Sithira Ratnayaka
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EDUCATION

- Currently finishing Masters Degree in Biomedical Engineering (date of expected graduation: Spring 2013)
- Completed Undergraduate Degree at Tulane University.
- Concurrent enrollment at University of New Orleans during Spring 2008.

RESEARCH EXPERIENCE

- Paper – acceptance pending to Biotechnology Progress - *PDMS Well Platform for Culturing Millimeter-Size Tumor Spheroids*. Sithira H. Ratnayaka, Jose M. Sosa, Sergey S. Shevkoplyas, and Damir B. Khismatullin
- Conference – 3/9/2012-3/10/2012 – Participated and presented research at the annual Louisiana Cancer Research Consortium (LCRC) scientific retreat.
- Thesis research – Summer 2011-Spring 2013 – under the guidance of Dr. Damir Khismatullin, Tulane University. Attempting to optimize the growth of Multicellular Tumor Spheroid Clusters of Hep G2 cells (liver carcinoma) by using various methods and fabricated environments. Methods include "hanging drop" and PDMS fabricated bases.
- Summer internship – 2010 (10 weeks) – with Dr. Arthur Lustig, Tulane Medical Center. Performed cell assays of TRD-1-9c yeast transformed with A40t vectors to measure the drift over generation in telomere length, and the ability to bypass senescence. Performed yeast culture and DNA isolation techniques, as well as Southern Blotting.
- Summer internship - 2009 (13 weeks) - with Dr. Su-Chen Li, Tulane Medical Center. Assisted in laboratory experiments for blood type conversion. Used proteins to successfully convert blood type B into blood type O with the ultimate goal of universal donation. Gained skills in blood type identification, gel electrophoresis microspectroscopy, data processing and presentation.
- Summer internship – 2008 (10 weeks) - with Dr. Yu-Teh Li, Tulane Medical Center. Assessed whether sample ovarian cysts were malignant or benign based on protein assay. Assisted with laboratory procedures, including spectophotometry, lyophilization, thin layer and column chromatography, fractionization of samples, data recording.
- Summer internship – 2007 (3 weeks) - Participated in the University of New Orleans Summer Coastal Wetlands Exploration Program, 2007. Studied the Louisiana coast first hand, and went on many educational field trips. Analyzed water quality and investigated biodiversity of the swamps.

ACTIVITIES (COLLEGE)

- **TUMB (Tulane University Marching Band) -** Fall 2008 – Spring 2012
  Performed in Mardi Gras parades, university football game and annual spring concert.
- **Phi Sigma Pi National Honor Fraternity -** Spring 2009 – Spring 2012
  Meet ~ 1.5 hours weekly to plan and sign up for events. Volunteered at ARNO (Animal Rescue New Orleans) three full days during semester. Participated in many social and fundraising events.
- **Science and Engineering Honor Society -** Fall 2008 – Spring 2012
  Participated in lab tours for incoming freshmen
- **Science and Engineering Council of Students** – Fall 2010 – Spring 2012
  Oversaw campus wide events such as snow day and organizing speakers
- **Biomedical Engineering Society** – Spring 2010 – Spring 2013
  Organized Biomedical engineering seminars and networking
- **Percussion Ensemble -** Spring 2009
- **FIRST (For Inspiration and Recognition of Science and Technology) Lego League –** Fall 2009
  Volunteered at annual FIRST Robotics competition with Dr. Oertling, Tulane department of Biomedical Engineering.
- **IATU (Indian Association of Tulane University) –** Fall 2012 – Spring 2013
  Organized campus wide events to expose students to Indian culture, such as a Dawali Talent Show, Holi, and Karma (a dance party)

LEADERSHIP

- **Phi Sigma Pi National Honor Fraternity:** Parliamentarian – Fall 2010 – Spring 2012
- **Science and Engineering Council of Students:** Treasurer – Fall 2011 – Spring 2012
- **Biomedical Engineering Society:** Treasurer – Fall 2011 - Spring 2012
- **Indian Association of Tulane University Treasurer**: Graduate Representative – Fall 2012 - Spring 2013

PROJECTS

- **Team Design – Fall 2011 - Spring2012:** Designed an interactive desk for a client with cerebral palsy, presented the design at an annual design show. Delivery of final product is still pending.
- **Service Learning – Fall 2009:** Designed a house-integrated doorbell/answering system for a client with muscular dystrophy. Final project was delivered and deemed satisfactory by the client.