

## RESUME

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### OBJECTIVE

To establish myself as a passionate and successful Faculty by applying my present skills and to remain an enthusiastic knowledge seeker.

### ACADEMIC CREDENTIALS

**May 2012 - May 2013 Post-Doctoral Researcher**

**Area of work: Breast Cancer Progression**

Topic: *“Understanding the Molecular Basis of Metabolic Aspects of Human Breast Cancer cells”*

Place of work: **University of Alabama, Birmingham, USA.**

Research Supervisor: **Dr. L. Samant, Associate Professor, UAB, USA.**

**Aug 2005 – Aug 2011 Ph.D BioTechnology.**

**Ph.D Thesis** submitted to **Pune University.**

**Area of work: Stem Cell Biology**

Topic: *“Differentiation of Human Bone Marrow Mesenchymal Stem Cells Towards Neural Lineages”*

Place of work: **National Centre for Cell Science**, Govt of India, Pune.

Research Supervisor - **Dr. Padma Shastry, Scientist “G”**,

**National Centre for Cell Science, Pune.**

**2002 – 2004**

**M.Sc BioTechnology - Tezpur Central University.**

Percent marks- **76.2 %**

**1996 - 1999**      **B.Sc - Kuvempu University.**  
Subjects: Chemistry, Botany & Zoology.  
Percent marks- **77.6%**

**1994 - 1996**      **Class XII - Subjects: Physics, Chemistry, Mathematics, Biology.**  
Percent marks- **82 %**

## **RESEARCH EXPERIENCE**

### **Post-Doctoral Research**

Breast cancer affects one in eight women during their lives. My Post-doctoral Research at the **University of Alabama, Birmingham, USA**, was about “Understanding the Molecular Basis of Metabolic Aspects of Human Breast Cancer cells”. Specifically, my work was focused on the role of Tumor suppressor Protein – Merlin in modulating the Metabolic aspects of human breast cancer cells.

### **Ph.D Biotechnology**

Human bone marrow Mesenchymal Stem Cells (MSCs) are of clinical interest in cell based therapies for the treatment of neurodegenerative diseases. Efforts are therefore directed towards efficient generation of neuron-like cells from MSCs. In my Ph.D work, I investigated the potential of a panel of Extracellular Matrix proteins to induce neurite outgrowth in MSCs in the absence of growth factors/differentiating agents. Direct interaction with Laminin-1 was found to trigger sprouting of neuronal processes in MSCs. Mechanistic studies revealed that Integrin  $\alpha6\beta1$  and FAK-MEK/ERK Signaling Pathways were involved in Laminin-1-induced neurite outgrowth. Our further studies confirmed that c-Jun/ AP-1 activity was crucial for neurite formation and c-Jun activation was mediated by JNK, PI3K/Akt and ERK Signaling Cascades.

### **M.Sc Biotechnology**

The Research Training during the Masters was carried out at the **Indian Institute of Chemical Biology, Kolkata, India**. The work was focused on “Examining the Therapeutic Effects of Membrane Lipids and Membrane Lipoproteins of *Leishmania donovani* on Human Skin Cancer Cells”.

## **CSIR-UGC NET LECTURESHIP**

- ✓ Passed **CSIR-UGC National Eligibility Test (NET)** for **Lectureship** in 2004.
- ✓ Passed **CSIR-UGC National Eligibility Test (NET)** for **Lectureship** and **JRF** in 2005.

## **INDUSTRIAL EXPERIENCE**

After the completion of **M.Sc**, I had worked for 6 months in the reputed **Pharmaceutical Company, Dr.Reddy's Laboratories, Hyderabad, India**. While working in the “**Productions**”, I was involved in handling industrial “**Fermenters**” for the large scale culture of Genetically engineered Escherichia coli bacteria producing Recombinant GCSF Protein **Grastim**- an anti-Cancer Drug.

## **TEACHING EXPERIENCE**

SNo	From	To	Name of Institute worked	Designation	Subjects Taught
1	July 2014	Till date	Modern College, Ganeshkhind (S.P.Pune University) Pune	Full time Faculty	Molecular Biology, Genetic Engineering, Genetics, Proteomics
2	Jan 2013	April 2014	Bharati University, Katraj, Pune	Visiting Faculty	Animal tissue culture, Molecular Biology, Medical Genetics

## **RESEARCH PUBLICATIONS (International Journals)**

1. Gene expression analysis of laminin-1-induced neurite outgrowth in human mesenchymal stem cells derived from bone marrow.

**Mruthyunjaya S**, D Parveen, R Shah, R Manchanda, R Godbole, M Vasudevan, P Shastry.

**The Journal of Biomedical Materials Research, 2015 Feb; 103(2):746-61**

**Impact factor- 3.0**

2. c-Jun/AP-1 transcription factor regulates laminin-1-induced neurite outgrowth in human bone marrow mesenchymal stem cells: Role of multiple signaling pathways.

**Mruthyunjaya S**, Manchanda R, Godbole R, Shiras A, Shastry P.

**FEBS Letters, 2011 Jun 23; 585(12):1915-22**

**Impact factor- 3.6 Citations -3**

3. Laminin-1 induces neurite outgrowth in human mesenchymal stem cells in serum/ differentiation factors-free conditions through activation of FAK-MEK/ERK signaling pathways.

**Mruthyunjaya S**, Manchanda R, Godbole R, Pujari R, Shiras A, Shastry P.

**Biochemical and Biophysical Research Communications, 2010 Jan 1;391(1):43-8.**

**Impact factor- 2.6 Citations -30**

4. Sodium Valproate Potentiates Staurosporine-Induced Apoptosis in Neuroblastoma Cells Via Akt/Survivin.

R.Shah, J.Jagtap, **Mruthyunjaya S**, G.Shelke, R.Pujari, G.Das, and P.Shastry

**Journal of Cellular Biochemistry**, 2013, 114:854–863.

**Impact factor- 3.0 Citations -3**

5. TNF- $\alpha$  and IFN- $\gamma$  Together Up-Regulates Par-4 Expression and Induce Apoptosis in Human Neuroblastomas

G. Shelke , J.Jagtap , D. Kim , R.Shah, G.Das, **Mruthyunjaya S** , R.Pujari and P.Shastry

**Biomedicines**, 2017, Dec 26;6(1)

**Impact factor- 2.8 Citations -1**

### **LABORATORY SKILLS**

2D and 3D cultures of various Cancer cell lines, Fluorescence Microscopy, Flow Cytometry, Western Blotting, Immunoprecipitation and Co-Immunoprecipitation, Nuclear Extraction & Cytosolic Extraction from cells, RNA isolation, Reverse transcription, Primer designing, Real time Quantitative PCR, Lipofectamine based animal cell transfections, Luciferase Reporter Assays, Microarray analysis of gene expression.

### **COMPUTER & SOFTWARE PROFICIENCY**

MS Office, Statistical Analysis Softwares, Use of public domain research software tools and websites, Densitometric analysis of biological images etc.

### **REFERENCES**

<b>Dr. Padma Shastry</b> Scientist “G”, Lab No 2, National Centre for Cell Science, Pune University Campus, Pune 411007, India Phone +91-20-25708108 Fax +91-20-25692259 E-mail padma@nccs.res.in	<b>Dr. Lalita Samant</b> Associate Professor, University of Alabama, Birmingham, USA Phone +1-205-975-6261 E-mail lsamant@uab.edu	<b>Dr. Suvendra Kumar Ray</b> Associate Professor, Dept. of Biotechnology, Tezpur Central University Tezpur, India Mobile +91-9954472151 Email suven@tezu.ernet.in
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I hereby state that the information furnished above is correct according to best of my knowledge and belief.

Mruthyunjaya. S