Prof. (Dr.) NAVEEN KUMAR ARORA

PhD Microbiology, FISEB
Editor in Chief, Environmental Sustainability (Springer Nature)
Series Editor, Microorganisms for Sustainability (Springer Nature)
Head,
Department of Environmental Science
School of Environmental Sciences
Mob. - +919935383663
E-mail: nkarora_ net@rediffmail.com,
nkarora.bbau@gmail.com
Website: www.naveenarora.co.in

Education Qualification

	Organization	Year of award
Undergraduate	Gurukula Kangri Vishwavidyalaya, Haridwar	1994
Post-graduation	Gurukula Kangri Vishwavidyalaya, Haridwar	1996
Ph.D.	Gurukula Kangri Vishwavidyalaya, Haridwar	2001

Professional Experience

Teaching Experience: 20 Years
Research Experience: 21 Years

Areas of Research

- Plant microbe interactions including plant growth promoting microbes and endophytes
- Rhizosphere microbiology - interactions of potentially useful rhizosphere microbes
- Management of biotic and abiotic stresses in plants/ crops
- Development of novel bioformulations using PGP microbes and their metabolites
- Rhizo and bioremediation of degraded agro-ecosystems utilizing PGPM

Research/Consultancy Grants

Title of Projects	Funding Agency	Duration (Specific Dates)	Total grant	Role (PI/CO-PI)
Development of ecofriendly, multirole, cost effective microcosmic bioformulation capable to act as biopesticide for sustainable agriculture	DST, New Delhi	2004-2007	9.0 lakhs	PI

Revelation of mechanism and metabolites for biocontrol of deadly phytopathogens by plant growth promotory bacteria, designing reliable technology for future bioformulations and sustainable agriculture	CSIR, New Delhi	2007-2011	16.0 lakhs	PI
Developing broad spectrum biocontrol technology by utilizing and optimizing secondary metabolites from indigenous PGP Pseudomonads for controlling soil borne phytopathogens and ecofriendly agriculture	DBT, New Delhi	2007-2011	17.06 lakhs	PI
Designing multifaceted bioformulation technology utilizing fluorescent pseudomonads for cultivation and productivity enhancement of sunflower crop in arid and semi-arid regions infested with *Macrophomina phaseolina*	CST, Lucknow	2009-2012	6.96 lakhs	PI
Screening and identification of hot spots of sewage pollution containing multiple drug resistant E. coli in River Ganga at different locations of Kanpur	UGC New Delhi	2011-2014	9.88 lakhs	PI
Screening of sewage pollution in Ganga water and assessment of its impact on ground water along the path of river flow in Kanpur	CST (UP), Lucknow	2012-2015	9.0 lakhs	PI
Fund for Improvement Of S&T Infrastructure In Universities And Higher Educational Institutes (FIST) Program Under Level 1	DST, New Delhi	2014-2017	29.0 lakhs	PI
Science Technology and Innovation Hub in North India (Uttar Pradesh, Uttarakhand and Himachal Pradesh)	DST, New Delhi	2019-2022	4.088 crores	PI

Publications

International

1. Pandey P., **Arora NK**. 2020. Prof. Ananda Mohan Chakrabarty: The Superbug Superhero! *Environmental Sustainability,* doi.org/10.1007/s42398-020-00117-x

2. Fatima T., Mishra I., Verma R. & **Arora NK**. 2020. Mechanisms of halotolerant plant growth promoting *Alcaligenes*sp.involved in salt tolerance and enhancement of the growth of rice under salinity stress. *3 Biotech.* doi.org/10.1007/s13205-020-02348-5. (IF- 1.798)

3. **Arora NK**., Fatima T., Mishra J., Mishra I, et al. 2020. Halo-tolerant plant growth promoting rhizobacteria for improving productivity and remediation of saline soils. *Journal of Advanced Research.* doi.org/10.1016/j.jare.2020.07.003. (IF- 6.992)

4. Alaylar B., Egamberdieva D., Gulluce M., Karadayi M. & **Arora NK**. 2020Integration of molecular tools in microbial phosphate solubilization research in agriculture perspective. *World Journal of Microbiology and Biotechnology,* DOI:10.1007/s11274-020-02870-x. (IF- 2.477)

5. Verma M., Singh A., Dwivedi DH., **Arora NK**. 2020. Zinc and phosphate solubilizing *Rhizobium radiobacter* (LB2) for enhancing quality and yield of looseleaf lettuce in saline soil. *Environmental Sustainability,* DOI: 10.1007/s42398-020-00110-4.

6. Thapa S., Mishra J., **Arora NK**., Mishra P., H. Li, Hair JO, Bhatti S., Zhou S. 2020. Microbial cellulolytic enzymes: diversity and biotechnology with reference to lignocellulosic biomass degradation. *Reviews in Environmental Science and Bio/Technology,*DOI: 10.1007/s11157-020-09536-y. (IF – 4.95)

7. **Arora NK**., Mishra J. 2020. COVID 19 and importance of environmental sustainability. *Environmental Sustainability*, DOI10.1007/s42398-020-00107-z.

8. Mishra, J., Dutta, V., & **Arora NK**. 2020. Biopesticides in India: technology and sustainability linkages. *3 Biotech.*DOI:10.1007/s13205-020-02192-7. (IF- 1.798)

9. **Arora NK**., Mishra I. 2019. Ocean sustainability: essential for blue planet. *Environmental Sustainability*, DOI 10.1007/s42398-020-00100-6.

10. Prakash J., **Arora NK**. 2019. Development of *Bacillus safensis*-based liquid bioformulation to augment growth, stevioside content, and nutrient uptake in *Stevia rebaudiana*. *World Journal of Microbiology and Biotechnology,* DOI: 10.1007/s11274-019-2783-x (IF- 2.477)

11. Egamberdieva D., Wirth S., Kimura SDB, Mishra J., **Arora NK**. 2019. Salt tolerant plant growth promoting rhizobacteria for enhancing crop productivity of saline soils. *Frontiers in Microbiology*, DOI10.3389/fmicb.2019.02791. (IF- 4.235)

12. **Arora NK**., Mishra I. 2019. United Nations Sustainable Development Goals 2030 and environmental sustainability: race against time. *Environmental Sustainability*, DOI10.1007/s42398-019-00092-y.

13. Prakash J., **Arora NK**. 2019. Phosphate-solubilizing Bacillus sp. enhances growth, phosphorus uptake and oil yield of *Mentha arvensis* L*3 Biotech*, DOI, 10.1007/s13205-019-1660-5 (IF- 1.798)

14. **Arora NK**., 2019.Earth: 50 years challenge. *Environmental Sustainability*, DOI 10.1007/s42398-019-00053-5

15. **Arora NK**., Fatima T, Mishra I, Verma M, Mishra J. 2018.Environmental Sustainability: challenges and viable solutions. *Environmental Sustainability*, DOI 10.1007/s42398-018-00038-w

16. Khare E, Mishra J, **Arora NK**. 2018. Multifaceted interactions between endophytes and plant: developments and prospects. *Frontiers in Microbiology*, DOI 10.3389/fmicb.2018.02732 (IF- 4.235)

17. Pandey A., Shankar S., Shikha & **Arora NK**. 2018. Amylase assisted green synthesis of silver nano-cubes for antibacterial application. *Bioinspired, Biomimetic and Nanobiomaterials,* DOI: 10.1680/jbibn.17.00031 (IF – 0.98)

18. **Arora NK**. 2018. Bioremediation: a green approach for restoration of polluted ecosystems. *Environmental Sustainability.* DOI 10.1007/s42398-018-00036-y

19. **Arora NK**. 2018. Agricultural sustainability and food security. *Environmental Sustainability.* DOI 10.1007/s42398-018-00032-2.

20. **Arora NK**. 2018. Environmental Sustainability—necessary for survival. *Environmental Sustainability.* DOI 10.1007/s42398-018-0013-3.

21. **Arora NK**. 2018. Biodiversity conservation for sustainable future. *Environmental Sustainability.* DOI 10.1007/s42398-018-0023-1.

22. Tewari S, **Arora NK**. 2018. Role of salicylic acid from Pseudomonas aeruginosa PF23EPS+ in growth promotion of sunflower in saline soils infested with phytopathogen *Macrophomina phaseolina*. *Environmental Sustainability.* DOI 10.1007/s42398-018-0002-6.

23. Upadhyaya S, Yadav D, Chandra R, **Arora NK**.2018. Evaluation of antibacterial and phytochemical properties of different spice extracts. *African Journal of Microbiology Research,* DOI: 10.5897/AJMR2017.8731 pp- 27-37

24. **Arora NK**, Khare E, Singh S, Tewari S. 2018. Phenetic, genetic diversity and symbiotic compatibility of rhizobial strains nodulating pigeon pea in Northern India. *3 Biotech*, DOI: 10.1007/s13205-017-1074-18:52. (IF- 1.786)

25. Verma M, Verma S, **Arora NK**. 2018. Application of Rhizobium-Pseudomonas consortia for enhanced production of mungbean in sustainable manner. *International Journal of Science Technology and Society* Vol. 3 pp. 54-61

26. Vimal SR, Singh JS, **Arora NK**, Singh S. 2017. Soil-Plant-Microbe Interactions in Stressed Agriculture Management: A review *Pedosphere* 27(2): 177–192, DOI 10.1016/S1002-0160(17)60309-6 (IF- 3.736)

27. **Arora NK**, Verma M. 2017. Modified microplate method for rapid and efficient estimation of siderophore produced by bacteria. *3Biotech* DOI: 10.1007/s13205-017-1008-y. (IF – 1.786).

28. Upadhyaya S, Srivastava P, Chandra R, **Arora NK**. 2017. Microbiological assessment and hazardous effect of ready-to-eat foods presented for sale in Lucknow City, *India. African Journal of Food Science,* DOI: 10.5897/AJFS2017.1630 pp. 346-352

29. Mishra J, **Arora NK** 2017. Secondary metabolites of fluorescent pseudomonads in biocontrol of phytopathogens for sustainable agriculture. *Applied Soil Ecology*, 125: 35-45 (Accepted, IF – 3.600)

30. Mishra J, Singh R, **Arora NK** 2017. Alleviation of Heavy Metal Stress in Plants and Remediation of Soil by Rhizosphere Microorganisms. *Frontiers in Microbiology* DOI: 10.3389/fmicb.2017.01706 (IF-4.235)

31. Singh U, **Arora NK** 2017. Simultaneous biodegradation of phenol and cyanide present in coke-oven effluent using immobilized *Pseudomonas putida* and *Pseudomonas stutzeri*. *Brazilian J Microbiol* DOI.org/10.1016/j.bjm.2016.12.013 (IF-2.719)

32. **Arora NK**, Singh R., 2017 Growth enhancement of medicinal plant *Withania somnifera* using phosphate solubilizing endophytic bacteria *Pseudomonas* sp. as bioinoculant *Inter J Sci Tech Soc* 2(2):13-18 DOUBT

33. **Arora NK**, Mishra J. 2017. Microbial Inoculants in Sustainable Agricultural Productivity Vol. 1: Research Perspectives. Dhananjaya Pratap Singh, Harikesh Bahadur Singh and Ratna Prabha (eds). Springer, New Delhi. 2016. xviii + 343 pp. Price: 139.99€/ ₹104.50/US$ 179.00. ISBN: 978-81-322- 2645-.1 *Current Science* 112(2) (IF- 0.756)

34. **Arora NK**, Mishra J 2016. Prospecting the roles of metabolites and additives in future bioformulations for sustainable agriculture. *Applied Soil Ecology*. DOI 10.1016/j.apsoil.2016.05.020. (IF- 3.600)

35. Tewari S, **Arora NK** 2016. Fluorescent *Pseudomonas* sp. PF17 as an efficient plant growth regulator and biocontrol agent for sunflower crop under saline conditions. *Symbiosis*. DOI 10.1007/s13199-016-0389-8 (IF- 1.78)

36. Mishra J, Rajnandani M, **Arora NK** 2016. Biocontrol of ear rot fungi by plant growth promoting fluorescent pseudomonads. *Inter J Sci Tech Soc* 1(2) 45-52.

37. Tewari S, **Arora NK** 2015. Plant growth promoting fluorescent Pseudomonas enhancing growth of sunflower crop. *Inter J Sci Tech Soc* 1(1) 51-54.

38. Tewari S, **Arora NK** 2014. Talc based EPS formulation enhancing growth and production of *Hellianthu sannuus* under saline conditions. *Cell. Mol. Biol.* 60 (5): 67-75 (IF- 1.463)

39. **Arora NK**, Tewari S, Singh R 2014 Comparative study of different carriers inoculated with nodule forming and free-living plant growth promoting bacteria suitable for sustainable agriculture. *J. Pharma. Chem Biol Sci* 2(2):143-149

40. Tewari S and **Arora NK** 2014 Multifunctional exopolysacccharides from *Pseudomonas aeruginosa* PF23 involved in plant growth stimulation, biocontrol and stress amelioration in sunflower under stress conditions. *Current Microbiology* 69(4), 484-494. (IF- 1.746)

41. Singh S, Gupta G, Khare E, Behal K K and **Arora NK** 2014. Effect of enrichment material on the shelf life and field efficiency of bioformulation of *Rhizobium* sp. And P-solubilizing *Pseudomonas fluorescens*. *Science Research Reporter* 4(1), 44-50.

42. Singh R., **Arora NK**, Gautam P, Lal S. 2013.Enhancement of plant growth of *Trigonella foenum-graecum* by coinculation of fluorescent *Pseudomonas* and *Rhizobium* for the sustainability of agriculture. *Asian J Plant Sci Res* 3(3):74-79. .

43. Khare E., Chopra J., Arora NK 2013. Screening for MCL-PHA-Producing Fluorescent Pseudomonads and Comparison of MCL-PHA Production Under Iso-osmotic Conditions Induced by PEG and NaCl. *Current Microbiology* 68: 4, pp 457-462 (IF- 1.746)

44. **Arora NK**, Tewari S., Singh S. and Srivastava N. 2013. Analysis of water quality parameters of river Ganga during Maha Kumbha, Hardwar, India. *Journal of Environmental Biology*, 34, 799-803. (IF- 0.555)

45. Maheshwari D.K., Dubey R.C., Aeron A., Kumar B., Kumar S., Tewari S. and **Arora NK** 2012. Integrated approach for disease management and growth enhancement of *Sesamum indicum* L. utilizing *Azotobacter chroococcum* TRA2 and chemical fertilizer. *World Journal of Microbiology and Biotechnology*, 28(10), 3015-24. (IF- 2.477)

46. Mishra S. and **Arora NK** 2012. Management of black rot in cabbage by rhizospheric *Pseudomonas* species and analysis of 2, 4-diacetylphloroglucinol by qRT-PCR. *Biological Control*, 61, 32-29. (IF- 2.754)

47. Aeron A., Khare E., **Arora NK** and Maheshwari D.K. 2012. Practical use of CMC amended rhizobial inoculants for *Mucunapruriens* cultivation to enhance the growth and protection against *Macrophomina phaseolina*. *Journal of General and Applied Microbiology* 58, 121-127. (IF- 1.172)

48. Mishra, S. and Arora **NK** 2011. Evaluation of rhizospheri *Pseudomonas* and *Bacillus* as biocontrol tool for *Xanthomonas campestris* pv*campestris*. *World Journal of Microbiology and Biotechnology*, 28(2), 693-702. (IF- 2.477)

49. Khare, E. and **Arora NK** 2011. Dual activity of pyocyanin from *Pseudomonas aeruginosa*: Antibiotic against phytopathogen and signal molecule for biofilm development by rhizobia. *Canadian Journal of Microbiology* 57(9), 708-713 DOI 10.1139/w11-055. (IF- 1.793)

50. Khare E. and **Arora NK** 2011. Physiologically stressed cells of fluorescent *Pseudomonas* EKi as better option for bioformulation development for management of charcoal rot caused by *Macrophomina phaseolina* in field conditions. *Current Microbiology*, 62(6), 1789-1793. (IF- 1.746)

51. Khare, E., Singh, S., Maheshwari, D.K. and **Arora NK** 2011. Suppression of charcoal rot of chickpea by fluorescent pseudomonas under saline stress condition. *Current Microbiology* 62, 1548–1553. (IF- 1.746)

52. Khare E. and **Arora NK** 2010. Effect of Indole-3-acetic acid (IAA) produced by *Pseudomonas aeruginosa* in suppression of charcoal rot disease of chickpea. *Current Microbiology* 61(1), 64-68. (IF- 1.746)

53. **Arora NK**, Khare, E., Singh S. and Maheshwari D. K. 2010. Effect of Al and Heavy Metals on Enzymes of Nitrogen Metabolism of Fast and Slow Growing Rhizobia under Explanta Conditions. *World Journal of Microbiology and Biotechnology*, 26, 811-816. (IF- 2.477)

54. **Arora NK**, Khare, E., Naraian, R. and Maheshwari, D.K. 2008. Sawdust as a superior carrier for production of multipurpose bioinoculant using PGP rhizobial and pseudomonad strains and their impact on productivity of *Trifolium vapanse. Current Science*, 95(1), 90-94. (IF- 0.756)

55. **Arora NK**., Khare, E., Verma, A. and Sahu, R.K. 2008. *In vivo* control of *Macrophomina phaseolina* by a chitinase and β-1, 3-glucanase- producing Pseudomonad NDN_1. *Symbiosis,* 46, 129-135. (IF- 1.78)

56. **Arora NK**, Khare, E., Oh, J.H., Kang, S.C. and Maheshwari, D.K. 2008. Diverse mechanisms adopted by fluorescent *Pseudomonas* PGC2 during the inhibition of *Rhizoctoniasolani* and *Phytophthora capsici*. *World Journal of Microbiology and Biotechnology,* 24, 581-585. DOI 10.1007/s11274-007-9505-5. (IF- 2.477)

57. Sahu, R.K. and **Arora NK** 2007. Bioassay as a tool for assessing susceptible and resistant plant species for field contaminated with industrial effluent. *World Journal Microbiology and Biotechnology*. 24, 143-148.DOI 10.1007/s11274-007-9448-x. (IF- 2.477)

58. **Arora NK**, Kang, S.C., Kim, M.J. and Maheshwari, D.K. 2007. Role of chitinases and beta 1.3-glucanases produced by fluorescent *Pseudomonas* and *in vitro* inhibition of *Phytophthora capsica* and *Rhizoctoniasolani*. *Canadian Journal of Microbiology,* 53, 207-212. (IF- 1.793)

59. **Arora NK**, Singhal, V. and Maheshwari, D.K. 2006. Salinity Induced Accumulation of Poly-β-hydroxybutyrate in Rhizobia Indicating its Role in Cell Protection. *World Journal of Microbiology and Biotechnology,* 22, 603-606. DOI 10.1007/s11274-005-9077-1. (IF- 2.477)

60. Ogasawara, M., Suzuki, T., Mutoh, I., Annapurna, K., **Arora NK**, Nishimura, Y. and Maheshwari, D.K. 2003. *Sinorhizobium indiaense* sp. nov. and *Sinorhizobium abri* sp. nov. Isolated from Tropical Legumes, *Sesbaniarostrata* and *Abrusprecatorius*,

Respectively, *Symbiosis*, 34, 53-68. (IF- 1.78)

61. **Arora NK**, Kang, S.C. and Maheshwari, D.K. 2001. Isolation of siderophore-producing strains of *Rhizobium melilotia*nd their biocontrol potential against *Macrophomina phaseolina* that causes charcoal rot of groundnut*, Current Science*, 81, 673-677. (IF- 0.756)

62. **Arora NK**, Kumar,V. and Maheshwari, D.K. 2000. Isolation of Both Fast and Slow Growing Rhizobia Effectively Nodulating a Medicinal Legume, *Mucunapruriens, Symbiosis*, 29, 121-137. (IF- 1.78)

63. Kumar, H., **Arora NK** and Maheshwari, D.K. 1999. Isolation, Characterization and Selection of Salt Tolerant Rhizobia Nodulating *Acacia catechu* and *A. nilotica, Symbiosis*, 26, 279-288. (IF- 1.78)

64. Saraf, M., **Arora NK** and Maheshwari, D.K. 1999. Effect of 2,4-D on NR, NiR and Leghaemoglobin Content in Root Nodules Formed by *Bradyrhizobium japonicum* in *Glycine max, Microbes and Environments*. 14, 219-225. (IF- 2.575)

National

1. Adnan M, Shankar S, Shikha, **Arora NK.** 2017. Optimization of Process Parameters for Laccase Production from *Pleurotusostreatus* for the Decolourization of Malachite Green. *Indian Journal of Environmental Protection,* UEP 37 (11): 920-928.

2. Mishra J, Prakash J, **Arora NK**. 2016. Role of beneficial soil microbes in sustainable agriculture and environmental management. *Climate Change Environ. Sustain*. 4(2): 137-149.

3. Tewari S, **Arora NK** 2014. Ameliorating the growth of sunflower using stress-tolerant *Pseudomonas aeruginosa* PF23. *Climate Change Environ. Sustain.* 2(2): 116-121.

4. Tewari S. and **Arora NK** 2014Plant growth promoting rhizobacteria for ameliorating abiotic stresses triggered due to climatic variability. *Climate Change Environ Sustain.* 1 (2) 95-103.

5. Naraian R., **Arora NK** and Garg S. K. 2009. Improved submerged fermentation of corn cob with mechanically broken oil seed cakes and decolorisation of textile dyes by enzyme extract of *Pleurotus florida* PF05. *Research in Environment and Life Sciences*, 2(2), 83-90.

6. **Arora NK** and Maheshwari, D.K. 1999. Nodulation Studies on a Strain of Root Nodulating Bacteria Isolated from Termite Gut. 1999. *Journal of Indian Botanical Society*. 78, 391-392.

Book Chapters

1. Mishra P., Mishra J., Dwivedi SK., **Arora NK.,** 2020. Microbial Enzymes in

Biocontrol of Phytopathogens. In book *Microbial Enzymes: Roles and Applications in Industries*, N. K. Arora et al. (eds.) DOI: 10.1007/978-981-15-1710-5_10; pp.259-285.

2. **Arora NK,** Fatima T, Mishra I, Verma S, 2020.Microbe-based Inoculants: Role in Next Green Revolution. In book: *Environmental Concerns and Sustainable Development*, V. Shukla, N. Kumar (eds.) DOI 10.1007/978-981-13-6358-0_9; pp.191-246.

3. Mishra I, **Arora NK**. 2019. Rhizoremediation: A Sustainable Approach to Improve the Quality and Productivity of Polluted Soils. In book- *Phyto &Rhizo Remediation*, Springer, N. K. Arora, N. Kumar (eds.), DOI: 10.1007/978-981-32-9664-0_2; pp.33-66.

4. Fatima T, **Arora NK**. 2019. Plant Growth-Promoting Rhizospheric Microbes for Remediation of Saline Soils. In book- *Phyto &Rhizo Remediation*, Springer,N. K. Arora, N. Kumar (eds.) DOI: 10.1007/978-981-32-9664-0_5; pp 121-146.

5. Verma M, Mishra J, **Arora NK**. 2019. Plant Growth-Promoting Rhizobacteria: Diversity and Applications. In book *Environmental Biotechnology: For Sustainable Future*, Springer, R. C. Sobti et al. (eds.) DOI: 10.1007/978-981-10-7284-0_6; pp.129-173.

6. Mishra J, Fatima T, **Arora NK**. 2018. Role of Secondary Metabolites from Plant Growth-Promoting Rhizobacteria in Combating Salinity Stress. In book: *Plant Microbiome: Stress Response* (Eds, Egamberdieva et al.) Springer, DOI: 10.1007/978-981-10-5514-0_6; pp.127-163.

7. Mishra J, Singh R and **Arora NK**. 2017. Plant Growth Promoting Microbes: Diverse Roles in Agriculture and Environmental Sustainability.In book*Probiotics and Plant Health* (Eds. Kumar V. et al.), Springer, DOI: 10.1007/978-981-10-3473-2_4; pp. 71-111.

8. Singh R, Mishra J, **Arora NK;** 2017. Composting of agricultural waste by wood decaying fungi: Switching the pollution-generating waste into organic fertilizer factories. In CGES Newsletter; pp. 13-14

9. **Arora NK**, Verma M. and Mishra J. 2017. Rhizobial Bioformulations- Past, Present and Future. In book*Rhizotrophs: Plant Growth Promotion to Bioremediation* (Eds. Mehnaz S.), *Springer*. DOI: 10.1007/978-981-10-4862-3_4, pp. 66-99.

10. Upadhyaya S, Tiwari S, **Arora NK** 2016. Microbial Protein: A Valuable Component for Future Food Security. In book Microbes and Environmental Management Publisher: Studium Press (USA). DOI: 10.13140/RG.2.1.1775.8801

11. Tewari S and **Arora NK.** 2016. Soybean production under flooding stress and its mitigation using plant growth promoting microbes. In book *Environmental Stresses in Soybean Production* (Ed Miransari M) Elsevier, DOI: 10.1016/B978-0-12801535-3.00002-4; pp. 23-40.

12. Mishra J, **Arora NK.** 2016. Bioformulations for plant growth promotion and

combating phytopathogens. In *Bioformulations: for sustainable agriculture*, Springer (Eds Arora NK, Mehnaz S, Balestrini R), Springer. DOI: 10.1007/978-81-322-2779-3_1; pp. 3-33.

13. **Arora NK,** Verma M, Prakash J and Mishra J 2016. Regulations of biopesticides: global concerns and policies. In book: *Bioformulations: for Sustainable Agriculture* (Eds Arora NK,Mehnaz S, Balestrini R), Springer. DOI: 10.1007/978-81-322-2779-3_16; pp.283-299.

14. Singh R, **Arora NK**. 2016. Bacterial formulations and delivery systems against pests in sustainable agro-food production. In book*Reference Module in Food Science, Elsevier*. DOI: 10.1016/B978-0-08-100596-5.03068-7; ISBN: 978-0-08-100596-5; pp. 1-11.

15. Tewari S, **Arora NK** and Miransari M. 2015. Plant growth promoting rhizobacteria to alleviate soybean growth under abiotic and biotic stresses. In *Biotic and Abiotic Stresses in Soybean Production* (EdsMiransari M) Elsevier, ISBN: 978-0-12-801536-0; pp.131-153.

16. Mishra J. Tewari S, Singh S, **Arora NK** 2015.Biopesticides: Where We Stand? In*Plant Microbes Symbiosis: Applied Facets* (Eds **Arora NK**) Springer publication Netherland, DOI 10.1007/978-81-322-2068-8_2; pp 37-75.

17. Khare EK, **Arora NK**2015. Effects of soil environment on field efficacy of microbial inoculants In*Plant Microbes Symbiosis: Applied Facets* (Eds **Arora NK**) Springer publication Netherland, DOI 10.1007/978-81-322-2068-8_19; pp 353-381.

18. Tewari S. and **Arora NK** 2013.Transactions amongst microorganisms and plant in the composite rhizosphere habitat. *In Plant Microbe Symbiosis* (Eds. Arora N K), Springer Publication, Netherland. DOI 10.1007/978-81-322-1287-4_1, pp 1-50.

19. **Arora NK,** Tewari S, and Singh R. 2013.Multifaceted plant associated microbes and their mechanisms diminish the concept of direct and indirect PGPRs. *In Plant Microbe Symbiosis* (Eds. Arora N K), Springer Publication, Netherland.DOI 10.1007/978-81-322-1287-4_16; pp 411-449.

20. **Arora NK,** Tewari S., Singh S., Lal N. 2012. PGPR for protection of plant health under saline conditions. *In Bacteria in Agrobiology* (Eds. Maheshwari D.K.), Springer Publication, Netherland. DOI 10.1007/978-3-642-23465-1_12, pp 239-258.

21. **Arora NK** and Khare E. 2010. Plant Growth Promotory Rhizobacteria: Constraints in Bioformulation, commercialization and future strategies. *In Bacteria and Plant Health* (Ed. Maheshwari D.K.), Springer Publication, Netherland. DOI 10.1007/978-3-642-13612-2_5, pp 97-116.

22. **Arora, NK** and Khare, E. 2008. Biocontrol of soil-borne phytopathogens by Fluorescent Pseudomonads, as a sustainable alternative to agrochemicals. *In Potential Microorganisms for Sustainable Agriculture: A Techno-Commercial Prospective* (eds. Mahaeshwari D.K. and Dubey R.C.) I. K. International Publication, New Delhi, pp. 99-114.

23. **Arora, NK**, Kumar, V. and Maheshwari, D.K. 2001. Constraints, Development and Future of the Bioinoculants with Special Reference to Rhizobial Inoculants. In *Innovative Approaches in Microbiology* (eds. Maheshwari, D. K. and Dubey, R. C.), B. Singh and M. Singh Publ., Dehradun. pp. 241-254.

Authored Books

1. **Arora NK. 2013.** Splendid Wilds……..safari through Corbett.Shree Publisher, New Delhi, ISBN: 978-81-8329-507-9

Edited Books

1. **Arora NK. 2013.** Plant Microbe Symbiosis: Fundamentals and Advances, Springer. ISBN 978-81-322-1286-7
2. **Arora NK. 2015.**Plant Microbe Symbiosis: Applied Facets, Springer. ISBN 978-81-322-2067-1
3. **Arora NK,** Mehnaz S, Balestrini R. **2016.** Bioformulations: for sustainable agriculture, Springer. ISBN 978-81-322-2777-9
4. Castro-Sowinski, Susana (Ed.)2016. Microbial Models: From Environmental to Industrial Sustainability, Springer. Series: Microorganisms for Sustainability, Vol. 1ISBN 978-981-10-2555-6.
5. Mehnaz, Samina (Ed.) 2017. Rhizotrophs: Plant Growth Promotion to Bioremediation, Springer. Series: Microorganisms for Sustainability, Vol. 2 ISBN 978-981-10-4861-6.
6. Panpatte, D.G., Jhala, Y.K., Vyas, R.V., Shelat, H.N. (Eds.)2017. Microorganisms for Green Revolution, Volume 1: Microbes for Sustainable Crop Production. Springer. Series: Microorganisms for Sustainability, Vol. 6 ISBN 978-981-10-6240-7
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9. Panpatte, D.G., Jhala, Y.K., Shelat, H.N., Vyas, R.V. (Eds.) 2018. Microorganisms for Green Revolution, Volume 2: Microbes for Sustainable Agro-ecosystem Springer. Series: Microorganisms for Sustainability, Vol. 7 ISBN 978-981-10-7146-1
10. Adhya, T.K., Lal, B., Mohapatra, B., Paul, D., Das, S. (Eds.) 2018. Advances in Soil Microbiology: Recent Trends and Future Prospects, Volume 1: Soil-Microbe

Interaction. Springer. Series: Microorganisms for Sustainability, Vol. 3ISBN 978-981-10-6178-3

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13. **Arora NK**, Kumar, Narendra (Eds.) 2019. Phyto and Rhizo Remediation, Springer. Series: Microorganisms for Sustainability, Vol. 9 ISBN 978-981-329-664-0

14. Arora, Pankaj Kumar (Ed.) 2019. Microbial Metabolism of Xenobiotic Compounds. Springer. Series: Microorganisms for Sustainability, Vol. 10 ISBN 978-981-13-7461-6

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21. **Arora NK**, Mishra, Jitendra, Mishra, Vaibhav (Eds.) 2020. Microbial Enzymes: Roles and Applications in Industries, Springer. Series: Microorganisms for Sustainability, Vol. 11 ISBN 978-981-15-1710-5.

22. Bharagava, Ram Naresh (Ed.) 2020. Emerging Eco-friendly Green Technologies for Wastewater Treatment, Springer. Series: Microorganisms for Sustainability, Vol. 18 ISBN 978-981-15-1390-9.

23. Arora, Pankaj Kumar (Ed.) 2020. Microbial Technology for Health and Environment, Springer. Series: Microorganisms for Sustainability, Vol. 22 ISBN 978-981-15-2679-4

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25. Yadav, A.N., Rastegari, A.A., Yadav, N., Kour, D. (Eds.) 2020. Advances in Plant Microbiome and Sustainable Agriculture, Functional Annotation and Future Challenges, Springer. Series: Microorganisms for Sustainability, Vol. 20 ISBN 978-981-15-3204-7

26. Goel, Gunjan, Kumar, Ashok (Eds.) 2020 Advances in Probiotics for Sustainable Food and Medicine. Springer. Series: Microorganisms for Sustainability, Vol. 21 ISBN 978-981-15-6794-0

27. Gupta, Pankaj Kumar, Bharagava, Ram Naresh (Eds.) 2020. Fate and Transport of Subsurface Pollutants. Springer. Series: Microorganisms for Sustainability, Vol. 24 ISBN 978-981-15-6563-2

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29. Panpatte, Deepak G., Jhala, Yogeshvari K. (Eds.) 2020. Microbial Rejuvenation of Polluted Environment; Volume 1. Springer. Series: Microorganisms for Sustainability, Vol. 25 ISBN 978-981-15-7446-7

30. Panpatte, Deepak G., Jhala, Yogeshvari K. (Eds.) 2020. Microbial Rejuvenation of Polluted Environment; Volume 2. Springer. Series: Microorganisms for Sustainability, Vol. 26 ISBN 978-981-15-7454-2

31. Adetunji, Charles Oluwaseun, Panpatte, Deepak G., Jhala, Yogeshvari K. (Eds.) 2020. Microbial Rejuvenation of Polluted Environment; Volume 3. Springer. Series: Microorganisms for Sustainability, Vol. 27 ISBN 978-981-15-7458-0

Patents

	Inventors	Title and Award/Application no.
Awarded		
Published	Arora NK, Mishra P, Mishra J	REF. NO. E-12/604/2019/DEL; APP. NO. 201911035336 A
Filed		

Research Supervision

	Completed	Ongoing
PG/M.Phil	121 M.Sc. Dissertations and 01 M.Phil.	-
Ph.D	11	08
Post-Doctoral	-	-

Honors, Recognition and Awards

1.	***Awarded Travel Grant*** DST and CSIR New Delhi, to attend and deliver lecture in 18th World Congress of Soil Science, held at Philadelphia, USA. Organized by International Union of Soil Science, 09-15 July, 2006	2006
2.	***Awarded Travel Grant*** DST New Delhi, to attend and deliver lecture in Second Asian PGPR Congress for Sustainable Agriculture, Beijing, China. Organized by Asian PGPR Society. Travel support from Department of Science and Technology, New Delhi, 21-24 August, 2011	2011
3.	***Young Achievers Award*** Contribution in the field of Agricultural Microbiology by Asian PGPR society at BHU, Varanasi.	2014
4.	***Awarded Certificate*** of Appreciation in research by the Honorable Governor of Uttar Pradesh	2014
5.	***Awarded Travel Grant*** Department of Biotechnology, New Delhi (Grant No. DBT/CTEP/02/201500217) to attend in 4th Asian PGPR Conference, Hanoi, Vietnam, 3rd to 6th May, 2015, organized by Asian PGPR Society.	2015
6.	***Awarded Travel Grant*** Department of Science and Technology, New Delhi (Grant No. ITS/1862/2015-16) to attend 8th ISS Congress, Lisbon, Portugal, 12th – 18th July, 2015	2015
7.	***Lead Talk Award*** National Seminar on Transforming Agriculture to Doubling of Farmers Income, Organized by SamagraVikas Welfare	2018

	Society, BBA University, Lucknow	
8.	***Awarded Travel Grant*** Department of Science and Technology, New Delhi (Grant No. ITS/2019/000593) to attend and deliver lecture in "The Fourth International Congress "Microbial Biotechnology for Development" (MICROBIOD 4), Morocco. (24 April, 2019 to 26 April, 2019)"	2019
9.	***Award for Excellence in PGPR Researchfor Exemplary Contribution in the Area of PGPR Research for Sustainable Agriculture*** by Asian PGPR Society and National University of Uzbekistan at 6th Asian PGPR International Conference for Sustainable Agriculture. Tashkent, Uzbekistan	2019

Membership of Professional Bodies

- Life Member of Association of Microbiologists (AMI) of India.
- Life Member of Indian Science Congress Association, Kolkata, India.
- Life Member of Asian PGPR Society
- Life Member of Professor H.S. Srivastava Foundation for Science and Society
- Life Member of Clean and Green Society, Lucknow
- President & Life Member, Society for Conservation of Wildlife
- Secretary & Life Member, Society for Environmental Sustainability
- Fellow of International Society for Environmental Botanists, (ISEB), CSIR, NBRI

Seminar/Conference/Symposia /Workshops Organized

1.	Organizing Secretary and Convener of National Conference on 'Scope and Application of Microbes in Agriculture and Environment – *New Horizons and Technologies*' from 19th – 21st February, 2007. The conference was funded by Department of Biotechnology (DBT), Department of Science and Technology (DST), and Council of Scientific and Industrial Research (CSIR), New Delhi.	Feb 19-21, 2007
2.	Organized Exhibition 'Wild Splendor – *An Awakening Call from Indian Jungles*' at InternationalCentreCSJMUniversity, Kanpur with the theme on wildlife conservation. Approximately 2000 delegates visited the exhibition.	April 23-25, 2011
3.	Organizing Secretary of National Workshop Innovation and Technology Transfer to Industries: Role of Universities at BBA University. Lucknow.	March 10-11, 2014
4.	Organizing Secretary of National Seminar on University-industry partnership: A March towards sustainable growth	March 12-13, 2015

	at BBA University. Lucknow.	
5.	Organized World Environment Day at BBA University, Lucknow	June 05, 2016
6.	Organized A Workshop onWaste Management under 'Swachh Bharat Pakhwara' at BBA University, Lucknow.	September 15 ,2016
7.	Organized One day Symposium on Science and Technology for Specially Abled Persons under 'National Science Day' at BBA University, Lucknow.	February28, 2017
8.	Convener, 4th Lucknow Science Congress, held at BBA University, Lucknow.	March 3-4, 2017
9.	Co-organizing Secretary of 58th Annual Conference of AMI-2017, BBA University, Lucknow.	November 16 – 19, 2017
10.	Convener, 1st North Indian Science Congress, held at BBA University, Lucknow.	January 10-11, 2018
11.	Chairman, Swachhta Awareness Programme- Seminarat BBA University, Lucknow.	September 14 ,2018
12.	Chairman and Organizing Secretary of One day Seminar on "Environmental Sustainability: Present Scenario and Future Aspects" on the occasion of 23rd Foundation Day of BBA University, held at BBA University, Lucknow.	January 10, 2019
13.	Chairman and Convener of One Day Workshop on "Reducing our Water Footprints" under Swachh Bharat Pakhwada at BBA University, Lucknow	13th September, 2019
14.	Organizing Secretary & Convener, Integrated Workshop on "Publication Ethics and Patenting" and International Conference on "Environmental Sustainability: Innovations, Translational Dimensions and Way Forward"at BBA University, Lucknow.	10th – 12th February, 2020
15.	Chairman, National Science Day on theme "Women in Science" at BBA University, Lucknow.	28th February, 2020
16.	Organizing Secretary & Convener, Training Workshop cum Faculty Development Program (FDP) on Environmental Biodiversity and Disaster Risk Management at BBA University, Lucknow in collaboration with NIDM.	2nd – 6th March, 2020
17.	Organizing Secretary & Convener, International Webinar on "COVID-19 and Environmental Linkages" based on special issue of the journal "Environmental Sustainability" organized by Department of Environmental Science, BBA University in collaboration with Society for Environmental Sustainability and Springer Nature.	29th June, 2020
18.	Co-organizer, International Webinar on "The Challenges and Scientific Advances for SARS-CoV-2" organized by Assam University, Silchar in collaboration with Society for	27th August, 2020

	Environmental Sustainability and Springer Nature.	
19.	Convener, National Webinar on "आपदा सेअवसर तक :समृद्ध गाँव – आत्मनिर्भरभारत" under the aegis of Unnat Bharat Abhiyan at BBA University, Lucknow.	02nd September, 2020

Countries Visited

1.	18th World Congress of Soil Science, held at Philadelphia, USA. Organized by International Union of Soil Science.
2.	Invited talk at Second Asian PGPR Congress for Sustainable Agriculture, Beijing, China. Organized by Asian PGPR Society.
3.	Invited talk at 4th Asian PGPR Conference, Hanoi, Vietnam, Organized by Asian PGPR Society. Travel support from Department of Biotechnology, New Delhi (Grant No. DBT/CTEP/02/201500217).
4.	Invited talk at 8th ISS Congress, Lisbon, Portugal, Organized by International Symbiosis Society.
5.	Keynote Speaker in International Conference on Food, Agriculture and Animal Sciences (ICOFAAS-2018) organized by SIIRT University, Turkey, held in Antalya, Turkey.
6.	Keynote Speaker in The fourth Edition of the International Congress: "MICROBIAL BIOTECHNOLOGY FOR DEVELOPMENT": MICROBIOD 4, organized by **Ibn Zohr University and Moroccan Association of Biotechnology and Protection of Natural Resources, Agadir- Morocco.**
7.	Invited Talk in 6th Asian PGPR International Conference for Sustainable Agriculture: "Ecofriendly Bioinnovations to Alleviate the Biotic and Abiotic Constraints of 21st Century Agriculture" **Tashkent, National University of Uzbekistan, Uzbekistan.**

Invited Lectures/Talks/Chair/Co-Chair in Seminar/Conference/Symposia /Workshops

1.	19th Conference of Indian Botanical Society /National Seminar on Biotechnology: NewTrends and Prospects held at Gurukula Kangri University, Haridwar, U.P., India	December 26-28, 1996
2.	TCDC International Workshop on Application of Biotechnology in Biofertilizers & Biopesticides held at Indian Institute of Technology, New Delhi.	October 15-18, 1997
3.	National Seminar on Bioinoculants for Holistic Sustainable Rural Developments held at Gurukula Kangri University, Haridwar.	September 23-25, 1998
4.	International Symposium on Microbial Sustainable Development and Productivity held at Rani Durgavati University, Jabalpur, India	November 14-16, 1998
5.	XXIII Botanical Conference, Ch. Charan Singh	October 14-16, 2000

	University, Meerut, India	
6.	BIO-CON 2005 held at Sai College of Medical Science & Technology, Kanpur.	February 26-27, 2005
7.	Workshop on 'Medicinal Plants' held at Department of Adult Education, CSJMUniversity, Kanpur.	March 22-23, 2005
8.	18th World Congress of Soil Science, held at Philadelphia, USA. Organized by International Union of Soil Science. Travel support from Department of Science & Technology, New Delhi (No. SR/PF/423) and Council of Scientific and Industrial Research (No 27/209/169/2006/ISTAD)	July 9-15, 2006
9.	DST Group Monitoring Workshop held at Agharkar Research Institute, Pune	August 24-25, 2006
10.	First Asian PGPR Congress for Sustainable Agriculture, Acharya N G Ranga Agricultural University, Hyderabad.	June 21-24, 2009
11.	International Workshop on Rhizosphere Biology of Agriculture, Horticulture and Forestry: Present and Future, held at G.B. Pant University of Agriculture & Technology, Pantnagar.	February 25-27, 2010
12.	Invited talk at Second Asian PGPR Congress for Sustainable Agriculture, Beijing, China. Organized by Asian PGPR Society. Travel support from Department of Science and Technology, New Delhi.	August 21-24, 2011
13.	National Conference on Microbes promoting plant health, productivity and sustainability and zonal meeting. Organized by CSIR-CIMAP and CSIR- NBRI Lucknow	October 26-27, 2013
14.	International conference on Environment, Health and Industrial Bio Sangam, Organized by Department of Biotechnology MNNIT, Allahabad	November 21-23, 2013
15.	Plenary Lecture at 101st Indian Science Congress, University of Jammu, J&K	Feb 3-7, 2014
16.	International Conference on Environmental Technology and Sustainable Development: Challenges and Remedies. Organized by BBA University, Lucknow.	Feb 21-23, 2014
17.	National Workshop on advances in PGPR research at Banaras Hindu University, Varanasi	Oct 7-8, 2014
18.	Invited talk at 4th Asian PGPR Conference, Hanoi, Vietnam, Organized by Asian PGPR Society. Travel support from Department of Biotechnology, New Delhi (Grant No. DBT/CTEP/02/201500217).	May 3-6, 2015
19.	Invited talk at 8th ISS Congress, Lisbon, Portugal, Organized by International Symbiosis Society. Travel	July 12-18, 2015

	support from Department of Science and Technology, New Delhi (Grant No. ITS/1862/2015-16).	
20.	Invited Talk at 3rd Lucknow Science Congress LUSCON – 2015, Lucknow, UP, India	31 Oct – 2 Nov, 2015
21.	Invited Talk in National Workshop on Advanced Techniques for Bioremediation and Management of Salt Affected Soils at Central Soil Salinity Research Institute (CSSRI), Lucknow, UP, India.	Sept, 15-24, 2015
22.	Invited Talk at 103rd Indian Science Congress, Mysore University, Mysore, Mysore, Karnataka, India.	Jan 3-7, 2016
23.	Invited Talk in International conference on Agriculture and Biotechnology, Pune	April 03, 2017
24.	Invited Talk in International conference on Pharmaceutical, Medical & Environmental Health Sciences, Pune	April 16, 2017
25.	Invited Talk in National Conference on Tourists and Green Spaces: Healthier lifestyle approaches from nature, BBA University, Lucknow	July 15-16, 2017
26.	Lead Talk in 58th Annual Conference of AMI- 2017 on Plant growth promoting rhizobacteria for combating saline stress in diverse crops, BBA University, Lucknow	November 18, 2017
27.	Lead Talk in National Seminar on Transforming Agriculture to Doubling of Farmers Income, Organized by Samagra Vikas Welfare Society, BBA University, Lucknow.	Feb 10-11, 2018
28.	Invited Talk in National Conference on Climate Change, Environmental Pollution and Biodiversity Conservation, Organized by CGES, Lko. And CSIR-NBRI, Lko.	Feb 24-25, 2018
29.	Plenary Talk in International Conference on Innovations and Translational Dimensions: Food, Health and Environment Biotechnology (Biosangam-2018) at MNIIT, Allahabad.	March 09-11, 2018
30.	Invited Talk in National Conference on 4thNational Conference on "PGPR For Sustainability of Agriculture and Environment", organized by Department of Biotechnology, Mizoram University in association with Asian PGPR Society for Sustainable Agriculture (APSSA) at Aizawl, Mizoram.	May 11-12, 2018
31.	Invited Talk in National Conference on Microbial Inoculants for Agriculture and Environmental Sustainability (MAES-2018), organized by Department of Botany and Microbiology, Gurukul Kangri Vishwavidyalaya, Haridwar, Uttarakhand.	September 28-30, 2018

32.	Keynote Speaker in International Conference on Food, Agriculture and Animal Sciences (ICOFAAS-2018) organized by SIIRT University, Turkey, held in Antalya, Turkey.	October 3-7, 2018
33.	Invited talk in ISMPP 39th Annual Conference & National Symposium on Plant and Soil Health Management: New Challenges and Opportunities jointly organized by ICAR-IIPR, Kanpur and Indian Society of Mycology and Plant Pathology, Udaipur; held in IIPR, Kanpur.	November 16-18, 2018
34.	Lead Lecture in 6th International Conference on Plants & Environmental Pollution (ICPEP-6) Jointly organized by International Society of Environmental Botanists (ISEB) & CSIR -NBRI, Lucknow.	November 27-30, 2018
35.	Keynote Lecture in International Conference on Sustainable Organic Agri-Horti Systems organized by Doctor's Krishi Evam Bagwani Vikas Sanstha, (Doctor's Agricultural and Horticultural Development Society), Lucknow.	November 28-30, 2018
36.	Invited Lecture in Two-week Inter-Disciplinary Capacity Building Program on "Environment and Sustainable Development" organized by Department of Sociology, Babasaheb Bhimrao Ambedkar University, Lucknow.	Nov. 27 to Dec. 7, 2018
37.	Invited Lecture in Mindshare Conclave on Environment & Cultural Conservation held in Lucknow.	January 23, 2019
38.	Invited Lecture in National Seminar on Biotechnology Interventions in Agriculture, Health and Industry (BIAHI-2019), Organized by Department of Biotechnology, Deen Dayal Upadhyayay Gorakhpur University, Gorakhpur.	February 23-24, 2019
39.	Invited Talk in National Seminar on Microbial Bioremediation: Novel Approaches and Trends organized by Dept. of Microbiology, St. Xavier's College, Mapusa, Goa.	February 27- March 01, 2019
40.	Invited Talk in National Conference on Recent Trends and Emerging Issues in Microbiology and Pharmaceutical Biotechnology at Gujarat University, Ahmedabad, Gujarat	March 15-16, 2019
41.	Keynote Speaker in The fourth Edition of the International Congress: "MICROBIAL BIOTECHNOLOGY FOR DEVELOPMENT": MICROBIOD 4, organized by **Ibn Zohr University and Moroccan Association of Biotechnology and Protection of Natural Resources, Agadir- Morocco.**	April 24-26, 2019

42.	Invited Talk in 6th Asian PGPR International Conference for Sustainable Agriculture: "Ecofriendly Bioinnovations to Alleviate the Biotic and Abiotic Constraints of 21st Century Agriculture" **Tashkent, National University of Uzbekistan, Uzbekistan.**	August 18-21, 2019
43.	Invited Talk in International Conference on 'Advances in Sustainable Agriculture: Bioresources, Biotechnology and Bioeconomy' organized by Mansarovar Global University, jointly with PHSS Foundation for Science & Society at Bhopal.	November 29- 30, 2019
44.	Keynote Speaker in National Conference on 'Frontiers in Biopesticides and Biofertilizers' at Goa	December 06-07, 2019
45.	Invited talk on Google Meet organized by CSJM University, Kanpur.	May 16, 2020
46.	Facebook Live Lecture on "COVID 19 and its Environmental Linkages" organized by, SHoDH, Awadh Prant.	May 21, 2020
47.	Facebook Live Lecture on "Environmental connections of Covid-19 pandemic" organized by BBAU Social Media, BBA University, Lucknow.	May 26, 2020
48.	Invited Talk on "Plant Growth Promoting Rhizobacteria and Agricultural Sustainability" organized by School of Agriculture, Sage University, Bhopal in National Sage Summer School	May 29, 2020
49.	Invited talk on the occasion of World Environment Day on theme Time for Nature organized by Springer Nature	June 5, 2020
50.	Invited talk in Webinar on "COVID19 and Changing Environment" Jointly organized by National Institute of Disaster Management & Department of Zoology, Bareilly College, Bareilly	June 9, 2020
51.	Invited talk in One day International Webinar on "Environment – in the scenario of COVID 19 and Nanoparticles organized by Chandra Bhanu Gupta Agriculture P.G. College, Lucknow.	June 16, 2020
52.	Invited talk in International Webinar on "Trends in Sustainability: Regenerative Agriculture" organized by Department of Botany, Maharana Pratap PG College, Gorakhpur, UP in collaboration with Department of Botany, Prabhat Kumar College, West Bengal.	June 26 – 27, 2020
53.	Invited talk in Webinar on theme "Biological Sciences" organized by Department of Biotechnology, Ashok Singhal Institute of Traditional Science & Technology, VBSP University, Jaunpur, UP.	June 15 – 30, 2020

54.	Invited Speaker in One day National Webinar on "Human and Nature – Present Challenges" organized by IGNOU and National P.G. College, Lucknow.	July 14, 2020
55.	Invited Speaker in Webinar series on "COVID- 19 and Environmental Sustainability" organized by Amity Food and Agriculture Foundation	July 23, 2020

Additional Information

Chairperson	Swachh Bharat Abhiyan' at BBA University, Lucknow	2017 - present
Coordinator	Foundation Courses of BBA University, Lucknow	2017 - present
Nodal Officer	'Ek Bharat Shrestha Bharat', BBA University, Lucknow	2017 - present
Nodal Officer & Coordinator	Unnat Bharat Abhiyan Program of MHRD	2018 – present
Professor-in-charge	Centre for Innovation, Incubation and Entrepreneurship	2019 – present
Head	Department of Environmental Science, BBA University, Lucknow	February, 2019 to Present
Professor	Department of Environmental Science, BBA University, Lucknow	November, 2017 to Present
Professor	Department of Environmental Microbiology, BBA University, Lucknow	June 2014 to October 2017
Head	Department of Environmental Microbiology, BBA University, Lucknow	August 2014 to August 2017
Associate Professor	Department of Environmental Microbiology, BBA University, Lucknow	June 2011 to July 2014
Reader & Head	Department of Microbiology, CSJM University, Kanpur Director-in-Charge, Institute of Biosciences & Biotechnology, CSJM University, Kanpur, Uttar Pradesh, India	July 2009 to June 2011
Lecturer	Department of Microbiology, CSJM University, Kanpur, Uttar Pradesh, India.	September 2004 to June 2009
Lecturer	Department of Microbiology, Sardar Bhagwan Singh PG Inst. of Bio-Medical Sciences and Research Balawala Dehradun, Uttarakhand, India.	April 2001 to August 2004