

CURRICULUM-VITAE

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Profile summary

I have completed my Masters in Microbiology from Jiwaji University, Gwalior (M.P.) and PhD in Microbial Biochemistry from Department of Biochemistry, University of Allahabad (U.P.). My varied career spanning five years in laboratory research management. In the last 5 years I have been involved in leading the laboratory investigations in the various WHO and Gates Foundation projects related to drug interventions and clinical trials, some of these projects are ABCD (Antibiotics for Children with Severe Diarrhea), ZTDT (The Zinc Therapeutic DoseTrial), MOMI (Multiomics for Mother and Infants), PPNDC-COVID sub-study, with cross-country and multi-centre studies.

My work profile includes planning, implementation of the projects, standardization of laboratory protocols, implementation of experiments, design SOPs and presentations, along with work on Writing papers and grant applications. For the past three years I have been involved as a laboratory consultant in providing laboratory training to the laboratory staff of international organizations such as PhL-IdC, Pemba, Tanzania and Subharthi Medical University, Meerut, India I have joined Indian pharmacopeia Commission (IPC) as a Pharmacopoeia Scientist from May 23, 2022, to till now. to develop a Reference culture laboratory in its new campus under the Microbiology division and the construction of a Genomic laboratory for microbial identification and future researchI would like to share my knowledge in the reputed organization with the background d of the industrial res. deepen research and project management so that I can expand and refine my skills in the diverse research area.

EDUCATION

PhD
(2012 – 2017)

Production and Application of α -galactosidases from some identified Fungal species: A Biochemical Study (Awarded) Department of Biochemistry, University of Allahabad (U.P.),
(Award date: 08-08-2018)

M.Sc.
(2007 – 2009)

Masters in Microbiology
(M.Sc.), with 69.40
percentage Department of Microbiology, Jiwaji University, Gwalior (M.P.)
Subject specialization under Microbiology:
Subjects: Microbial Technology & Food Microbiology, Biochemistry; Molecular Biology; Immunology; Medical Microbiology IV Sem.-74 %

B.Sc.
(2004–2007)

Bachelor's in (Botany, Zoology, Chemistry), 71.0 % in 2007 from Govt. Girls degree college, A.P.S. University, Rewa (M.P.)
Biology, Chemistry, Physics, English, Hindi C.B.S.E Board, K.V.S., Sidhi (M.P.) with 80.0 %, in June 2004.
Science, Math, SST, English, Hindi from C.B.S.E Board, K.V.S., Sidhi, M.P. with 66.40 %, in June 2002.

Intermediate
(2003-2004)

High School
(2002-2003)

Exams Qualified:

Cleared **CSIR-UGC NET Exam , 2011 (December)** with **32 rank (AIR)**,
SUCRET and AUCRET Exams 2011-12, MPPSC scientific officer pre-exam
2013-14 and RPSC Senior scientific officer pre-exam 2019, MPPSC pre-
exam 2020.

Computer Literacy:

M.S. office, MS EXCEL, PRISM, Sigma plot, Genome compiler, NCBI
genome Adobe Photoshop, Tresorit, Sync, Reference Manager, SPSS and
other user interface ad softwares for Laboratory Analysis etc.

Training:

- ❖ Central Institute of Medicinal and Aromatic Plants (CIMAP) Lucknow (U.P.) - 226014 (INDIA), Field Lab (FLOF Division), Department of Microbiology in the topic: ***Combined Effect of Siderophore Producing Rhizobacteria (SD22) along with different Bioinoculants (Mycorrhiza, Trichoderma) on the growth and productivity of Mentha Piperita Plants.***
- ❖ **10 months** Research experience from **01.08.2011 to 03.05.2012** in Microbiology Division of H.S. Gaur University, SAGAR (M.P), registered as Ph.D Scholar in the topic: **"Taxonomic identification of microbial communities inhabiting in rhizospheric soil screening for "α-galactosidase" enzyme production, biochemical assays, characterization and applications in recent advances.**
- ❖ **10 Days** research training in **Phylogenetic and molecular sequencing analysis (16sRNA/ITS sequencing) of microbial communities**, 2-12 February, 2017, at CSIR- Microbial Research Institute, Mau, U.P.
- ❖ Provided on-site 2 months training to laboratory staffs in biochemical, immunological, ELISA using AIA-360, AA-250 instruments by Research Scientist of PhL-IDC, Pemba island, Tanzania, December 2019 to February 2020.
- ❖ Provided on-site 3 months training from 25 December 2020 to 13 March 2021 for local laboratory staffs of Pemba island, Tanzania in different techniques including microbiological, biochemical, immunological, histopathology, 78.0 virological and serological analysis. Also establishment of virology laboratory set-up for COVID sero-surveillance project funded by Bill and Melinda Gates foundations, under Platform grant 2020-21.

Work Experience:

1. Research Scientist at Center for public health kinetics (CPHK), Delhi

I am working with Center for public health kinetics (CPHK) from past 5 years (from **15 May 2017 to 20 May 2022**) as a Research Scientist (Laboratory Head, Molecular Microbiology division). During this tenure, I have involved in many international projects, primarily as Microbiologist in WHO multicentre project called "Antibiotic for children's with severe diarrhea"

(ABCD). I have also involved in the laboratory analysis of zinc estimation in Gates foundation project called (ZTDT).

I am recently involved with the project implementation of Gates foundation project called 'Multiomics for mother and children's (MOMI), a Multicentre project setup in Pemba-Zanzibar island of East Africa. Also, we have got the opportunity to establish a virology lab setup in Pemba Island, for AMANHI-PPNDC Cohort, a COVID-19 sub-study funded by Gates foundation as Platform grant (2020-22).

I have 15 international publications in the most reputed journals such as NEJM, BMC, BMJ, JAMA open, Scientific reports, Biomed research international, MDPI Pathogens, Taylor and Francis book chapter, etc. published in the year 2012-2022.

2. Pharmacopoeia Scientist at Indian pharmacopoeia Commission (IPC), Ghaziabad, U.P.

I have joined Indian pharmacopoeia Commission (IPC) as a Pharmacopoeia Scientist from May 23, 2022, to till now. This is a government organization that works under the Ministry of Women and family welfare (MoEFW), Delhi to develop a Reference culture laboratory in its new campus under the Microbiology division and the construction of a Genomic laboratory for microbial identification and future research. I have been working here in the capacity of a Pharmacopoeial Scientist responsible for the development of the new protocols, designing SOP, publication writing, and pharmacopeial quality control documentation preparation, etc.

Posters / Seminars

- ❖ Poster presentation on 100th Indian science congress association (ISCA) held on January 3-7 2013, under New Biology (Biochemistry) stream in the topic of "**Optimization of culture conditions for some fungal species producing α -galactosidase**."
- ❖ Workshop in system biology hands on training in **Biostatistical tools in biotechnology** at IIIT, Jhalwa, Allahabad (U.P.) ON 16-17 March 2013.
- ❖ **10 Days** research training in **Phylogenetic and molecular sequencing analysis (16sRNA/ITS sequencing) of microbial communities**, 2-12 February, 2017, at CSIR- Microbial Research Institute, Mau, U.P.

Awards

- First prize in Poster presentation conducted by National Academy of Sciences-India (NASI), Allahabad, U. . P., India, held on June 5-6, 2013 on the topic of " **α -galactosidase from some fungal species and their medical implications**."
- Second Prize in Oral presentation entitled "**Phylogenetic identification fungal species *Penicillium citrinum* from rhizospheric soil: Exploration for Agro-industrial wastes utilization for commercial production of α -galactosidase enzyme**" at International Conference "Recent advances in Agriculture sciences" ICRAAS, 16-17, March 2021 conducted by Amity University, Noida UP.
- **Certificate of Excellence** in Reviewing "*International Journal of Tropical Disease and health*, 2021 (Certi. No.SDI/HQ/PR/Cert/70153/AIS)

Techniques Known:

- ❖ 16sRNA/ITS sequencing of microbial DNA Bacterial and Fungal isolation;

DNA and RNA isolation from clinical samples (saliva, tissue, stool) using Qigen kits, RTPCR, Vitek-1 Blood culture, Vitek-2 (covid IgG/IgM) identification, Culture techniques, Histopathology, Block preparation, Tissue casting, staining, PBMC isolation, Cell culture, microscopic examination methods. Microbial enzyme characterization, Protein Purification, Cloning, Ion exchange chromatography, HPLC-SEC, Gel Electrophoresis, SDS PAGE, GL Chromatography, Staining, taxonomic and biochemical identification of microbial cells, culture media growth, enzyme kinetics, and of microbial isolates.

- ❖ RTPCR, Vitek-2(covid IgG/IgM), Vitek-1 (Blood culture), Quansys ELISA, Quantus (DNA purification), Atomic absorption chromatography, Tissue embedding machine Thermo-fisher), Spin Tissue processor (Thermo-scientific company), Microtome (Biobase), Beckman Microscan-MIC, AIA-360 Auto immune analyzer, AA-250 Auto-analyzer, Skant ELISA (Thermo-fisher).

Publications:

1. Engineering advances in safe laboratory design for pharmaceutical microbiology and assessment of their biohazard risk measures, Anil Kumar Teotia, Aishwarya Singh Chauhana,* , Prasad Thotaa, et al. SafetyScience, 174, (2024), 106458.
2. Kévin Contrepois, Songjie Chen, Mohammad S.Ghaemi, Ronald J. Wong , The Alliance for Maternal and Newborn Health Improvement (AMANHI)et al. Prediction of gestational age using urinary metabolites in term and preterm pregnancies. Scientific Reports | (2022) 12:8033.
3. Effect of 3 Days of Oral Azithromycin on Young Children with Acute Diarrhea in Low-Resource Settings A Randomized Clinical Trial, JAMA Network Open. 2021; 4(12):e2136726. doi:10.1001/jamanetworkopen.2021.36726.
4. Lower dose zinc for childhood diarrhea: a randomized, multicenter trial, The Zinc Therapeu (ZTDT) Research Group, NZEM, 2020. (IF: 76).
5. Multiomics Characterization of Preterm Birth in Low- and Middle-Income Countries. [JAMANetworkOpen](https://doi.org/10.1001/jamanetworkopen.2020.29655).2020 Dec; 3(12):18. doi: [10.1001/jamanetworkopen.2020.29655](https://doi.org/10.1001/jamanetworkopen.2020.29655).
6. A double-blind placebo-controlled trial of azithromycin to reduce mortality and improve gr risk young children with non-bloody diarrhoea in low resource settings: the Antibiotics for Diarrhoea (ABCD) trial protocol. [The ABCD study team](https://doi.org/10.1136/bmjopen-2020-040000). BMJ open, [Trials](https://doi.org/10.1136/bmjopen-2020-040000) volume 21, Article nu 2020 (IF: 1.8)
7. Naomi Christine Angela Juliana, Roel Heijmans, Said Mohammed Ali, Sander Ouburg, Aishwarya Singh Chauhan, AMANHI Pemba, Servaas Morré, Saikat Deb, Elena Ambrosino. Dete high-risk human papillomavirus (HPV) by the novel AmpFire isothermal HPV assay am women in Pemba Island, Tanzania" Pan African Medical Journal, October, 2020.
8. Naomi C.A. Juliana, Saikat Deb, Sander Ouburg, Aishwarya Chauhan, Jolein Pleijster, Said M. Morré, Sunil Sazawal, Elena Ambrosino. The prevalence of Chlamydia trachomatis and three other non-viral sexual transmitted infections among pregnant women in Pemba Island Tanzania, MDPI Journal Pathogens, Manuscript ID 874802, 2020. (IF:3.08).
9. Extended impact of short-course azithromycin on nasopharyngeal and intestinal carriag resistance: Study Protocol for the antimicrobial resistance sub-study of the AntiBiotics for Diarrhea (ABCD) trial. (BMJ OPEN), 2020. (IF: 2.376)
10. A. S. Chauhan, Nikhat J. siddiqi, and B. Sharma. A Novel Promising Strain of

Trichoderma evansii for Extracellular α -Galactosidase Production by Utilizing Different Carbon Sources under Opti Conditions, Hindawi Publishing Corporation, BioMed Research International, Volume 2014, Ar 461624, 12 pages <http://dx.doi.org/10.1155/2014/461624> (IF: 2.80)

11. A. S. Chauhan, N. Srivastava, H. K. Kehri, and B. Sharma. Optimization of Culture Condit Identified Fungal Species and Stability Profile of α -Galactosidase Produced, Hindawi Publishin Biotechnology Research International, Vol. 2012, Article ID 920759, page. 8 pages doi:10.1155/2012/920759.
12. A. S. Chauhan, Arunesh Kumar, and B. Sharma. Extracellular α -Galactosidase from *Trichode* 3): Optimization of Enzyme Production and Biochemical Characterization Hindawi Publishing Biotechnology Research International, Volume 2015, Article ID 860343, <http://dx.doi.org/10.1155/2015/860343>.
13. Neeharika Srivastava, Aishwarya Singh Chauhan, and Bechan Sharma. Isolation and Characterization of Some Phytochemicals from Indian Traditional Plants, Hindawi, Biotechnology Research Internat., Vol 2012, Article ID 549850, 8 pages.
14. A. S. Chauhan, Abhishek Kumar, and B. Sharma. Protein purification and enzyme characterization profile of α -galactosidase from novel isolate of *Penicillium* *sps.*(AL-3): A Biochemical study (Communicated in Research in Microbiology), 2021 (IF: 2.40).
15. Prediction of gestational age using urinary metabolites in term and preterm pregnancies Kévin Contrepois, Songjie Chen, Mohammad S.Ghaemi, Ronald J. Wong4 , The Alliance for Maternal and Newborn Health Improvement (AMANHI)*
16. Patricia B Pavlinac, James Platts-Mills, Jie Liu, Hannah E. Atlas, Jean Gratz, Darwin Operario,, Per Ashorn , Henry Badji , Rajiv Bahl, Jen Cornick, Aishwarya Chauhan, Ayesha De Costa. Azithromycin for Bacterial Watery Diarrhea: A Reanalysis of the AntiBiotics for Children with Severe Diarrhea (ABCD) Trial Incorporating Molecular Diagnostics. The Journal of Infectious Diseases, July 2023 DOI: 10.1093/infdis/jiad252

Book Chapters:

1. Aishwarya Singh Chauhan, Abhishek Kumar, Kamini Parmar and Vineet Kumar. *Microbial Ecology of Wastewater Treatment Processes: Trends, Challenges, and Perspectives*; Publisher, CRC Press (Taylor & Francis Group) USA, 2022.
2. Abhishek Kumar 1 *, Aishwarya Singh Chauhan 2, Ankit Kumar et al., 2023. Disease and pest control through sensors and other technological approaches, Chapter 16.

Memberships:

1. Life time membership, BactiVac Network, under bacterial vaccine designing, Institute of Immunology and Immunotherapy University of Birmingham Edgbaston Birmingham, B15 2TT United Kingdom.

References:

Dr. Sunil Sazawal

**(Asso. Prof.) John Hopkins University , USA &
Director, Centre for public health kinetics (CPHK), Delhi, India**

Dr. Saikat Deb
Senior Research Scientist, Centre for public health kinetics (CPHK), Delhi, India

Prof. B. Sharma
Dept. Of Biochemistry, University of Allahabad, Allahabad (U.P.)

**Dr. Chitranjan Kumar Sharma, M.Sc. (Gold Medalist), N.E.T.,
D.Phil. Assistant Professor, Amity University, Noida, U.P.
(Associate Editor, Agronomy Journal, American Society of
Agronomy)**

Dr. Anil Kumar Teotia, Senior Principal Scientific Officer, IPC, Ghaziabad (U.P.) India

Date:
20/02/2024

Place: Delhi

(AISHWARYA SINGH CHAUHAN)

