

W/O Vijay kumar R

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Present position: Associate Professor , Department of Sciences , Administrative Management College, Bengaluru.

Objective:

Proactive academic and research professional with 12+ years of experience, I believe in my abilities and will surge ahead in my career by the process exploring for newer challenges to apply research experience and to acquire substantial knowledge for active contribution through persistence hardwork, team building and competitive output.

Research Interest:

Cancer biology, molecular biology, cell biology, Genetics, phytochemistry, natural product medicine, Characterization of Secondary metabolites, Agricultural biotechnology, Biochemistry.

Education:

□ **Doctor of Philosophy (Biosciences):** (2012 to 2018)

Thesis Title: " Phytochemical And Pharmacological Activities Of *Ophiorrhiza Rugosa* Wall. And *strychnos Nux- Vomica* L.

Department of Bio sciences , Mangalore University ,Mangalore. Karnataka, India.

□ **Master of Science (Biochemistry):** June 2006 to July 2008

Mangalore University, Mangalore, Karnataka, India.

□ **Bachelor of Science (Chemistry, Zoology, Microbiology):** June 2003 to July-2006

University College Mangalore, Mangalore, Karnataka, India.

Professional Experience:

Research Experience

(Ongoing Projects)

- Guiding Karnataka State Council For Science and Technology (KSCST) 46th series student project programme:2022-23 –Proposal Reference No -46S_MSc_085-“A Novel Domestic Bio Waste (Plastic) Management System Using Mycoremediation”.

(Funded Projects)

- Completed **UGC minor Research Project**-“*In vivo* Anti-inflammatory property of *Ophiorrhiza rugosa* L. and analysis of biomarkers (Cox2, PGH, PLA2 TNF α)UGC Reference No.: MRP(S)-1433-MRP/14-15/KAMA002/UGC-SWRO.
- Completed **UGC minor Research Project**- “Biochemical and phytochemical investigation of *Ophiorrhiza rugosa* and its medicinal properties (antioxidant, antimicrobial, cytotoxicity and genotoxicity properties), UGC Reference No.: MRP(S)-774/10-11/KAMA002/UGC-SWRO

Project Experience

- Completed summer training program at **Bhat Biotech Pvt.Ltd, Bangalore** on **Animal Cell culture technique**.
- Completed Summer Training project on **Chemical and Microbiological analysis of Milk and Milk products**” From 01-06-2007 to 30-06-2007 in D.K.M.U. Mangalore(certified).
- 15 day’s project in **Clinical biochemistry at Sanjeevini clinic** , Mangalore
- Guided more than **40** P.G.students for project on **cancer biology, Biochemistry, microbiology and Pharmacology** field.

Teaching Experience:

Present position: Associate Professor, Department of Sciences, Administrative Management College, Bengaluru: December 2021 to till date.

- **Two** years (2017-2019) of teaching experience in P.G Department of Biochemistry, **Bangaluru City University (Central College), Bangalore University**.
- **Eight** years (2009-2017) of teaching and research experience in **P.G Department of Biochemistry as assistant Professor & Head of the department**, St Aloysius College (Autonomous), Mangalore.
- **One** year (2008-2009) of teaching experience in **Department of Biosciences Mangalore University, Mangalore**.

Papers taught: Animal biotechnology, Immunology, Metabolism, Nutrition, Gen.Physiology, Molecular Physiology, Molecular genetics, Genetic Engineering, Proteomics and genomics, Enzymology and Biochemical techniques.

Book Published:

- Bhavya Devanooru Krishnamurthy, Veeksha Shetty,Pallavi Mogaveera “Extraction and Characterization of Chitosan From *Pinnaeus Indicus* And Its Pharmacological Property” LAP LAMBERT Academic Publishing (ISBN-978-620-6-14321-5).
- The book chapter titled "Genetic Surgery or Gene Therapy?" has been accepted for publication in edited book titled "Current Research in Life Sciences (Volume - 3)" , AkiNik Publications Printing Press License No.: F.1 (A-4) Ref. No.: CRLS-03-10 Date: 22-04-2023.

List of Publications:

- **Bhavya D.K.** and Krishnamoorthy M.2014.“Preliminary Screening of phytochemical and mineral content of chloroform and methanol extracts of *Strychnosnux vomica* L and *Ophiorrhizarugosa* Wall”. *International journal of Pharma and Biosciences*,5 (2), 390 - 395.
- **Bhavya DK** and Krishnamoorthy M.2015.“Phytochemical analysis of chloroform extract of *Strychnousnux vomica* L seedsusing GC – MS and HPTLC” published in *International journal of universal Pharma and Biosciences*,4(1),112-119.
- **Bhavya DK** and Krishnamoorthy M.2016.*In Vitro* Anti-inflammatory property and phytochemical content of methanol extract of *Strychnosnux-vomica* L (Seeds).*Journal of pharmacognosy and phytochemistry*.5(5), 162-166
- **Devanooru Krishnamurthy Bhavya**,Shrilakshmi and Rao Suraksha“value –added products from agriculture: extraction of pectin from agro waste product *musaacuminata* and *citrus* fruit” published in ISCA-RJAFS-2015
- “Evaluation of antioxidant and antimicrobial activities of *Ophiorrhizarugosa*” Al-Shoadhana.Vol.1 No.1

In Preparation:

Process Biochemistry-Elsevier – Manuscript number – PRBL-D-22-01349

Title:-Silver nanoparticles derived from isolated alkaloid metabolites of Tridax Trilobata flower: Evaluation of antibacterial, anti-biofilm and anti-hemolytic properties.

Poster presentation

Bhavya D. Kand Krishnamoorthy M, Phytochemical and Pharmacological evaluation of methanol extract of *Strychnosnux-vomica* L (Seeds) for Anti-inflammatory property, in the “National Seminar on Frontiers in Biotechnology” held on February 18-19, 2016 Organized by department of Biotechnology,BharathiarUniversity,Coimbatore.

Oral presentation

- **Bhavya D. Kand** Krishnamoorthy M,“Isolation, characterization of alkaloid from *Ophiorrhizarugosa* Wall. , its anticancer activity and computational target prediction by *in silico* docking study towards drug discovery”, in “National seminar on Lab to clinic: Approaches and Challenges in Drug Discovery,Design and Delivery” on 23rd and 24th February 2018 ,Organised by Department of Bisciencies,Mangalore university in association with Royal Society of chemistry(London) India Deccan local section.
- **Bhavya D. Kand**Krishnamoorthy M, Hepatoprotective effect of chloroform extract of *Strychnosnux-vomica* L seeds on experimentally induced liver injury in*Musmusculus* .*National Conference on Genetics for Human Welfare on 22 & 23, January,2018, Organized by Department of life sciences, Kristu Jayanthi College(Autonomus), Bengaluru.*

- **Bhavya D. Kand Krishnamoorthy M**, Investigation of Phytoconstituents of chloroform extract of *Ophiorrhiza rugosa wall* (leaves) using GC – MS and its cytotoxic property, in Asian plant science conference , November 1-3,2014,Bhairahawa,Nepal.
- Presented paper at - **International Conference on -Frontiers in Nutrition, Medical Genomics, and Drug Discovery (Inbix'22)** Organized by Department of Biotechnology and Bioinformatics, VFSTR Under the Aegis of Bioclues.org on October 31st- 2nd November.
- Presented paper at - National conference on ' **Advances in microbial biotechnology: current trends and future prospects” held on 28th and 29th April 2022** at Bangalore University Organized by Department of Microbiology, Biotechnology and Food Technology, Bangalore University In Association with Microbiologists Society, India - MSI.
- Attended National seminar on impact of online education:Physiological, psychological and academic performance organized by Ayur Suraksha, Bangalore on 03/09/2022.(Invited as a judge for science model exhibition).

Research skills: *Analytical Skills*

- **Animal Cell Culture Technique and Animal Handling Experience** (Completed summer training program at **Bhat Biotech Pvt.Ltd, Bangalore** on **Animal Cell culture technique.**)
- **Electrophoresis**- SDS, PAGE
- **Chromatography**-TLC, Column Chromatography
- **Spectroscopy**- UV, Visible, IR
- Lyophilization, Soxhlet extraction
- Basic Lab Work Experience in **Biochemistry-Biochemical Analysis.**
- Basic Lab Work Experience in **Microbiology.**

Research project of doctoral research

Title: “Phytochemical And Pharmacological Activities Of *Ophiorrhiza Rugosa Wall. And strychnos Nux- Vomica L.*”

The aim of this research was to evaluate phytochemical and pharmacological activities of *Ophiorrhiza rugosa* Wall (OR) and *Strychnosnux-vomica L.*(SNV).The mature leaves of OR and seeds of SNV collected from ripened fruits, were washed thoroughly in tap water to remove adhering dirt, shade dried at 37°C. The dried materials were then powdered and subjected for successive extraction using soxhlet apparatus with chloroform and methanol for 48 hrs at room temperature with continuous stirring.

Screening and extraction of alkaloids from the plants and evaluation of various biological activities

- Estimation of the ash and mineral content of the plants. Phytochemical analysis of methanol and chloroform extract of OR leaves and seeds of SNV by **HPTLC and GC-MS**.
- Evaluation of ***in vitro* antioxidant** property of methanol and chloroform extract of OR leaves and seeds of SNV using a) Diphenylpicrylhydrazyl (DPPH) radical scavenging assay. b) ABTS [2,2'- azino bis- (3-ethylbenzothiazoline-6-sulfonic acid)] radical cation scavenging method. C) Scavenging of superoxide radicals by alkaline DMSO method.
- Evaluation of **anti-inflammatory** property of methanol and chloroform extract of OR leaves and seeds of SNV

A) *In vitro* by the methods of a) Anti-lipoxygenase activity b) Protein denaturation c) Heat induced haemolysis of HRBC membrane and

B) *In vivo* by the method of carrageenan induced **inflammation in rat paw edema**.

- *In vitro* anticancer property of the plant extracts on MCF7, HepG2 and Vero cell lines using Methyl thiazolyl tetrazolium (MTT) assay.
- *In vivo* evaluation of hepatoprotective potential of the plant extracts against DEN induced hepatotoxicity in *Mus musculus* system as follows.
 - a) Measurement of the level of Bilirubin, AST, ALT and total protein.
 - b) Assessment of Hematological parameters (RBC, Hb, total WBC count)
 - c) Tumour incidence and histopathological analysis using i) Haematoxylin-eosin counter staining techniques and ii) Scanning Electron microscopy technique.
- Fractionation of major alkaloids by TLC method and characterization of bioactive molecule using **FTIR, NMR and LCMS** spectral analysis of the plant extracts.
- *In vitro* anticancer screening of bioactive molecule on human HepG2 cell line using MTT assay, Gene expression analysis by **flowcytometric** method.
- Computational Target Prediction by *in silico* search for drug targets of screened active molecules towards drug discovery.



Awards and Achievements:

- Organized Two days Workshop on “Basics of Bioinformatics – For Beginners” on 9 th and 10 th September 2022, in association with Karnataka Science and Technology Academy (KSTA).
- Organized Webinar on “Intellectual property rights- Awareness for Industry and Academia” on 26th April,2022, Resource person: Ms.Ramya Sheshadri.
- **Cleared K-SLET for lectureship.**
- Attended UGC sponsored **21 days Refresher course** in Life Sciences by Academic Staff College, Calicut from **22nd November to 12th December** and obtained **grade A**.
- Presented paper on “Circulating lipids” at Academic Staff College, Calicut.
- Presented paper at **Nepal**--“Asian plant science conference”-2014

- Was honored by the management of St.Aloysius College, With “**certificate of Excellence**” -2012
- Was honored by the management of St.Aloysius College, With “**certificate of Appreciation**” on 22nd march 2013
- Was honored by the management of St.Aloysius College, With “**certificate of Appreciation**” -2015
- **NCC –B AND C CERTIFICATE S**
- A Life time member of “**SOCIETY OF BIOLOGICAL CHEMISTS**”(INDIA)
- Resource person at biochemical workshop organized by Biochemistry department ,St.Aloysius College ,Mangalore
- Organized National seminar as **Organizing Secretary** funded by University Grant commission.
- Organized National level workshop on Biochemical techniques as **Organizing Secretary** in P G Dept of Biochemistry, St.Aloysius college.

Personal Profile:

Name: Dr. BHAVYA D K

Father’s name: KRISHNAMURTHY

Marital Status: Married

Languages Known: English, Kannada, and Telugu.

Nationality: Indian

References:

1. **Dr. Asha Abraham , Associate professor, P.G studies and research in Biotechnology, St.Aloysius College(Autonomous), Mangalore. Contact No-9449555802. [Email-abraham.asha@gmail.com](mailto:abraham.asha@gmail.com).**
2. **Dr. Chandrashekar G Joshi, Assistant professor, P.G studies and research in Biochemistry, Mangalore University, Cauvery campus, ChikkaAluvara,Kushalnagarhobli, Somwarpet taluk,Kodagu-571232. Contact No-9448446641, Email- josheejoshee@gmail.com**
3. **Dr. V R Devaraj, Professor, Department of Biochemistry, Central college campus, Central university Bangalore. Contact no-9886494428, Email- devaraj@bub.ernet.in**