Symposium Agenda:

08:00 AM - 08:20 AM  Arrival, Registration, Badges & Breakfast

08:20 AM - 08:25 AM  Welcome and Introductory remarks by Dr. Charles Lee, CBES Director (902)

08:25 AM - 08:30 AM  Greetings from Nancy Gutierrez, Dean of College of Liberal Arts and Sciences (902)

08:30 AM - 09:30 AM  
Session 1 (902):  
Translational Regenerative Medicine

09:30 AM - 09:40 AM  Vendor Presentation – North Carolina Biotechnology Center (902)

09:40 AM - 10:10 AM  Break, Vendors, Posters (901)

10:10 AM - 11:10 AM  
Keynote Speaker (902):  
Dr. Thomas Shupe, WFIRM  
Ex vivo Console of Human Organoids (ECHO) “Body-on-a-Chip” Platform

11:10 AM - 11:20 AM  Vendor Presentation – Sarstedt (902)

11:20 AM - 11:30 AM  Vendor Presentation – Miltenyi Biotec (902)

11:30 AM - 12:00 PM  Vendors/Lunch (901)

12:00 PM - 01:30 PM  
Session 2 (902):  
3D Organs and Organs on a Chip  
Session 3 (906):  
Orthopedic Regenerative Medicine

01:30 PM - 02:00 PM  Vendors/Break (901)

02:00 PM - 03:30 PM  
Session 4 (902):  
Cancer Diagnostics and Personalized Medicine  
Session 5 (906):  
Cryopreservation of Tissues and Organs

03:30 PM - 05:00 PM  11th Annual CBES Graduate Student Poster Competition (901 & 905)
Session Talks

Session 1: Translational Regenerative Medicine (902, 8:30 AM - 9:30 AM)
Introduction: Co-Chairs: Drs. Mark Clemens, UNCC & Cynthia Wilkins-Port, WFIRM
➢ Department of Defense funding
  Vijay Gorantla, WFIRM
  Panel Discussion

Session 2: 3D Organs and Organs on a Chip (902, 12:00 PM - 1:30 PM)
Introduction: Co-Chairs: Drs. Hansang Cho, UNCC & Aleks Skardal, WFIRM
➢ Electroporation of Adhered Brain Endothelial Cells on Chip Toward Controlled Transcellular Permeabilization of the Blood-Brain Barrier
  Rafael Davalos, Virginia Tech
➢ Airway Organoids for Disease Modeling and Drug Discovery.
  Sean Murphy, WFIRM
➢ Modulation of Neural Activity to Enhance the Myelination of Axons By Oligodendrocytes
  In Hong Yang, UNCC
➢ Colorectal Cancer Organoids for Modeling and predicting disease progression
  Mahesh Devarasetty, WFIRM
  Panel Discussion

Session 3: Orthopedic Regenerative Medicine (906, 12:00 PM - 1:30 PM)
Introduction: Co-Chairs: Drs. Nigel Zheng, UNCC & John Jackson, WFIRM
➢ 3D Bioprinting Strategy for Musculoskeletal Tissue Engineering
  Sang Jin Lee, WFRIM
➢ A Novel Model of Acute Skeletal Muscle Injury in rats for Testing the Effects of Age and Gender on Regeneration and Recovery of Function
  Tracy Criswell, WFIRM
➢ Engineering of biomimetic skeletal muscle tissue constructs for functional restoration
  Ji Hyun Kim, WFIRM
➢ Successful Design of Resorbable Bioactive Ceramic Medical Device and Applications in Regenerative Medicine
  Ahmed El-Ghannam, UNCC
  Panel Discussion
Session 4: Cancer Diagnostics and Personalized Medicine (902, 2:00 PM - 3:30 PM)

Introduction: Co-Chairs: Drs. Didier Dreau, UNCC & Shay Soker, WFIRM

- Cancer Pharmacogenomics and Personalized Medicine at Levine Cancer Institute: Jai Patel, Atrium Health
- Brain Metastasis Imaging and Targeted Therapy: Dawen Zhao, WFIRM
- Nucleic Acid Nanoparticles (NANPs) with Controlled Immunostimulation: Kirill Afonin, UNCC
- Theranostic Polymer Nanoparticles for Detection and Photothermal Treatment of Colorectal Cancer: Nicole Levi, WFIRM
- Characterization of the HSP70 Co-chaperone HDJ2 as a Hub of Anticancer Drug Resistance: Andrew Truman, UNCC

Roundtable Discussion

Session 5: Cryopreservation of Tissues and Organs (906, 2:00 PM - 3:30 PM)

Introduction: Co-Chairs: Dr. Gloria Elliott, UNCC & Dr. Hooman Sadri-Ardekani, WFIRM

- Composite Tissue Cryopreservation: Challenges for Vascularization and Viability: Vijay Gorantla, WFIRM, Fatih Zor, WFIRM, Huseyin Karagoz, WFIRM
- Biomanufacturing and Cryopreservation of a Novel SiC Bone Tissue Engineering Graft: Ahmed El-Ghannam, UNCC, Gloria Elliott, UNCC, Kelvin Brockbank, Tissue Testing Technologies
- Whole Testis Cryopreservation, an animal model: Hooman Sadri-Ardekani, WFIRM

Roundtable Discussion

UNCC Graduate Student Poster Competition (901 & 905, 03:30 PM - 05:00 PM)

- Nitika - Identification of the novel regulatory role of Hsp70 co-chaperone Ydj1/Hdj2 on oncoprotein Ribonucleotide reductase complex
- Oluwaseun Adeyemi - The Relationship of Healthcare Disparity and Functional Impairment among Patients with Chronic Obstructive Pulmonary Disease (COPD)
- Abhijith Bagepalli - Seizure prediction using Deep Learning
- Damian Beasock - Synthesis and characterization of bioactive silicon carbide for load-bearing implants
- Sunny Bellary - Human robot cooperation using EEG signals with self-learning
- Morgan Chandler - Bioreponsive quantum dot lattices for applications in biosensing and conditionally activated RNA interference
- Fangjian Chen - Level-walking analysis using stereophotogrammetry system to test TKA surgery patients
- Ashley Ciero - Development of Experimental and Numerical Tools for Magnetic Drug Targeting in Cardiovascular Flow
- Eric Cutler - Dopamine Detection for Parkinson’s Disease Via SERS Plasmonic Enhancement
- Jacob Dixon - Red Fluorescence in Bovine Serum Albumin-Gold Complexes
- Daniel Furr - Testing the Functionality of Lysozyme after Desiccation by Light Assisted Drying
- Akhil Gargey – Electrostatic interactions within Loop 1 and the force generation region of human cardiac myosin affect the rate of actomyosin dissociation and ADP release
- Dakota Goad - Efficacy of Oncolytic Vesicular Stomatitis Virus against Murine Pancreatic Ductal Adenocarcinoma Cells
- Shreya Goyal - Understanding the function of novel SNX-BAR protein in yeast
- Madeline Greenier - Engineering Surface Activated Silicon Carbide as a Porous Cell Carrier
- Justin Halman - Structure and Composition Determine Immunorecognition of Nucleic Acid Nanoparticles
- Abolfazl Hosseinpour – Investigation of the Effect of Bone Remodeling on Bone Loss and Loosening of Femoral Component in Total Knee Arthroplasty
- Hyunjae Jeon - Acute deformation of femoral cartilage following three different movements in patients with patellofemoral pain
- Alexis Johnston - Porphyrin Modified Polyhedral Oligomeric Silsesquioxane Molecules for the Photodynamic Therapy of Cancer Cells
- Laura Knighton - Understanding the role of the Hsp70 chaperone code in the DNA damage response
- Cobey McGinnis - Single Pixel Hyper-Spectral Imaging with the use of a Coherent Fiber Bundle
- Adit Mehta - Biomechanics of the neck: Applications to Vehicle Occupant Safety
- Amanda Reid - Simplifying Complex Bacterial Pathogens - Glycan Bioassembly with A Highly Fluorescent Probe
- Beth Scarbrough - Characterization of proteins involved in lipid A modification and polymyxin resistance in Escherichia coli using a fluorescent lipid probe
- Sara Seegers - Experimental evolution of oncolytic vesicular stomatitis results in improved viral attachment to SUIT-2 cells
- Chang Shu - Three-dimensional joint kinematics of TKA-reconstructed knee during stair ascent before and after surgery
- Valentina Talevi - Periodontal disease-associated SNPs in head and neck cancer irradiation patients
- Mubin Tarannum - Nanoparticle-based sequential therapy for improved treatment of triple negative breast cancer
- Danielle Torp - Validity of a Novel Cross-Line Laser for Predicting Lateral Plantar Pressure in Individuals with Chronic Ankle Instability
- Hemapriyadarshini Vadarevu - Mesoporous silica nanoparticles as a delivery platform for combined chemo and gene therapy
- Mahboubeh Yazdanifar - Developing a novel anti-MUC1 CAR T cell for treating pancreatic cancer and breaking the resistance by combination therapy

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