


Biodata of Principal Investigator

Name	Dr.	Name	Alka Vyas	Photograph
Department	S. S. in Microbiology, Vikram University, Ujjain			
Designation	Professor and Head			
Address	Office Address: School of Studies in Microbiology, Vikram University, Academic Campus, Ujjain (M.P.) - 456010 Home Address: 96, Vyas Nagar (Near Rishi Nagar Extn.), Ujjain. 456 010. (M.P.)			
Mobile	094 254 37814			
E-mail	alka_vyas_in@yahoo.com			
Educational Qualifications				
Degree	Institution			
Ph.D.	Indian Institute of Sciences (I. I. Sc.), Bangalore.			
PG	Indian Agricultural Research Institute (IARI), New Delhi			
UG	Hansraj College, Delhi University, New Delhi.			
Others	<ul style="list-style-type: none"> • CSIR – UGC NET Cleared • PDF from University of British Columbia, Vancouver Canada. • Scientist in Fast Track Research Project of Department of Science and Technology, Govt. of India, Delhi. 			
Career Profile				
<ul style="list-style-type: none"> • At present Professor, Microbiology, Vikram University, Ujjain • Previous positions held • Reader of Microbiology in Banasthali University, Banasthali (Rajasthan) • Education Officer (Promoted as Deputy Secretary) in UGC – CRO Bhopal. 				
Area of Interest/ Specialization				
<ul style="list-style-type: none"> • Microbial Genetics and Biotechnology • Microbial Ecology and Environmental Microbiology • Waste management • Biofertilizers and biocontrol agents 				
Subjects Teaching				
<ul style="list-style-type: none"> • Microbiology 				

Publication Profile

Research Papers:

(A). Journal Papers:

- Pandit, A. (1993). Germination of *mcm* microconidia of *Neurospora crassa*. *Fungal Genet. Newsl.* 40, 63.
- Pandit, A. and Maheshwari, R. (1993). A simple method of obtaining pure microconidia in *Neurospora crassa*. *Fungal Genet. Newsl.* 40, 64-65.
- Maheshwari, R., Pandit, A. and Kannan, B. (1994). Senescence in strains of *Neurospora* from South India. *Fungal Genet. Newsl.* 41, 60.
- Pandit, A. and Maheshwari, R. (1994). Presence of nuclei carrying a recessive lethal gene in a wild isolate of *Neurospora*. *Fungal Genet. Newsl.* 41, 66.
- Pandit, A. and Maheshwari, R. (1994). Sexual reproduction by *Neurospora* in nature. *Fungal Genet. Newsl.* 41, 67-68.
- Alka and R. K. Chopra. (1995). Influence of temperature on germination and seedling growth and its relationship with amylase activity and respiration in wheat varieties differing in temperature tolerance. *Indian J. Exp. Biol.* 33, 775-779.
- Pandit, A. and Maheshwari, R. (1996). Life-history of *Neurospora intermedia* in a sugar cane field. *J. Biosci.* 21, 57-79.
- Pandit, A. and Maheshwari, R. (1996). A demonstration of the role of *het* genes in heterokaryon formation in *Neurospora* under simulated field conditions. *Fungal Genet. Biol.* 20, 99-102.
- Pandit, A., Delhi, P. and Maheshwari, R. (1997). Syntrophic growth of auxotrophic strains of *Neurospora crassa* by cross-feeding. *Fungal Genet. Newsl.* 44, 37-40.
- Navaraj, A., Pandit, A. and Maheshwari, R. (2000). Senescent: A new *Neurospora crassa* nuclear-gene mutant derived from nature exhibits mitochondrial abnormalities and a 'death' phenotype. *Fungal Genet. Biol.* 29, 165-173.
- Pandit, A. Dubey, P. S. and Mall, S. (2000). Sexual reproduction of yellow ecotype of *Neurospora intermedia* in nature. *Fungal Genet. Newsl.* 47, 81-82.
- Vyas H., Vyas A. and Mutha A. (2007). Removal of copper from aqueous solution using *Neurospora intermedia*. *J. Env. Res. and Dev.*, Vol. 2, No.1; 28-33.
- Mutha A., Vyas A. and Vyas H. (2008). A study on impact of some social evils and drinking during tuberculosis at villages of Ujjain (India). *J. Env. Res. and Dev.*, Vol. 2, No.4; 664-668.
- Vyas H., Vyas A. and Mutha A. (2009). Mutagenesis of *Neurospora* culture to improve copper removal efficiency from aqueous solutions. *J. Env. Research and Dev.*, Vol.3, No. 4; 1128 - 1133.
- Vyas H., Vyas A. And Khan R. (2009). A study of land degradation due to brick industries in Ujjain (India). *J. Env. Research and Dev.*, Vol.3, No. 4; 1174 - 1177.
- Mukati A., Vyas H. and Vyas A. (2012). A study of natural population of *Neurospora* and isolation of novel morphological mutants. *J. Env. Res. and Dev.*, Vol. 7, No.2A; 923-934.
- Gang A, Vyas H., Reddy P. B. and Vyas A. (2012). A study of cobalt resistant strains of *Neurospora intermedia* from Ujjain. *Trends in Biotech. Res.* Vol. 1, No. 2; 31 - 34.
- Gang A, Vyas H., and Vyas A. (2013). A study of heavy metal toxicity on germination

and seedling growth of Soybean. *SSJBt*. Vol. 1 No. 2; 05 - 09.

- GangA., Vyas H. And Vyas A. (2013). Toxic effects of heavy metals on germination and seedling growth of wheat. . *J. Env. Res. and Dev.*, Vol. 8, No.2A; 206-213.
- Vyas A., Mukati A. and Vyas H. (2014). Identification and characterization of Ujjain-1: A new morphological mutant of *Neurospora crassa*. *J. Env. Res. and Dev.*, Vol. 8, No.3A; 619-624.
- Mukati A., Vyas H. And Vyas A. (2015). Identification and characterization of a new branching mutant of *Neurospora intermedia* from nature. *Fungal Genetics Reports*, 61: 1 - 8.
- Vyas H and Vyas A. (2015). Off-pipe building: A hypothetical Model for solving water crisis. *Life Sc. Int. Res. Jou*, Vol.2 (1); 299 - 300.
- Gang A., Vyas H and Vyars A. (2015). Effect of fungicide (CuSO₄) on growth and morphology of *Neurospora* *Life Sc. Int. Res. Jour*, Vol.2 (1); 395 - 399.
- Mukati A., Vyas A. And Vyas H. (2015). A new mutant of *Neurospora crassa* (Vu-82) having defects in branching and tip growth. *J. Env. Res. and Dev.* 10(1), 28 – 34.
- Sharma H., Vyas H., Choudhary U. and Vyas A. (2015). Quantitative assessment of airborne fungal spores during morning and evening in Ujjain city. *IOSR J. of Environ. Sci. Toxi. and Food Techn.*, 9(2):25-28.
- Vyas H. and Vyas A. (2015). Land encroachment and environmental economics in relation to transportation: A case study in Ujjain city. *Kal. Res Jour.*, Vol 1 (1); 88 - 94.
- Qureshi N., Vyas A. and Vyas H. (2015). Development of wetlands for ecotourism: A case study in Ujjain city with special reference to Vishnu sagar. *Kal. Res Jour*, Vol 1 (2); 71 - 74.
- Sharma H., Vyas H., and Vyas A. (2016). Seasonal and temporal variation in airborne fungal spores in indoor and outdoor environments of temples in Ujjain. *J. Environ. Res. Develop.* 10(3), 445 – 450.
- Vyas H., Kanojia P. S. and Vyas A., (2016). Isolation of chromium tolerant fungi from soil, in Vyas H. and Vyas A. (Eds.), *Strategies for sustainable use of land, water, air, agriculture and energy resources*, 1, 62-66, Horizon Books, India.
- Choudhary U., Vyas H. and Vyas A., (2016). Isolation of endophytic fungi from dry maize (*Zea mays*) seeds. In Vyas H. and Vyas A. (Eds.), *Strategies for sustainable use of land, water, air, agriculture and energy resources*, 1, 9-12, Horizon Books, India,
- Sharma H. Vyas H., Sankhala T. and Vyas A., (2016). Assessment of airborne fungi in Vikram University academic campus Ujjain. In Vyas H. and Vyas A. (Eds.), *Strategies for sustainable use of land, water, air, agriculture and energy resources*, 1, 138 - 144, Horizon Books, India,
- Qureshi N., Joshi M., Vyas A. and Vyas H. (2016). जलसंरक्षणमेंप्राचीनतकनीकीकीभूमिका:उज्जैनशहरकेविशेषसंदर्भमें. In Vyas H. and Vyas A. (Eds.), *Strategies for sustainable use of land, water, air, agriculture and energy resources*, 2, 38 - 44, Horizon Books, India, (2016).
- Sharma H., Vyas H., and A. (2017). A basic image analysis software for quick identification of some airborne fungi. *J. Environ. Res. Develop.*, 11 (4), 666 – 671.
- Kanojia P. S., Vyas A. and Vyas H., (2018). Isolation and characterization of a novel mutant of *Neurospora crassa* having defects in branching, *J. Environ. Res. Develop.*, 12(4), 425-430.

- Kanojia P. S., Vyas H. and Vyas A., (2017). Isolation and characterization of slow growing mutants of *Neurospora crassa*, *SRF*, 4, 201-206.
- Choudhary U., Vyas A. and Vyas H., (2018). Phosphate solubilisation potential of fungi isolated from maize (*Zea mays*), *J. Environ. Res. Develop.*, 13(2), 154 – 158.
- Baroniya M. B., Vyas H., Titov A., Vyas A. and Baroniya S. S. (2020). Protection of siyabean from ambient UV radiation through foliar spray with *Lawsoniainermis* leaves extract. *Plant Archives*, 21 (1), 4293 – 4300.
- Choudhary U., Vyas H. and Vyas A., (2020). A new modified gradient plate method for detecting siderophore production in fungi using chrome azurol-S (CAS) agar assay. *J of mycology and plant pathology*, 50 (4), 354 – 361.
- Bhonsle K., Vyas H., Hemwani K. and Vyas A., (2020). Study of prevalence of urinary tract infections in patients of Ujjain, M.P. (India). *International journal of scientific research*, 9 (11), 69 – 71.
- Choudhary U., Vyas H., Patidar C. P. and Vyas A., (2021). Molecular characterization of phosphate solubilizing endophytic fungi and its effect on growth of the Maize, *Zea mays*. *Bioscience biotechnology research communications*, 14(2), 797 – 805.
- Qureshi N., Vyas H., Mishra S. and Vyas A., (2021). Antibacterial effects of extracts of selected medicinal plants in combination with honey. *Journal of science and technology*, 6 (3), 145-154.
- Sankhla T., Vyas H. and Vyas A., (2021). Characterization and antibiotic susceptibility pattern of bacteria isolated from waste dumping site in Ujjain city, India. *Current world environment*, 16(1), 277-281.
- Kanojia P. S., Vyas H. and Vyas A. Biochemical studies of growth defective mutants of *Neurospora crassa*. *The Vikram Journal of science and life science* Vol. 1, (2) Feb 2021 pp 12 – 28.
- Bhonsle K.S., Vyas A., Vyas H., Ramchandani A and Hemwani K. (2022) Prevalence, identification and frequency of uropathogens causing urinary tract infection in children in Ujjain (M.P.). *Indian Journal of Microbiology Research* Vol.9 issue 2, page 131 – 134. (<https://doi.org/10.18231/j.ijmr.2022.023>)
- Bhonsle K., Vyas A., Vyas H., Ramchandani A and Hemwani K. (2022). Prevalence and antibiotic susceptibility pattern of uropathogens causing urinary tract infection among pregnant women in Ujjain M.P. (India). *Indian Journal of Pharmacy and Pharmacology*, Vol.9, issue 2, page 91 – 95. (<https://doi.org/10.18231/j.ijpp.2022.017>)
- Bhonsle K., Vyas A., Vyas H., Abhiraj and Hemwani K. (2022). Antibacterial activity of methanolic root extracts of *Asparagus racemosus* and *Withenia somnifera* against uropathogens causing urinary tract infection. *IP International Journal of Comprehensive and Advanced Pharmacology*. Vol.7 issue 3, page 141 – 145. (<https://doi.org/10.18231/j.ijcaap.2022.029>)

(B).Papers in Conferences:

- Pandit A. (1999). Occurrence of Nuclei with Recessive Lethal Mutation in Wild Strains of *Neurospora*. Paper presented in National Symposium on “Plant Physiology and Biochemistry in Relation to Agriculture and Environment” in DAVV, Indore during Feb. 1999.
- Pandit, A.& Griffiths, A. J. (2001). Identification of a novel invertase in the yellow ecotype of *Neurospora intermedia*. Poster presented in XXIFungal Genetics Conference, California, USA. Abstract published in the proceedings of conference, pp.60.
- Pandit A.& Griffiths, A. J. (2001). Morphological mutants of *Neurospora* from nature. Poster presented in XXIFungal Genetics Conference, California, USA. Abstract published in the proceedings of conference, pp.145.
- Pandit A. and Vyas, H. (2003). Study of yellow ecotype of *Neurospora* in nature. Delhi The Journal of Indian Botanical Society. 82 (sup), 15 (Abstract).
- Vyas A. and Vyas H. (2004). Distribution of *Neurospora* in soil samples of Ujjain. Paper presented in proceedings of conference held on recent trends in the field of microbiology with special reference to microbial genetics from 11th to 12th December 2004, Dewas.
- Vyas A. and Vyas H. (2006). Role of invertase in substrate preference. Abstract published in National conference on role of plant physiology and biotechnology in biodiversity conservation and agricultural productivity. P 33. Jaipur.
- Vyas H. and Vyas A. (2006). Use of *Neurospora* cultures in bioremediation of copper. Paper presented in National conference on biotechnology, science and environment held on 28th – 29th December 2006 and organized by department of biotechnology, DAVV, Indore.
- Vyas H., Vyas A. and Mutha A. (2007). Improvement of strains of *Neurospora* by mutagenesis for bioremediation of copper. Paper presented in National Congress of Science and Environment held at Udaipur on 17^h-18th Nov. 07.
- Vyas H. and Vyas A. (2010). Domestic sewage management: Application of ammonia volatilization for removal of ammonium nitrogen. Paper presented in 3rd ICER organized by University of Mauritius Reduit, Mauritius from 16- 18 Sept. 2010.
- Mukati, H. Vyas and A.Vyas., (2011). Study of growth defective mutants of *Neurospora*. Paper presented in 4th ICER organized by SVNIT, Surat from 15 – 17 December 2011.
- Mukati, H. Vyas and A.Vyas (2011). Study of *Neurospora* in nature in Ujjain. Paper presented in 2nd M.P. Women Science Congress organised by MPCST, Bhopal from 22 – 23 December 2011. pp 1.
- Gang A., H. Vyas and A.Vyas (2011). Effect of cobalt on seed germination and seedling growth of wheat. Paper presented in 2nd M.P. Women Science Congress organised by MPCST, Bhopal in Ujjain from 22 – 23 December 2011. pp 4.
- Vyas H. And Vyas A., (2011). Mass Balance of Nitrogen after Sewage Irrigation in Plant – Soil System. Paper presented in 4th ICER organized by SVNIT, Surat from 15 – 17 December 2011.
- Nagar R., H. Vyas and A.Vyas (2011). Preliminary study of bacteria in cow dung sample from Ujjain. Women Science Congress organised by MPCST, Bhopal from 22 – 23 December in Ujjain 2011. pp 25.
- Vyas A. (2012). A study of natural population of *Neurospora* in (M. P.) India and isolation and characterization of growth defective mutants. Invited lecture presented in University

Malaysia Terengganu, Malaysia from 22 -24 November 2012.

- Gang A., H. Vyas and A. Vyas (2013). Effect of fungicide on growth and morphology of *Neurospora*. Paper presented in international conference organized by Maulana College of Arts, Science and Commerce Aurangabad from 19 – 21 December 2013.
- Vyas H. And Vyas A. (2013). Water crisis and desertification. Paper presented in international conference organised by Maulana College of Arts, Science and Commerce Aurangabad from 19 – 21 December 2013.
- Vyas H. And Vyas A. (2014). IPR and sluggishness of our academic and research institutions. Paper presented in International Conference organised by Vikram University, Ujjain from 18 - 20 September 2014.
- Gang A. And Vyas H. (2014). Intellectual property rights and its violation. Paper presented in International Conference organised by Vikram University, Ujjain from 18 - 20 September 2014.
- Sharma H., Vyas H.,and Vyas A. (2014) Seasonal and temporal variation in airborne fungal spores in indoor and outdoor environments of temples in Ujjain Paper presented in 7th International congress of environmental research (ICER14) organized by R.V. collage of engineering, Bangalore India, collaboration with journal of environmental research and development Bhopal, India.
- Vyas H. Vyas A. and Soni D. K. (2014). Water supply and disposal system with special reference to Ujjain city. Paper presented in national conference organized by Govt. Madhav Science College, Ujjain (M.P.) from 3 - 4 March 2014.
- Vyas H. And Vyas A. (2014). Green technology for water management. Invited lecture presented in National Conference organised by MoolajiJaitha College, Jalgaon. From 30 - 31 January 2014.
- Vyas H and Vyas A. (2014). Water crisis and its conservation. Invited lecture presented in National Conference organised by National Academy of Sciences and MPCST, Bhopal in Khajuraoh from 1 - 2 February 2014.
- Sharma H, Vyas H. and Vyas A. (2014). Study of fungal flora in temples of Ujjain. Paper presented in National Conference organised by National Academy of Sciences and MPCST, Bhopal in Khajuraoh from 1 - 2 February 2014.
- Vyas A. (2014). Different Evaluation techniques of examination. Invited paper presented in state level conference organised by Govt. P. G. College, Neemuch (M.P.)
- Vyas H. And Vyas A. (2014). Role of living machine in bioremediation. Paper presented in National Conference organised by Govt.P. G. College, Satna (M.P.).
- Sharma H., Vyas H.,and Vyas A. (2014) Study of fungal flora in temples of Ujjain. Paper presented and won Young scientist award in national conference on sustainable development of natural resources and wildlife conservation sponsored by MPCST Bhopal organized by environmental & social welfare society Khajuraho.
- Kanojia P.S., Sankhala T., Vyas H. and Vyas A., (2015). Isolation of protease producing bacteria from soil, presented paper in 5th National Conference on Recent Advances in Chemo and Bio Sciences organized by Department of Chemistry, Biotechnology and Zoology, MooljiJaitha College, Jalgaon, Maharashtra and Post Graduate College of Science and Technology and Research, Jalgaon from 23-24 January, 2015.
- Kanojia P. S., Vyas H. and Vyas A., (2016). Study of *Neurospora* mutants having defects in growth, presented paper in National seminar organized Govt. Kalidas Girls Lead College, Ujjain (M.P.) from 29-30 March.

- Vyas H. and Vyas A. (2018): Demand of 21st century: Ecofriendly house. Paper presented in national seminar organized by Shree Reva Gurjar college Sanawad (M.P.) on Impact on changing scenario on agriculture, social infrastructure--and education training.
- Vyas H. and Vyas A. (2018). Environmental Issues: Past, present and future scenario. Paper presented in Smriti College of Pharmaceutical education Indore and sponsored by DST New Delhi.
- Kanojia P. S., Vyas A. and Vyas H., (2018). Isolation and characterization of a novel mutant of *Neurospora crassa* having defects in branching, presented paper in 9th International Congress of Environmental Research organized by Amity University Madhya Pradesh from 8-10 February, 2018.
- Vyas H. and Vyas A., (2019). Women noble laureates. Paper presented in DST New Delhi and Vivekanand Global University Jaipur and sponsored by DST New Delhi.
- Vyas H. and Vyas A. (2019). Green bioengineering for sustainable housing. Paper presented in national lecture series organised by KavyitriBahinabai Choudhary North Maharashtra University Jalgaon (Maharashtra).
- Vyas H. and Vyas A. (2019). Role of microbes in plastic pollution control. Paper presented in national seminar organized by SERB – DST New Delhi and Dept. Of Chemical Engineering, IPS Academy Indore.
- Bhonsle K., Vyas H. and Vyas A. (2019). Application of medicinal plants for treatment of UTI. Paper presented in national conference organized by Smriti College Indore on Global Perspective towards green pharmacy and modern era of phyto-pharmaceuticals.
- Vyas H. and Vyas A. (2019). Role of ICT in education. Paper presented in national workshop organized by Govt. Girls College Ujjain on Impact of ICT on teaching, learning, evaluation and research in higher education
- Vyas A. (2020). Fungal growth and morphology. Lecture presented in national series organised by Maharaja Sayajirao University of Vadodara Gujrat.
- Vyas A. (2020). Women scientists of India. Lecture presented in national seminar organized by Hindustan College of Science and Technology Farah (Mathura) UP on National Science Day.
- Vyas A. (2020). Downstream processing of food products. Expert lecture in summer training program SAGE University Indore.

(C) Books:

- Strategies for sustainable use of Land, Water, Air, Agriculture and Energy Vol I. ISSN No. 978 – 81 – 932901 – 4 – 9. (Eds Dr. Harish Vyas and Dr. Alka Vyas)
- Strategies for sustainable use of Land, Water, Air, Agriculture and Energy Vol II. ISSN No. 978 – 81 – 932901 – 5 – 6. (Eds Dr. Harish Vyas and Dr. Alka Vyas)
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Research Guidance

Supervision of awarded Doctoral Thesis:

05

Supervision of Doctoral Thesis, under progress:

05

Conferences Organized

- 03 Days Workshop on “Microorganisms: Let us Observe and Learn” in collaboration with MPCST, Bhopal and funded by DST New Delhi. (2012)
- 03 Days Workshop on “Microorganisms: Let us Observe and Learn” in collaboration with MPCST, Bhopal and funded by DST New Delhi. (2013)
- Organizing Secretary of International conference on “Scientific Innovation and Intellectual property laws: The Interface” (2014).
- One-week (17 – 22 May 2021) national webinar on health and environmental awareness program (2021) webinar organized in collaboration with Govt. Kalidas Girls College Ujjain.
- National webinar on “Global warming to cooling: An effort for ecosystem restoration”. Webinar organized in collaboration with Govt. Kalidas Girls College, Ujjain on World Environment Day 5th June.
- One week (08 – 15 August 2021) National webinar on “Role of Indian Traditional and Vedic Botany in Sustainable Development”. Webinar organized in collaboration with Govt. Kalidas Girls College, Ujjain and Vijnana Bharati.
- Seminar on National Science Day (28 February 2022) on “Organic Farming” organized in collaboration with Govt. Kalidas Girls College, Ujjain.

Research Projects

- **Project :01**
Name of Project: “Ecology of yellow ecotype of Neurospora” sanctioned by CSIR, Delhi.
Position in Project: Research Associate
Period: 03 Yrs (Completed)
- **Project: 02**
Name of Project: “Understanding mechanisms governing distribution , substrate preference and speciation in fungi : Neurospora as a model system” Sanctioned by Department of Science and Technology, Govt. of India, Delhi.
Position in Project: Scientist
Period: 03 Yrs (Completed)
- **Project: 03**
Name of Project: Isolation and characterization of growth defective mutants of Neurospora sanctioned by UGC, New Delhi.
Position in Project: Principal Investigator
Period: 03 Yrs + 06 months extension (Completed)
- **Project: 04**
Name of Project: Biodiversity Project .Sanctioned by MP Board of Biodiversity.
Position in Project: Link Officer
Period: 01Yr (Completed)
- **Project: 05**
Name of Project: Identification and characterization of Gene(S) responsible for fungal growth using Neurospora as a model system. Sanctioned by MPCST, Bhopal. **Position in**

Project: Principal Investigator
Period: 03 Yrs and then extended(Completed)

- **Project: 06**

Name of Project: Study of fungi responsible for deterioration of maize seeds during storage

Position in Project: Principal Investigator

Period: 01Yr (Completed)

Awards and Distinctions

- **INSA Young Scientist Medal** by Indian National Science Academy, New Delhi. (1998)
- **LSS Kumar Memorial Award by Indian National Science Academy (INSA) New Delhi (1998)**
- **David Perkin International Scholarship Award** by Fungal Genetics Community, California USA.(2001).
- Contributed write up for FGSC website in Neurospora home page. "**Neurospora on budget**"<http://www.fgsc.net/Neurospora/neurospora.html>
- **BOYSCOT fellowship awarded** by Department of Science and Technology, New Delhi.
- **Environmentalist of the year Award** by G. SEED and JERAD (2014)
- **National Mentor of Inspire activities** by Department of Science and Technology, New Delhi.

Association with Professional Bodies

Committees and Boards and Memberships

- Chairman board of Studies, Vikram University, Ujjain.
- Chairman, Board of Examination, Vikram University, Ujjain.

Other Activities

Research Interests

Microbial Genetics, Environmental Microbiology, Waste management, Agricultural microbiology.

Delivered Lectures

Invited lectures delivered in various institutions for inspiring students for studying science as DST mentor in INSPIRE camps.

Social interests

Interest in organic farming, biological fertilizers, bio-control agents, roof gardening and agriculture