

CURRICULUM VITAE

Name : **Dr. Sanjay Kumar**
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Academic Qualifications:

- **CSIR-NET, (Life Sciences)**
- **UGC-NET, (Environmental Science)**
- **GATE, (Life Sciences)**

Examination	Name of the Institute/ University	Subject(s)
Ph.D	Dr. Ram Manohar Lohia Avadh University Faizabad (U. P), India	Microbiology
Post-graduation (M.Sc.)	Dr. Ram Manohar Lohia Avadh University Faizabad (U. P), India	Microbiology
Graduation (B.Sc.)	D.D.U. Gorakhpur University, Gorakhpur (U.P), India	Industrial Microbiology Botany
Intermediate	M. P. I. College Gorakhpur (U.P Board), India	Physics, Biology, Chemistry, English & Hindi.
High School	M. P. I. College Gorakhpur (U.P Board), India	English, Hindi, Social Science, Mathematics, Science & Biology

Ph.D Thesis Title: “Impact of Long Term Lead and Cadmium Contamination on Microbial Diversity of Soil and Synchronized effect of Phytoremediation”.

Professional Courses Attended:

- Participated in **UGC sponsored 106th Orientation Programme** conducted by U.G.C. Academic Staff College (ASC), D.D.U. Gorakhpur University, Gorakhpur, UP, India. Duration (27 Days), January 3 to January 30, 2017. Obtained grade “A”.
- Participated in **UGC sponsored Refresher Course (5th)** in the subject Environmental Science (MD) under the theme “**Ecological Security and Sustainable Development**”

conducted by U.G.C. Academic Staff College (ASC), D.D.U. Gorakhpur University, Gorakhpur, UP, India. Duration (21 Days), Jan 25 to Feb 14, 2014. Obtained grade “A”.

Training & Work Experience:

- Since July, 2012 to 29.10.2013 engaged in research and development in a project (Carbon sequestration potential of sugarcane based cropping system for sustaining soil health and crop productivity) funded by Department of Science and Technology, Govt. of India at IISR, Lucknow.
- Since 12th June, 2008 to 31st March, 2012 worked as Project Assistant entitled: “**Remediation/Eco-restoration & cleanup of Contaminated Ground and Water Resources**” at Central Institute of Medicinal and Aromatic Plants (CIMAP), Council of Scientific and Industrial Research (CSIR), Lucknow – 226 015, India.
- One month summer training in Department of Microbiology at King George Medical University, Lucknow, India, June, 2006.

Participation in Workshops:

- Participated in Training - cum – Workshop on 6th December 2014 “**Anti Plagiarism Softwares Turnitin and iTenticate (Shodhganga)**” organized by Bundelkhand University, Jhansi, UP, India.
- Participated in “**Faculty Development Programme, (FDP)**” “Since 1st to 7th September, 2014 organized by Internal Quality Assurance Cell (IQAC) at Bundelkhand University, Jhansi, India.
- Use of Unicode and Ayurveda in life, organized at IISR, Lucknow, Dec. 2012.

Visiting faculty:

Rani Lakshmi Bai Central Agricultural University (**RLB CAU**), Jhansi, Academic session 2015-16.

Conference organized:

Co-Organizing Secretary in National Conference on “**RECENT TRENDS IN APPLIED MICROBIOLOGY, HUMAN HEALTH & ENVIRONMENT**” 27-28, 20 15 at Bundelkhand University, Jhansi (U.P).

Editorial/Reviewer board members:

- Microbioz Jouranls, Journal of Microbiology and Biomedical Research, ISSN: 2395-5678.

Member:

- Member of Board of Studies (BOS) for the academic sessions 2014-15, 2015-16, 2016-17 and 2017-18. J.C Bose Institute of Life Sciences, Department of Microbiology, Bundelkhand University Jhansi, U.P. India.

Administrative Assignments in University/Department:

- Alumni Affairs In-Charge of J.C Bose Institute of Life Sciences, Bundelkhand University Campus Alumni Association (BUCAA), 2nd Alumni Meet August 14, 2016.

Research Projects/Dissertations Mentored (M.Sc –Microbiology):

1. Ms. Ekta “Isolation, characterization and delineation of petroleum degrading bacteria to assess potentiality in bioremediation from selected petroleum oil contaminated sites in Jhansi, (U.P.), India” 2015.
2. Ms. Parul Pankaj “Study of bacterial consortium associated with rhizosphere of wheat (*Triticum aestivum*) and assessment of their possible plant growth promoting traits during synchronous tiller development stage” 2015.
3. Ms. Sonam “Isolation, enumeration and characterization of bacterial consortium from selected garden soil of Bundelkhand University, Jhansi” 2015.

UPDATED LIST OF PUBLICATIONS:

Research Papers Published in Full:

1. **Kumar S**, Sangam P, Gaur R (2017) Heavy Metals Contamination, Inauspicious Wallop on Microbial Diversity and their Possible Remediation for Environmental Restoration. J Bacteriol Mycol Open Access 5(1): 00124. DOI: 10.15406/jbmoa.2017.05.00124.
2. Priyanka Singh, S. Solomon, C.P. Prajapati, **Sanjay Kumar**, Varucha Mishra and A.Chandra (2015), Dynamics of deterioration of fresh and stale cane juice in relation to expression of invertases and the growth of *Leuconostoc* sp. *Agrica* (4): 79-85.
3. **Sanjay Kumar**, Sangeeta Lal, Rajeeva Gaur and Ratna Sahay (2015). Interaction effect of AM fungi and heavy metals (Cd and Ni) on the growth and yield of mint species (*M. piperita* and *M. arvensis*). *Journal of Basic and Applied Mycology*, 11 (I & II):39-46.
4. Ahirrao Kiran, **Sanjay Kumar** and Savita Chaudhari (2014) Epidemiology of Acute Encephalitis Syndrome /Japanese Encephalitis a mosquito-Borne Disease in Gorakhpur District. *International Journal of Research in Biology* (Sep-Oct, 2014, II/XIV 2072-80).
5. Arun Prasad, Sukhmal Chand, **Sanjay Kumar**, Amitabha Chattopadhyay & D. D. Patra

- (2014). Heavy Metals Affect Yield, Essential Oil Compound, and Rhizosphere Microflora of Vetiver (*Vetiveria zizanioides* Linn. nash) Grass, *Communications in Soil Science and Plant Analysis*, 45:11,1511-1522.
6. Shashi Verma and **Sanjay Kumar** (2014). Geochemical anomalies and rising adverse effects of heavy metal pollutants and human health hazards: A review. *International Journal of Agriculture and Food Science Technology*.5 (1):35-42.
 7. **Sanjay Kumar**, Shikha Srivastava and Rajeeva Gaur (2013). Increasing antibiotic resistance in microbial consortium and human health hazards by heavy metals exposure. *International Journal of Biomedical and Healthcare Science*, 3 (1):45-50.
 8. **Sanjay Kumar**, Rajeeva Gaur, Sanjeet K Verma and Ratna Sahay (2012). Isolation, characterization and assessing survival of bacteria in stress developed by simulated cadmium and lead contamination in soil. *Developmental Microbiology and Molecular Biology*, 3 (1):1-7.
 9. Prasad, A., **Kumar, S.**, Pandey, A. and Chand, S. (2012). Microbial and chemical sources of phosphorus supply modulate the yield and chemical composition of essential oil of rose-scented geranium (*Pelargonium* species) in sodic soils. *Biol Fertil Soils*, 48:117–122.
 10. **Sanjay Kumar** and Rajeeva Gaur (2012). Golden standards of molecular microbiological techniques for accessing microbial diversity in cadmium polluted soil *vis a vis* human health. *International Journal of Environmental Research and Development (IJERD)*, 2 (2):123-128.
 11. Sanjeet K. Verma, **Sanjay Kumar**, Vineeta Pandey, Rajesh Kumar Verma and Dharni Dhar Patra (2012). Phytotoxic effects of sweet basil (*Ocimum basilicum* L.) extracts on germination and seedling growth of commercial crop plants. *European Journal of Experimental Biology*, 2 (6):2310-2316.
 12. Prasad, A., **Kumar, S.**, Khaliq, A and Pandey, A. (2011). Heavy metals and arbuscular mycorrhizal (AM) fungi can alter the yield and chemical composition of volatile oil of sweet basil (*Ocimum basilicum* L). *Biol Fertil Soils*, 47:853–861.
 13. Ratna Sahay, Ramesh Chandra, **Sanjay Kumar** and R. K. Upadhyay. (2011). Influence of Rhizobacteria on the performance of Urdbean (*Vigna mungo*) -*Rhizobium* symbiosis. *Crop Research*, 42 (1, 2 & 3):90-93.

Short Research Papers cum Proceeding:

1. S. K. Shukla, S. Soloman., T. K. Srivastava., S. K. Awasthi., Swaha Shee, **Sanjay Kumar** and Kedari Singh (2014). Carbon sequestration *vis a vis* improved crop productivity through crop

residue recycling in sugarcane and rice-wheat cropping system. Green Technologies for sustainable growth of sugar and integrated industries in developing countries, Nanning, P.R China, pp 125-128 (2014).

Presentations/Participation in International & National Seminars, Symposia, Conferences:

1. **Sanjay Kumar**, DD Patra and Rajeeva Gaur (2015). Microbe assisted growth response of rose-scented geranium (*Pelargonium graveolens*) in heavy metal rich sludge *vis a vis* sustainable environment. National Conference on “RECENT TRENDS IN APPLIED MICROBIOLOGY, HUMAN HEALTH & ENVIRONMENT” 27-28, 2015 at Bundelkhand University, Jhansi (U.P).
2. Ekta Dohare, Sonam Dohare, Parul Pankaj, Chandani, Sangeeta Lal and **Sanjay Kumar** (2015). Study of petroleum oil contaminated soil to illustrate bacterial consortium and their potentiality in bioremediation from selected sites in Jhansi, UP, India. National Conference on “RECENT TRENDS IN APPLIED MICROBIOLOGY, HUMAN HEALTH & ENVIRONMENT” 27-28, 2015 at Bundelkhand University, Jhansi (U.P).
3. Parul Pankaj, Rishi Kumar Saxena, Sangeeta Lal and **Sanjay Kumar** (2015). Study of bacterial consortium associated with rhizosphere of wheat (*Triticum aestivum*) and assessment of their possible plant growth promoting traits during synchronous tiller development stage. National Conference on “RECENT TRENDS IN APPLIED MICROBIOLOGY, HUMAN HEALTH & ENVIRONMENT” 27-28, 2015 at Bundelkhand University, Jhansi (U.P).
4. Sangeeta Lal, Chandni, **Sanjay Kumar**, Kavita Jha and Varsha Bundela (2015). Isolation and characterization of plant growth assisting bacteria from the rhizosphere of naturally grown plants in flyash amended soil from Parichha thermal power plant, Jhansi, UP, India. ‘National Conference on “RECENT TRENDS IN APPLIED MICROBIOLOGY, HUMAN HEALTH & ENVIRONMENT” 27-28, 2015 at Bundelkhand University, Jhansi (U.P).
5. Pradeep Kumar, Sangeeta Lal and **Sanjay Kumar** (2015). Impact assessment of biomanuring and bacterial inoculants in plant crop ratooning sugarcane with reference to soil health management. ‘National Conference on “RECENT TRENDS IN APPLIED MICROBIOLOGY, HUMAN HEALTH & ENVIRONMENT” 27-28, 2015 at Bundelkhand University, Jhansi (U.P)
6. **Sanjay Kumar**, Rajeeva Gaur and Sangeeta Lal (2014). Study of adverse impact of heavy metals contamination on microbial diversity and decreasing certain groups of indigenous agricultural soil microbial consortium due to anthropogenic activity for indecent

industrialization. Invited Lecture, National Seminar on “Recent Trends in Microbiology”. 15th March, 2014 conducted at DDU Gorakhpur University Gorakhpur, (U.P.) India.

7. S. K. Shukla, S. Soloman., T. K. Srivastava., **Sanjay Kumar**, S. K. Awasthi., Asha Gaur and Swaha Shee (2014). Crop residue management and inoculation of *Trichoderma viride* in Rice-Wheat and Sugarcane based cropping system for sustaining soil health and improving crop yields. Proceedings of International Conclave on Sugarcane Crops, Sweeteners and green energy from Sugar Crops: Emerging Technologies. February 15-17, 2014 at Indian Institute of Sugarcane Research, P.O. Dilkusha-226 002 Lucknow - (U.P) India.
8. Shikha Srivastava, S. K. Shukla, S. R. Singh, S.K. Awasthi and **Sanjay Kumar** (2013). Sugarcane potential, achievements and scope in future. National Conference on “Women in Sugarcane Agriculture and Industry” August 29-31, 2013 at Indian Institute of Sugarcane Research, P.O. Dilkusha-226 002 Lucknow - (U.P) India.
9. Shukla, S K., Srivastava, T K., **Sanjay Kumar**, Shikha Srivastava., Ram Darash and Awasthi, S K. (2013). Carbon sequestration potential of sugarcane based cropping system for sustaining soil health and improving crop productivity in Indo Gangetic Plain region in India. Paper accepted for presentation in First international Conference on Global Food security held at Noordwijker, The Netherlands, Sep 29-Oct 2, 2013.
10. Rajesh Kumar Verma, Sanjeet K Verma, **Sanjay Kumar**, Ratna Sahay, Manoj Semwal and DD Patra. Integrated nutrient management for sustaining productivity and soil health of Kalmegh (*Andrographis paniculata*) cultivation in sub tropical conditions. In: Souvenir and Abstract of 80th annual meeting of the Society of Biological Chemists (India) on ‘Metabolic pathway modulations – applications in health and agriculture’ 12-15 November 2011 at CIMAP.
11. Sanjeet K. Verma, **Sanjay Kumar**, Vineeta Pandey and Rajesh Kumar Verma (2011). Allelopathic influence of sweet basil (*Ocimum basilicum*) on germination and seedling growth of some crop plants. In: Souvenir and Abstract of 80th annual meeting of the Society of Biological Chemists (India) on ‘Metabolic pathway modulations – applications in health and agriculture’ 12-15 November 2011 at CIMAP.
12. Seema Dharani, M Alam, K Kalani, **Sanjay Kumar**, A Khaliq, A Samad, SK Srivastava and DD Patra (2011). Isolation and characterization of a heavy metal resistant *Pseudomonas aeruginosa* CIMAP SD-12 from tannery waste polluted soil *vis a vis* its agricultural and industrial significance. In: Souvenir and Abstract of 80th annual meeting of the Society of Biological Chemists (India) on ‘Metabolic pathway modulations – applications in health and agriculture’ 12-15 November 2011 at CIMAP.

13. Arun Prasad, Sukhmal Chand, **Sanjay Kumar**, Ankit Pandey and DD Patra (2011). Influence of heavy metal on yield, essential oil composition and rhizospheric microflora of vetiver grass (*Vetiveria zizanioides*). The Fifth International Conference on Vetiver (ICV-5) under the session-Rehabilitation of contaminated water and land. Organized at Central Institute of Medicinal and Aromatic Plants, Lucknow.
14. Ratna Sahay, **Sanjay Kumar** and Nisha Pillai (2011). Effect of sodic soil (halophilic) PSB isolates on *Vetiveria zizanioides* grown in sodic soil. The Fifth International Conference on Vetiver (ICV-5). Recent Global Innovation in Research, Development and Application of VS. Organized at Central Institute of Medicinal and Aromatic Plants, Lucknow.
15. Sanjeet K Verma and **Sanjay Kumar** (2011). Allelopathic potential of basil (*Ocimum sp.*) Symposium on 'Ocimum: Ancient heritage to modern enigma' during July 28 – 29 under the theme of Agronomy and post harvest processing. Organized at Central Institute of Medicinal and Aromatic Plants, Lucknow.
16. **Sanjay Kumar**, Arun Prasad, Ankit Pandey and Sukhmal Chand. Microbial and Mineral Sources of Phosphorus Supply Affect the Yield and Quality of Essential Oil of Rose-Scented Geranium (*Pelargonium* species) in Sodic Soils. International Symposium on Current Status and Opportunities in Aromatic and Medicinal Plants (AROMED) during Feb 21 – 24, 2010 under the theme “Agrotechnology and crop improvement”.
17. Arun Prasad, **Sanjay Kumar**, A. Khaliq and Ankit Pandey. Effect of Heavy Metals and Arbuscular Mycorrhizal Fungi on the Yield and Quality of Essential Oil of Basil (*Ocimum basilicum*). International Symposium on Current Status and Opportunities in Aromatic and Medicinal Plants (AROMED) during Feb 21 – 24, 2010 under the theme “Agrotechnology and crop improvement”.
18. R. K. Upadhyay, V. K. Yadav and **Sanjay Kumar**. Integrated weed management in medicinal plants: Satawar (*Asparagus racemosus*) International Symposium on Current Status and Opportunities in Aromatic and Medicinal Plants (AROMED) during Feb 21 – 24, 2010 under the theme “Agrotechnology and crop improvement”.
19. V. K. Yadav, R. K. Upadhyay and **Sanjay Kumar**. Integrated Nutrient management in Peppermint (*Mentha piperita* L.) based cropping system in North Indian plain condition. International Symposium on Current Status and Opportunities in Aromatic and Medicinal Plants (AROMED) during Feb 21–24, 2010 under the theme “Agrotechnology and crop improvement”.

Invited Lectures (titled below) Delivered:

- “Scope and opportunities in Biological Sciences” on 21st Jan 2015, DST (Department of

Science and Technology, New Delhi) sponsored program INSPIRE Science Camp (19-23 January, 2015) organized at Prayag Institute of Technology and Management, Bendo, Karchhana, Allahabad, UP, India

2. **“Environment and Spirituality”** at Theosophical Society Gorakhpur, UP, India on 22.10.2014.
3. **“Scope and opportunities in Biological Sciences with special reference to Microbiology”** in Department of Microbiology at DDU Gorakhpur University Gorakhpur, (U.P.) India, Jan 30, 2015.
4. **“Microbial diversity and decreasing consortium due to anthropogenic activity for indecent industrialization”** National Seminar on **“Recent Trends in Microbiology”**. conducted at DDU Gorakhpur University Gorakhpur, (U.P.) India, March 15, 2014.

Other Publications/Reports- Articles in Scientific Magazines:

- S K Shukla, **Sanjay Kumar** and S K Awasthi (2013), Jal me Bhari Dhatuon se Badi Samasyayen ewn Nidan.
- **Sanjay Kumar**, (July-Dec, 2012). “Khadya Teeke aur Swathya” Rajbha shaa Patrikaa – Ikshu p.60-63.
- **Sanjay Kumar**, (2011). ‘Jal me bhari dhatuon ke sandran se badhati samasyayein’. Sugandha p.4.

Awards/Certificates:

- Paper presentation award in Hindi Pakhwada at IISR, Lucknow, (2012). Award in Yoga at IISR, Lucknow, (2012).
- Award for Shrutlekh (Dictation) at IISR, (2012).
- Award in Ashubhanshan at IISR, (2012).
- Poster award for paper presentation in ‘The Fifth International Conference on *Vetiver* (ICV-5)’ Organized at Central Institute of Medicinal and Aromatic Plants, Lucknow 2011.
- Akhil Bhartiya Vidyarthi Parishad Uttar Pradesh award for meritorious student 2003.

Place: Jhansi

Signature



Date: 29.08.2017

(**Sanjay Kumar**)