

## Area of Research expertise

Incidence of virulence factors of Shiga toxin carrying *E. coli* (STEC) and to device Nano diagnostics system for pathogens affecting animals (*E.coli* and *Salmonella*) and to develop molecules to inhibit Shiga Toxin *E. Coli*.

## Teaching / Research Experience

| University  | Designation                             | Period                      | Experience       |
|---|---|-----------------------------|------------------|
| Sri Ramachandra University, Chennai                   | Senior Lecturer                         | March 2006- To date         | 10 years         |
| MD Sathak College of Arts and Science, Chennai        | Lecturer                                | June 2005- March 2006       | 10 Months        |
| Kemin Nutritional Technologies India Pvt Ltd, Chennai | Research and Development- CLS Executive | November 2001- October 2003 | 1 year 11 months |

## Awards / recognition

**Dr. Sergio G. Litewka Award** for obtaining Indian Patent - Awarded by Sri Ramachandra University

## International Travel Grant

Received “International travel grant to attend “International workshop on Protein expression and Purification strategies at “Chulalongkorn University”, Bangkok.

## International Conferences:

Genotoxicity Assessment of Antidiabetic formulation (ADPHF6) in human Lymphocytes by single Cell Gel electrophoresis (Comet Assay) – An In vitro study ICAW 2015, 11th International Comet Assay Workshop VITO ( Flemish Institute for Technological Research) Industriezone Vlasmeeer 7 2400 Mol, Belgium, 01 sep 2015- 04 Sep 2015.

## Refresher courses/ workshops (National)

- Attended a UGC-sponsored “Refresher Course in NanoSciences”, held at University of Madras from 11<sup>th</sup> November 2009 to 01<sup>st</sup> December 2009
- Training programme on “Application of Bioinformatics in Veterinary Research”, July 6- 10, 2015 at Bioinformatics centre and ARIS cell, Madras Veterinary College.

- Third Indo-US Lecture series on “Discrete Mathematical Chemistry: Special Lectures on Chemoinformatics and Bioinformatics”, held at Bharathidasan University, Tiruchirappalli, from 07-10 January 2008.
- National workshop on “Trends in Systems Biology and Bioinformatics”, held at Madurai Kamaraj University, Madurai, from 06-08 March, 2007.
- The First Indian Congress on “Alternatives to the use of Animals in Research, Testing and Education”, held at Sri Ramachandra University, from 29-31 January, 2007.

### **Research focus:**

**Thrust Areas:** Incidence of virulence factors of Shiga toxin carrying *E. coli* (STEC) from animals and to develop plant molecules against STEC

### **Patents**

Indian Patent Filed : As a part of PhD- Patent No: 2117/ CHE/ 2013 - A method for Detecting Banana bunchy top virus.

### **Research Credentials**

### **Merits and Awards:**

- ❖ Recipient of Junior Research Fellowship of National Dairy Research Institute for the period- Aug 1998 to July 2000.
- ❖ Recipient of National Eligibility Test certificate from ICAR (Indian Council Of Agricultural Research), October 2001, New Delhi.
- ❖ Recipient of ICMR (Indian Council of Medical Research) - JRF, May 2005, New Delhi.

### **Oral presentations/ Posters (National )**

- Lisha bai R, Payal Amin, Kumar P. (2016). Detection of Shiga toxin genes (*stx1* and *stx2*) of *Escherichia coli* using functionalized Gold Nanoparticles. MGR University, Chennai.
- Sri Rekha., S, Florence F and Kumar. P. (2016). Incidence of intimin *eae* genes of *Escherichia coli* from cattle faeces. MGR University, Chennai.
- Vijayakumar Ramaraj, Rajyoganandh S. Vijayaraman, Kumar. P, Sudha.R, Anupma Jyoti Kindo. (2015). Cloning and Expression of Dipeptidyl Peptidase – 5 (DPPV) of *Trichophyton mentagrophytes*. JIPMER, Pondicherry.
- Delivered an invited Lecture on “Recombinant DNA and Drug Design” at C.L. Baid Mehta College for Pharmacy, Chennai, on 29<sup>th</sup> November 2006.

### **GenBank submissions**

Nucleotide sequences were deposited in NCBI data base. GenBank Accession Nos: KJ513015, KJ513016, KJ513017, KJ513018, KJ513019 and KJ513020, KR815823, KF246092, KF246091, KR560065, KR560066, KR560067.

### **Publications**

- Kumar P, Atreja SK. Agonists dependent Diacyl glycerol generated in the plasma and outer acrosomal membranes during Acrosome reaction of the goat spermatozoa activates phospholipase<sub>A2</sub>, J Nucl Agric Biol 2002; 32:99-107.
- Kumar P, Atreja SK. Phospholipids of the plasma membrane and outer acrosomal membrane during in vitro Capacitation and Acrosome reaction of the goat spermatozoa. Indian J Dairy Sci 2002; 1-3.