

## **CURRICULUM VITAE**

**KUSHAGRA PANT**

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### **PROFILE**

- As a postgraduate student in Biotechnology, I've achieved significant milestones throughout my career. With over 4 years of experience, I excelled as a Senior Researcher (Microbiology) at the Indian Council of Agricultural Research. During my tenure, I led research initiatives aimed at tackling **AMR pathogens** such as BS2 bacteria, viruses, fungi, parasites in water systems, employing proactive strategies to mitigate their impact.
- Transitioning into industry, I spent about 3 years spearheading product and process development across agricultural, aquaculture, and wastewater treatment sectors. I provided consultancy services to the **biofertilizer** industry, leveraging my expertise to optimize product efficacy and enhance sustainability practices.
- Simultaneously, I pursued my doctoral thesis, delving deeper into microbiological research. My investigations ranged from understanding the beneficial aspects of bacteria to unraveling their pathogenic mechanisms. I explored the application of probiotics in diverse domains, including human health, aquaculture, and animal husbandry.
- My industry endeavors encompassed a wide array of projects, including the development of feed additives, herbal products, and **probiotics** for aquaculture. I gained hands-on experience in formulating biofertilizers compliant with FCO and CIB standards, alongside pioneering efforts in organic herbicides and plant growth promoters.
- Moreover, I augmented my skill set through specialized training programs in microbiology, histology, **fermenter operations**, and bioinformatics. Proficient in molecular techniques such as **PCR**, I adeptly utilized microbiological equipment to drive research outcomes.
- I have achieved proficiency in a diverse array of self-improvement training courses, including **Kaizen**, 5S, ALCOA+++, SA8000, ISO, Data Integrity, Fire Safety, 6 Sigma, and Microbiology certifications.
- In quality assurance, I led initiatives to uphold stringent standards, ensuring compliance with regulatory requirements such as **cGLP** and GMP. Notably, I facilitated successful audits by **ECOCERT**, WHO, IMO, and CAA, attesting to my commitment to excellence.
- Beyond academia and industry, I actively contribute to sports and leisure activities. I've demonstrated my academic prowess through publications in esteemed journals and presentations at conferences, underscoring my dedication to knowledge dissemination.

- Equipped with certifications in various disciplines and a robust work ethic honed through collaborative endeavors with renowned scientists, I am poised to excel in roles within research and development or as a consultant in agriculture and aquaculture. Fluent in English and Hindi, I offer seamless communication across diverse settings, making me an asset to any organization.

### **Career objective:**

To secure a growth oriented and rewarding position as professional with a progressive organization that has opportunities for achievement and development.

### **WORK EXPERIENCE**

- Working as a Microbiologist in Amar Biotech (**Biofertilizer Company**), Bhatinda, Punjab
- Worked as a Product and Process Development Officer at Clover Organic Pvt. Ltd Biotechnology Company (**Specialization in Aqua, Agro, Waste Water Probiotics**) at Dehradun, Uttarakhand
- Worked as Senior Researcher in Microbiology laboratory (**Antimicrobial Resistance and Pathology**) at ICAR-DCFR, Bhimtal Nainital District, Uttarakhand.
- Worked as Quality Control **Microbiologist** at Matins Healthcare Pvt. Ltd. Haridwar, Uttarakhand

### **Professional Qualification**

- **Master of Science (Biotechnology) (2016) Conducted by CBEEB (JNU-DBT)**  
Kumaun University (Bhimtal, Uttarakhand)
- M.Sc Thesis "**Genetic diversity analysis of different Apple cultivars in Ramgarh and Mukteshwar region of Kumaun Himalayas using ISSR marker**" under guidance of Dr Tapan Kumar Nailwal Professor and Head, Department of Biotechnology, Bhimtal Uttarakhand.

## **Educational Qualifications**

- **Bachelor of Science (Biotechnology) (2014)**  
Kumaun University (Bhimtal, Uttarakhand)
- **Intermediate (PCB) (2011)**  
CBSE Board
- **High School (2009)**  
CBSE Board

## **Technical Skills**

- Molecular biology techniques: **PCR**, Multiplex PCR, Real time PCR
- Isolation, Purification and Quantitation of Genomic DNA (cells, bacteria, tissue, blood, fungus, parasites)
- Bioinformatics: Molecular Docking, Modeling and Simulation, BLAST, Sequence Alignment, Phylogenetic analysis, CLC workbench
- DNA Fingerprinting: RAPD, ISSR, SSR etc
- Isolation and Molecular Characterization of Bacteria, Virus, Fungi and Parasite (16srDNA, 18srDNA)
- Electrophoresis Techniques: Agarose and SDS-PAGE, Gel documentation, Agilent Tap station
- Isolation, Purification and Quantitation of Genomic DNA
- Microscopy: Inverted, Compound, Stereozoom, Fluorescence
- Spectroscopy (Nanodrop, Qubit)
- Centrifugation (Eppendorf, Thermo)
- Histology: Fixation, Sectioning, Staining etc
- Chromatography techniques: TLC and Paper chromatography etc
- Immunological Techniques-DOT blot and ELISA etc
- Basic Techniques: Balance, pH meter, Autoclave, Biosafety cabinet, Distillation unit, Colony Counter etc
- Plant tissue culture: Micropropagation, Callus culture, Root organ culture
- Antimicrobial susceptibility testing, Minimum inhibitory concentration
- Herbal extraction: Solvent Extraction, Vacuum concentrator

- Soil and water testing:
- Basic microbiology techniques: Pure culture isolation, Media preparation, Biochemical test, Staining, Lyophilization etc
- Microbiological techniques: Microbial limit test, Environmental monitoring, Bioassay, Growth Promotion test, Culture maintenance
- Calibration and validation of microbiological instruments pH, Balance, Pipette etc
- All documentation work related to Microbiology and Molecular Biology, SOP preparation, Training, Indent, Report preparation, Surveillance, Audit.
- Fermenter ( Industrial)

### **Computer proficiency**

- MS word
- Excel

### **Extracurricular activities**

Participated in quiz competition, Sports, Hindi pakhwada, Trainings, Helped various students in their Masters projects, collaborate in various projects for in vitro and in vivo efficacy and biosafety experiment of Oxytetracycline Drug in fish, and Bioassay of antibiotic residue, Prepared Sample for Electron Microscopy, Sample for NGS, DPYD and EGFR (Cancer testing) Sample for Sequencing, Antimicrobial peptides, Drug targets through Bioinformatics, Training to Students

### **Workshops/ Training**

- Participated in National training on “**Bioinformatics and skill development**” organized by Department of Biotechnology, Kumaun University, Nainital (February. 2015).
- Participated in National training on “**Computational Biology and Its Applications**” organized by Department of Biotechnology, Kumaun University, Nainital (March. 2013).
- Participated in “**Water Quality Workshop: Monitoring Assessment and Management**” organized and supported by Uttarakhand State Council for Science and Technology (UCOST), Dehradun (Nov.2015).

- Participated in **“Popular Science Lecture (Theme: Waste Water Treatment)”** organized by USERC, Dehradun and UCOST, Dehradun (Nov.2014).
- Participated in National seminar on **“Strategies, Innovations and Sustainable Management for Enhancing Coldwater Fisheries and Aquaculture”** organized by Directorate of Coldwater Fisheries Research (ICAR) Bhimtal, Nainital(2017).
- Participated in National training on **“Basics and applications of Bioinformatics in Biotechnology”** organized by Department of Biotechnology, Kumaun University, Bhimtal Campus, Bhimtal (September. 2017).
- Participated in **FAO- ICAR training on WHONET software for data management of Antimicrobial Resistance (AMR)** at ICAR-NBFGR, Lucknow from 17-18 August 2018
- Participated in **ICAR- CIFT training on Pragmatization of SOP, s INFAAR** at ICAR-CIFT, Cochin from 22-31 Oct 2018
- Participated in **Training of Trainers (TOT) programme on Coldwater fish Disease Management** at ICAR-DCFR, Bhimtal from (07-11 Oct 2019)
- Participated in National symposium on **“Coldwater Fisheries Development in India: Innovative Approaches and Way Forward for Enhancing Hill Farmer Income”** at ICAR-DCFR, Bhimtal from (24-25, Sep 2019)
- Participated in Online Capacity Building and Skill Enhancement Workshop on **COVID-19-Challenges and Opportunities’** organized by Department of Biotechnology under SAMPARK- A Social Outreach Initiative by Kumaun University, Nainital. from July 01, 2020 to July 06, 2020
- Participated in **Industrial Training for Hr Policies, Production, Safety, Quality, cGMP, PQC, Manufacturing, P.M, R.M, Maintenance, Warehouse, Supply chain and Accounts (Cash flow)** at Pritam International Pvt. Ltd, Bhagwanpur Roorkee from (04-11 Mar,2022)
- Participated in **Data integrity, ALCOA, ALCOA++, cGMP, ISO 9001:2015, HALAL, SA8000, Microbiology SOP** Training at Pritam International Pvt. Ltd, Bhagwanpur Roorkee from (11 Mar-3 Apr, 2022)

- Participated in “**Fermenter Training**” organized by FermEX Solutions LLP Mohali, Punjab, Supported by. Clover Organic Pvt Ltd, Dehradun from (Mar 2023)

## **Paper Published**

- The emergence of zoonotic *Fusarium oxysporum* infection in captive reared fingerlings of golden mahseer, *Tor putitora* (Hamilton, 1822) from the central Himalayan region of India, Sumanta Kumar Mallik; Neetu Shahi;; **Kushagra Pant**; Debajit Sarma (IF: 5.0)
- Immunomodulatory and Antimicrobial potential of ethanolic extract of Himalayan *Myrica esculanta* in *Oncorhynchus mykiss*: Molecular Modelling with *Aeromonas hydrophilla* functional proteins, Raja Aadil Hussain Bhat; R. S Tandel; **Kushagra Pant**;; Suresh Chandra; Sumanta K. Mallik; Debajit Sarma (IF: 4.2)
- Characterization and pathogenicity of *Aeromonas veronii* associated with mortality in cage farmed grass carp, *Ctenopharyngodon idella* (Valenciennes, 1844) from the Central Himalayan region of India Sumanta Kumar Mallik; Nupur Joshi; Shivam Singh; **Kushagra Pant**; Suresh Chandra (IF:2.7)
- Characterization of *Flavobacterium columnare* from farmed infected rainbow trout, *Oncorhynchus mykiss* (Walbaum, 1792) of Central Indian Himalayan region, India Shivam Singh; Sumanta Kumar Mallik; Krishna Kala; Suresh Chandra; **Kushagra Pant** (IF: 4.2)

## **Abstract**

- Emerging *Aeromonas veronii* infection in cage cultured grass carp, *Ctenopharyngodon idella* (Valenciennes, 1844) from India
- Zoonotic *Fusarium oxysporum* infection in captive reared fingerlings of golden mahsheer, *Tor putitora* (Hamilton, 1822) from India
- Problems and Possible solutions for hill farming in Champawat district of Uttarakhand

- Text mining analysis of some medicinal; plants for phytotherapy as alternatives to antibiotics in coldwater fisheries
- Phytotherapy : a safe alternative to antibiotics to aquaculture
- In silico approach to identify potential natural inhibitors for alanine racemase of *Aeromonas hydrophilla* an opportunistic fish pathogen

### **Paper on communication**

- Safety and efficacy of oxytetracycline bath immersion and oral therapy to control *Aeromonas hydrophila* infection in golden mahseer, *Tor putitora* (Hamilton, 1822) from Indian Himalayan Region" Sumanta Kumar Mallik; Krishna Kala; Shivam Singh; Neetu Shahi; Partha Das; **Kushagra Pant**; Rabindar Singh Patiyal

### **Leaflets**

- Argulosis in coldwater fish
- White spot disease in coldwater fish

### **Book Chapters**

- Naturally Occurring Chemicals against Alzheimer's Disease Edited by Tarun Belwal Academic Press is an imprint of Elsevier *Ginkgo biloba* :Ashutosh Paliwal, Pooja Pandey, **Kushagra Pant**

### **Professional Recognition**

- Life Member of Coldwater Fisheries Society of India

### **NCBI GENBANK SUBMISSION (Maryland USA)**

MG098987 *Escherichia coli*, MG098988 *Enterococcus faecalis*, MG098990 *Hafnia paralvei*, MG098992 *Lactiplantibacillus plantarum*, MG098993 *Enterococcus faecium*, MG098995 *Carnobacterium maltaromaticum*, MG099000 *Enterococcus lactis*, MG009216 *Lactococcus garvieae*, MG009229 *Flavobacterium columnare*, MH458748 *Argulus nobilis*, MH458749 *Saprolegnia parasitica*, MH464266 *Fusarium oxysporum*, MH465667 *Saprolegnia diclina*, MH465669 *Saprolegnia australis*, MH392488 *Citrobacter gillenii*, MH392489 *Alcaligenes faecalis*, MH392490 *Serratia marcescens*, MH393911 *Plesiomonas shigelloides*, MH393912 *Staphylococcus capitis*, MH393913 *Carnobacterium sp.*, MH393914 *Carnobacterium divergens*, MH393915 *Aeromonas sobria*, MH393916 *Enterococcus faecium*, MH393917

*Pseudomonas aeruginosa*, MH393918 *Acinetobacter tjernbergiae*, MH393919 *Citrobacter werkmanii*, MH393920 *Citrobacter freundii*, MT122810 *Rouxiella chamberiensis*, MT122817 *Pseudomonas paralactis*, MT122821 *Aeromonas salmonicida subsp. masoucida*, MT122816 *Staphylococcus cohnii*, MT125864 *Aeromonas salmonicida subsp. masoucida*, MT125954 *Micrococcus sp*, MT125955 *Micrococcus aloeverae*, MT125956 *Proteus mirabilis*, MT125957 *Micrococcus yunnanensis*, MT125959 *Pseudomonas poae*, MT126621 *Pseudomonas peli*, MT126030 *Rahnella aquatilis*, MT126032 *Algoriella xinjiangensis*, MT126035 *Pseudarthrobactersiccitolerans*, MT126036 *Bacillus mycoides*, MT126037 *Serratia fonticola*, MT126038 *Flavobacterium saccharophilum*, MT126313 *Janthinobacterium lividum*, MT126314 *Flavobacterium piscis*, MT126470 *Curvibacter delicatus*, MT126474 *Lactiplantibacillus plantarum*, MT126511 *Pseudomonas sp*, MT131280 *Rahnella aquatilis*, MT131297 *Enterococcus sp*, MH393910 *Proteus vulgaris*

## Personal details

<b>Father's name</b>	:	Mr. Naveen Chandra Pant
<b>Date of Birth</b>	:	4 April 1995
<b>Sex</b>	:	Male
<b>Marital status</b>	:	Single
<b>Languages known</b>	:	Hindi, English
<b>Permanent Address</b>	:	H.no232 Village Haripur Nayak Post Office Haripur Nayak Haldwani Uttrakhand

## Declaration

I hereby declare that the information given above is true to the best of my knowledge and belief.