

CURRICULAM VITAE

PRAMOD P.DESAI

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Career Objective:-

- ◆ To build a career with leading academic, committed & dedicated people, which will help me to explore myself and nurture my potential.
- ◆ Work as a key player in challenging and creative environment to contribute the solutions to the challenges in the field of Education Sector.

Educational Qualifications:-

➤ **Ph.D (Biotechnology)**

Thesis entitled "Molecular Characterization, Biosynthesis of Nanoparticles and Exploring Biological Activity of Actinomycetes Isolated from Diverse Ecological Niches"

Course	College/University	Year of passing	Percentage
Ph.D (Biotechnology)	Gulbarga University, Kalburgi, Karnataka	February 2018	Awarded
M.sc (Biotechnology)	Gulbarga University, Kalburgi, Karnataka.	June 2007	66.04
B.sc (Biotechnology)	Vishweshwariah college of Applied Sciences, Gulbarga, Karnataka.	July 2005	78.19
P.U.C (Science)	H.S.Kotambri institute, Hubli, Karnataka.	April 2002	55
S.S.C	New Era High School, Margao, Goa.	April 2000	64

Research Publications:-

1. **Pramod P. Desai**, Prabhurajeshwar C and Kelmani R. Chandrakanth. Hydrothermal assisted biosynthesis of silver nanoparticles from *Streptomyces* sp. GUT 21 (KU500633) and its therapeutic antimicrobial activity. **J. Nanostructure. Chem.** (2016). 6 (3): 235-246.

2. **Pramod P. Desai**, Prabhurajeshwar, B.V.Hudge, Krishnaraj P U, Kelmani Chandrakanth R. Characterizations and optimization study on influence of different parameters on fabricated spherical nanoparticles from *Streptomyces* sp. GUT 21 (KU500633). **IJRET: International Journal of Research in Engineering and Technology**. Volume: 05 Issue: 02 (2016). 161-172.
3. **Pramod P. Desai**, Prabhurajeshwar C and Kelmani R. Chandrakanth. Molecular genotyping and antimicrobial activities of secondary metabolites from *Streptomyces* sp: Taxonomy, extraction and purification. **Journal of Biologically Active Products from Nature (Taylor and Francis Group)**. TBAP 6 (4) (2016). 282 – 298.
4. Prabhurajeshwar C, **Pramod P. Desai** and Kelmani R. Chandrakanth. Molecular Evaluation of High Fluoroquinolone Resistant Genes in Endemic Cases of Shigellosis, Northeast Part of Karnataka, India. **Annals of Global Health**. Volume 82, No. 5, 2016, 832-839.
5. R. Krishnaveni, Vandana Rathod, Rajashekhar Nagur, **Pramod P. Desai** and Prema Kulkarni. Role of Parametric Optimization on L-dopa and Cytosolic Tyrosinase Production under SmF from *A. rutilum*: its Purification and Characterization. **Int. J. Curr. Microbiol. App. Sci** (2015) 4(10): 350-367.
6. B.V.Hudge, **Pramod P. Desai** and G.D. Deshpande. Screening of soybean germplasm for resistance to damping off caused by *Pythium Ultimum*. **Indian Phytopath.** (2016). 69(3): 247-252.

Research Profile & Professional Experience: + 5 Years

- ◆ Currently working as a **Assistant Professor at Walchand college of Arts and Sciences, Solapur University, Solapur** since from June 2018 till date.
- ◆ Worked as an **Executive-Microbiologist** in MNC pharmaceutical company **Strides Arcolab Ltd.** Bangalore, from June 2012-March 2013 (9 Months).
- ◆ Worked as a **PROJECT FELLOW** in Yuvarajas College in Department of Biochemistry, University of Mysore, Mysore on the **DST** project titled “**Isolation and purification of nutraceuticals and functional food ingredients from Indian flaxseed cultivars: elucidation of synergistic effects of bioactives**” for a period of 8 Months.
- ◆ Worked as **JUNIOR RESEARCH FELLOW (JRF)** in **IABT, University of agricultural sciences** (An autonomous institution of ICAR) **DHARWAD**, for a period of 2 years on the DBT project

“Molecular characterization of *Bacillus thuringensis* and Actinomycetes from Indian west coastal forest soils”.

- ◆ Worked as **JUNIOR RESEARCH FELLOW (JRF)** in **NATIONAL CENTRE FOR CELL SCIENCES, NCCS** (An autonomous institution of DBT) for a period of 1 year on the DBT project titled **“Molecular characterization of invertebrates from Indian west coast”**.
- ◆ Worked on the **DBT PROJECT** “Exploration of the molecular diversity of the isolates of *Bacillus thuringensis* species from north-eastern hill regions & Western Ghats of India, cloning of insecticidal crystal proteins” at IABT, University of Agricultural Sciences (ICAR) DHARWAD, for a period of 6 months.

Total Posters Presented: 05

- ◆ **Pramod Desai, Sadiq S.Moree, G.B.Kavishankar, J.Rajesha.** Antidiabetic and antioxidant activity of Secoisolariciresinol diglucoside (SDG) in Streptozotocin-induced diabetic rats, presented at **“First Euro-India International Conference on Diabetics, EICD-2012, KOTTYAM, KERALA, INDIA.**
- ◆ **Pramod Desai, Yogashree GD, Siddagangamma AR, Chaithra LS and Nethravathi** on **“Phytochemical Evaluation and *in Silico* Phylogenetic Ananlysis of *Annona muricata* (L.) as a folkloric herbal plant”** presented at **Karnataka and Science Technology Academy (KSTA) Conference on “Science and Technology for inclusive development” at Gulbarga University, Kalaburagi (2 Days).**
- ◆ **Pramod Desai, Syeda Rafath and Rashma T** on **“Extraction and Evaluation of New Agar Medium from *Parkia Biglandulosa* (Wight and Arn) Powder and Its Biochemical composition Analysis of Dried Pods”** presented at Karnataka and Science Technology Academy (KSTA) Conference on “Science and Technology for inclusive development” at Department of Botany (UG), Tumkur University, Tumkuru.
- ◆ **Pramod Desai, Yogashree GD, Siddagangamma AR, Chaithra LS and Nethravathi** on **“Phytochemical Evaluation and *in Silico* Phylogenetic Ananlysis of *Annona muricata* (L.) as a folkloric herbal plant”** presented at Karnataka and Science Technology Academy (KSTA) Conference on “Science and Technology for inclusive development” at Department of Botany (UG), Tumkur University, Tumkuru (**Acquired 2nd prize for poster competition**).
- ◆ **Pramod Desai, Shubha N, and Nandini JR.** **“Seed Oil Evaluation and Screenings of Flowers of *Pongamia Pinnata* Linn. From Tumakuru Region** presented at Karnataka and Science Technology Academy (KSTA) Conference on “Science and Technology for inclusive development” at Department of Botany (UG), Tumkur University, Tumkuru.

Oral Presentation Presented: 01

- ◆ **Pramod Desai**, Prabhurajeshwar and Chandrakant Kelmani R.

Topic entitled: “**Molecular Characterization, Biosynthesis of Nanoparticles and Exploring Biological Activity of Actinomycetes Isolated from Diverse Ecological Niches**” presented at Karnataka and Science Technology Academy (KSTA) Conference on “Science and Technology for inclusive development” at Department of Botany (UG), Tumkur University, Tumkuru.

Conferences/Workshops/Symposiums/Seminars:

- ◆ Attended **Karnataka and Science Technology Academy (KSTA)** Conference on “**Science and Technology for inclusive development**” at Gulbarga University from 6th March – 7th March 2018.
- ◆ **Organized** and Attended “**First National Conference on “BIODIVERSITY-PRESENT AND FUTURE PROSPECTS”** at Tumkur University, Tumakuru for One day on 16th February 2018.
- ◆ Attended “**First Euro-India International Conference On Diabetics, EICD-2012**” at KOTTYAM, KERALA, INDIA from 9th April – 11th April 2012.
- ◆ Attended two days national seminar on “**Progress in biomedical research and its impact on human health**” at Department of Biochemistry, Shankarraghata, Kuvumpu University from 2-3 April 2012.
- ◆ Attended the training programme on “**Advanced Techniques in Biochemical Analysis**” at CENTRAL INSTITUTE OF FISHERIES EDUCATION, (Accredited by ICAR) from 12th April – 24th April 2005 (12 days) at Mumbai.
- ◆ Attended the training programme on “**genetics & molecular techniques in fisheries**” at CIFE, Mumbai from 13th Feb to 22nd Feb 2006.
- ◆ Attended the training programme on “**Animal Cell Culture & Stem Cell Banking, Cry preservation**” at RAGHAVENDRA BIOTECHNOLOGIES, Bangalore, for 1 week.

Achievements

- Obtained 9th rank at integrated B.Sc. (Biotechnology), in Gulbarga University, at Graduate Level.
- Pursued **PGDNBT (Post Graduate Diploma in Nanobiotechnology)** from Life science Foundation of India, Karnataka,
- Participated in **US-FDA** (Food & Drug Administration, USA) and **MHRA (UK)** audit system at corporate level.

Projects Entitled:

M.Sc. Biotechnology:

- Phytochemical screening and Antidiabetic activity of *Catharanthus roseus* in male Wister albino rats.

B.Sc. Biotechnology:

- Phylogenetic analysis of lactic **acid producucing** microorganisms by using the **Phylip** software.
- Biotechnology & Intellectual Property Rights (IPR) & Intellectual Property Protection (IPP).

M.sc (biotechnology) project description:

Project summary: “The project aims in isolation and characterization of principle active organic compounds from *Catharanthus roseus* leaf extract. It includes Phytochemical and pharmacological screening of compounds through various biochemical tests. Further, it includes standardization and calibration of soxhlet apparatus for extraction of various secondary metabolites, which are of medical significance. Experimental design and handling of Wister strain rats for checking of its antidiabetic activity from *catharanthus roseus* leaf samples”.

Techniques Expertise in Research arena:

Analytical techniques:

- Total Genomic DNA Isolation from microbial / Plant / animal samples.
- Agarose Gel Electrophoresis (Quantification of DNA).
- PCR amplification and purification of selective genes.
- Bulk PCR and gel elution of the targeted genes.
- Ligation and Bacterial Transformation (Cloning).
- Sequence analysis through Bioinformatics approach (Phylogenetic tree construction with MEGA software).
- Primer Dilution, RAPD and RFLP profiling.
- Restriction Digestion with various enzymes and ARDRA (Amplified Ribosomal DNA restriction Analysis).
- REP-PCR Fingerprinting for identification of microbial species at strain level.
- Spectrophotometer (UV, Vis), Chromatography (TLC, Column), carbohydrate, lipid, protein, enzyme purification and analysis. Nano-technological techniques like FTIR, X-ray diffraction, Atomic Force Microscopy (AFM), TEM and SEM analysis.

Microbiological techniques:

Isolation of microbial culture from environmental samples, Cell plating, Preparation of Glycerol stocks. *In-vitro* and *In-vivo* analysis of metabolites for antibacterial, antifungal, and Insecticidal activities.

Guided M.Sc Project Students: Total 12 (Completed-03, Present-10)

◆ Successfully Guided: 03

Project Title: “Biosynthesis of Copper Nanoparticles using Actinomycetes and its Antimicrobial Activity”

Name of the Students: Devika.R, Firdous Aara, Bhange Sainath.

Research Carried at: Department Of Post Graduate Studies And Research In Biotechnology, **Gulbarga University, Kalaburagi.**

◆ Presently Guiding: 10

Project Title: “Phytochemical Evaluation and *in Silico* Phylogenetic Ananlysis of *Annona muricata* (L) as a folkloric herbal plant”

Name of the Students: Yogashree GD, Siddagangamma AR, Chaithra LS and Nethravathi

Research Work Carried at: Department of PG Studies and Research in Botany, **Tumkur University, Tumakuru.**

Project Title: “Extraction and Evaluation of New Agar Medium from *Parkia Biglandulosa* (Wight and Arn) Powder and Its Biochemical composition Analysis of Dried Pods”

Name of the Students: Syeda Rafath, Rashma T and Roopshree.

Research Work Carried at: Department of PG Studies and Research in Botany, **Tumkur University, Tumakuru.**

Project Title: “Evaluation of Pharmacognostic and Phytochemical Analysis of *Sesbania Grandiflora* (L.) Root Extract from Kalpataru Nadu (Tumkuru) Karnataka”

Name of the Students: Kaveri H and Vidyashree M.

Research Work Carried at: Department of PG Studies and Research in Botany, **Tumkur University, Tumakuru**

Project Title: “Seed Oil Evaluation and Screenings of Flowers of *Pongamia Pinnata* Linn. From Tumakuru Region”

Name of the Students: Shubha N.

Research work Carried at: Department of PG Studies and Research in Botany, **Tumkur University, Tumakuru.**

FUTURE PROSEPTIVES:

- Writing scientific research proposals and getting funds from autonomous bodies.
- Review Paper publications and patent filling.

Passport Details:

Passport No. : **F 6458733**
Place of Issue : BANGALORE

REFERENCES:

Dr.Kelmani Chandrakant

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Gulbarga University,
Gulbarga
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Dr.G.R.Naik

Pro-Chancellor & Former VC
Department of Biotechnology,
Central University of Karnataka (CUK),
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Cell : 9341292638

I do hereby declare that the above statements are correct and true to the best of my knowledge.

Date : 25-05-2019

Place : HUBLI , INDIA

(Pramod Desai)

Ph.D Title: “Molecular Characterization, Biosynthesis of Nanoparticles and Exploring Biological Activity of Actinomycetes Isolated From Diverse Ecological Niches”

Brief Synopsis of Ph. D Thesis

Actinomycetes which are Gram-positive filamentous bacteria (meaning in Greek *aktis*- a ray beam and *mykes*-fungus) have tremendous ability in producing “antimicrobial substances” in nanotechnological aspects as well as in microbial screening programmes (MSP). This study described first instance report on extracellular synthesis of silver nanoparticles (AgNPs) from a biological organism (*Streptomyces* genus) with a green approach of hydrothermal (autoclaving) process in the field of nanomaterials. This was also the first time exciting report that microbe-mediated synthesis of nanoparticles was carried out from *Streptomyces* species by hydrothermal autoclaving process in microbial system (novelty of the current study) as compared with the previous report synthesized from plant gum ghatti *Anogeissus latifoli*. Here in this study, AgNPs characterizations were also investigated by atomic force microscopy (AFM) apart from XRD and SEM, which is new, updated and advanced technological tool to characterise AgNPs to confirm size and shape of particles, wherein very few reports have used this technique in literature. The atomic force microscope (AFM) is ideally suited for characterizing nanoparticles (AgNPs) which offers the capability of 3D visualization and both qualitative and quantitative information on many physical properties including size, morphology, surface texture and roughness.

Rapid molecular methods were used in this study for taxonomic identification of the native actinomycetes isolates by 16S rDNA, ARDRA and REP-PCR fingerprinting techniques. The detection of PKS and NRPS gene sequences involved in the synthesis of secondary metabolites were also done in this study to evaluate biosynthetic potential of the actinomycetes isolates. Also, in the present investigation, taxonomic identification of one of the potent isolate GUT 21 was confirmed by 16SrDNA as *Streptomyces* species and the sequence was deposited at NCBI database (GenBank Accession number KU500633). PCR based ARDRA technique was used in this study for accurate and precise way of identifying genus for potent isolates.

Further, Antimicrobial activities of Secondary Metabolites from *Streptomyces* sp GUT 21 were done in this study. Subsequently, it was concluded, that the one of the secondary metabolite detected as Phenol, 2, 4bis (1, 1dimethyl ethyl) possessed significant antimicrobial activity which is a striking attribute observed in our study.