Remarks from the chair

Winter 2006
Wayne State University
The Department of Biomedical Engineering welcomes Dr. Yeshitila Gebremichael, a postdoctoral research fellow at University of Utah, who has been appointed assistant professor in biomedical engineering. Professor Gebremichael earned his PhD in chemical physics in computational material sciences from the University of Maryland at College Park in May 2004. His research interests spans from computational soft materials to biomolecular systems and biofluid dynamics employing multiscale simulation methods ranging from atomistic to macroscopic length and time scales. His recent work in the area of biofluid dynamics focuses on mesoscopic modeling of bacterial flagellar microhydrodynamics to investigate the motile behavior of bacterial cells in a viscous hydrodynamic environment. Gebremichael’s most recent work in the area of biomolecular simulation focuses on the computational modeling of the assembly and dynamic instability of microtubules that are cytoskeletal filaments found in all eukaryotic cells with functions extending from cellular transport to cell motility and mitosis.
Congratulations to our Newly Graduated Ph.D.

**Sriram Balasubramanian** finished his doctoral degree from the laboratory of Dr. King H. Yang. Sri was born and raised in Chennai (formerly Madras), the automobile capital of India. With his strong interests in impact biomechanics and occupant safety, his research aims were to perform dynamic posterior drawer tests on cadaveric specimens to identify the PCL injury tolerance and to study the effects of PCL reconstruction procedures on knee kinematics (displacements and rotations) and articular contact pressures. Besides establishing an injury threshold for PCL, he also demonstrated that posterolateral structures and the action of combined muscle loads act to stabilize the knee joint with PCL deficiency. Dr. Balasubramanian is now working at The Children’s Hospital of Philadelphia with a focus on pediatric head and neck injury.

**Therese Bou-Akl** finished her doctoral degree from the laboratory of Dr. Jerome Eck finished his doctoral degree from the laboratory of Dr. Cynthia Bir.
Congratulations to our Newly Graduated Ph.D.

**Minal Patel** finished her doctoral degree from the laboratory of Dr. Paul Wooley. Minal’s studies evaluated the use of chitosan (a synthetic biocompatible and biodegradable material) as nerve guides (tubes to promote axonal regeneration) to establish its application to axonal regeneration. She created chitosan tube nerve guides to bridge a gap in rats with sciatic nerve resection. After that, the gait pattern observed in this group was compared with two other groups (rats without any repair or treated with autograft sutured between the severed nerve ends). Overall, her findings show high promise for the use of chitosan in nerve regeneration. Dr. Patel is currently exploring a post-doctoral position in the University of Rochester, New York State.

**Jae-Sam Lee** finished his doctoral degree from the laboratory of Dr. Howard Matthew.

**Ying Lu** finished her doctoral degree from the laboratory of Dr. John Cavanaugh.

**Anita Singh** finished his doctoral degree from the laboratory of Dr. John Cavanaugh.

**Sachin S. Thanawala** finished his doctoral degree from the laboratory of Dr. Greg Auner.
Conference Presentations

This year, Wayne State University's Biomedical Engineering Department participated vigorously in a variety of conferences that were held all around the world. From Chicago to Florida and from Spain to Germany, BME’s individual labs presented approximately 40 poster presentations and podium symposiums.

The Biomedical Engineering Society
– Chicago, IL

This year, The Biomedical Engineering Society held their annual conference in Chicago, IL this past October. Wayne State’s Biomedical Engineering chapter was pleased to have 5 presentations from the Spine Lab, which is held by John Cavanaugh and 3 presentations from the Cell and Tissue Engineering Lab, which is held by Pamela Vandevord.

Fifth World Congress of Biomechanics – Munich, Germany

The Fifth World Congress of Biomechanics was held in Munich, Germany this past July. Wayne State University’s BME chapter was pleased to have 2 presentations for the Spine Lab, 4 presentations from the modeling lab, which is held by King Yang, 1 presentation from the ballistics lab, which is held by Cindy Bir, and 3 presentations for the sled/tissue engineering lab, which is held by Warren Hardy.
American Society of Biomechanics
– Blacksburg, VA

In September, the American Society of Biomechanics held their annual conference in Blacksburg, Virginia. The sports lab, which is held by Cindy Bir, and the sled/tissue testing lab each presented 1 presentation.

Annual Meeting of Cervical Spine Research Society
- Palm Beach, Fl

The Annual Meeting of Cervical Spine Research Society met in Palm Beach, Florida this past November. The spine lab presented 1 presentation.

52nd Orthopedic Research Society Annual Conference - Chicago, IL

This past March, the 52nd Orthopedic Research Society held their annual conference in Chicago, Illinois. The modeling lab presented 1 presentation.

ASME 2006 Summer Bioengineering Conference– Amelia Island, Florida

The ASME 2006 Summer Conference was held this past June in Amelia Island, Florida. The modeling lab, the sports lab and the sled/tissue engineering lab each presented 1 presentation.
2006 IRCOBI Conference - Madrid, Spain

The 2006 IRCOBI conference was held in Madrid, Spain this past September. The modeling lab presented 1 presentation and the ballistics lab presented 2 presentations.

SAE World Congress Accident Reconstruction Technical Session - Detroit, MI

This past April, SAE World Congress Accident Reconstruction Technical Session held their annual meeting in Detroit, Michigan. The ballistics lab presented 1 presentation.

Society for Biomaterials - Pittsburg, Pennsylvania

The Society for Biomaterials met this past April in Pittsburg, Pennsylvania. The cellular tissue engineering lab, which is held by Pamela Vandvord, presented 5 presentations.

ISMRM 14th Annual Scientific Meeting and Exhibition - Seattle, Washington

The International Society for Magnetic Resonance in Medicine held their annual conference in Seattle, Washington this past May. The MRI research institute held by Mark Haacke presented 3 presentations.
2006 Journal Publications

**Spine Lab**

**Modeling Lab**

**Ballistic Lab**

**Sports Lab**
Sled/Tissue Testing Lab

Cellular and Tissue Engineering Lab

Congratulations Haiying Yu!!!

The paper entitled "Biocompatibility of PCL-HA Hybrid with Bone Marrow Derived Osteogenetic and Vasculogenetic Cells" was nominated by the Protein and Cells at Interfaces Special Interest Group as an outstanding contribution to the Society For Biomaterials 2006 Annual Meeting. The Education and Professional Development Committee of the Society has awarded the student first author (Haiying Yu) with a STAR! (Student Travel Achievement Recognition) which included a certificate and a travel expense reimbursement check for $250.
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