

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