

# MANJULA P. MUMMADISETTI

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## **EDUCATION**

Ph.D. in Biochemistry, Louisiana State University, Baton Rouge, LA. August 2016.

Course Highlights: Membrane proteins, Energy transducing membranes, Advanced Molecular Genetics, Plant cell physiology.

M.S in Molecular Sciences and Nanotechnology, Louisiana Tech University, Ruston, LA.  
Summer 2009.

Course Highlights: Advanced Cell and Molecular Biology, Cancer Biology, Nanotechnology principles

M.S in Biochemistry, Osmania University, Hyderabad, A.P., India, 2007.

Course Highlights: Molecular Biology, Cell Biology, Biophysics, Biostatistics, Bioinformatics, Biochemistry, Radiation Biology, Enzymology, and Thermodynamics

B.S in Microbiology, Chemistry and Botany, Osmania University, A.P., Hyderabad, India, 2005.

Course Highlights: General and Medical Microbiology, Industrial Microbiology, Dairy Microbiology, Organic Chemistry, Inorganic Chemistry, Physical Chemistry, Analytical Chemistry, and Botany

## **PUBLICATIONS**

**Mummadisetti, M. P.**, Frankel, L.K., Bricker, T. B., "Use of Protein Crosslinking and Radiolytic Labeling to Elucidate the Structure of PsbO within Higher Plant Photosystem II". *Biochemistry* 55 (23), pp 3204–3213 (2016).

Roose J. L., Frankel, L. K., **Mummadisetti, M. P.**, Bricker, M. K., "The extrinsic proteins of photosystem II: update". *Planta*, 243(4), 889-908 (2016).

Bricker, T.B., **Mummadisetti, M. P.**, Frankel, L.F., "Recent advances in the use of mass spectrometry to examine structure/function relationships in photosystem II". *Journal of photochemistry and Photobiology B: Biology* 152 (Pt B), 227-46 (2015).

**Mummadisetti, M. P.**, Frankel, L. K., Bellamy, H. D., Sallans, L., Goettert, J. S., Brylinski, M., Limbach, P. A., Bricker, T. B., "Use of protein crosslinking and radiolytic footprinting to elucidate PsbP and PsbQ interactions within higher plant PSII". *Proceedings of the National Academy of Sciences (USA)* 111, 16178-16183 (2014).

## **PROFESSIONAL ACTIVITIES**

Reviewer Board Member, **Bio-Protocol**, (July 2016 – Present). Reviewing articles for publication in Bio-protocol Journal.

Chair, **Plant Journal Club**, Department of Biological Sciences, LSU (fall 2014 – spring 2015): Organized and scheduled papers and research presentations for speakers during the semester; motivated new graduate and undergraduate students to lead discussions, helped new students understand research and prepare presentations.

HR Chair, **Indian Student Association**, LSU (Spring 2014- current): Provided living arrangements, smoothed the transition of newly arrived Indian students, and organized fundraising events.

Liaison Officer, **Afro Asian Games**, Hyderabad, India (2003): Helped manage sports players and delegates during events and matches.

Member of **Red Cross Society**, India. (2003- 2005): Part of response teams after disasters, served at old age homes during weekends, assisted in hospital services, encouraged social changes, provision of free blood and fast-response ambulance to Chennai, India, and represented Andhra-Pradesh State in the All India Red Cross Meet in 2004.

## HONORS and AWARDS

**Mr. Ron and Mary Neal Fellowships**, \$22,000 (one year Scholarship), Louisiana State University, Baton Rouge (2015)

Won the Inter-University Chess game, Department of Biochemistry, Osmania University, Hyderabad. (2007)

**Zonal level** Chess player (of four zones in India), Kasturba Gandhi College, Osmania University, Hyderabad (2005).

Awarded first prize/national rolling shield in “**National Level Quiz Competition in Chemistry**” held in Department of Chemistry, Andhra Loyala College, Vijayawada (2004).

Ranked among top 10% in **Engineering** and top 3% in **Medicine, Agriculture and Medicine Common Entrance Test (EAMCET) (2002)**

## WORK EXPERIENCES

**Research Training** in Bricker Lab, Louisiana State University, (Jan 2014- present)

Training undergraduates and exchange student on laboratory techniques including general lab training, western blot, enzymatic digestions, software training on MassMatrix and pLink.

**Teaching Assistant** for the courses BIOL 1208, and BIOL 1503 Louisiana State University, (2012- 2015)

Teaching the course material, managing the class, answering questions, prep quizzes, exams and grading them.

**Graduate Assistant** in Prescott Memorial Library, Louisiana Tech University, Ruston, LA (2008)

Training undergraduate student workers about the rules of Library, helping/training in organizing books, head of library closing team.

**Process Analyst and Curator**, Thomson Scientific, Hyderabad, India (2007)

Job involved reading scientific papers in the field of biochemistry and coding the information in a program, which was further used to design protein interactome database.

**Process developer** in GE Finance, Hyderabad, India (2005-2007)

Customer service for ExxonMobil, process training, training on voice and accent modulation, escalated help desk.

## CONFERENCE & PRESENTATIONS

**Poster Presentation** on “PsbP and PsbQ interactions in Higher Plant Photosystem II” at 3<sup>rd</sup> Annual LA Conference on Computational Biology and Bioinformatics, LSU, April 2015

**Research Talk** on “Conformation Changes upon PsbP binding to Spinach Photosystem II” at **Midwest Photosynthesis meeting**, Marshall, Indiana, November, 2013.

**Poster presentation\*** on “Elucidation of PsbP and PsbQ protein interactions in Higher plant Photosystem II” in **Gordon Conference**, August, 2014, (\*poster presented by Dr. Terry Bricker).

**Research talk** on “*Characterization of the protein Sll0606 in synechocystis sp. PCC 6803*” in **Graduate Student Symposium** held at LSU, November, 2012.

**Practicum Presentation** on “Regulation of connexin26 hemichannels by Calcium” at **Louisiana Tech University and UTHSCSA**, San Antonio, March, 2009.

**Presented paper** in **Indian Academy of Sciences (IAS)** on “Early detection of cancer using tools of Nanotechnology”, January, 2007.

## **SUMMER INTERNSHIP:**

### **“Validation of Drosophila genome analysis by high throughput screening and search for genes responding to DNA damaging agents: cisplatin, etoposide and MMS”**

Department of Cellular and Structural Biology, UTHSCSA, San Antonio, Texas (Summer 2010).

Project involved working with drosophila Kc167 cells in 384 well plates and treat them with different concentrations of DNA damaging agents. Damaging agent was optimized for a required concentration to get 65-70% viability of cells, and then the cells were tested for their viability in presence of proteasome inhibitors.

### **“Calcium as the major junctional permeant mediating the effect on the expression of Connexin 26”**, Department of Biochemistry, UTHSCSA, San Antonio, Texas (summer 2009).

Connexin 26 (CX26), a protein of gap junction family, inhibits the growth of cells in low serum and in the absence of anchorage, however enhances the migration of cells in cell culture when compared to other connexins. Calcium was hypothesized to be playing a role in the function of CX26. My project involved migration studies using a mutant CX26-V84L in HeLa cells, and studying the levels of calcium change in mutant versus wild type.

### **“Characterization of nickel and cobalt transporter genes from various fungal and bacterial species and their role in bioremediation”**

Department of Biochemistry, Osmania University, Hyderabad, India (summer 2007).

Project involved studies on various strains of *Neurospora crassa* (bread mold) for their resistance towards Nickel and cobalt, this was tested to check their efficiency in clearing nuclear reactors for residual metals and in bioremediation. My project was to study the uptake ability of the mold to take up nano-molar quantities of radioactive nickel and cobalt present on expression of different transporter proteins in them.