Pearlson Prashanth Austin Suthanthiraraj

CURRICULUM VITAE

Contact information:
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Research Objectives:

To develop a highly parallel acoustic flow cytometer that will increase the analysis rate in biomedical applications

Education:

- Ph.D., Chemical Engineering, University of New Mexico, Albuquerque, NM (2009 - present)
- B.Tech, Chemical Engineering, Anna University, Chennai, India (2005-2009)
- Higher Secondary, Vana Vani Matriculation Higher Secondary School, Chennai, India (2003-2005)
- High School, Vana Vani Matriculation Higher Secondary School, Chennai, India (2001-2003)

Awards:

- Won **"Student Travel Award"** at CYTO 2012 (Leipzig-Germany, June 2012), CYTO 2011 (Baltimore, May 2011) and CYTO 2010 (Seattle, May 2010).
- One of the five finalists for the Exceptional Student Award during CYTO 2012 held at Leipzig, Germany in June 2012.
- Received the **"Best Outgoing Student"** Award in April 2009 on completion of Bachelors degree
- Received **"Merit Scholarship"** for the academic years 2005-2006, 2006-2007 and 2007-2008 during my Bachelors

Memberships:

- Student Member of the International Society for Advancement of Cytometry since 2010
- Executive Member of the Students' Chapter of the Indian Institute of Chemical Engineers during 2008-2009

Research Experience:

I am currently a PhD candidate in Chemical Engineering and a Research Assistant at the Center for Biomedical Engineering, Department of Chemical Engineering, University of New Mexico working with Prof. Steven Graves. During the initial phase of my research, I have developed highly parallel acoustic flow cells that generate multiple streams (ranging from tens to few hundreds) of particles and cells at flow rates upto 25 mL/min when driven by a single piezoelectric transducer. The next phase of my research will focus on developing a flow cytometer that can analyze these parallel streams simultaneously. Such flow cytometers will provide analysis rates required for high throughput applications such as the detection of circulating tumor cells.

Research Publications:

1) Piyasena, M.E., Austin Suthanthiraraj, P.P., Applegate Jr., R.W., Goumas A.M., Woods, T.A., Lopez G.P., Graves, S.W., **Multinode acoustic focusing for parallel flow cytometry**, *Anal. Chem.* 2012, 84(4): 1831-39.

2) Austin Suthanthiraraj, P.P., Piyasena, M.E., Woods, T.A., Naivar, M.A., Lopez G.P., Graves, S.W., **One-dimensional acoustic standing waves in rectangular channels for flow cytometry**, *Methods* 2012, 57(3): 259-71.

3) Austin Suthanthiraraj, P.P. and Graves, S.W., **Fluidics**, *Current Protocols in Cytometry*, (Accepted)

Patents:

1) Spatially Correlated Light Collection from Multiple Sample Streams Excited with a Line Focused Light Source, Steven W.Graves, Pearson P. Austin Suthanthiraraj, Andrew P.Shreve and Gabriel P.Lopez, Application Number:13835108, International Application Number: PCT/US13/32025, Applied: March 15th 2013.

Presentations:

- Research work titled "**Acoustic manipulation of liposomes**" has been selected for Multimedia presentation for CYTO 2013 to be held at San Diego, California in May 2013.

- Co-authored a research work titled "**An extremely parallel acoustic flow cytometer for rapid cellular analysis**" to be presented by my advisor Dr. Steven Graves during CYTO 2013 to be held at San Diego, California in May 2013.

- Presented my research work titled "**An extremely parallel acoustic flow cell for rapid cellular analysis**" as an Oral Presentation during CYTO 2012 held at Leipzig, Germany in June 2012.

- Co-authored a similar work titled "**An extremely parallel acoustic flow cell for rapid cellular analysis**" presented by my advisor Dr. Steven Graves during USWNet 2012 Conference held at Lund, Sweden in September 2012.

- Presented the poster titled "**Highly parallel multimode acoustic focusing flow cell**" during CYTO 2011 held at Baltimore, Maryland in May 2011.

- Presented the poster titled "**Mesofluidic and field-based size selection of different cell types**" during CYTO 2010 held at Seattle, Washington in May 2010.

- Presented the paper titled "**Viscosity and excess volume of binary liquid mixtures at various temperatures**" at the Indian Chemical Engineering Congress (CHEMCON 2008) held in Chandigarh, India in December 2008.

- Presented the paper titled "**Investigation of protease enzyme from tannery wastes using fermentation technique**" at the National Level Seminar for Chemical Engineering Students (FUSION-08) held in Anantapur, India in September 2008.

- Presented the paper titled "**Medical applications of nanotechnology**" at the International Conference on Applied Bioengineering (iCAB 07) held in Chennai, India in December 2007.

Activities:

- Volunteered for the Center for Biomedical Engineering (CBME) Open House held in November 2012 at the University of New Mexico, Albuquerque

- Mentored a high school student of Albuquerque Public Schools (APS) under NSF-Harvard Partnership for Research and Education in Materials (PREM) program

- Participated in outreach activities on three different occasions as part of the Partnership for Research and Education in Materials (PREM) program during Fall 2011-Spring 2012

- Member of organizing committee for the National Symposium "**Jet Chem-Bio 2008**" held in September 2008 at St. Joseph's College of Engineering, Chennai, India.