Curriculum Vitæ (CV)

Dr. AMAN RAJ

Post-Doctoral Fellow, IIT Guwahati
Male, 29 Yrs (DOB: Nov 21, 1995)
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Work Experience

Position	Organization	Institute/Department	From	To
Institute Post Doctoral Fellow	Indian Institute of Technology, Guwahati	Centre for Environment	10th Dec' 2024	Present
IoE Post Doctoral Fellow	University of Hyderabad (A Central University), Telangana, India	Department of Plant Sciences, School of Life Sciences	15th Oct' 2024	30th Nov' 2024

Educational Qualification

Class/Qualification	University / Board	Institute/ School	Passing Year	CGPA / %
Ph.D. (Botany)	Dr. Harisingh Gour Vishwavidyalaya (A Central University), Sagar, M.P.	Dr. Harisingh Gour Vishwavidyalaya (A Central University), Sagar, M.P.	2024	8.75 / 80.25%
Ph.D. Thesis Title: *"Metagenomic and Metabolomic Investigation of Bacterial-mediated Pesticide Degradation."* Supervisor: ***Dr. Ashwani Kumar*** *(Associate Professor, University of Allahabad)*				
M.Sc. (Botany)	Dr. Harisingh Gour Vishwavidyalaya (A Central University), Sagar, M.P.	Dr. Harisingh Gour Vishwavidyalaya (A Central University), Sagar, M.P.	2019	9.10 / 84.49% **(Gold Medalist)**
B.Sc. (Botany Honours)	Patna University, Ashok Rajpath, Patna, Bihar, India	Patna Science College, Patna	2017	75%
AISSCE (XII)	Central Board of Secondary Education	Dr. D. Ram DAV Public School, Patna	2013	76.8%
AISSE (X)	Central Board of Secondary Education	Dr. D. Ram DAV Public School, Patna	2011	85%

Research Paper Publications in International Journals

1. Markam, S. S., **Raj, A.**, Kumar, A., & Khan, M. L. (2024). Microbial Biosurfactants: Green alternatives and sustainable solution for augmenting pesticide remediation and management of organic waste. **Current Research in Microbial Sciences**, 100266. **(I.F. 4.8)**
2. **Raj, A.**, Malla, M. A., Kumar, A., Khare, P. K., & Kumari, S. (2024). Foliar spraying of chlorpyrifos induces morphometric changes in Glycine max (L.) and shifts native soil microbiome. **Emerging Contaminants**, 10(3), 100307. **(I.F. 5.3)**
3. **Raj, A.**, Kumar, A., & Khare, P. K. (2024). The looming threat of profenofos organophosphate and microbes in action for their sustainable degradation. **Environmental Science and Pollution Research**, 31(10), 14367-14387. **(I.F. 5.8)**
4. **Raj, A.**, Dubey, A., Malla, M. A., & Kumar, A. (2023). Pesticide pestilence: global scenario and recent advances in detection and degradation methods. **Journal of Environmental Management**, 338, 117680. **(I.F. 8.0)**
5. **Raj, A.**, & Kumar, A. (2022). Recent advances in assessment methods and mechanism of microbe-mediated chlorpyrifos remediation. **Environmental Research**, 214, 114011. **(I.F. 7.7)**
6. Malla, M. A., Dubey, A., **Raj, A.**, Kumar, A., Upadhyay, N., & Yadav, S. (2022). Emerging frontiers in microbe-mediated pesticide remediation: Unveiling role of omics and In silico approaches in engineered environment. **Environmental Pollution**, 299, 118851. **(I.F. 7.6)**
7. **Raj, A.**, Kumar, A., & Dames, J. F. (2021). Tapping the role of microbial biosurfactants in pesticide remediation: an eco-friendly approach for environmental sustainability. **Frontiers in Microbiology**, 12, 791723. **(I.F. 4.0)**

Book Chapters in Edited Books

1. Naz, M., Shah, T., Battaglia, M., Islam, M. S., Hossain, A., Iqbal, M. A., **Raj, A.**, ... & Sabagh, A. E. (2022). Insights into Potential Roles of Plants as Natural Radioprotectants and Amelioration of Radiations Induced Harmful Impacts on Human Health. In Managing Plant Production Under Changing Environment (pp. 311-325). Singapore: Springer Nature Singapore.
2. **Raj, A.**, & Kumar, A. (2022). Integrated omics approaches to understand and improve wastewater

remediation. In Omics for Environmental Engineering and Microbiology Systems (pp. 113-142). CRC Press.

3. **Raj, A.**, Dubey, A., Malla, M. A., & Kumar, A. (2024). Role of Metabolomics in Bioremediation for Sustainable Crop Production. In Advances in Plant Microbiome Research for Climate-Resilient Agriculture (pp. 73-102). Apple Academic Press.
4. Kumar, A., & **Raj, A.** (2024). Plant Microbiome Research: Tools and Techniques to Analyze Plant Microbiome for Sustainable Agriculture Productivity. Apple Academic Press, 1.
5. Dubey, A., **Raj, A.**, Malla, M. A., Khan, M. L., & Kumar, A. (2024). Phyto-Microbiomes: Role in Sustainable Agriculture Practices Under Abiotic Stress. Apple Academic Press, 51

Conferences & Paper Presentations

1. Presented paper entitled *"Harnessing integrated approach for microbes mediated pesticide remediation"* at the International Conference of Biotechnology for Sustainable Agriculture, Environment, and Health (BSAEH-2021) organized by MNIT Jaipur and the Biotech Research Society, India during April 04-08, 2021.
2. Presented research paper entitled *"Testing the efficacy of chlorpyrifos tolerant bacteria and their role in stress alleviation in plants"* at the National seminar on "Strengthening Environmental Health: Role of Society, Science, and Technology" organized by the Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) from September 26-27, 2022.
3. Presented research paper entitled *"Characterization of plant growth-promoting and biosurfactant-producing activity of profenofos tolerant bacterial isolates from Soybean rhizosphere"* at the 93rd Annual session of the Academy (NASI), organized at BARC, Mumbai from December 03 to 05, 2023.

Key Projects and Training

- 8-day online workshop on "R for Biologists" organized by The Institute of Biotechnological Research from Sept-07 to 14, 2023.
- One day hands on training on Genome Wide Association Study, organized by the Department of Plant Sciences, School of Life Sciences on November 08, 2024 at the University of Hyderabad.
- STUTI "Hands-on training workshop on advanced material characterization by sophisticated research instruments" (Dr. Harisingh Gour Vishwavidyalaya, Sagar in association with Banasthali Vidyapith, Rajasthan-April 2023)
- Workshop on advanced NMR spectroscopy and X-ray diffraction (Dr. Harisingh Gour Vishwavidyalaya, Sagar-March 2023)
- Distinct microbe-based approaches for plant stress amelioration (ICAR-NBAIM, Mau- March 2023)
- Open-source scientific computing for environmental health science (ICMR-NIREH, Bhopal- June 2022)
- Emerging pollutants analysis by GC-MS (ICMR-NIREH, Bhopal- June 2022)
- Techniques in Decoding DNA (Satyabhama Institute of Science and Technology)- June 2020

Academic Achievements

- **Awards and Recognitions:**
- Awarded **University Gold Medal** for standing **1st in merit** in **M.Sc. Botany** (2019)
- Qualified Chhattisgarh State Eligibility Test for Assistant Professor **(CG-SET-2019)**
- Awarded **Senior Research Fellowship** by the **Indian Council of Medical Research (ICMR-SRF)** for the project entitled ***"Metagenomic and metabolomic investigation of bacterial-mediated pesticide degradation"*** in the year 2022.
- Qualified Graduate Aptitude test in Engineering **(GATE-XL-2023)**
- Qualified for Rajasthan State Eligibility Test for Assistant Professor **(Rajasthan SET-2023)**

Key Skills

- Microbial Isolation and Screening
- Spectroscopy
- PCR
- Gel-electrophoresis
- GC-MS

- DNA Extraction
- Metagenomic Tools (MG-RAST, Kbase, EggNOG)
- Metabolomics Tools (Metaboanalyst, VIIME)
- Research Writing
- MEGA XI, iTOL, NCBI BLAST, Meta Cyc
- Data Analysis Tools (SPSS, MS-Excel, PAST, ORIGIN)

Selection at various positions/Professional Achievements

- Selected as **Young Professional-II** at the **ICAR-National Bureau of Agriculturally Important Microorganisms**, Mau Uttar Pradesh for the project entitled "Development of Microbiological Soil Health Indicators" dated 06-05-2024.
- Selected as an **assistant professor** at the Department of Botany, **Radha Govind University**, Ramgarh, Jharkhand dated 17-06-2024.
- Selected as a **Postdoctoral fellow** at the **JAIN (Deemed-to-be University),** Bengaluru dated 06-07-2024.
- Selected as an **IoE-Postdoctoral fellow** at the **School of Life Sciences**, **Department of Plant Sciences**, **University of Hyderabad**, dated 08-10-2024.
- Selected as an **INSTITUTE POSTDOCTORAL FELLOW (IPDF)** in the **Centre for Environment**, IIT Guwahati, dated 26-11-2024.

Research Interest

Microbial Bioremediation, Metagenomics, Metabolomics, Plant-microbe interaction, Environmental Pollution, Soil Microbiome, Agricultural Sustainability, PGPR, Biotic Abiotic stress, Emerging Contaminants (Pesticides, PAHs, Microplastics, Heavy Metals)

Subjects Taught at Dr. Harisingh Gour University During Ph.D.

Biology & Diversity of Viruses, Bacteria & Fungi (Core - Theory)	Molecular Biology (Lab-Course)	Genetic Engineering (Core-Theory)
Biotechnology (Core - Theory)	Software Applications in Biology (Lab Course)	

Important Links

Google Scholar: https://scholar.google.com/citations?user=EZPsg_AAAAAJ&hl=en	ResearchGate: https://www.researchgate.net/profile/Aman-Raj-8	LinkedIn: https://www.linkedin.com/in/dr-aman-raj-a40580189/

References

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Declaration

I certify that the preceding information is correct and complete to the best of my knowledge and belief and nothing has been concealed/distorted. If I am found to have concealed/distorted any material information, my appointment shall be liable to be summarily terminated without notice/compensation.

Date: 10-12-2024
Place: Patna, Bihar, India

Signature of Candidate