

# Taili Thula Mata

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## OBJECTIVE

To be able to work in a facility/industry where I can use my educational and work experience to enhance the company's productivity.

## EDUCATION

- 08/03 – 05/07 University of Florida, Gainesville, FL  
Doctor of Philosophy, May 2007. Biomedical Engineering. GPA: 3.95.
- 08/00 – 05/03 University of Florida, Gainesville, FL  
Master of Science, May 2003. Biomedical Engineering. GPA: 3.90.
- 01/98 – 05/00 University of Florida, Gainesville, FL  
Bachelor of Science, May 2000. Engineering Science major. Biomechanics minor.  
GPA: 3.54.

## EXPERIENCE

- Postdoctoral Associate  
06/07 – 09/09 **University of Florida, Gainesville, FL**
- Design and develop optimized formulations to achieve collagen intrafibrillar mineralization via a patented technology, consisting on the promotion of an amorphous calcium phosphate precursor.
  - Determine the effects of various polymers, material concentrations, and environmental conditions on the process at small laboratory scale.
  - Work on the extraction and purification of collagen from biological samples.
  - Perform characterization studies on developed composites via scanning electron microscopy, X-ray diffraction and thermo gravimetric analysis.
  - Test cells' response to exposure of diverse scaffolds mineralized with the patented technology.
- Research Consultant  
06/07 - 08/08 **Responsive Devices Inc, Brookline, MA**
- Conducted research to determine the feasibility and commercial applications of a proprietary technology. Designed, performed and analyzed experimental studies. Presented results written and orally quarterly.
- Research Assistant  
05/06 – 06/07 **RTI Biologics, Alachua, FL**
- Worked on feasibility studies at the cellular level in the Research & Development area.
  - Tested cells' response to exposure of different proteins and tissues as well as cell attachment to diverse scaffolds.
  - Performed alkaline phosphatase activity and bone mineralization assays.
  - Performed ELISAs and MTT cell proliferation, total protein, live/dead, and cell tracker assays.

Research  
Assistant  
08/00 – 05/07

**University of Florida, Gainesville, FL**

- Worked on the development of biodegradable, biocompatible, and multi-functional particles with similar erythrocyte's rheological characteristics to be used for drug delivery.
- Worked on the decellularization of rat kidneys for future use as biologic scaffolds for blood borne stem cells.
- Worked on the regeneration of irradiated rat parotid glands. Harvested and cultured of rat glands and epithelial cells. Delivered growth factors to irradiated parotid gland organ cultures. Characterized treatment effect via TUNEL assays, cell proliferation and amylase analyses and ELISAs.
- Prepared and characterized protein-loaded polymeric microspheres for various applications.

Recruiter/Tutor  
08/03 – 08/06

**University of Florida, College of Engineering, Gainesville, FL**

- Recruited students for the undergraduate and graduate programs for the College of Engineering. Helped incoming engineering freshmen student to adjust to college life. Taught, graded, and prepared tests for the STEPUP program chemistry course.

Lab Manager  
05/01 – 05/07

**University of Florida, Gainesville, FL**

- Worked on budget for development of the cellular and tissue lab of the University of Florida Biomedical Engineering department. Kept control of lab inventory. Organized lab space to be shared by 17 students under the supervision of five different principal investigators. Promoted a friendly environment among all people sharing the lab facilities.

## MEMBERSHIPS

American Association for the Advancement of Science, Society for Biomaterials, Materials Research Society, National Society of Black Engineers, and Society of Hispanic Professional Engineers.

## SKILLS

Fluent in Spanish (written and spoken).  
Scanning Electron, Atomic Force, and Fluorescent Microscopy.  
X-ray Diffraction and Thermo Gravimetric / Differential Thermal Analyses.

## HONORS

University of Florida Alumni Fellowship, Tau Beta Pi member, International Student Academic Award, All-American Scholar Collegiate Award, and the AAAS/Science Program for Excellence in Science.

## PUBLICATIONS

Supronowicz, P., Zhukauskas, R., York-Ely, A., Wicomb, W., Thula, T., Fleming, L. and Cobb, R. "Immunologic Analyses of Bovine Bone Treated with a Novel Tissue Sterilization Process." *Xenotransplantation*, 15(6), pp. 398-406, November-December 2008.

Thula, T. "Deformable Microparticles with Multiple Functions for Drug Delivery." *VDM Verlag Dr. Muller e.k., Saarbrucken: Germany*, 132 pp, November 2008.

Thula, T., Schultz, G., Tran-Son-Tay, R. and Batich, C. "The Effects of Epidermal Growth Factor (EGF) and Basic Fibroblast Growth Factor (bFGF) on Irradiated Rat Parotid Glands." *Annals of Biomedical Engineering*, 33(5), pp.685-695, May 2005.

## PRESENTATIONS

Oral presentation at the 25<sup>th</sup> Southern Biomedical Engineering Conference in Miami on “Collagen-Hydroxyapatite Composites Mimicking Bone Nano-Architecture: Cell Adhesion and Proliferation Study”. May 2009.

Invited Presentation at the 8<sup>th</sup> Pacific Rim Conference on Ceramic and Glass Technology in Vancouver, Canada on “Mimicking the Nanostructured Architecture of Bone”. Thula, Taili; Jee, Sang Soo; Gower, Laurie. May 2009.

Oral presentation at the MRS Spring 2009 Conference in San Francisco on “A new tool for determining intra- versus inter-fibrillar mineral content in biomimetic bone composites”. Jee, Sang Soo; Thula, Taili; Suarez, Adria; Douglas, Elliot P; Gower, Laurie B. April 2009.

Poster presentation at the Society For Biomaterials 2008 Translational Biomaterial Research Symposium in Atlanta on “Development of a Multi-functional Red Blood Cell Analog Using Polyelectrolyte Complex Microparticles”. September 2008.

Poster presentation at the Gordon Research Conference on Biomineralization 2008 in New Hampshire on “Development of a Collagen-mineral Composite via the Polymer-induced Liquid-precursor (PILP) Process”. August 2008.

Oral presentation at the MRS Spring Meeting in San Francisco on “Fabrication of Hydroxyapatite-collagen Composites with Bone Nanostructure via a Fluidic Amorphous Precursor to Hydroxyapatite”. March 2008.

Oral presentation (abstract co-author) at the Composites at Lake Louise 2007 Conference in Alberta, Canada on “Interpenetrant Composites Mimicking the Nanostructure of Bone”. October 2007.

Poster presentation at the SFB Conference in Chicago on “Effects of heavy metals in the development of multi-functional microparticles with deformable properties”. April 2007.

Poster presentation at the BMES Annual Meeting in Chicago on “Effects of calcium, zinc, and copper in the production of deformable alginate-chitosan microspheres”. October 2006.

Oral presentation at the SFB Conference in Pittsburgh on “Development of a Multi-functional Red Blood Cell Analog”. April 2006.

Poster presentation at the ASME Summer Bioengineering Conference in Key Biscayne on “The effects of epidermal growth factor (EGF) and basic fibroblast growth factor (bFGF) on irradiated rat parotid glands”. June 2003.

## REFERENCES

Available Upon Request.