UNIVERSITÀ DEGLI STUDI DI MILANO

TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO **ID CODE 5351**

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di Department of Food, Environmental and Nutritional Sciences**

Scientist- in – charge: **Prof. Matias Pasquali**

[Mastan Anthati]

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Anthati
Name	Mastan

PRESENT OCCUPATION

Appointment	Structure
Seeking for Postdoctoral Position	Writing Scientific Articles and Seeking for Postdoctoral position in Plant-Microbe Interactions.

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	B.Sc Microbiology	Sri Venkateshwara University	2010
Specialization	Microbiology, Zoology, Chemistry		
PhD	Biological Sciences	Academy of Scientific & Innovative Research (AcSIR)	2020
Master	M.Sc Microbiology	Sri Venkateshwara University	2013

Università degli Studi di Milano – Direzione Trattamenti Economici e Lavoro Autonomo
Ufficio Contratti di formazione e Ricerca
Via Sant'Antonio 12 - 20122 Milano, Italia
assegni.ricerca@unimi.it DTELA_M_CVAssegni_revENG. 00 del 02/09/2021

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City
30 July, 2014	DST-INSPIRE FELLOW	Delhi

FOREIGN LANGUAGES

Languages	level of knowledge
English	Proficient
Hindi	Fluent
Telugu	Mother toungue

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2014	Awarded Five Years Research Fellowship
2013	Secured University First Rank (gold medal)
2016	Qualified National Eligibility Test conducted by ASRB-ICAR, Govt. of India
2016	Qualified National Eligibility Test conducted by UGC, Govt. of India
2014	Secured eligibility for Assistant profesorship certificate by CSIR-NET Govt. of India

TRAINING OR RESEARCH ACTIVITY

description of activity

- I isolated both beneficial and pathogenic microbes and used endophytes as biocontrol agents (against nematode and fungal pathogens) and as biostimulants for plant yield.
- The isolates were characterized using molecular techniques and scanning electron microscopy (SEM) and examined the fate of host plants and their specialized metabolites after microbial colonization.
- Analyzed the possibilities for in-planta enhancement of specialized metabolites by targeting the genes involved in their biosynthetic pathways.
- Noticed that endophytes have the ability to enhance the expression of diterpene synthases (CfTPSs), *CfTPS1*, *CfTPS2*, *CfTPS3*, and *CfTPS4*, along with cytochrome P450 (*CfCYP76AH15*) and acyltransferase (*CfACT1-8*) genes for additional accumulation of labdane diterpenoid, forskolin.
- Estimated antifungal, antibacterial, and nematicidal activities of functional endophytes.
- Evaluated the compatibility of native fungal endophytes with Trichoderma viride and the impact of their consortium on plant growth and metabolite content in C. forskohlii.
- Developed carrier-based formulations of endophytes for the sustainable cultivation of medicinal and aromatic plants. Lastly,
- Estimated the cross-functional ability of endophytes for the cultivation of other medicinal plants and aromatic plants.I have good exposure to analytical chemistry, modern molecular techniques, advanced microbiology, and bioinformatics tools.
- I have carried out various molecular and analytical techniques, such as DNA and RNA extraction, PCR, qRT-PCR, Western blotting, SEM, ESI-MS, HPLC, HPTLC, GC, NMR, etc.

PROJECT ACTIVITY

Year	Project
2016 - 2020	Worked as Senior Research Fellow (INSPIRE Fellow) at CSIR – Central Institute of Medicinal & Aromatic Plants Research Centre, Bengaluru, India since October.
2014 - 2016	Worked as Junior Research Fellow (INSPIRE Fellow) at CSIR – Central Institute of Medicinal & Aromatic Plants Research centre, Bengaluru, India
2012	Accomplished 6 months M.Sc. Project work titled "Antioxidant and Antibacterial activity of Secondary Metabolites Produced by Lichens" under the guidance of Dr. Pramoda Kumari, Assistant professor, Department of Microbiology, Sri Venkateshwara University, Tirupati

CONGRESSES AND SEMINARS

Date	Title	Place
13th June 2019	Plant-microbe interactions and bioprospection of microbes associated with medicinal plant - *Coleus forskohlii*	Presentation
14th Sep 2019	Intellectual Property Rights and Innovations with Special focus on Prior Art Search	Participation
23rd March 2015	International Conference on Medicinal Plants	Participation
22nd Sept 2012	University-Industry Interaction for Community Development	Participation
20th Dec 2012	Environmental Impact on Human Health and Therapeutic Challenges	Participation

PUBLICATIONS

Publications
Anthati Mastan, RKB Bharadwaj, Ramesh Kumar Kushwaha, C. S. Vivek Babu (2019). Functional fungal endophytes in *Coleus forskohlii* regulate labdane diterpene biosynthesis for elevated forskolin accumulation in roots. Microbial Ecology, 78(4): 914–926.
Anthati Mastan, Digeshwar Rane, Syed G. Dastager, and Vivek Babu CS (2021). Molecular insights of fungal endophyte co-inoculation with *Trichoderma viride* for the augmentation of forskolin biosynthesis in *Coleus forskohlii*. Phytochemistry, 184, 112654.
Anthati Mastan, Digeshwar Rane, Syed G. Dastager, C.S. Vivek Babu (2019). Development of low-cost plant probiotic formulations of functional endophytes for sustainable cultivation of *Coleus forskohlii*. Microbiological Research, 227:126310.
Kui L, Kong Q, Yang X, Pan Y, Xu Z, Wang S, Chen J, Zhou X, Wu T, **Anthati Mastan,** Liu Y and Miao J (2021). High-throughput in vitro gene expression profile to screen of natural herbals for breast cancer treatment. Frontiers in Oncology. 2021.684351.
Anthati Mastan, Digeshwar Rane, Syed G. Dastager, C. S. Vivek Babu (2020). Plant probiotic bacterial endophyte, *Alcaligenes faecalis* modulates plant growth and forskolin biosynthesis in *Coleus forskohlii*. Probiotics and Antimicrobial Proteins, 12(2):481-493.
Anthati Mastan, Vivek Babu CS, Channayya H, Srinivas KVNS, Kumar AN, and Kumar JK (2020). Treatments with native *Coleus forskohlii* endophytes improve fitness and secondary metabolite production of some medicinal and aromatic plants. International Microbiology, 23(2):345-354.
Anthati Mastan, Sreedevi B, Pramoda Kumari J (2014). Evaluation of the in vitro antioxidant and antibacterial activities of secondary metabolites produced from lichens. Asian J Pharm Clin Res, 7(1):193-198.

Articles in reviews
Ramesh Kumar Kushwaha, **Anthati Mastan.** Plant-growth promoting stress tolerant bacterial strains improve host plant growth and yield under Cu and Fe stress conditions. (*Under submission*)
Anthati Mastan, Nikhil Kalshetty, Feroz Khan, and Vivek Babu CS. Synergism of various herbal extracts with antibiotics to deter Gram-negative MDR enteric bacterial pathogens.

Congress proceedings
Member of technical coordination committee in **Formers training program on "Improved Production Technologies of Aromatic and Medicinal plants & Aromatic Oils"** under Aroma mission programme- HCP 0007 at CSIR-CIMAP Research centre, Bangalore during 4 to 6th October, 2018.
Member of technical coordination committee in SIDBI supported three days' workshop cum training programme **"Improved technologies in production of medicinal and aromatic plants"** organized by CSIR- Central Institute of Medicinal and & Aromatic Plants, Research Centre, Bengaluru, July 27 - 29 2017.
Member of technical coordination committee in National Science Day Lecture organized by CSIR- Central Institute of Medicinal and & Aromatic Plants, Research Centre, Bengaluru, February 28th, 2017.
Member of technical coordination committee in SIDBI supported three days' workshop cum training programme **"Improved technologies in production of medicinal and aromatic plants"** organized by CSIR- Central Institute of Medicinal and & Aromatic Plants, Research Centre, Bengaluru, March 2016.
Member of technical coordination committee in three days' workshop cum training programme **"Improved technologies in production of medicinal and aromatic plants"** organized by CSIR- Central Institute of Medicinal and & Aromatic Plants, Research Centre, Bengaluru, October 2015.

OTHER INFORMATION

GenBank Submissions of Functional Microbes

- **Mastan, A**. and Vivek babu, C.S. (2017) Fusarium redolens strain CFRF1 small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene, complete sequence; and internal transcribed spacer 2, partial sequence. Accession No. KY992586.
- **Mastan, A**. and Vivek babu, C.S. (2017) Macrophomina pseudophaseolina strain CFSF2 small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene, complete sequence; and internal transcribed spacer 2, partial sequence. Accession No. MF351729.
- **Mastan, A**. and Vivek babu, C.S. (2017) Phialemoniopsis cornearis strain CFSF1 small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene, complete sequence; and internal transcribed spacer 2, partial sequence. Accession No. MK408657.
- **Mastan, A**, Rane, DK, Dastager, SG. and Vivek babu, CS. (2017). Alcaligenes faecalis strain CFRB1 16S ribosomal RNA gene, partial sequence. Accession No. MH998155.

- I have good exposure in Molecular biology, Microbiology, Biochemistry, Biotechnology, Plant physiology, Microbial genetics and Metabolites.
- Well-versed in molecular biological techniques like DNA and RNA isolation, cloning, PCR, qRTPCR, Sanger's DNA sequencing, SDS and Native PAGE, western blotting.
- Gained confidence in handling analytical instruments like HPLC (Shimadhzu, Japan) and GC (Agilent, USA).
- Distillation of essential oils from aromatic plants and extraction of specialized medicinal compounds from medicinal crops.
- Trained in drug development and antimicrobial screening like Antibiogram, MIC, MBC, FICI, Time kill assay, and efflux pump monitoring.
- Expertise in basic bioinformatics techniques like BLAST, Pairwise alignment, Multiple sequence alignment and Phylogenetic analysis.

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Please note that CV WILL BE PUBLISHED on the University website and It is recommended that personal and sensitive data should not be included. This template is realized to satisfy the need of publication without personal and sensitive data.

Please DO NOT SIGN this form.

Place and date: Nellore, India, 04/07/2022