



**Dr. DEEPA G MURICKEN**

**ASSISTANT PROFESSOR & HOD**

**DEPARTMENT OF BIOCHEMISTRY**

**ST MARY'S COLLEGE THRISSUR-20**

### **Professional objective**

**To ignite the young minds with a fire of science and scientific thoughts particularly in the field of biochemistry and to explore the world for the goodness of mankind.**

### **College Address**

Dept. of Biochemistry  
St Marys College, Thrissur-20  
Kerala, India  
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### **Education**

**Degree :** B.Sc. Botany Institution:  
Deva Matha College, Mahatma  
Gandhi University  
**Year :**  
2000

### **Degree :**

M.Sc.Biochemistry  
Institution: School of Biosciences,  
Mahatma Gandhi University  
**Year :**  
2002

**Project :** Display of a B-cell epitope derived from the F-protein of Rinderpest virus on the surface of Physalis motile tymovirus and raising polyclonal antisera against the B-cell epitopes. Work carried out at Dept. of Biochemistry, **Indian Institute of Sciences Bangalore**

### **Degree :**

Ph.D.  
**Institution :** CFTRI, Mysore  
**Year :**  
2011

### **Major Field :**

Protein chemistry and Technology.

**Thesis:** Cloning, expression and site-directed mutagenesis of the Bowman Birk Inhibitor of horsegram (*Dolichos biflorus*).

## **Personal Particulars**

**Gender: Female**

**Marital Status: Married**

**Nationality: Indian**

**Languages: English, Malayalam, Kannada, Hindi**

## **Experience**

- Feb 2012 onwards: Assistant Professor in Biochemistry, St. Mary's college Thrissur, Affiliated to Calicut University, Kerala
- 2011- 2012: Research Scientist consultant, Monsanto Research Centre Bangalore.
- 2004 2011: Research Fellow, CFTRI, Mysore.
- 2003- 2004: Project Assistant, Department of Biochemistry, Indian Institute of Sciences Bangalore.

## **Research experience:**

Isolation and purification of proteins by classical purification methods, Enzyme kinetics, Protein characterization by physical and biochemical methods, genetic engineering methods like isolation of DNA and RNA, cloning, PCR amplification, restriction enzyme digestion, ligation, DNA sequencing, Site Directed Mutagenesis, cDNA synthesis, Competent cell preparation, transformation, recombinant protein expression and purification, western blotting, southern blotting, raising polyclonal antibodies in rabbit and mice, Phytochemical analysis and purification of plant pigments, studies on antimicrobial activity, Separation of phytochemicals etc.

Technical skills in electrophoresis (PAGE and Agarose), TLC, Western blotting, HPLC, FPLC, Spectroscopy, PCR, gradient PCR, Touchdown PCR, Colony PCR, Primer designing, Gel documentation, Ultra sonication, Electroporator, Centrifugation, Ultra centrifugation, Chromatographic techniques like gel filtration, ion exchange, affinity chromatography, preparation of columns etc.

## Research Guidance

### Title of UG project work

1. Studies on the antibacterial and antifungal activity of *Eupatorium odoratum* .(2012-13)
2. Antimicrobial and anti-oxidant studies of epidermal hairs of *Cocos nucifera*. (2013-14)

### Title of PG project work

3. An introductory study on the phytochemicals, antimicrobial activity and role in biowaste degradation of *Eupatorium odoratum*. (2012-13)
4. Purification of Lipase from *Eupatorium odoratum* leaf extracts. (2013-14)
5. Phytochemical analysis of *Eupatorium odoratum* flower and isolation of antimicrobial compounds from the flower. (2013-14)

## Professional Activities

### Memberships

- Society of Biological Chemists of India.
- Association of Food Science Technologists of India.
- INCITE

### Awards and Achievements

- University merit scholarship for M.Sc (2000-2002)
- Joint CSIR-UGC National Eligibility Test (NET) for Lectureship held on 22<sup>nd</sup> December, 2002
- Joint CSIR-UGC Junior Research Fellowship (JRF) and Eligibility for Lectureship- National Eligibility Test (NET) held on 22<sup>nd</sup> June, 2003
- Best poster award During 74<sup>th</sup> Annual Meeting of Society of Biological Chemists, (India) 2005 held at Central Drug Research Institute Lucknow from Nov.7-10, 2005.

## Research Interest

Genome analysis

Phytochemical analysis, anti oxidant, antimicrobial and genoprotectivity activity of plant extracts.

Isolation and characterization of phytochemicals

Isolation and characterization of enzymes like lipases from various sources.

## Research Training undergone

Attended international workshop on drug designing conducted by INCITE and Biodiscovery group

## Selected Publications

- Functional expression of horsegram (*Dolichos biflorus*) Bowman–Birk inhibitor and its self-association. **Deepa G. Muricken** and Lalitha R. Gowda. *Biochimica et Biophysica Acta*, 1804 (2010) 1413–1423.
- Molecular engineering of a small trypsin inhibitor based on the binding loop of horsegram seed Bowman-Birk inhibitor. **Deepa G. Muricken** and Lalitha R. Gowda. *Journal of Enzyme Inhibition and Medicinal Chemistry*, (2011) 1–8.
- Protease Inhibitors: Kunitz and BBI –A review. **Deepa G. Muricken**. *Annals of Basic and Applied Sciences* Vol 3, No.1 (2012) 107-112.
- Phytochemical analysis and the role of Eupatorium odoratum in biowaste degradation by Sonia P A and **Deepa G Muricken** *Proceedings*, 03-41, 26<sup>th</sup> Kerala Science Congress 28-31 January, 2014 Wyanad, Kerala.

## Posters presented in National/ International Symposia

- “Cloning and functional expression of the Bowman Birk inhibitor of Horsegram (*Dolichos biflorus*)” presented by **Deepa G. Muricken** and Lalitha R. Gowda in the 74<sup>th</sup> Annual Meeting of Society of Biological Chemists, (I)2005 held at Central Drug Research Institute Lucknow from Nov.7-10, 2005.

### Best poster award.

- “ Site directed mutagenesis of horse gram Bowman Birk inhibitor: an insight to the dynamic effects of the active site residue” presented by **Deepa G. Muricken** and Lalitha R. Gowda in the 77<sup>th</sup> annual session and symposium of National Academy of Sciences India held at Central Food Technological Research Institute Mysore from Dec.6-8, 2007.
- “Bioengineering of therapeutic peptides derived from horsegram (*Dolichos biflorus*) trypsin inhibitor” presented by **Deepa G. Muricken** and Lalitha R. Gowda in the 6<sup>th</sup> International Food Convention IFCON 2008 held at Central Food Technological Research Institute Mysore from Dec.15-19, 2008.
- ‘Phytochemicals analysis of *Eupatorium odoratum* and the detection of lipase activity using a simple and modified method’ by Sonia P A and **Deepa G Muricken** in the UGC sponsored national seminar on ‘Basic and Advanced Biochemical techniques: Relevance in Interdisciplinary Research Scenario’ held at B K College Amalagiri, Kottayam, Kerala, Sept. 3-4, 2013.
- Phytochemical analysis and the role of *Eupatorium odoratum* in biowaste degradation by Sonia P A and **Deepa G Muricken** in the 26<sup>th</sup> Kerala Science Congress 28-31 January, 2014 Wyanad, Kerala.

## Conferences/Seminar/Symposia Participation

- National Seminar on Quality Enhancement in Higher Education through Student Support at St. Marys College, Thrissur on 02.03.2012&03-03- 2012
- CME on obesity. Basic concepts and management of obesity conducted by department of Biochemistry, Jubilee mission medical college 2012.
- UGC sponsored national seminar on ‘Basic and Advanced Biochemical techniques: Relevance in Interdisciplinary Research Scenario’ held at B K College Amalagiri, Kottayam, Kerala, Sept. 3-4, 2013.
- 26<sup>th</sup> Kerala Science Congress 28-31 January, 2014 Wyanad, Kerala.