ORAL RESEARCH TALKS

Saturday Morning 11:45 am -- 1:15 pm

Rehabilitation Engineering	**Kupfrian Seminar A**
Alterations to EMG Onset After Utilization of Foot Drop Stimulator (FDS)	Ghaith Androwis, Naphtaly Ehrenberg , Kiran Karunakaran, Katherine Bentley , JenFu Cheng , Karen Nolan
Tracking Markers on Running Animals Based on HSV Color Space Thresholding	Omid Haji Magahsoudi
Development of Haptic Virtual Reality System for Neurorehabilitation	Kevin Abbruzzese, Oyinda Owoeye, Richard Foulds
Hierarchical Neural Network Algorithm for Classification of Normal Daily Activity Using Wearable Sensors	Quoc Huynh, Quoc Huynh

Tissue Engineering	**Kupfrian Seminar B**
An Adipose Extracellular Matrix-Derived Biomaterial for Soft Tissue Reconstruction	Alexis Parrillo, Amy Anderson, Iwen Wu, Kaitlyn Sadtler, Liam Chung, Carisa Cooney, Damon Cooney, Rachael Payne, Jeffrey Aston, Patrick Byrne, Jennifer Elisseeff
A Coupled Chemo-Mechanical Cell-Matrix Model to Predict Mechanical Feedback Between Cells and Extracellular Matrices	Farid Alisafaei
Osteogenic Differentiation of Mesenchymal Stem Cells on Zinc Oxide Composite Scaffolds	Ateka Khader, Treena Arinzeh
Fusion Protein Nanoparticle for Skin Pressure Ulcers Healing after Spinal Cord Injury	Suneel Kumar, Rick Cohen, Yuying Tan, Martin Yarmush, Francois Berthiaume
Small molecule-mediated inhibitions of transcriptional cofactor MKL and its downstream target profilin impedes endothelial cell migration and angiogenesis	David Gau, William Veon, Teresa Capasso, Marion Joy, Beth Roman, David Koes, Partha Roy

Bioengineering of Development	**Kupfrian Lecture Room**
Understanding childhood frontal cortical gray matter development pattern in human brain	Jincheng Li
Form and Mechanical Function of Germ Layer Architecture in the Developing Embryo	Joseph Shawky, Uma Balakrishnan, Lance Davidson
Effects of Hypoxia on the Biomechanical Properties of Neonatal Brachial Plexus	Anita Singh, Shania Shaji, Malaeb Shadi, Maria Delivoria-Papadopoulos
Biomechanics of Morphogenesis in Early Chick Brain Development	Zi Chen, Hannah Grover, Wei Zeng, Lina Zhang, Eric Dai, Nan Hu

ORAL RESEARCH TALKS

Saturday Afternoon 4:15 pm -- 5:45 pm

Biomaterials — Kupfrian Seminar A

Evaluation of a Novel Antibacterial Zn-bioactive Glass Series	Kapil Raghuraman, Emily Krull, Aisling Coughlan
PVDF-TrFE Scaffolds in Combination with Schwann Cells for Spinal Cord Repair	siliang wu, Yee-shuan Lee, Mary Bunge, Treena Arinzeh
Changes in cellular morphology alter stress fiber alignment and affect overall cellular nanoparticle uptake	Pouria Fattahi, Yin-Ting Yeh, Si-Yang Zheng, Sulin Zhang, Justin Brown, Peter Butler
Response of human macrophages to diabetic foot ulcer bacteria isolates	Carly Deusenbery, Lindsay Kalan, Jacquelyn Meisel, Sue Gardner, Elizabeth Grice, Kara Spiller

Biomedical Imaging — Kupfrian Seminar B

Generation of High-Quality Tetrahedral Head Mesh Models from MRI Scans	Anh Phong Tran, Qianqian Fang
Determining the fMRI Compatibility of an Electrically Active Robot	Andria Farrens, Andrea Zonnino, Fabrizio Sergi
Brain Tumors Disrupt the Resting-State Connectome	Darian Hadjiabadi, Leland Pung, Jiangyang Zhang, Woo-Taek Lim, Meghana Kalavar, Nitish Thakor, Bharat Biswal, Arvind Pathak
Functional brain connectivity patterns for cued altering processing in young adults remitted and persistent with childhood-onset ADHD	Yuyang Luo
Multispectral Mesoscopic Imaging in Small Animal to Assess Drug Delivery Efficacy	Denzel Faulkner

TBI and Neural Engineering — Kupfrian Lecture Room

Testing Cortical Activation Responding to Visual Attention in young adults with traumatic brain injury - a functional Near-Infrared Spectroscopy pilot study	Ziyan Wu
Temporal and spatial considerations of blood-brain barrier dysfunction following blast-induced traumatic brain injury as a function of blast overpressure	Matthew Kuriakose
Vascular function in Interstitial-Perivascular-Perivenous clearance pathway in the central nervous system	Yiming Cheng, Xiaotang Ma, James Haorah
Level Dependent Lateralization of Interaural Time Differences	Nima Alamatsaz, Antje Ihlefeld

ORAL RESEARCH TALKS

Sunday Morning 11:45 am -- 1:15 pm

Tissue Engineering & Modeling — Kupfrian Seminar A

A parallel fluid solid coupling tool with applications to filament transport in blood cell suspensions	Jifu Tan, Talid Sinno, Scott Diamond
Modeling the Two-Way Feedback between Contractility and Matrix Realignment Reveals a Non-Linear Mode of Cancer Cell Invasion	Hossein Ahmadzadeh, Marie Webster, Reeti behera, Ashani Weeraratna, Vivek Shenoy
Monolayer Cultures of Human iPSC-Derived Cardiomyocytes Promote Single Electrophysiological Phenotypes	Renjun Zhu, Venkatesh Hariharan, Leslie Tung
Novel Electroconductive Scaffolds for Cardiac Tissue Engineering	Pamela Hitscherich, Ashish Aphale, Richard Gordan, Lai-hua Xie, Prabir Patra, Eun Jung Lee

Orthopaedic Biomechanics — Kupfrian Seminar B

Injectable Rosette Nanotube Nanomatrix for Localization of Bioactive Protein for Growth Plate Repair	Peter Lam, Hongchuang Yu, Philip McClure, Scott McAllister , Michael Ehrlich , Qian Chen, Yupeng Chen
A Novel Orthopedic Robot Design for Femoral Fracture Alignment	Mohammad Abedinnasab, Matthew Goldner, Daniel Infusino, Nicholas Silva, Caroline Smith
Stress and Pore Fluid Alteration in Degenerated Lumbar Intervertebral Disk: A Porous Medium Finite Element Study	Chaudhry Hassan, Michael Stinson, Nicholas Nest, Yi-Xian Qin
Evaluation of Injury Protection Provided by Boots in Axial Impacts	Carolyn Hampton, Michael Kleinberger