

## **K. MANIKANDAN**

5/63-South Vellalar Street  
Vadakkuppatti, Eragudi Post  
Thuraiyur Taluk  
Tiruchirappalli District  
Tamil Nadu-621001  
E-mail: kmanibc@gmail.com  
Mobile: +91 9942216933



### **Academic Profile**

COURSE	INSTITUTION	BOARD/ UNIVERSITY	YEAR OF PASSING	PERCENTAGE
Ph. D Biotechnology	Madurai Kamaraj University, Madurai	Madurai Kamaraj University, Madurai	2018	Highly Commended
M. Sc Biochemistry	Bharathidasan University, Tiruchirappalli.	Bharathidasan University, Tiruchirappalli.	2012	70.56
B. Sc Biochemistry	KSR College of Arts and Science, Tiruchengode.	Periyar University, Salem	2010	70.75
XII	Government Higher Secondary School, Erode.	Tamil Nadu State Board	2007	77.25
X	Government Higher Secondary School, Erode.	Tamil Nadu State Board	2005	83.20

### **Positions**

- **Postdoctoral Fellow** in the Department of Inflammation and immunity, Lerner Research Institute-Cleveland Clinic, Cleveland, Ohio, US, from September 2021 – August 2022.

### **Research Fellowship/ Experience**

- **UGC Non-NET Fellow** from December 2013 to November 2016 at the Department of Genetic Engineering, School of Biotechnology, Madurai Kamaraj University, Madurai.
- **Junior Research Fellow** in DAE-BRNS funded project from August 2012 to November 2013 at the Department of Genetic Engineering, School of Biotechnology, Madurai Kamaraj University, Madurai.

### **Teaching Experience**

- Assistant Professor in the Department of Biochemistry, Vels Institutes of Science Technology & Advanced Studies (VISTAS), Pallavaram, Chennai, India, from 1<sup>st</sup> July 2019 to 5<sup>th</sup> August 2021.
- Assistant Professor in the Department of Biochemistry, MGR College, Hosur, India, from 4<sup>th</sup> June 2018 to 30<sup>th</sup> March 2019.

### **Publications**

- Saurabh Mishra, Nicole Welch, **Manikandan Karthikeyan**, Annette Bellar, Ryan Musich, Shashi Shekar Singh, Dongmei Zhang, Jinendiran Sekar, Amy H. Attaway, Aruna Chelluboyina, Shuhui Wang Lorkowski, Sanjoy Roychowdhary, Ling Li, Belinda Willard, Jonathan D Smith, Charles L Hoppel, Vidula Vachharajani,

Avinash Kumar, Srinivasan Dasarathy. Dysregulated cellular redox status during hyperammonemia causes mitochondrial dysfunction by inhibiting sirtuin-mediated deacetylation. *Aging Cell* (Under review).

- Amy H. Attaway, Annette Bellar, Saurabh Mishra, **Manikandan Karthikeyan**, Jinendiran Sekar, Nicole Welch, Ryan Musich, Shashi Shekhar Singh, Avinash Kumar, Aishwarya Menon, Jasmine King, Ramon Langen, Justine Webster, Rachel Scheraga, Kristy Rochon, Jason Mears, Sathyamangla V Naga Prasad, Maria Hatzoglou, Abhishek A. Chakraborty, Srinivasan Dasarathy. Adaptive exhaustion during prolonged intermittent hypoxia causes dysregulated skeletal muscle protein homeostasis. *The Journal of Physiology* (Accepted).
- **K. Manikandan**, Amutha Santhanam, R. Venkatesan. Evaluation of the anti-metastatic effect of maghemite nanoparticles on crl-1739 adenogastric carcinoma cell. *J. Chem. Pharm. Res.*, 2018. 10(3):85-96.
- **K. Manikandan**, Amutha Santhanam, S. B. Anand. Maghemite Nanoparticle Induced DNA damage and Oxidative Stress mediated Apoptosis of CRL-1739 Adenogastric Carcinoma Cell. *Current Nanomedicine*. 2018. 8(1): 58-68.
- **K. Manikandan**, Ishita Baral, S. B. Anand, Amutha Santhanam. Effect of Maghemite Nanoparticles In The Induction Of Apoptosis On Human Hepatocellular Carcinoma (Hep G2) Cell Line. *Indian J Biotechnol*. 2017. 16: 176-181.

#### **Exam Cleared/ Diploma Course**

- Qualified **Tamil Nadu State Eligibility Test -2016 (TNSET 2016) exam** in a general category (scored with high marks), conducted by the nodal agency Mother Teresa University, Kodaikanal, Tamil Nadu.
- Qualified **Postgraduate Diploma in Computer Application (PGDCA)** from December 2006 to December 2008.

#### **Techniques Known**

- ***Animal Tissue culture techniques & Cell culture-based studies***  
Handling, routine maintenance, bulk culturing of different types of cells like hiPSC, differentiation of hiPSC to skeletal myotubes, cancer cell lines, and normal cell lines for a range of experiments including various types of toxicity assays, morphological examination, isolation of cellular contents (Protein, DNA, RNA) and other cell culture-based assays/analysis.
- ***Proteomics***  
SDS-PAGE, Western blotting, immunofluorescence (IF), Two Dimensional Gel Electrophoresis (IEF & SDS PAGE).
- ***Molecular Biology***  
Polysome profiling, Primer design, PCR, Isolation of plasmid DNA, sh plasmid DNA transfection/ adenoviral infection in cell lines, isolation of RNA from primary cells, cell lines, and tissues, and agarose gel electrophoresis.
- ***Handling Fluorescence microscope, Confocal, and Phase contrast microscope***  
Analysis of cells by staining with different fluorescence dyes such as DAPI, propidium iodide, and acridine orange, immunofluorescence. Analysis of cell's morphological structure through the microscope.
- ***Handling of animal model & dissection (Wistar Rat)***  
Handling and maintenance of animal model - Wistar Rat and dissection of organs separately.

### Analytical Tools Known

- Graphpad prism, Image lab, Flowjo, Pathway builder

### Software Proficiency

- Programming languages - C and C++, FORTRAN and FOXPRO

### Project / Dissertation work carried out

- **Ph.D. Title:** Protein Expression Profiling of Nanoparticles with Living Cells
- **M. Sc. Title:** A Study on the Role of Bacterial Lipopolysaccharide on Histone Deacetylases in Rat Pancreas

### Oral/Poster Presentations

- Presented orally in the **International Seminar on Advanced Nanomaterials (ISAN-18)** held at the University of Madras, Chennai, India from 27<sup>th</sup> to 28<sup>th</sup> February 2018.
- Presented poster at National Conference on “**Nanomaterials and Nanobiotechnology**” (CNG-NCNN-17) held at the University of Madras, Chennai, India from 7<sup>th</sup> to 8<sup>th</sup> February 2017.
- Presented poster at **International Conference on Current Trends in Biotechnology (ICCB-2016)** held at Vellore University, Vellore, India from 8<sup>th</sup> December 2016 to 10<sup>th</sup> December 2016.
- Presented poster at **International Conference on Emerging Trends in Biotechnology (ICETB 2014)** held at Jawaharlal Nehru University, New Delhi, India from 6<sup>th</sup> to 9<sup>th</sup> November 2014.
- Presented poster in National level Symposium “**Biogalaxia-13**” on 3<sup>rd</sup> October 2013 conducted by Department of Microbial Biotechnology, Bharathiyar University, Coimbatore, India.
- Obtained 2<sup>nd</sup> prize in the poster presentation in the **Inauguration of awareness programme on Alzheimer’s disease**, on 21<sup>st</sup> September 2011 Department of Biochemistry, Bharathidasan University, Trichy, India.

### Attended Conference/Workshop

- Participated as a delegate in the “National Conference on **Innovations in Modern Biology & 48<sup>th</sup> Aqua-Terr Annual Conference**” held at Madurai Kamaraj University, Madurai, India from 27<sup>th</sup> to 28<sup>th</sup> February 2017.
- Participated as a delegate in the International level conference on “**CANCERCON-2014**” conducted by the Indian Institute of Technology, Madras (IITM), Chennai, India from 30<sup>th</sup> January 2014 to 1<sup>st</sup> February 2014.
- Participated in national level workshop on “**Continuing Medical Education (CME)** programme in immunology on the 11<sup>th</sup> & 12<sup>th</sup> of October 2012 organized by the School of Biotechnology, Madurai Kamaraj University, Madurai, India.
- Participated in **National e-Governance Plan Awareness Campaign (NeGP)** workshop at Technology Park, Bharathidasan University, India on 9<sup>th</sup> January 2012.
- Participated in national level workshop on “**Recent Trends in Life Science**” 7<sup>th</sup> - 9<sup>th</sup> of January, 2011 conducted by Ananda College of Arts & Science- Devakottai, India.
- Participated in “**FUJIO CUP QUIZ**” on Stem cell & Regenerative Medicine, organized by NCRM-NICHE on 9<sup>th</sup> October 2010 in Chennai, India.
- Participated in a State level workshop on “**Therapeutic & Cultivation of Medicinal Plants**” organized by the department of biochemistry on 26<sup>th</sup> & 27<sup>th</sup> March 2010 at KSR College of Arts and Science, Tiruchencode, India.

### **Committee Member**

- Worked as an Organizing Committee Member in the one-day national level seminar, “**Emerging Trends in Infectious and Noninfectious Disease-2013 (EID-2013)**”, on 15<sup>th</sup> February 2013 organized by the School of Biotechnology, Madurai Kamaraj University, Madurai, India.
- Worked as an active hostel secretary member in VOC hostel, Madurai Kamaraj University, Madurai during the period March 2015 to May 2015 when stayed at VOC hostel, while pursuing Ph. D.

### **Personal Profile**

Date of Birth : 28.05.1990  
Gender : Male  
Father's Name : Mr. S. KARTHIKEYAN  
Nationality : Indian  
Marital Status : Married  
Languages Known : Tamil, English

### **Declaration**

I hereby solemnly declare that all the above given information is true and correct to the best of my knowledge.

Place: Thuraiyur

Sincerely



Date: 10.12.2022

**K. MANIKANDAN**

### **References**

#### **Dr. Dasarathy Srinivasan**

Department of Inflammation and Immunity  
Lerner Research Institute  
Cleveland Clinic  
9500 Euclid Avenue- 44195  
Cleveland, Ohio,  
United States of America  
Email: dasaras@ccf.org

#### **Dr. Amutha Santhanam**

(On lien, Madurai Kamaraj University)  
Professor  
National Centre for Nanosciences and Nanotechnology  
University of Madras, Guindy Campus  
Chennai - 600025, Tamil Nadu.  
Mob: +91 9597109065  
Email: amutha1994santhanam@gmail.com