





THU

BMES BIOMEDICAL ENGINEERING SOCIETY 2024 ANNUAL MEETING

THURSDAY, OCTOBER 24



ROCHESTER

Delayed lubricin injection improves cartilage repair in an in vivo rabbit osteochondral defect model

Co-Author: Donghwan Yoon - Cornell University Co-Author: Karan Vishwanath, PhD – Cornell University Co-Author: John Dankert – New York University Co-Author: James Butler, MB BCh - New York University Co-Author: Mohammad Azam – New York University Co-Author: Marshall Colville, PhD - Cornell University Co-Author: Matthew Paszek - Cornell University

Co-Author: Heidi Reesink, VMD, PhD, DACVS-LA – Cornell University Co-Author: John G. Kennedy, MD, MCh, MMSc, FFSEM, FRCS - NYU

Co-Author: Lawrence Bonassar, PhD – Cornell University Presenting Author: Rebecca Irwin, PhD – Cornell University

Talk- Orthopedic and Rehabilitation Engineering - Articular Cartilage, Meniscus

Thursday, Oct. 24, 8:45 -9:00 AM Location: Room 339



ROCHESTER

Composite Tissue Engineered Approach Based on Microfiber Scaffolds to Resist **Hydrogel Contraction**

Presenting Author: Lila Pender- University of Rochester Presenting Author: Charlotte L. Lippa - University of Oregon Co-Author: Samuel R. LesterA – University of Oregon
Co-Author: levgenii Liashenko, PhD – University of Oregon
Co-Author: Adam Rauff, PhD – University of Oregon
Co-Author: Paul Dalton, Dr (he/him/his) – University of Oregon Co-Author: Nick Willett, PhD – University of Oregon - Knight Campus

Last Author: Robert Guldberg - University of Oregon



Poster L2

Tissue Engineering - Poster Session A Thursday, Oct. 24, 10:00-11:00 AM

Location: Exhibit Hall E. F & G

3D-printed magnesium isotropic porous

Presenting Author: Tram Nguyen, MSE - Johns Hopkins Univ.

Co-Author: Erica Jingtong Zhao, MSE - Johns Hopkins Univ.

scaffolds via multi-material additive

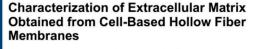
Last Author: Timothy P. Weihs - Johns Hopkins Univ. Primary Investigator: Warren Grayson, PhD - Johns Hopkins Univ.

manufacturing for bone tissue





Alexandra Trzpis Undergraduate Student ROCHESTER



Presenting Author: Alexandra Trzpis - University of Rochester Co-Author: Chris Slavin - University of Arkansas Co-Author: Anelisse Claros - University of Arkansas Primary Investigator: Jeffrey Wolchok, PhD - Univ. of Arkansas



Poster C6

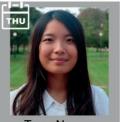
Biomaterials - Poster Session A Thursday, Oct. 24, 10:00-11:00 AM Location: Exhibit Hall E. F & G





Tram Nauven PhD Student Johns Hopkins University

Alumni, BS, 2022 **BME**



Poster M13

engineering

Biomanufacturing-Poster Session A Thursday, Oct. 24, 10:00-11:00 AM Location: Exhibit Hall E. F & G





Xiang Tang Undergraduate Student



Differential expression and functional roles of Piezo1 in articular condyle medial and lateral cartilage in situ

Presenting Author: Xiang Tang - University of Rochester Co-Author: Suk Hee Lee - University of Rochester Med Center Co-Author: Yaxin Zhang - University of Rochester

Co-Author: Johann Kintzel - University of Rochester Primary Investigator: Whasil Lee, PhD - University of Rochester





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Undergraduate Student ROCHESTER

Development of an Experimental Platform to Test Integrated Diffuse Correlation Tomography and Ultrasound Probes for **Breast Cancer Imaging**

Presenting Author: Hong Zhang - University of Rochester Co-Author: Devin C. Johnson - University of California, Irvine Last Author: Regine Choe, PhD - University of Rochester



Poster G1

Biomedical Imaging and Instrumentation - Poster Session B Thursday, Oct. 24, 2:45 - 3:45 PM Location: Exhibit Hall E, F & G



THURSDAY, OCTOBER 24TH 7:00 -9:00 PM

Food, Drinks, Networking, & Raffle Prizes!



UR BME RECEPTION

at BMES in Baltimore, MD

BALTIMORE CONVENTION CENTER: Blake Room Hilton Inner Harbor

#URBME @ #BMES2024!

Date & Time	Presenter	Title / Affiliation	Туре	Title
Thursday, Oct. 24 8:45 -9:00 AM Room 339	Rebecca Irwin	Faculty (Visiting) Joining UR BME in July 2025	Talk, Orthopedic and Rehab- ilitation Engineering: Articular Cartilage, Meniscus, and Joints	Delayed lubricin injection improves cartilage repair in an in vivo rabbit osteo-chondral defect model
Thursday, Oct. 24 10:00–11:00 AM Exhibit Hall E, F & G	Lila Pender	Undergraduate Student	Poster L2, Tissue Engineering - Poster Session A	Composite Tissue Engineered Approach Based on Microfiber Scaffolds to Resist Hydrogel Contraction
Thursday, Oct. 24 10:00–11:00 AM Exhibit Hall E, F & G	Alexandra Trzpis	Undergraduate Student	Poster C6, Biomaterials - Poster Session A	Characterization of Extracellular Matrix Obtained from Cell-Based Hollow Fiber Membranes
Thursday, Oct. 24 10:00–11:00 AM Exhibit Hall E, F & G	Tram Nguyen	Alumni, BS '22	Poster M13 Biomanufacturing- Poster Session A	3D-printed magnesium isotropic porous scaffolds via multi-material additive manufacturing for bone tissue engineering
Thursday, Oct. 24 2:45 – 3:45 PM Exhibit Hall E, F & G	Xiang Tang	Undergraduate Student	Poster D9 Biomechanics - Poster Session B	Differential expression and functional roles of Piezo1 in articular condyle medial and lateral cartilage in situ
Thursday, Oct. 24 2:45 – 3:45 PM Exhibit Hall E, F & G	Hong Zhang	Undergraduate Student	Poster G1 , Biomedical Imaging and Instrumentation - Poster Session B	Development of an Experimental Platform to Test Integrated Diffuse Correlation Tomography and Ultrasound Probes for Breast Cancer Imaging
Friday, Oct. 25 8:30 -10:00 Room 343	Whasil Lee	Faculty (Primary) Assitant Professor	Platform Session Biomechanics - Platform Session	Cellular and Molecular Mechanobiology II
Friday, Oct. 25 10:00 - 11:00 AM Exhibit Hall E, F & G	Maris Lana	Alumni, BS '22	Poster N12 - Biomaterials - Poster Session C	Investigating Co-Activation of CD4+ and CD8+ T-cells Using an Artificial Lymph Node
Friday, Oct. 25 3:30 – 4:30 PM Exhibit Hall E, F & G	Johann Kintzel	Undergraduate Student	Poster D7 Biomechanics - Poster Session D	Mechanical susceptibility of chondrocytes by Piezo1 modulators and inflammatory cytokines in situ
Friday, Oct. 25 3:30 – 4:30 PM Exhibit Hall E, F & G	Manuela Montes de Oca	Undergraduate Student	Poster E1 Biomechanics - Poster Session D	Modeling of Sensors Used to Validate FE models of Articular Joint Contact: A Comparison of Simulated Hertz Contact
Friday, Oct. 25 3:30 – 4:30 PM Exhibit Hall E, F & G	Anastasiia Rudaeva	Undergraduate Student	Poster G8 Biomedical Imaging and Instrumentation, Poster Session D	Software Development For Fast and Accurate Cell Identification Across Multiple Imaging Modalities
Friday, Oct. 25 3:30 – 4:30 PM Exhibit Hall E, F & G	Christina I. Kyriacou	Undergraduate Student	Poster H10 Cardiovascular Engineering - Poster Session D	Investigating the Cooperation Between Endothelin B Receptor and Heparan Sulfate in Regulating Endothelin-1 Expression Using qPCR
Friday, Oct. 25 3:30 – 4:30 PM Exhibit Hall E, F & G	Yimei Du	Undergraduate Student	Poster J19 Nano and Micro Technologies - Poster Session D	Role of apolipoprotein E isoforms in blood-brain barrier stability
Friday, Oct. 25, 3:30 – 4:30 PM Exhibit Hall E, F & G	Faizah M. Ahmmed	Undergraduate Student	Poster L19 Women's Health - Poster Session D	Mechanical stress response of fibroblast cells on Vulvar Lichen Sclerosus patients
Saturday, Oct. 26 8:30 - 8:45 AM Room 315	Rebecca Irwin	Faculty (Visiting) Joining UR BME in July 2025	Talk - Neural Engineering Engineering - Neuroimaging	Cerebral Focal Stroke Causes Increased Incidence of Non-Flowing Capillaries Hundreds of Micrometers into the Adjacent Microvasculature
Saturday, Oct. 26, 10:00 - 11:00 AM Exhibit Hall E, F & G	Rebecca Irwin	Faculty (Visiting) Joining UR BME in July 2025	Poster AA5 - Orthopedic and Rehabilitation Engineering, Poster Session E	Medial cartilage defect drives matrix and cell pathology in compartment-matched meniscus
Saturday, Oct. 26, 10:00 - 11:00 AM Exhibit Hall E, F & G	Yeidi N. Yuja Vaquiz	Undergraduate Student	Poster F9, Biomedical Imaging and Instrumentation - Poster Session D	Ultrasound and Photoacoustic Guided Gastrostomy to Prevent Colonic Injury
Saturday, Oct. 26, 10:00 - 11:00 AM Exhibit Hall E, F & G	Julia Rothschild	Undergraduate Student	Poster K4 Nano and Micro Technologies - Poster Session E	Testing of nanoporous silicon-nitride membrane ultrafiltration for hemodialysis
Saturday, Oct. 26 12:45 -1:00 PM Room 340	Martha J. Gdowski	Faculty (Secondary) Associate Professor	Talk - Neural Engineering Engineering - Neuroimaging	Empowering Biomedical Engineers: Advancing Human Anatomy Education through Experiential Learning with Medical Devices