

CURRICULUM VITAE

Dr. Kavitha B.C.

Lakshmi Enclave, 4th main, Jayalakshmiapuram, Mysuru.

E-mail: bckavitha10@gmail.com, Mobile – 9845607206

Summary

- Self motivated and productive research scholar with strong skills in multi-tasking and efficient management research experience of working on projects pertaining to bioavailability of mineral studies, purification of plant isolates with monitoring and laboratory skills.
 - Customer service oriented quality control experience with operating in an array of manufactured goods environment, ensuring production and products meet expected standards for safe food handling and distribution.
-

Technical Skills

- Handling and maintenance of laboratory rodent animal models.
 - Spectrophotometer, Spectrofluorimeter, Atomic Absorption Spectrophotometer.
 - Chromatographic Techniques: HPLC, GLC, LC-MS.
 - Fluorescent, Phase contrast and Scanning Electron microscopy.
 - Electrophoresis.
 - Fourier transform infra-red spectroscopy.
 - Nuclear magnetic resonance.
 - Formulations, Product development and food sampling.
 - Computer skills – Knowledge in MS WORD, EXCEL, POWERPOINT, chart for windows, internet surfing, browsing various search engines such as Google, PubMed, Medline and familiar with online submission system.
-

Experiences

- Currently working as full-time guest faculty at Department of Food Science and Nutrition, Manasagangothri, University of Mysuru, Mysuru from June 19th 2023.

Industry Experience

• Co-ordinator- Quality Assurance

Jay Keshav Exports Pvt. Ltd., Bengaluru, Nov-2016 to June -2020).

- Coordinated with company management to develop and implement new standards.
 - Ensured compliance with FDA, GMP, HACCP standards and guidelines.
 - Product development and shelf life studies.
 - Prepared regular reports on food safety standards.
 - Identified issues with current processes and implemented adjustments when required.
 - Responded to customer complaints and sought timely resolutions.
 - Maintained cleanliness and sanitation throughout the factory.
 - Prepared facility cleaning schedules.
 - Product sampling and testing, and development of standardized procedures in order to successfully meet customer specifications and regulatory standards.
 - Develop, maintain, and revise updates of all Quality and Food Safety SOP's.
 - Implement, maintain and document employee training procedures.
 - Maintain HACCP program, pest control program and conduct crisis management and mock recalls.
-

Research experience

- **Senior Research Fellow**, Department of Biochemistry and Nutrition, CFTRI, Mysuru, (Nov-2008 to May-2016).
 - Isolation, purification and *in vitro*, *in vivo* studies of antioxidant and pectic polysaccharide fractions from potato and ginger for antiulcer properties, structural elucidation and studies on the effect of various cooking processes.
- **Project Assistant Trainee** at Department of Flour, Milling, Baking and Confectionary Technology, CFTRI, Mysuru, (June, 2008- October, 2008).
 - Proximate analysis, identification and estimation of minerals in fortified wheat flours.
- **Project Assistant Trainee** at Department of Biochemistry and Nutrition, CFTRI, Mysuru, (July 2005-May 2008).
 - Proximate analysis of *Sauropus androgynus*, a less explored green leafy vegetable; bioavailability studies of the mineral content, comparative studies, identification and analysis of alkaloids.

Teaching Experience

- Worked as resource faculty at Department of Food Science and Nutrition, Karnataka State Open University, Mysuru (January 2022 to June 2023).
- Worked as part time guest faculty at Mother Teresa Nursing College, Mysuru (December-2007 to August 2008).

Healthcare experience

- Dietitian at Vikram Hospital, Mysuru, (October 2004 – July 2005).
 - Counselling for in-patients and out patients in 100 bed hospital.
 - Therapeutic diet planning for in-patients according to their physiological conditions.
 - Supervision of all therapeutic diet preparations.

Education

- Ph.D in Biotechnology, Department of Biochemistry and Nutrition, Central Food Technological Research Institute (CFTRI), Mysuru, India, (2008-2016).
- M.Sc., Food Science and Nutrition, University of Mysuru, Mysuru, (2002-2004).
- B.Sc., Clinical Nutrition and Dietetics, Chemistry, Microbiology, University of Mysuru, Mysuru, (1999-2002).

Brief summary of my research work:

Thesis entitled “Mode of action of gastro-protective components from Potato (*Solanum tuberosum*) and Ginger (*Zingiber officinale*); Effect of various cooking processes” was undertaken considering the increasing incidences of ulcers. Gastric ulcer is a common problem causing enormous sufferings to human kind. Imbalance in aggressive factors (acid, pepsin and *Helicobacter pylori*) and defensive factors (gastric mucin, prostaglandin, bicarbonate, nitric oxide and growth factors) result in pathophysiology of ulcer condition. Classical therapeutics poses severe side effects. Thus compound(s) from dietary /plant sources that can block multi-steps of ulcer pathogenicity with no side effects have been the choice to treat or prevent ulcers. Current study was proposed to understand the antiulcer potency of potato (*Solanum tuberosum*) and ginger (*Zingiber officinale*). Emphasis was

also given on the effect of cooking conditions on gastroprotective properties, since potato /ginger are consumed in the cooked form; in addition to addressing the mode of action of phenolics and pectic polysaccharide components from potato and ginger. Data revealed that ginger contained ~ 2 folds higher phenolic content (potato 3.12±0.18 mg/g; ginger 7.6± 0.42 mg/g) and more or less equal amount of pectic polysaccharide (6±0.3%) with uronic acid content of 174±8.7 mg/g and 240±12 mg/g in potato and ginger respectively. Phenolic acid profiling revealed that potato predominates with gallic acid (~67%) followed by protocatechuic acid (23%) while ginger predominates with gallic acid (45%) followed by cinnamic acid (50%). When aqueous fraction of potato and ginger were subjected to cooking conditions such as boiling, pressure cooking and microoven conditions, altered activity was observed and has been attributed to the differential loss of certain type of phenolic acids. Activity of potato pectic polysaccharide was also affected during cooking condition and has been attributed to structural alterations as revealed by FTIR and scanning electron microscopic analysis. Studies on understanding of the mode of action reveal that both phenolics and polysaccharide fractions of potato and ginger possessed differential activity in terms of inhibition of H⁺, K⁺ -ATPase, antioxidant and anti-*H.pylori* activity, besides mucosal protection, regeneration of mucosal cells with mucin synthesis and prevention of potential DNA/cellular damage of cells, as evidenced by both *in vitro* and *in vivo* models. Study suggests that, potato must be consumed in raw form, while ginger can be consumed either in the raw or cooked form to avail antiulcer potency.

Awards

- **Recipient of Senior Research Fellowship** - To carry out Ph.D research work by Council of Scientific Industrial Research (CSIR)-New Delhi, Government of India, (September 2008).
- **Travel Award** - International Conference on advances in Free Radicals Research, Natural products, Antioxidants and Radio protectors in Health and Ninth Annual meeting of the Society of Free Radical Research held during 11-13 Jan, 2010 at Hyderabad. (Poster presentation).
- **UGC-NET for Lectureship** in Home Science, June 2013.

Poster Presentations:

- Kavitha B.C., Kalpana Platel and Srinivasan K.- “Nutritional evaluation of chekurmanis (*Sauropus androgynus*),” International Symposium on Building Leadership Skills in Food and Nutrition Essential for National Development, June 23rd -25th, 2006, CFTRI, Mysuru.
- Kavitha B.C., Srikanta B.M., and Shylaja M Dharmesh – “Antioxidative, Cytoprotective and Gastro-protective properties of phenolic and polysaccharide fractions of potato (*Solanum tuberosum*)” , International Conference on advances in Free Radicals Research, Natural products, Antioxidants and Radio protectors in Health and Ninth Annual meeting of the Society of Free Radical Research held during 11-13 Jan, 2010 at Hyderabad.
- Kavitha B.C., Meghashri S and Shylaja M Dharmesh – “Differential loss of antiulcer nutraceuticals from potato (*Solanum tuberosum*) during cooking conditions; evidence for molecular alterations”, XXI Indian Convention of Food Scientists and Technologists, 20th-21st January 2012, Pune, Maharashtra.

Workshops

- National Workshop on “Modern Tools and Methodology in Neurotoxicology including Metallomics”, Dr. ALM. PGIBMS, University of Madras, Taramani, Chennai, March 25th-27th, 2011.

- Basics of nutrition and its application in laboratory animals, Department of Biochemistry and Nutrition, CFTRI, Mysuru, June 27th – 29th 2011.
- National Workshop/Seminar on advance training in proteomics and genomics organised by department of studies in biotechnology and microbiology, Pooja Bhagavat Mahajana PG Centre, University of Mysuru, Mysuru, September 14th -16th 2011.
- Training programme on Microbiological analysis of spices and spice products using automated methods held at Quality Evaluation Laboratory, Spice Board, Cochin, 29th - 2nd Feb 2018.

Publications

- **Kavitha Badanavalu Chandrashekaraiiah** and Shylaja Mallaiah Dharmesh, Effects of various cooking processes on antioxidants of potato (*Solanum tuberosum*), Journal of pharmacy research, 2014, 8(8), 1148-1157.
- **Kavitha Badanavalu Chandrashekaraiiah** and Shylaja Mallaiah Dharmesh, Gastro protective and H⁺, K⁺-ATPase/*H. pylori* inhibitory properties of pectic polysaccharides from potato, International Journal of Biological Macromolecules, 84, (2016) 385–393.
- **Kavitha Badanavalu Chandrashekaraiiah**, Siddaraju Muger Nanjundaiah and Shylaja Mallaiah Dharmesh, Gastroprotective effect of ginger aqueous extract under various cooking conditions – **Under Process**
- **Kavitha Badanavalu Chandrashekaraiiah**, Srikanta Belagihalli Manjegowda, Shylaja Mallaiah Dharmesh, Anti-ulcer Properties of aqueous extract of Potato (*Solanum tuberosum*) in ethanol induced gastric ulcers in Wistar albino rats – **Under Process**

Other achievements

- NCC Air wing cadet 1996-2000
- Glider pilot license holder
- Awarded best in gliding, Mysore- (1999-2000)
- ‘B’ and ‘C’ certificate holder

Declaration : The above mentioned information is true and correct to the best of my knowledge.

Kavitha B.C.