ABHISHEK R. UMESH

CONTACT

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PERSONAL SUMMARY

I am a published researcher who has been presently working on molecular mechanism of AFB1 removal potency of probiotic bacteria. Expertise in isolation and structural elucidation of natural compounds; and mycology. Passionate about learning new scientific skills.

An enthusiastic, adaptive and fast learning person with a broad and acute interest in different disciplines to develop new skills and solve new challenges.

RESEARCH PUBLICATIONS

Google Scholar

CAREER SUMMARY

Post-Doctoral Fellow

University of Agricultural Sciences, Bengaluru | April 2018 - present

- *Project title:* Aflatoxin elimination potency of lactic acid bacteria: Studies on mechanism of action and assessment of aflatoxin B_1 reduction ability in food models
- Isolated and characterized the lactic acid bacteria with aflatoxin B_1 removal/ detoxification properties
- Evaluated the factors affecting sequestration of aflatoxin B_1 by lactic acid bacteria under different parameters
- Studied the mechanism of action of lactic acid bacteria by analyzing the binding ability of aflatoxin B_1 and metabolic degradation
- Investigated the modulation of aflatoxin B_1 metabolism and cytotoxicity in Caco-2 model
- Evaluated the surface binding ability of aflatoxin B_1 using flow cytometry
- To assess the aflatoxin B_1 elimination/detoxification ability of lactic acid bacteria in food models

Junior Research Fellow

Bangalore University, Bengaluru | September 2011 - February 2013

- *Project title:* Isolation, characterization and utilization of antimicrobial compounds of plant origin for management of pathogenic microbes
- Isolated and characterized the highly potent anticancer, antimicrobial, antioxidant and antidiabetic compounds from selected plants.

Senior Research Fellow

University of Agricultural Sciences, Bengaluru | February 2011 - August 2011

- *Project title: Selection of arbuscular mycorrhizae and PGPR for aerobic rice*
- Selection of Arbuscular mycorrhizal fungi for aerobic rice by testing different AMF on the plant under controlled condition
- Tested different biofertilizer organisms *viz.*, *Bacillus megatherium*, *Pseudomonas fluorescens*, *Trichoderma harzianum* and *Azotobacter chroococcum* on aerobic rice
- Combined trials with consortium of AMF and selected biofertilizer organisms

Hygiene & Food Safety Executive

Sodexo Food Solution India Ltd, Bengaluru | September 2009 - February 2010

- Develop a strategic plan for food safety and quality practices
- Analyze food safety and quality data, and prepare reports

ACADEMIC BACKGROUND

Bangalore University

PhD Microbiology | Graduated 2017

- Doctoral Dissertation: Isolation and characterization antimicrobial and antimycotoxigenic compounds from selected medicinal plants

M.S.Ramaiah College, Bengaluru

MSc Microbiology | Graduated 2009

S.J.R. College, Bengaluru

BSc Chemistry, Microbiology & Zoology | Graduated 2007

RECOGNITIONS &FELLOWSHIPS

- UGC-BSR fellowship for doctoral program (2013 -2016)
- ARS-National Eligibility Test

MEMBERSHIP OF PROFESSIONAL BODIES

- Association of Microbiologists of India (AMI), New Delhi
- Indian Science Congress Association (ISCA), Kolkata

PROFESSIONAL NETWORK

ORCID

LikedIn

ResearchGate

KEY SKILLS

- Microbiological techniques
- Bacterial cell enumeration by flow cytometry
- Flow cytometric assessment of surface binding ability of aflatoxin B_1 by lactic acid bacteria
- Cell-based *in vitro* bioassays
- Probiotic fermentation process
- Isolation and characterization of natural compounds
- Antimicrobial action of phytochemicals on pathogenic bacteria and fungi
- Aflatoxin degradation using phytochemicals
- Mechanism of probiotic bacteria in elimination of aflatoxin
- **Past experience:** Plant growth promoting rhizobacteria and Arbuscular mycorrhizae
- **Analytical techniques:** Interpretation of analytical data (1H-& 13C-NMR, LC-MS, HPLC, IR etc.); Chemdraw
- **Statistics:** Statistical analysis of biological data using SPSS software
- Bioinformatics: Knowledge about analysis of nucleic acids and protein structure

AWARDS/PRIZES

- **Second prize for poster presentation.** National conference on "Secondary metabolites of endophytic fungi/medicinal plants and their anticancer properties" organized by UGC-SAP and Bangalore University, Bengaluru, 5-6th March 2015.
- **Young Scientist Award.** Karnataka Science Congress organized by University of Mysore, Mysore, 15-17th Sept 2014.
- **First prize for poster presentation.** CSIR sponsored National Conference on Emerging Trends and New Challenges in Biotechnology (NCETNCB-2013) organized by Department of Biotechnology, MGR College, Hosur, Tamil Nadu, India during 24-25th January 2013.
- **Best poster award.** National conference on "Cell mechanics and interactions at the physics biology interface" organized by the Department of Physics and DST-PURSE Programme, Bangalore University, Bangalore on 30-31st August 2013.

TRAINING COURSES

- Beckman Coulter FlowCytometry Course conducted by Centre for Cellular and Molecular Platforms (C-CAMP, Bengaluru) in collaboration with Beckman Coulter (December 09-11, 2019).·
- Workshop on 'Microbial Identification and Preservation' conducted by National Centre for Microbial Resource (NCMR), Pune (January07-12, 2019).
- Workshop on "Confocal Microscopy" conducted by the Centre for Biotechnology, Anna University, Chennai (28-31st January 2013).
- Short term course on "Modern Instrumental Methods of Analysis" conducted by Centre for Continuing Education, Indian institute of science, Bengaluru (January-May, 2012).
- Training course on "Extraction/Purification Techniques and Instrumental Analysis" conducted by Institute of Wood Science and Technology (ICFRE), Bengaluru (1-3rd January 2009).