

Biodata of Prof. A. K. Tripathi
(J C Bose National Fellow)

Present Position: Director, Institute of Science, Banaras Hindu University, Varanasi

Contact: School of Biotechnology, Institute of Science,
Banaras Hindu University, Varanasi-221005, Uttar Pradesh
Email: tripathianil@rediffmail.com, directoris@bhu.ac.in
Phone: 0542-2369670 (Off) 0542-2367790 (Res)
Mobile: +9451525811, 8887161518

Date and Place of Birth: 07.11.1959, Mirzapur, U.P.

Current Research Interests:

Bacterial Genetics, Functional Genomics, Systems biology and Synthetic Biology

Educational record:

- High School (1974) First Class with Hindi, English, Maths, Science, Biology with distinction in Biology & Hindi from Queens College, Varanasi (UP Board, Allahabad)
- Intermediate (1976) First Class with Hindi, English, Physics, Chemistry, Biology with distinction in Chemistry from Queens College, Varanasi (UP Board, Allahabad)
- B.Sc. (1978) Botany, Zoology, Chemistry, Malaviya Gold Medal for standing first in Botany, Banaras Hindu University, Varanasi
- M.Sc. (1980) Botany, Banaras Hindu University, Varanasi
- Ph. D. (1984) Botany, under the supervision of Prof H. D. Kumar, FNA, Department of Botany, Banaras Hindu University, Varanasi

Administrative Experience:

- Director, Institute of Science, Banaras Hindu University (Feb 2019- contd)
- Director, Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP) (Feb 2014- January 2019)
- Mission Director, CSIR Aroma Mission (2017-2019)
- Coordinator, DBT-BHU Interdisciplinary School of Life Sciences, Banaras Hindu University, Varanasi (July 2013-February 2014)
- Coordinator, Centre for Bioinformatics, Banaras Hindu University (Mar 2008-Mar 2011)
- Coordinator, School of Biotechnology, Banaras Hindu University (May 2007- May 2010)
- Professor, School of Biotechnology, Faculty of Science, BHU (2004 onwards)
- Professor & Head, Department of Biotechnology, D. D. U. Gorakhpur University, Gorakhpur (July 2002-Jun 2004)
- Reader, School of Biotechnology, Faculty of Science, BHU (1996-2002)
- Lecturer, School of Biotechnology, Faculty of Science, BHU (1990-1996)

Fellowships of Science Academies/Societies:

- J C Bose National Fellowship (SERB) (2020)
- Fellow, Indian Academy of Science (IASc), Bangalore (2020)
- Fellow, Indian National Science Academy (INSA), New Delhi (2015)
- Fellow, National Academy of Sciences India (NASI), Allahabad (2012)
- Fellow, National Academy of Agricultural Sciences (NAAS), New Delhi (2009)
- Fellow, Association of Microbiologists of India (AMI), New Delhi (2006)

Awards:

- Dr Rajendra Prasad Oration Award, Rajendra Memorial Research Institute of Medical Sciences (RMRI), Patna (2021)
- UGC-BSR Mid-Career Award (2019) (UGC New Delhi)
- NASI Lecture Award in the Field of Biodiversity (2017) (NASI, Allahabad)
- Prof B. D. Tilak Memorial Lecture Award (2017) (INSA, New Delhi)
- Prof R. N. Tandon Memorial Lecture Award (2016) (NASI, Allahabad)
- Prof P. Maheshwari Memorial Lecture Award, University of Delhi (2016)
- CSIR Technology Award in Life Science (2016)
- Vice Chancellor's award for Excellence in Research, BHU for publication in high impact scientific journal (2014)
- UGC Career Award in Biotechnology (1994-97)
- ISCA Young Scientist Award, Indian Science Congress, Bangalore, 1987

Chairman/Member of Committees:

- Convener, Sectional Committee for Plant Sciences, Indian Academy of Sciences, Bengaluru (2022-)
- Member, Advisory Committee, Shanti Swarup Bhatnagar Prize for Science and Technology in Biological Sciences, CSIR, New Delhi (2016 & 2021)
- Member, Court, University of Hyderabad (2021-)
- Member, Governing Body, National Institute of Plant Genome Research (NIPGR) (2021-)
- Member, Governing Body, National Institute of Pharmaceutical Education & Research (NIPER) Raebareli (2019-2022)
- Member, Empowered Committee, SERB (2018-2019)
- Member, Council, The National Academy of Sciences India (NASI), (2018-2019)
- Member, INSA Sectional Committee IX: Microbiology & Immunology (2016-2019)
- Member, CSIR Governing Body and CSIR Society (2016)
- Convener, INSA Chapter, Lucknow (2015-2018)
- Member, SERB-FIST Subject Expert Committee on Life Sciences (2016-2020)
- Member, DBT Task Force on "Environmental Biotechnology & Biodiversity Conservation" (2013-2017)
- Chairman, Advisory Committee for Biotechnology, Council of Science & Technology, U. P. (2015-2017)
- Member, Research Council, National Botanical Research Institute, Lucknow (2015-17)
- Member, Research Council, Central Drugs Research Institute, (2014-)
- Member, Research Council, Agharkar Research Institute (DST), Pune (2017- 2019)

- Member, Research Council, National Institute of Interdisciplinary Science & Technology (CSIR-NIIST), Thiruvananthapuram (2017-2019)
- Member, Academic Council, Jawaharlal Nehru University, New Delhi (2015-)
- Member, Senate, Academy of Scientific and Innovative Research, New Delhi (2014-17)
- Member, Advisory-cum-Monitoring Committee, Biotech Park, Lucknow (2014 onwards)
- Member, National Research Advisory Committee, National Innovation Foundation, Ahmedabad (2014 onwards)

Current University Responsibilities:

1. Coordinator, DST-SATHI, BHU (2019-)
2. Coordinator, BIRAC-BioNEST, BHU (2020-)
3. Director, InnoResTech Foundation, BHU (2019-)
4. Member, Governing Body, Institution of Eminence Program, BHU (2019-)
5. Chairman, Committee for Seed grants to new faculty and Incentive Grant for senior faculty, Institution of Eminence program (2019-)
6. Chairman, Industry-Academic Cooperation Committee, BHU (2020-)
7. Chairman, University Central Purchase Committee (2020-)
8. Chairman, Books Purchase Committee for University Library (2019-)
9. Chairman, Committee on revision of Ph. D. ordinances (2022)

Research Experience: 30 years

Sponsored Research Projects

International Agencies:

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| 1. German Agency for Technical Cooperation (GTZ), Eschborn | (1991-1992: Rs. 8 lakhs) |
| 2. International Foundation for Science (IFS), Stockholm | (1992-1995: Rs. 8 lakhs) |
| 3. German Ministry for Research & Technology (BMFT), Bonn | (1998-1999: Rs. 12 lakhs) |
| 4. Indo-French Centre (IFCPAR/CEFIPRA), New Delhi | (1999-2002: Rs. 28 lakh) |
| 5. International Rice Research Institute, Manila | (1999-2002: Rs. 15 lakhs) |

National Agencies:

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| 6. Department of Science & Technology (DST), New Delhi | (1992-1996: Rs.7 lakhs) |
| 7. Board of Research in Nuclear Sciences (BRNS), Mumbai | (1992-1995: Rs.7 lakhs) |
| 8. University Grants Commission (UGC), New Delhi | (1994-1997: Rs. 6 lakhs) |
| 9. Min. of Environ & Forests (MoEnF), New Delhi | (1999-2011 : Rs. 18 lakhs) |
| 10. Department of Biotechnology (DBT), New Delhi | (2006- 2010 : Rs. 20 lakh) |
| 11. Council of Science & Industrial Research (CSIR), New Delhi | (2007-2011 : Rs. 8 lakh) |
| 12. Department of Biotechnology (DBT), New Delhi | (2008-2011 : Rs. 40 lakh) |
| 13. Department of Science & Technology (DST) New Delhi | (2010- 2013 : Rs. 35 lakh) |

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| 14. Department of Biotechnology (DBT), New Delhi | (2010- 2013 : Rs. 47 lakh) |
| 15. Department of Biotechnology (DBT), New Delhi | (2011-2014 : Rs. 31 lakh) |
| 16. Indian Council of Agricultural Research (ICAR), New Delhi | (2014-2017: Rs 98 lakhs) |
| 17. Council of Science & Industrial Research CSIR), New Delhi | (2021-2024: Rs 28 lakhs) |
| 18. Science & Engineering Research Board (SERB), New Delhi | (2020-2024: Rs 85 lakhs) |

Patent:

“An enzymatic process for producing nano-size calcium carbonate using recombinant carbonic anhydrase from *Azospirillum brasilense*” (Patent filed: no 433/DEL/2009 dated 05.03.2009; Granted in 2018, Patent No. 289249)

Ph.D. supervised (22)

1. Ms. Sangeeta Khare on "Biochemical and Genetical Studies on Chromium Resistance in *Pseudomonas aeruginosa* " (awarded in 1997)
2. Mr. Bal Mukund Mishra on "Physiological and Genetical Studies on Salinity Stress in *Azospirillum* spp.(awarded in 1998)
3. Mr. Abhijit Ganguli on "Microbiology of Detoxification of Chromium Polluted Industrial Effluents" (awarded in 1999).
4. Ms. Moushumi Ghosh on “Studies on Microbiology and Treatment of distillery effluent” (awarded in 2000).
5. Ms. Rachna Tripathi on “Carbon Source Utilization in *Azospirillum*” (awarded in 2002).
6. Mr. Subhash Chandra Verma on “Studies on Colonization and Molecular Diversity of Endophytic Diazotrophs in rice” (awarded in 2002)
7. Mr. T. Nagarajan on “Genetical and Physiological studies on osmoregulation in *Azospirillum brasilense*” (awarded in 2006)
8. Mr. S. Paulchowdhury on “Molecular studies on Diversity of Bacteria Associated with two Ecologically Important Plants, *Mimosa pudica* and *Lasiurus indicus*” (awarded in 2006)
9. Ms. Archana Srivastava on “Genetic and Phenotypic studies of some mutants of *Azospirillum brasilense*” (awarded in 2006)
10. Mr Mukti Nath Mishra on “Molecular analysis of the role of extracytoplasmic function sigma factor in abiotic stress tolerance in *Azospirillum brasilense*” (Awarded in March 2009)
11. Ms Simarjot Kaur on “Molecular characterization of carbonic anhydrase in *Azospirillum brasilense* and its application in carbon sequestration” (Awarded in March 2011)
12. Mr Durgesh Narain Singh on “Molecular analysis of coalbed microbes and metagenome for the biotransformation of coal into methane and other valued products” (Awarded March 2013)
13. Ms Namrata Gupta on “Molecular analysis of the role of extra-cytoplasmic function (ECF) sigma factors and anti-sigma factors in *Azospirillum brasilense* (Awarded in June 2013)
14. Mr Santosh Kumar on “Genomic and proteomic analysis of the role and regulation of alternative sigma factors in environmental stress responses in *Azospirillum brasilense* Sp7” (Awarded in July 2013)

15. Mr Sudhir Singh “Molecular analysis of detoxification mechanisms involved in oxidative stress responses induced by arsenic and peroxide in *Azospirillum brasilense* Sp7” (awarded in 2016)
16. Mr Vijay Shankar Singh “Identification and functional characterization of genes involved in carbon source utilization in *Azospirillum brasilense* Sp7” (awarded in 2016)
17. Mr Ashutosh Kumar Rai “Role and regulation of heat shock sigma factors in *Azospirillum brasilense* Sp7” (awarded in 2017)
18. Mr Amit Srivastava “Molecular and physiological analysis of role of alternative sigma factor SigJ in nitrogen-fixing cyanobacterium *Anabaena* PCC7120” (awarded in 2017)
19. Mr Ashutosh Prakash Dubey “Role and regulation of alternative sigma factors in the regulation of carotenoid biosynthesis and some other phenotypic traits in *Azospirillum brasilense*” (awarded in 2017)
20. Ms Chhaya Singh “Bioinformatic and functional analysis of *Azospirillum* genome” (Awarded in August 2019)
21. Ms Parul Pandey “Transcriptomic, proteomic and genomic analysis of alternative sigma factors in a plant growth promoting rhizobacterium *Azospirillum brasilense*” (Awarded in October 2020)
22. Ms Shivangi Mishra “Engineering *Azospirillum brasilense* for the production of novel compounds” (Awarded in August 2021)

List of Selected 60 Publications of Prof A. K. Tripathi

1. Pandey, P., Dubey, A.P., Mishra, S., Singh, C., Singh, V. S. and Tripathi, A. K (2022) β -lactam resistance in *Azospirillum baldaniorum* Sp245 is mediated by lytic transglycosylase and β -lactamase, and regulated by a cascade of RpoE7 $\rightarrow$ RpoH3 sigma factors. **Journal of Bacteriology (ASM)** DOI:10.1128/jb.00010-22
2. Singh, V. S., Dubey, B. K., Pandey, P., Rai, S. and Tripathi, A. K (2021) Co-metabolism of ethanol in *Azospirillum brasilense* Sp7 is mediated by fructose and glycerol and regulated negatively by an alternative sigma factor RpoH2. **Journal of Bacteriology (ASM)** DOI:10.1128/JB.00269-21
3. Dubey, A. P., Pandey, P., Mishra, S., Gupta, P. and Tripathi, A.K. (2021) Role of a Fasciclin domain protein in photooxidative stress and flocculation in *Azospirillum brasilense* Sp7. **Research in Microbiology** DOI: org/10.1016/j.resmic.2021.103875
4. Mishra, S., Chanotiya, C., Shanker, K., Tripathi, A. K (2021) Characterization of carotenoids and genes encoding their biosynthetic pathways in *Azospirillum brasilense*. **FEMS Microbiology Letters** 368; DOI: 10.1093/femsle/fnab025
5. Dubey, A. P., Pandey, P., Singh, V. S., Mishra, M. N., Singh, S., Mishra, R. and Tripathi, A. K. (2020) An ECF41 family σ factor controls motility and biogenesis of lateral flagella in *Azospirillum brasilense* Sp245. **Journal of Bacteriology (ASM)** DOI: 10.1128/JB.00231-20

6. Mishra, S., Pandey, P., Dubey, A. P., Zehra, A., Chanotiya, C. S., Tripathi, A. K. Mishra, M. N. (2020) Engineering a carotenoid-overproducing strain of *Azospirillum brasilense* for heterologous production of geraniol and amorphadiene **Applied Environmental Microbiology (ASM)** DOI: 10.1128/AEM.00414-20
7. Singh, C., Pandey, P., Singh, D. N., Pandey, R., Shasany, A. K., Tripathi, A.K. (2019) Whole-Genome sequences of four Indian isolates of *Azospirillum brasilense* **Microbiology Resource Announcement (ASM)** DOI: 10.1128/MRA.00633-19
8. Singh, V.S., Tripathi, P., Pandey, P., Singh, D.N., Dubey, B., Singh, C., Singh, S., Pandey, R., Tripathi, A.K. (2019) Dicarboxylate transporters of *Azospirillum brasilense* Sp7 play important role in the colonization of finger millet (*Eleusine coracana*) roots. **Molecular Plant Microbe Interaction (APS)** 32: 828-840
9. Rai, A.K., Singh, S., Dwivedi, S.K., Srivastava, A., Pandey, P., Kumar S., Singh, B. N. and Tripathi A. K. (2018) Expression of catalases in *Azospirillum brasilense* Sp7 is regulated by a network of OxyR and two RpoH paralogs including a regulatory cascade of RpoE1 and RpoH5. **Applied Environmental Microbiology (ASM)** doi: 10.1128/AEM.01787-18
10. Singh, V. S., Dubey, A. P., Gupta, A., Singh¹, S., Singh, B. N. and Tripathi A. K. (2017) Regulation of a glycerol induced quinoprotein alcohol dehydrogenase by σ^{54} and a LuxR-type regulator in *Azospirillum brasilense* Sp7 **Journal of Bacteriology (ASM)** doi:10.1128/JB.00035-17
11. Srivastava, A., Brilisauer K., Rai, A. K., Ballal, A., Forchhammer, K. and Tripathi, A. K. (2016) Downregulation of the alternative sigma factor SigJ confers a photoprotective phenotype to *Anabaena* PCC 7120. **Plant and Cell Physiology (JSPP)** 58: 287-297
12. Singh, S., Dwivedi, S., Singh, V.S., and Tripathi A.K. (2016) Expression of alkylhydroperoxide reductase is regulated negatively by OxyR1 and positively by RpoE2 sigma factor in *Azospirillum brasilense* Sp7. **Microbiology (SGM)** 162:1870-1883
13. Rai, A.K., Dubey, A.P., Kumar, S., Mishra, M. N., Dutta, D., Singh, B.N. and Tripathi, A. K. (2016) Carotenoid biosynthetic pathways are regulated by a network of multiple cascades of alternative sigma factors in *Azospirillum brasilense* Sp7. **Journal of Bacteriology** 198:2955-2964
14. Singh, D. N, Gupta, A., Singh, V.S., Mishra, R., Kateriya, S., Tripathi, A. K. (2015) Identification and characterization of a novel phosphodiesterase from the metagenome of an Indian coalbed. **PLoS ONE** 10(2): e0118075. DOI:10.1371/journal.pone.0118075
15. Rastogi, S., Kalra, A., Gupta, V., Khan, F., Lal, R. K., Tripathi, A. K., Parameswaran, S., Gopalakrishnan, C., Ramaswamy, G., Shasany, A. K. (2015) Unravelling the genome of Holy basil: an "incomparable" "elixir of life" of traditional Indian medicine. **BMC Genomics**. 16:413. doi: 10.1186/s12864-015-1640-z.
16. Singh, S., Singh, C. and Tripathi, A. K. (2014) A SAM-dependent methyltransferase cotranscribed with arsenate reductase alters resistance to peptidyl transferase center-binding antibiotics in *Azospirillum brasilense* Sp7. **Applied Microbiology & Biotechnology** 98: 4625-4636

17. Gupta, N., Gupta, A., Kumar, S., Mishra, R., Singh, C. and Tripathi, A. K. (2014) Cross-talk between cognate and non-cognate RpoE sigma factors and Zn²⁺-binding anti-sigma factors regulates photooxidative stress response in *Azospirillum brasilense* **Anti-oxidants and Redox Signalling** 20:42-59
18. Gehlot, H.S., Tak, N., Kaushik, M., Mitra, S., Chen, W-B, Poweleit, N., Panwar, D., Poonar, N., Parihar, R., Tak, A., Sankhla, I.S., Ojha, A., Rama Rao, S., Simon, M.F., Reis Junior, F.B.D., Perigolo, N., Tripathi, A.K., Sprent, J.I., Young, J.P.W., James, E.K. and Gyaneshwar, P. (2013) An invasive *Mimosa* in India does not adopt the symbionts of its native relatives. **Annals of Botany** 112: 179-196
19. Singh, D. N. and Tripathi, A. K (2013) Coal induced production of a rhamnolipid biosurfactant by *Pseudomonas stutzeri*, isolated from the formation water of Jharia coalbed. **Bioresource Technology** 128:215-221
20. Gupta, N., Kumar, S., Mishra, M. N. and Tripathi, A. K. (2013) A constitutively expressed pair of *rpoE2-chrR2* in *Azospirillum brasilense* Sp7 is required for survival under antibiotic and oxidative stress. **Microbiology (SGM)** 159:205-218
21. Kumar, S., Kateriya, S., Singh, V. S., Tanwar, M., Agarwal, M., Singh, H., Khurana, J. P., Amla, D. V. and Tripathi, A. K. (2012) Bacteriophytochrome controls carotenoid-independent response to photodynamic stress in a non-photosynthetic rhizobacterium, *Azospirillum brasilense* Sp7. **Scientific Reports (Nature Publishing Group)** 2, doi:10.1038/srep00872
22. Kumar, S., Rai, A. K., Mishra, M.N., Shukla, M., Singh, P. K. and Tripathi, A. K. (2012) RpoH2 sigma factor controls the photooxidative stress response in a non-photosynthetic rhizobacterium, *Azospirillum brasilense* Sp7. **Microbiology (SGM)** 158:2891-2902
23. Singh, D. N., Kumar, A., Sarbhai, M. P. and Tripathi, A. K (2012) Cultivation independent analysis of archaeal and bacterial communities of the formation water in an Indian coal bed to enhance biotransformation of coal into methane. **Applied Microbiology & Biotechnology** 93:1337–1350
24. Singh, D. N. and Tripathi, A. K. (2011) Evaluation of the coal-degrading ability of *Rhizobium* and *Chelatococcus* strains isolated from the formation of an Indian coal bed. **Journal of Microbiology & Biotechnology** 21:1101-1108
25. Mishra, M. N., Kumar, S., Gupta, N., Kaur, S., Gupta, A. and Tripathi, A. K. (2011) The extra-cytoplasmic function sigma factor (RpoE) cotranscribed with its cognate anti-sigma factor confers tolerance to NaCl, ethanol and methylene blue in *Azospirillum brasilense* Sp7. **Microbiology (SGM)** 157: 988 - 999
26. Kaur, S, Mishra M.N. and Tripathi, A. K. (2010) Gene encoding γ -carbonic anhydrase is cotranscribed with *argC* and induced in response to stationary phase and high CO₂ in *Azospirillum brasilense* Sp7. **BMC Microbiology** 10:184
27. Kaur, S, Mishra M.N. and Tripathi, A. K. (2009) Regulation of expression and biochemical characterization of a β -class carbonic anhydrase from the plant growth-promoting rhizobacterium, *Azospirillum brasilense* Sp7. **FEMS Microbiology Letters** 299:149-158

28. Shukla, A. K., Vishwakarma, P., Upadhyay, S. N., Tripathi, A. K., Prasana, H. C. and Dubey, S. K. (2009) Biodegradation of trichloroethylene (TCE) by methanotrophic community. **Bioresource Technology** 100: 2469-2474
29. Rishiram R., Krishnamurthi K., Saravana Devi S., Mudliar, S., Kaur, S., Tripathi, A. K. and Chakrabarti, T. (2009) Bio-sequestration of carbon dioxide using carbonic anhydrase enzyme purified from *Citrobacter freundii* **World Journal of Microbiology & Biotechnology** 25:981-987
30. Paul Chowdhury, S., Schmid, S., Hartmann, A. and Tripathi, A.K. (2009) Diversity of 16S-rRNA and *nifH* genes derived from rhizosphere soil and roots of an endemic drought tolerant grass, *Lasiurus indicus*. **European Journal of Soil Biology** 45:114-122
31. Nagarajan, T., Mishra, M. N., Spaepen, S., Vanderleyden, J., Gross, C.A. and Tripathi, A.K. (2008) An extra cytoplasmic function sigma factor and anti-sigma factor control carotenoid biosynthesis in *Azospirillum brasilense*. **Microbiology** 154: 2096-2105
32. Mishra, M. N., Nagarajan, T., Sharma, I.M., Jagannadham, M. V. and Tripathi, A.K. (2008) Mutation in a gene encoding anti-sigma factor in *Azospirillum brasilense* confers tolerance to elevated temperature, anti-bacterial peptide and PEG-200 via carotenoid synthesis. **FEMS Microbiology Letters**, 287:221-229.
33. Paul Chowdhury, S., Schmid, S., Hartmann, A. and Tripathi, A.K. (2007) Identification of diazotrophs in the culturable bacterial community associated with roots of *Lasiurus indicus*, a perennial grass of Thar Desert, India. **Microbial Ecology** 54: 82-90
34. Paul Chowdhury, S., Nagarajan, T., Tripathi, Rachna., Mishra, Muktinath., Le Rudulier, D. and Tripathi, A. K. (2007) Strain specific salt tolerance and osmoregulatory mechanisms in *Azospirillum brasilense*. **FEMS Microbiology Letters** 267:72-79
35. Nagarajan, T., Vanderleyden, J. and Tripathi, A.K. (2007) Identification of salt stress inducible genes that control cell envelope related functions in *Azospirillum brasilense* Sp7. **Molecular Genetics & Genomics** 278: 43-51
36. Tripathi, A.K., Verma, S. C., Chowdhury, S.P., Lebuhn, M., Gatteringer, A. and Schlöter, M. (2006) *Ochrobactrum oryzae* sp. nov., a novel endophytic bacterial species isolated from deep-water rice in India, **International Journal of Systematic & Evolutionary Microbiology** 56:1677-1680
37. Srivastava, A. and Tripathi A. K. (2006) ADP ribosylation of dinitrogenase reductase and adenylation of glutamine synthetase control ammonia excretion in ethylene diamine resistant mutants of *Azospirillum brasilense* Sp7. **Current Microbiology** 53:317-323
38. Dubey, S.K., Tripathi, A.K. and Upadhyay, S.N. (2006) Exploration of soil bacterial communities for exploring their potential as bioresource. **Bioresource Technology** 97:2217-2224
39. Tilak, K.V.B.R., Ranganayaki, N., Pal, K.K., De, R., Saxena, A.K., Shekhar Nautiyal, C., Mittal, S., Tripathi, A.K., Johri, B.N. (2005) Diversity of plant growth and soil health supporting bacteria. **Current Science** 89:136-150

40. Verma, S.C., Paulchowdhury, S. and Tripathi, A.K. (2004) Phylogeny based on 16S rDNA and *nifH* sequences of *Ralstonia taiwanensis* strains isolated from nitrogen fixing nodules of *Mimosa pudica* in India. **Canadian Journal of Microbiology** 50:312-322
41. Verma, S.C., Singh, A., Paulchowdhury, S. and Tripathi, A.K. (2004) Endophytic colonization ability of two deep water rice endophytes, *Pantoea agglomerans* and *Ochrobactrum* sp using GFP reporter. **Biotechnology Letters** 26:425-429
42. Ghosh, M., Verma, S.C., Mengoni, A. and Tripathi, A.K. (2004) Enrichment and identification of bacteria capable of reducing chemical oxygen demand of anaerobically treated molasses spent wash. **Journal of Applied Microbiology** 96: 1278-1286
43. Paul Chowdhury, S., Khanna, S., Verma, S.C. and Tripathi, A.K. (2004) Molecular diversity of tannic acid degrading bacteria isolated from tannery soil. **Journal of Applied Microbiology** 97: 1210-1219
44. Tripathi, A. K. (2002) Rhizobia of the β -subclass of proteobacteria: A tale of losing the race. **Current Science** 82: 8-9.
45. Ghosh, M., Ganguli, A. and Tripathi, A. K. (2002) Treatment of anaerobically digested distillery spentwash by a two stage bioreactor using *Pseudomonas putida* and *Aeromonas* sp. **Process Biochemistry** 37: 857-862
46. Ganguli, A. and Tripathi, A. K. (2002) Bioremediation of toxic chromium from electroplating effluent by chromate reducing *Pseudomonas aeruginosa* A2chr in two bioreactors. **Applied Microbiology and Biotechnology** 58: 416-420
47. Tripathi, A. K., Nagarajan, T., Verma, S. C. and Le Rudulier, D. (2002) Inhibition of biosynthesis and activity of nitrogenase in *Azospirillum brasilense* Sp7 under salinity stress. **Current Microbiology** 44:363-367
48. Tripathi, A. K., Verma, S. C., Ron, E. Z. and Tripathi, P. (2002) Molecular characterization of a salt-tolerant bacterial community in the rice rhizosphere **Research in Microbiology** 153:579-584
49. Verma, S. C., Ladha, J. K. and Tripathi, A. K. (2001) Evaluation of plant growth promoting and colonization ability of endophytic diazotrophs from deep water rice. **Journal of Biotechnology** 91: 127-141
50. Nath, G. Tikoo, A., Manocha, S., Tripathi, A. K. and Gulati, A. K. (2000) Drug resistance in *Salmonella typhi* in North India with special reference to ciprofloxacin. **Journal of Antimicrobial Chemotherapy**. 46: 149-150
51. Ganguli, A. and Tripathi, A. K. (1999) Survival and Chromate reducing ability of *Pseudomonas aeruginosa* in tannery effluent. **Letters in Applied Microbiology** 28: 76-80.
52. Tripathi, A. K. and Mishra B.M. (1998) Identification and cloning of a *Azospirillum lipoferum* locus that complements *Escherichia coli proU* mutant. **FEMS Microbiology Letters**.162:241-247
53. Tripathi, A. K., Ganguli, A., Tripathi, R. and Bazzicalupo, M. (1998) Duplication of IS50 and its elimination by homologous recombination in *Azospirillum brasilense*. **Canadian Journal of Microbiology**.44:1110-1113

54. Tripathi, A. K. and Mishra, B. M. (1996) Isolation and characterization of *Azospirillum lipoferum* locus that complements *dctA* mutant of *Rhizobium meliloti*. **Canadian Journal of Microbiology** 42: 503-506.
55. Tripathi, A. K. (1995) Cloning wild-type chromosomal genes using transposon mutagenized DNA in Gram Negative bacteria. **Trends in Genetics**. 11:340.
56. Tripathi, A. K. and Klingmueller, W. (1992) Temperature sensitivity of nitrogen fixation in *Azospirillum* spp. **Canadian Journal of Microbiology** 38: 1238-1241.
57. Singh, D.V., Tripathi, A. K. and Kumar, H. D. (1991) Isolation and characterization of salinity resistant mutant of a nitrogen fixing cyanobacterium, *Anabaena doliolum*. **Journal of Applied Bacteriology** 71: 207-210.
58. Tripathi, A. K., Kreutzer, R. and Klingmueller, W. (1991) Identification of a promoter dependent on *nifA* and σ^{54} upstream of *nifH* in *Azospirillum lipoferum*. **Molecular and General Genetics**, 227: 86-90.
59. Singh, M., Tripathi, A. K. and Klingmueller, W. (1989) Identification of a regulatory *nifA* type gene and physical mapping of cloned new *nif* regions of *Azospirillum brasilense*. **Molecular and General Genetics**, 219: 235-240.
60. Tripathi, A. K. and Kumar, H. D. (1986) Mutagenesis by ethidium bromide, proflavine and mitomycin C in cyanobacterium *Nostoc* sp. **Mutation Research** 174: 175-178. (IF: 4.159)