

**Student Paper Competition Awardees 2009 Summer Bioengineering Conference,
Lake Tahoe, CA**

Name	Institution	Level	Category	Title	Place
Ashwin Nathan	University of Pennsylvania	BS	Biotransport, Tissue Engineering & Cellular Biomechanics	<i>“Cytoskeletal Control of Mesenchymal Stem Cell Nuclear Deformation on Nanofibrous Scaffolds”</i>	1st
Victoria Yeh	Stanford University	BS	Biotransport, Tissue Engineering & Cellular Biomechanics	<i>“A Longitudinal Study of Migration Forces on a Patient-Specific Abdominal Aortic Endograft Model”</i>	2nd
Timothy Gundert	Marquette University	BS	Biotransport, Tissue Engineering & Cellular Biomechanics	<i>“Visualization of CFD Results in a Virtual Reality Environment”</i>	3rd
Hyun Kyu Han	University of California San Francisco	BS	Biotransport, Tissue Engineering & Cellular Biomechanics	<i>“Microdialysis Technique for Quantifying Drug Concentration in Human Intervertebral Discs”</i>	HM
Carmen D. Zirlott	University of South Alabama	BS	Biotransport, Tissue Engineering & Cellular Biomechanics	<i>“Surface Temperature Response to Millimeter Wave Exposure as an Indicator of Skin Blood Flow”</i>	HM
Justin Scheer	University of California San Francisco	BS	Solid Mechanics, Design & Rehabilitation Engineering	<i>“Optimal Fusion Configuration Following C2 Corpectomy”</i>	1st
Susan Mischinski	Villanova University	BS	Solid Mechanics, Design & Rehabilitation Engineering	<i>“The Effect of Cement Line Properties and Crack Orientation on Crack Propagation in Cortical Bone”</i>	2nd
Kiersten Craig	University of Pennsylvania	BS	Solid Mechanics, Design & Rehabilitation Engineering	<i>“Force at Damage and Failure Decreases with Age in the Human Cadaveric Facet Capsular Ligament During Tension”</i>	3rd
Alexander Christakis	Worcester Polytechnic Institute	BS	Solid Mechanics, Design & Rehabilitation Engineering	<i>“Comparison of Cortical and Cancellous Screws for Sternal Fixation”</i>	HM
Douglas Doud	Mercer University	BS	Solid Mechanics, Design & Rehabilitation Engineering	<i>“An Experimental Study of Metallic Transfer on Ceramic Femoral Heads”</i>	HM
Ronan Finn ”	Galway-Mayo Inst. Technology	MS	Biotransport, Imaging & Other	<i>“Deformation During And Post Stenting Of A Diseased Coronary Artery Phantom: An In Vitro Study”</i>	1st
Andrew Baik	Columbia University	MS	Biotransport, Imaging & Other	<i>“A Semi-3D Real-Time Imaging Technique for Measuring Bone Cell Deformation Under Fluid Flow”</i>	2nd
Stacey Lynn Meadley	McGill University	MS	Biotransport, Imaging & Other	<i>“Multiphoton Microscopy of Healthy and Aneurismal Human Ascending Aorta”</i>	3rd
Jeremy Skorinko	Worcester Polytechnic Institute	MS	Biotransport, Imaging & Other	<i>“Short Term Cardiac Memory Results in Altered Regional Mechanical Function”</i>	HM
Bin Hu	University of Kansas	MS	Biotransport, Imaging & Other	<i>“The Effect Of Surface Tension On The Epithelial Spreading Of Non-Newtonian Drug Delivery Vehicles: Numerical Simulations”</i>	HM
Louis DiBerardino	U. Illinois. Urbana Champaign	MS	Solid Mechanics, Design & Rehabilitation Engineering	<i>“Quantifying Complexity and Variability of Gait Phase Portraits”</i>	1st
Michael Rehorn	University of Virginia	MS	Solid Mechanics, Design & Rehabilitation Engineering	<i>“3D Finite Element Modeling Of The Biceps Femoris Muscle”</i>	2nd
Lindsey Westover	University of Calgary	MS	Solid Mechanics, Design & Rehabilitation Engineering	<i>“Quantification Of In Vivo Knee Joint Laxity”</i>	3rd
Yasha Dwivedi	Rush University Medical Center	MS	Solid Mechanics, Design & Rehabilitation Engineering	<i>“Protein State Affects Wear Of UHMWPE”</i>	HM
Mark Komosa	University of Kansas	MS	Solid Mechanics, Design & Rehabilitation Engineering	<i>“Analysis of Natural Knee Rollback Using Lowest Point Method”</i>	HM
Abdul Sheikh	University of Cincinnati	MS	Biomechanics and Engineering of Cells and Tissues	<i>“Electromagnetic Field Mediates Capillary-Like Network Formation Via MAPK/ERK Signaling Cascade”</i>	1st
Lara Ionescu	University of Pennsylvania	MS	Biomechanics and Engineering of Cells and Tissues	<i>“A Composite Microsphere/Nanofiber Controlled Release System for Fibrous Tissue Engineering”</i>	2nd
Michael Dishowitz	University of Pennsylvania	MS	Biomechanics and Engineering of Cells and Tissues	<i>“Strength Retention Of A New Microbial Cellulose Scaffold And Existing Collagen-Based Scaffolds After In Vivo Implantation In A Rabbit Model”</i>	3rd
Steven Kemeny	Drexel University	MS	Biomechanics and Engineering of Cells and Tissues	<i>“High Glucose Alters Endothelial Cell Response to Shear Stress”</i>	HM
Sanket Patel	University of Pittsburgh	MS	Biomechanics and Engineering of Cells and Tissues	<i>“Characterization Of Isolated Urethral Smooth Muscle Cells And Their Incorporation Into A Tissue Engineered Urethral Wrap”</i>	HM

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Rouzbeh Amini	University of Minnesota	PhD Poster	Biofluids and Biotransport	"The Effect Of The Posterior Location Of The Dilator On The Iris Concavity"	1st
Dina Halwani	University of Alabama at Birmingham	PhD Poster	Biofluids and Biotransport	"Corrosion of Metallic Endovascular Stents and Analyses of Wear Debris in Tissues"	2nd
Andrea Les	Stanford University	PhD Poster	Biofluids and Biotransport	"Volumetric Flow At The Supraceliac And Infrarenal Levels In Patients With Abdominal Aortic Aneurysm: Waveforms And Allometric Scaling Relationships"	3rd
Ryan Spilker	Stanford University	PhD Poster	Biofluids and Biotransport	"Tuning a Multiscale Model of Abdominal Aortic Hemodynamics to Incorporate Patient-Specific Features of Flow and Pressure Waveforms"	HM
Marco Cantini	Instituto Politecnico di Milano	PhD Poster	Biofluids and Biotransport	"CFD-Aided Design Of A Dynamic Culture System For The Co-Culture Of Adherent And Non-Adherent Cells"	HM
Amitkumar Mane	University of Kansas	PhD Poster	Solid Mechanics, Design & Rehabilitation Engineering	"Identifying The Effects Of Knee Anatomy Variation On The Envelope Of Knee Motion (Varus-Valgus) Using Principal Components"	1st
Meghan McGee-Lawrence	Michigan Technological University	PhD Poster	Solid Mechanics, Design & Rehabilitation Engineering	"Grizzly Bears (Ursus Arctos Horribilis) And Black Bears (Ursus Americanus) Prevent Trabecular Bone Loss During Disuse (Hibernation)"	2nd
Choon Hwai Yap	Georgia Institute of Technology	PhD Poster	Solid Mechanics, Design & Rehabilitation Engineering	"Structural Deformation of Native Aortic Valve Leaflet Under Hypertension: an In Vitro Study"	3rd
Katherine Steele	Stanford University	PhD Poster	Solid Mechanics, Design & Rehabilitation Engineering	"Crouch Gait Represents A Simplified Muscular Support Strategy During Single-Limb Stance Compared To Unimpaired Gait"	HM
Megan Killian	Michigan Technological University	PhD Poster	Solid Mechanics, Design & Rehabilitation Engineering	"Traumatic Anterior Cruciate Ligament Tear and its Implications on Meniscal Degradation: A Preliminary Novel Lapine Osteoarthritis Model"	HM
Ryan Koppes	Rensselaer Polytechnic Institute	PhD Poster	Tissue and Cellular Biomechanics & Imaging	"Passive Mechanical Analysis of Engineered Myotube Fibers"	1st
Jonathan Bourne	Cornell University	PhD Poster	Tissue and Cellular Biomechanics & Imaging	"Collagen Molecular Conformation Exhibits Strain-Rate Dependent Response To Axial Deformation In Silico"	2nd
Craig Goergen	Stanford University	PhD Poster	Tissue and Cellular Biomechanics & Imaging	"Correlation Between Aortic Motion and Vessel Bulging in a Murine Aneurysm Model Using Small Animal Magnetic Resonance Imaging"	3rd
Subhashish Dasgupta	University of Cincinnati	PhD Poster	Tissue and Cellular Biomechanics & Imaging	"Determination Of Lesion Size As Function Of HIFU Sonication Time Using MRI Monitored HIFU Ablations"	HM
Sameer Kalghatgi	Drexel University	PhD Poster	Tissue and Cellular Biomechanics & Imaging	"Non-Thermal Atmospheric Pressure Dielectric Barrier Discharge Plasma Enhances Endothelial Cell Proliferation Via Fibroblast Growth Factor-2 Release"	HM
Nick Willett	Georgia Institute of Technology	PhD Podium	Biofluids and Biotransport	"Redox Signaling in an In Vivo Murine Model of Tailored Wall Shear Stress"	1st
Michael Albro	Columbia University	PhD Podium	Biofluids and Biotransport	"Direct Validation of Active Solute Transport Induced by Dynamic Loading of Porous Hydrated Media"	2nd
Ga-Young Suh	Stanford University	PhD Podium	Biofluids and Biotransport	"Hemodynamics In Abdominal Aortic Aneurysms At Rest And Graded Levels Of Exercise"	3rd
Guanglei Xiong	Stanford University	PhD Podium	Biofluids and Biotransport	"Simulation of Blood Flow in Deformable Arteries using Subject-Specific Geometry and Variable Vessel Wall Properties"	HM
Juan Mejia	McGill University	PhD Podium	Biofluids and Biotransport	"Transient & Non-Newtonian Effects On The Wall Shear Stress Distribution Of A Stented Artery"	HM
Michael Early	Trinity College, Dublin	PhD Podium	Biofluids and Biotransport	"Why are Rates of Restenosis Higher in Peripheral Arteries Than Coronary Arteries? A Computational Study"	HM
Kartik Varadarajan	Massachusetts Institute of Technology	PhD Podium	Solid Mechanics, Design & Rehabilitation Engineering	"Changes In Tibiofemoral Joint Space Following Total Knee Arthroplasty During Weight-bearing Knee Motion"	1st
Louis Ferreira	University of Western Ontario	PhD Podium	Solid Mechanics, Design & Rehabilitation Engineering	"Motion-Derived Joint Coordinate Systems Reduce Inter-Subject Variability of Elbow Flexion Kinematics"	2nd
Arthur Michalek	University of Vermont	PhD Podium	Solid Mechanics, Design & Rehabilitation Engineering	"Measurement of Local Strains in Intervertebral Disc Anulus Fibrosus Tissue Under Dynamic Shear: Contributions of Matrix Fiber Orientation and Elastin Content"	3rd
Darwesh Kaderbatcha	University of Hong Kong	PhD Podium	Solid Mechanics, Design & Rehabilitation Engineering	"Correlation Between The Nano-Structure And The Macro-Mechanics Of The Human Intervertebral Discs"	HM
Ali Kiapour	University of Toledo	PhD Podium	Solid Mechanics, Design & Rehabilitation Engineering	"Posterior Total Joint Replacement, A Novel Alternative to Lumbar Anterior Disc Arthroplasty: A Computational and Vitro Study"	HM
Thibault Prevost	Massachusetts Institute of Technology	PhD Podium	Solid Mechanics, Design & Rehabilitation Engineering	"Large Strain Behavior Of Brain Tissue: Mechanical Testing And Preliminary Modeling"	HM

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Gregory Fomovsky Columbia University	Columbia University	PhD Podium	Tissue and Cellular Biomechanics & Imaging	<i>"Collagen Fiber Structure Correlates With Mechanical Environment In Healing Myocardial Infarct"</i>	1st
Suzanne Ferreri	State University of New York at Stony Brook	PhD Podium	Tissue and Cellular Biomechanics & Imaging	<i>"Dynamic Mechanical Signals Delivered by Ultrasound Generate Site Specific Mediation of Bone Loss"</i>	2nd
Cindy Chung	University of Pennsylvania	PhD Podium	Tissue and Cellular Biomechanics & Imaging	<i>"Tailoring The Crosslinking And Degradation Of Hyaluronic Acid Hydrogels To Enhance Neocartilage Formation By Mesenchymal Stem Cells"</i>	3rd
Nandan Nerurkar	University of Pennsylvania	PhD Podium	Tissue and Cellular Biomechanics & Imaging	<i>"Mesenchymal Stem Cell Seeded Nanofibrous Laminates Mimic the Multi-scale Form and Function of the Annulus Fibrosus"</i>	HM
Vittoria Flamini	Dublin City University	PhD Podium	Tissue and Cellular Biomechanics & Imaging	<i>"An Anisotropic Structural Model Of The Aortic Wall Based On Tensile Tests And Non-Invasive 3D Fibre Analysis Using Diffusion Tensor Imaging"</i>	HM
Jennifer Hurley	University of Cincinnati	PhD Podium	Tissue and Cellular Biomechanics & Imaging	<i>"Endothelial-Fibroblast Interactions In Angiogenesis And Matrix Remodeling"</i>	HM

HM = Honorable Mention