology, BBAU Lucknow for two years (2013-2015; 2015-2017).
- Member, Board Post Graduate Studies (BPGS), Department of Environmental Microbiology 2011-2013, 2014-2017 on seniority basis.
- Member, Placement Cell of the University-BBAU, Lucknow 2014 onwards.
- Member Admission Committee of the Department (2011 onwards)
- Subject Expert-Uttarakhand State Biotechnology Board, Haldi for evaluation of ongoing research projects (December 6th, 2014)
- Co-ordinator Kolkata Centre for coordinating BBAU, Lucknow Entrance Examination 2012 at Kolkata.
- Appointed Guest Faculty in Department of Biotechnology, Pt. Deen Dayal Upadhyay University, Gorakhpur, UP, India for the session 2011-2012.
- Coordinator, Kisan Mela (March 3-6, 2010)-College of Basic Sciences and Humanities
- Co-coordinator, Kisan Mela (October, 2009)-College of Basic Sciences and Humanities
- Sector Magistrate, Dheemakheda, Kashipur- Panchayat Election (September 5th, 2008)

- Observer- Lok Sabha counting (13 May, 2009).
- Deputed as subject expert (2005) for potato management for Director, Horticulture, Govt. of Uttarakhand.
- Observer, Uttarakhand Police Service Examination, Dehradun (February, 2009).
- Nodal Officer, College Store Verification, 2009
- Prepared module for Certificate course in Fermentation Technology , a six month course for UIRD (Uttaranchal Institute of Rural Development), Govt. of Uttaranchal (2004).
- Prepared module for a short training course on Vermicomposting to educated rural youth of Uttaranchal under State Rural Biotechnology Programme (2006).
- Represented University (GBPUAT, Pantnagar) in India International Trade Fair (IITF) held at New Delhi from Nov. 14th-29th, 2005.
- Presentation of Progress report on behalf of Head, Microbiology of DST-FIST (Govt. of India) infrastructure support at INSA, New Delhi, April 2005.
- Helpline Kisan Call centre (on an average 3 months duty every year for 4 hours since 2003-contd.).
- Member, Department Research Committee, Chemistry, BBAU, Lucknow (2014-2017)
- Reviewer for International Journal of Biodeterioration and Biodegradation (Elsevier), New Phytologist, African J Environmental Science and Technology, African J Microbiology, J Petroleum and Environmental Biotechnology (OMICS), Pedosphere (Elsevier), Bioremediation Journal, Bioresource Technology, Science Essays, etc.
- Member, Organising Committee Team, LUSCON-2014, LUSCON 2015.
- Rapporteur, North Zone Vice Chancellors Meet, Session on RUSA
- Member, Honorarium Committee for the University staff holding additional positions.

Q) EXTRACURRICULAR ACTIVITIES

- Participated in Cricket, Chess and Athletics sports activities at school and college level.
- Held the post of Finance Secretary, Post Graduate School Students Union, IARI, New Delhi during 1995-96.
- Held the post of Chairman, Students Co-operative Mess, IARI, New Delhi for one complete year during 1995-96.
- Held the post of President, Microbiology Society, Nagpur University during 1993-94.

R) Personal Details

<i>Date of Birth</i>	September 4 th , 1971
<i>Father's Name</i>	Dr. Sohan Lal
<i>Marital Status</i>	Married

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(RAJESH KUMAR)