

Dr Kollah Bharati



Designation: Principal Scientist

Division of Soil Biology

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Research specialization:

- Greenhouse gases emission and mitigation - Analyses of greenhouse gases, Microbiology and biochemistry of methanogenesis, methanotrophy and N- transformation in agricultural fields and composting system.
- Bioremediation – Bio reduction of uranium U(VI) in subsurface sediments, speciation of uranium during major terminal electron accepting processes during reduction.
- Pesticide biodegradation – Influence of pesticides on major soil biochemical processes. Isolation, enrichment and characterization of microorganisms associated with pesticides degradation under futuristic (elevated CO₂ and temperature) climate change,

Professional Experience:

- Principal Scientist : From 2015 onwards at Indian Institute of Soil Science, Bhopal, India
- Senior Scientist (Microbiology): From 2011, Indian Institute of Soil Science, Bhopal, India
- Senior Scientist (Microbiology) : 2009-2011, Indian Grassland and Fodder Research Institute, UP, India
- Research Scientist: From Aug 2005. University of Wisconsin, Madison, WI, USA
- Research Scientist: Jun 2004 – July 2005. Dept of biological sciences, University of Alabama, Tuscaloosa, AL, USA.
- Post Doctoral Scientist: Feb 2003 – Sep 2003. Forschungszentrum Jülich GmbH, Jülich, Germany.
- Research Associate (CSIR) Council of Scientific and Industrial Research): National Physical Laboratory (NPL), New Delhi, India.
- Senior Research Fellow (CSIR): Mar'99 - Apr'01. Central Rice Research Institute, Cuttack, India.
- Senior Research Fellow (IRRI-UNDP) Sponsored

Awards and Honours

- Best Scientist Award 2019 at 8th Science and technology EET CRS, Bangalore
- Fellow of Biodiversity Association (FABSc) of India 2013

- DBT Biocare award for Women Scientist
- Scientist of the year National Environmental Science Academy 2014
- Bharat Jyoti Award by IIFS, New Delhi 2013

Top Ten publications:

1. **Bharati,K.**,Padhy,S. and Adhya,T.K.1998.Accelerated biodegradation of (γ hexachlorocyclohexane (γ HCH) in a flooded alluvial soil retreated with (γ HCH) or its metabolite 1,2,4-tri chloro benzene(TCB) **Bull.Environ.Contam.Toxicol.** 60:858-863.
2. **Bharati,K.**, Mohanty ,S.R.Rao,V.R.and Adhya,P.K.1999. Effect of endosulphan on methane production in three tropical soils incubated under flooded condition. **Bull.Environ.Contam.Toxicol.** 63: 211-218.
3. **Bharati.K.**, Mohanty,S.R.,Adhya,T.K.,Banerjee ,A.,V.R Rao and Sethunathan N.1999. Influence of commercial formulation of tridemorph on CH₄ production and oxidation in a tropical rice soil.**Chemosphere** 39:933-943.
4. **Bharati.K.**, Mohanty , S.R.Singh,D.P.Rao, V.R.and Adhya ,T.K.2000. Influence of incorporation or dual cropping of Azolla on Methane emission from a flooded alluvial; soil planted to rice in Eastern India. **Agric.Ecosyst.Environ.**79:73-83.
5. **Bharati.K.**, Mohanty ,S.R., Padmavati,P.V.L.,Rao, V.R.and Adhya.,T.K.2000.Influence of six nitrification inhibitors on methane production in a flooded alluvial soil . **Nutr.Cycling.Agroecosyst.**58:389-394.
6. **Bharati, K.**, Mohanty,S.R., Rao,V.R., and Adhya.T.K., 2000.influence of flooded and non-flooded condition in methane efflux from two soil planted to rice .**Chemosphere** 3: 25-32.
7. **Bharati K**, Dubey G, Dunfield, Mohanty S R. 2014. Bioenergy crop *Jatropha curcas* amendment influence soil biogeochemistry in tropical vertisol. **Mitigation and adaptation strategies for global climate change** doi 10.1007/s11027-014-9555-6.
8. **Bharati Kollah**, Prachi Parasai, Garima Dubey, Jayant Kumar Saha, Sandip Gangil,Santosh Ranjan Mohanty 2014. Interactive effect of biochar size and organic amendments on methane consumption in a tropical vertisol. **Soil Use and Management.**
9. **B Kollah**, B Singh, M Parihar, U Ahirwar, N Atoliya, G Dubey, A Patra 2019 Elevated CO₂, chlorpyrifos and biochar influence nitrification and microbial abundance in the rhizosphere of wheat cultivated in a tropical vertisol, *Rhizosphere* 10, 100151
10. SR Mohanty, G Dubey, **B Kollah** ,2019 Nitrification rates are affected by biogenic nitrate and volatile organic compounds in agricultural soils *Frontiers in microbiology* 10, 772