

ALUMNI UPDATE



Suhas Sanjee completed his Master's Degree through the UT Arlington and UT Southwestern Medical Center (UTSW) joint program in May 2005. During his graduate studies, Suhas worked on detection of sleep apnea from electrocardiography signal in Dr. Behbehani's lab. After receiving his MS degree, he worked as a research programmer at the Center for Immunology at the UTSW under Dr. Sally Ward. He later took a consulting assignment in the Scientific Programming Group of Merck Research Laboratories, providing statistical programming support for various clinical/pre-clinical trials. Suhas currently works as a statistical programming consultant in the Biostatistics Programming Department at Sanofi Aventis in Bridgewater, NJ. He has been an active participant in the SAS Users Group and a regular reviewer of IEEE conference proceedings. His interests include statistical data analysis, development and implementation of signal and image processing algorithms, and polysomnographic data analysis.



THE UNIVERSITY OF TEXAS
AT ARLINGTON
BIOENGINEERING DEPT.
Post Office Box 19138
Arlington, TX 76019
Phone : 817-272-2249
Fax: 817-272-2251
Email: bme@uta.edu
www.uta.edu/biomed_eng

THE UNIVERSITY OF TEXAS
SOUTHWESTERN MEDICAL
CENTER
5323 Harry Hines Blvd.
Dallas, TX 75390-9130
Phone : 214 648 2503
Fax: 214 648 2991
Email: bme@utsouthwestern.edu
www.utsouthwestern.edu

We welcome your suggestions and comments. Alumni, please forward your accomplishments for publication in future issues. Also, please inform us of any address change.

BIOENGINEERING DEPARTMENT THE UNIVERSITY OF TEXAS AT ARLINGTON

Post Office Box 19138
Arlington, TX 76019-0138

Address Correction Requested



The University of Texas
at Arlington

www.uta.edu/biomed_eng

BULLETIN

Spring 2008

Vol. 7, No. 1

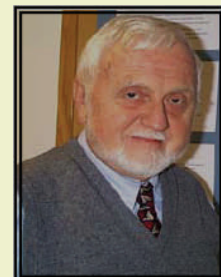


The University of Texas
Southwestern Medical Center
at Dallas

www.utsouthwestern.edu

JOINT GRADUATE BIOMEDICAL ENGINEERING PROGRAM

Message From Biomedical Engineering Chair at UTSW



Let me begin by thanking Prof. Eberhart for his continued support. His dedication to research and teaching, his exemplary record in publications (eight in 2007-2008) and his continued participation in NIH study sections heighten the BME program's recognition. We are grateful for his contributions to the program.

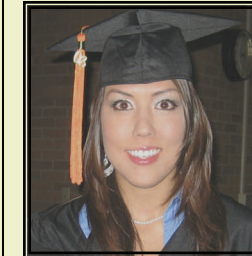
Dr. Peter Antich Next, perhaps one of the best indicators of the health of any graduate program is the progress and successes of its students. Joint program students with their home campus at UT Southwestern Medical Center (UTSW) are making significant progress in learning the "basic" biomedical sciences while keeping up their BME knowledge. We currently have 19 students with UTSW as their home campus. Three of our students (Danielle Miller, Peiyang Liu and Areum Kim) will obtain their Ph.D's in May. We have made six offers for summer and/or fall; five have accepted.

All of our students are actively engaged in research, as exemplified by their 'Works In Progress' discussions group, an effort spear-headed by Allison Carroll. The group meets on the first Thursday of the month at lunchtime for students' presentation of their ongoing research. Allison Carroll received an NIH F31 grant this year; it will continue for the next three years. F31, Predoctoral Individual Ruth L. Kirchstein National Research Service Award (NRSA), provides predoctoral individuals with supervised research training in specified health and health-related areas leading toward the research degree (also Minority Students and Students with Disabilities).

The Program nominated Priya Ravikumar for the 'NOMINATA' awards competition, the highest honor bestowed on students at UTSW. She is particularly to be commended, as she has also been recognized at UT Arlington and is now making inroads in a challenging field.

We also proudly recognize the following students for success at home and abroad: Chiang Niclas Tan, Elvin Blanco, Long Huang, and Anna Leal.

Whitaker International Fellowship Award -2008



UT Arlington Bioengineering student, Kristy Cloyd, was among the 18 outstanding recipients of a prestigious Whitaker International Fellowship Award in a nationwide competition.

Kristy Cloyd The Whitaker Fellowship Program was initiated in 1992 to help especially-talented individuals develop the skills required for a successful career in biomedical engineering. In this program, candidates may apply to study or do research in any country outside the U.S. and Canada. Any international institution that offers an outstanding professional experience in biomedical engineering may serve as a host institution.

The grant provides Kristy with the opportunity to conduct biomaterials and tissue engineering research at Imperial College London, under the supervision of Professor Molly Stevens. Stevens is currently Reader in Regenerative Medicine and Nanotechnology and the Research Director for Biomedical Material Sciences in the Institute of Biomedical Engineering. Kristy's proposed research topic is 'Non-invasive Characterizations of Living Cells Using Raman Spectroscopy.' She will attempt to secure a Diploma of Imperial College, which is awarded to students who have performed a minimum of 12 months post-graduate research at the Imperial College.

Kristy has been an outstanding student throughout her career. She has received other recognition, including the 'Spirit of Discovery Award' and the 'Spirit of Achievement Scholarship' allowing her to attend the University of Arizona. She has also been an enthusiastic participant in student organizations, holding officer positions in the Pre-Bioengineering Association, the Biomedical Engineering Student Society and the Delta Delta Delta sorority at UT Arlington.

RECENT FACULTY ACTIVITIES

Honors

Dr. Hanli Liu received the 'College of Engineering Excellence in Research Award', at UT Arlington, February 2008.



Hanli Liu (on the right side) & her student Renuka Parlapalli, receiving their respective awards for 'Excellence in Research' & 'Outstanding Biomedical Engineering Student'.

GrantsDr. C.J. Chuong

- "Cryopreservation of Functional Engineered Tissues," April 2008-March 2012. Dr. Chuong serves as a Co-Investigator with MAE's Dr. Bumsoo Han (PI) on this new NIH project.

Drs. R.C. Eberhart and C. J. Chuong

- "Nanoporous Membrane Blood Oxygenator," August 2007 – August 2008. ORtech Bioengineering, Inc. Celik-Butler Z, Billo R, Chuong C.J and Eberhart. R.C. Amount-\$103,902.

Dr. K. Nguyen

- "Nanoparticles for Targeting Drug Delivery to the Injured Vascular Wall," February 2008- January 2010. NIH Grant R21. Kytai Nguyen. Amount- \$350,000

Dr. Y. Kim

- "Tissue Engineering Enabled Biomimetic Corneal Stroma," May 2008. Norman Hackerman Advanced Research Program, Texas Legislature. Young-Tae Kim. Amount- \$ 120,000.

Invited SpeakersDr. R.C. Eberhart

- Eberhart R.C. "Making Sense of Stents" IEEE MetroCon , October 10, 2007; ASME North Texas Section, February 19, 2008; UT Southwestern BME Seminar, March 5, 2008.

Dr. L. Tang

- "Stem Cells: Aging: Osteoporosis," University of Louisville, Molecular Targets Group, Brown Cancer Center, Louisville, Kentucky, December 13, 2007.

- "Potential Role of Inflammation on Cancer Cell Metastasis," University of North Texas Health Science Center, Institute for Cancer & Blood Disorders, Fort Worth, January 30, 2008.
- "Biomaterial- Mediated Inflammation and Device Centered Infection: Is There a Connection?," University of Texas Southwestern Medical Center, Surgery Research Conference, Dallas, February 20, 2008.

Publications & PresentationsDr. K. Behbehani

- Dr. Behbehani served as chair of the Bioelectric session at the 24th Southern Biomedical Conference held in El Paso, April 2008.
- Behbehani K, Rao V, Watenpaugh D.E, and Smith M.L, "Quantitative Modeling of Sympathetic Nerve Activity Resulting from Apnea," Biomedical Engineering Recent Developments, Nazeran H, Goldman M, and Schophorester R, Editors, *Proceedings of 24th Southern Biomedical Engineering Conference*, pp 13-14, 2008
- Estrada E, Nazeran H, Behbehani K, Burk J.R, and Lucas E.A, "Correlation Dimension Analysis of Simultaneous EEG and ECG for Automated Sleep Stage Classification," Biomedical Engineering Recent Developments, Nazeran H, Goldman M, and Schophorester R, Editors, *Proceedings of 24th Southern Biomedical Engineering Conference*, pp 15-20, 2008
- Al-Abed M, Behbehani K, Manry M, Burk J.R, and Lucas E.A, "Detection of Obstructive Sleep Apnea Using Neural Network Classification of Wavelet Plots of Heart Rate Variability," Biomedical Engineering Recent Developments, Nazeran H, Goldman M, and Schophorester R, Editors, *Proceedings of 24th Southern Biomedical Engineering Conference*, pp 21-22, 2008.
- Al-Abed M, Behbehani K, Manry M, Burk J.R, and Lucas E.A, "Detection of Obstructive Sleep Apnea Using Neural Network Classification of Time-frequency Plots of R-Wave Envelope," Biomedical Engineering Recent Developments, Nazeran H, Goldman M, and Schophorester R, Editors, *Proceedings of 24th Southern Biomedical Engineering Conference*, pp 22-23, 2008.

Dr. R.C. Eberhart

- Welch T.R., Eberhart R.C. and Chuong C.J, "Characterizing the Expansive Deformation of a Bioresorbable Polymer Fiber Stent." *Ann BME*. 36:742-751, 2008.
- Welch, T.R., Eberhart, R.C. and Chuong C.J

"Influence of Thermal Annealing on the Mechanical Characteristics of a Resorbable PLLA Stent." Presented at the 24th Southern Biomedical Engineering Conference, El Paso, TX, April 18, 2008. Abstract in *International J. Medical Implants & Devices*, J. Vosoughi, Ed., 3: 20, 2008.

- Eberhart R.C. "Biomechanical and Ultrastructural Properties of the Prolapsed Anterior Vaginal Wall: Strategies for Modeling and Analyzing the Deformity," International Research Workshop in Pelvic Floor Disorders, Lille, France, September 6-7, 2007

Dr. H. Liu

- Liu H, Radhakrishnan H, Senapati A.K, Hagains C.E, Peswani D, Mathker A, and Peng Y, "Acute Responses in Light Scattering and Haemoglobin Oxygen Saturation in Rat Spinal Nerves During Electrical and Thermal Stimulations," *NeuroImage* 40, 217-227 (2008).
- Shan H, Klibanov M.V, Liu H, Pantong N and Su J, "Numerical Implementation of the Convexification Algorithm for an Optical Diffusion Tomography," *Inverse Problems* 24, 025006 (2008).
- Xia M, Yang S, Simpkins J.W and Liu H, "Noninvasive Monitoring of Estrogen Effects Against Ischemic Stroke In Rats by Near Infrared Spectroscopy," *Applied Optics* 46(34), 8315-8321 (2007).
- Kashyap D, Peswani D, Cadeddu J, Liu H, "Steady-state Reflectance Spectroscopy Used to Quantify Haemodynamic and Optical Properties of Tissue: Demonstration of Heterogeneities of Human Prostrates," OSA Optics Photonics Congress, BSuE80, St. Petersburg, Florida, March 16-19, 2008.
- Tian F, Dobbs R, Carmen A, Kozel F.A and Liu H, "Can Functional Near-infrared Spectroscopic (fNIRS) Imaging Detect Deception?" OSA Optics Photonics Congress, BTuE4, St. Petersburg, Florida, March 16-19, 2008.
- Tian F, Prajapati S, and Liu H, "A Location-adaptive, Frequency-specific Cancellation Algorithm to Improve Optical Brain Functional Imaging, OSA Optics Photonics Congress, BMD29, St. Petersburg, Florida, March 16-19, 2008.
- Tian F, Delgado M.R, Clegg N. J. , Romero R.I., and Liu H, "Investigation of the Motor Cortex Function in Children with Cerebral Palsy Using Functional Near-infrared Spectroscopic Imaging," OSA Optics Photonics Congress, PDPBTuG3, St. Petersburg, Florida, March 16-19, 2008.
- Parlapalli R, Tian F, Sharma V, Prajapati S, Liu H, "Spatial and Temporal Resolution Comparison of

Two CW Diffuse Optical Imagers," OSA Optics Photonics Congress, BMD50, St. Petersburg, Florida, March 16-19, 2008.

- Sharma S, Kaundinya G, Parlapalli R, Briggs R, and Liu H, "Non-linearity of Hemodynamic Response in Motor Cortex Measured by Near-infrared Spectroscopy," OSA Optics Photonics Congress, BMD13, St. Petersburg, Florida, March 16-19, 2008.
- Mathker A.V, Kashyap D, Peswani D.L, Bensalah K, Kabbani W, Tuncel A, Cadeddu J, and Liu H, "Optical Reflectance Spectroscopy for Detection of Renal Cell Carcinoma Using Model-driven Analysis," OSA Optics Photonics Congress, BTuF43, St. Petersburg, Florida, March 16-19, 2008.
- Peswani D, Mathker A, Kashyap D, Bensalah K, Tuncel A, Kabbani W, Cadeddu J, Oh, J.C, Gao J, Liu H, "Feasibility of Detecting Prostate Adenocarcinoma Using Optical Reflectance Spectroscopy," OSA Optics Photonics Congress, BTuF44, St. Petersburg, Florida, March 16-19, 2008.

Dr. L. Tang

- Zhou J, Wang G, Zou L, Tang L, Marquez M, Hu Z. "Viscoelastic Behavior and in Vivo Release of Microgel Dispersions with Inverse Thermo-Reversible Gelation." *Biomolecules*, 9(1):142-148, 2008.
- Thevenot P, Hu W, Tang L, "Surface Chemistry Influence Implant Biocompatibility." *Current Topics in Medical Chemistry*, 8:270-280, 2008.

STUDENT ACTIVITIES

BME Students Excel at ACES-2008: The Annual Celebration of Excellence by Students (ACES) at UT Arlington showcases the best of students' research and creativity. Undergraduate and graduate students work with faculty mentors in their disciplines to write and submit abstracts for the competition. Among numerous participants Tre Welch, Aniket Wadajkar and Cheng-Yu Ko from the Bioengineering Department won the following awards in the competition:

- Aniket Wadajkar - Provost's Poster Award.
- Tre Welch - President's Poster Award.
- Cheng-Yu Ko - Honorable Mention Award.

Graduation Ceremony- Spring 2008:

A total of 12 students graduated with a Master's Degree in Spring 2008 from the Bioengineering Department at UT Arlington: Kreshnik Ahmeti, Kristy Cloyd, Michael Cobert, Satya Gutticonda, Majedul Hayat, Nikhil Malle, Leighton Ngai, Disha Peswani, Erin Sikkell, Lauren Skokan, Phillip Warren and Jamie Wright. The department wishes them good luck in their future endeavors.