**Agenda**

**Monday, March 6th**

**8 AM to 9 AM**  
Continental Breakfast  
Second Floor

**9 AM to 10 AM**  
State of the Institute  
Ballroom B

William Wagner, PhD  
Director, McGowan Institute for Regenerative Medicine;  
Distinguished Professor of Surgery, Chemical Engineering, and Bioengineering  
University of Pittsburgh

**10 AM to 11:15 AM**  
Session 1: Computational Biology in Regenerative Medicine  
Conference Room B

Chair:  
Satoshi Okawa, PhD  
Assistant Professor, Vascular Medicine Institute, School of Medicine  
University of Pittsburgh

Speakers:  
"Genetically Programmed Human Organoids"  
Mo Ebrahimkani, MD  
Associate Professor, Department of Pathology, School of Medicine  
University of Pittsburgh

"Guiding Embryonic Development with Light"  
Nathan Lord, PhD  
Assistant Professor  
Department of Computational and Systems Biology  
University of Pittsburgh

"Computational Systems Biology for Cell Engineering"  
Satoshi Okawa, PhD  
Assistant Professor, Vascular Medicine Institute, School of Medicine  
University of Pittsburgh

"Mathematical Modeling of Fibroblast-Mediated Drug Resistance in HER2+ Breast Cancer"  
Matthew Poskus, PhD Candidate  
Department of Bioengineering  
University of Pittsburgh

**11:30 AM to 1:00 PM**  
Keynote Lunch  
Ballroom B

"Exploring Beyond our Planet: Leveraging Platforms in LEO for the Development of Biomedical Technologies"  
Marc Giulianotti  
Senior Manager  
Space Biomanufacturing  
Sierra Space

**1:00 PM to 2:00 PM**  
Session 2: Multi-scale Analysis of Inflammatory Microenvironments  
Ballroom B

Chair:  
Ioannis Zervantonakis, PhD  
Assistant Professor, Department of Bioengineering  
University of Pittsburgh

Speakers:  
"Organs-on-Chips for Modeling Immunity and Inflammation"  
Kambiz Benam, DPhil  
Visiting Associate Professor of Medicine  
Department of Pulmonary, Allergy and Critical Care Medicine  
University of Pittsburgh

"Exploring Monocyte and Trophoblastic Signaling and Their Role in Pre-Eclampsia"  
Hanna Yankello  
PhD Candidate  
Carnegie Mellon University

"Biomaterial Design for Assessing the Implications of the Host Macrophage Response In Vivo"  
Bryan Brown, PhD  
Associate Professor, Department of Bioengineering  
University of Pittsburgh

"Modeling and Modulating Context-Specific Signaling-to-Transcription in macrophages"  
Rachel Gottschalk, PhD  
Assistant Professor, Department of Immunology  
University of Pittsburgh

Panel Discussion to Follow

**2:15 PM to 3:15 PM**  
Session 3: Bioelectronics: Materials and Interfaces  
Ballroom B

Chair:  
Tzahi Cohen-Karni, PhD  
Associate Professor, Biomedical Engineering and Materials Science and Engineering  
Carnegie Mellon University

Speakers:  
"Gelatin-based Ingestible Impedance Sensor to Evaluate Gastrointestinal Epithelial Barriers"  
Gaurav Balakrishnan  
PhD Candidate  
Department of Materials Science and Engineering  
Carnegie Mellon University

"CMU Array: A 3D Nanoprinted, Fully Customizable High-Density Microelectrode Array Platform"  
Sandy Ritchie  
PhD Candidate  
Department of Mechanical Engineering  
Carnegie Mellon University

"In Vivo Wound State Monitoring by Flexible and Multiplexed Nitric Oxide Biosensor Array"  
Liyang Wang  
PhD Candidate  
Department of Materials Science and Engineering  
Carnegie Mellon University

**3:30 to 5:30 PM**  
Poster Session  
Ballroom A

Hors d’oeuvres and Refreshments will be served.

**Tuesday, March 7th**

**8 AM to 9 AM**  
Continental Breakfast  
Second Floor

**9 AM to 10:15 AM**  
Session 4: Organ-on-a-Chip Models and Organoids for Disease Modeling and Drug Development  
Ballroom B

Chair:  
Hang Lin, PhD  
Assistant Professor, Department of Orthopaedic Surgery, School of Medicine  
University of Pittsburgh

Speakers:

Keynote Lecture  
"Biofabrication towards Human Tissue Modeling"  
Y. Shrike Zhang, PhD  
Assistant Professor  
Harvard Medical School; and  
Associate Bioengineer  
Brigham and Women's Hospital  
Via Zoom

"Toward Precision Medicine for Non-Alcoholic Fatty Liver Disease: From Patients to Lab and Back to Patients"  
D. Lansing Taylor, PhD  
Distinguished Professor and Allegheny Foundation Professor, Department of Computational & Systems Biology  
University of Pittsburgh; and  
Director, University of Pittsburgh Drug Discovery Institute

"Bioengineered pancreatic islet organoids for disease modeling applications"  
Ipsita Banerjee, PhD  
Professor, Department of Chemical and Petroleum Engineering  
University of Pittsburgh

"An Innervated Synovium-Cartilage Chip for Modeling Inflammation and Associated Pain"  
Megan Makarcyzk  
PhD Candidate  
University of Pittsburgh

**10:30 AM to 11:45 AM**  
Session 5: Regenerating Diversity, Equity, Inclusion and Accessibility (DEIA) in Regenerative Medicine  
Ballroom B

Chair:  
Gerald Schatten, PhD  
Director, Pittsburgh Development Center;  
Professor, Department of Obstetrics, Gynecology and Reproductive Sciences, Cell Biology, Bioengineering  
University of Pittsburgh; and  
Director, Division of Developmental and Regenerative Medicine  
University of Pittsburgh Medical Center

Speakers:

"Fostering Inclusive Conversations: An Experiment at the 2023 McGowan Institute Retreat"  
Gerald Schatten, PhD  
Director, Pittsburgh Development Center;  
Professor, Department of Obstetrics, Gynecology and Reproductive Sciences, Cell Biology, Bioengineering  
University of Pittsburgh; and  
Director, Division of Developmental and Regenerative Medicine  
University of Pittsburgh Medical Center

and

Nneka Ifejika, MD, MPH  
Professor, Physical Medicine and Rehabilitation and Neurology  
UT Southwestern Medical Center  
Via Zoom

"Timing is Everything: Sex Differences in the Microbiome-Gut-Brain Axis are Time-of-Day Dependent"  
Sarah Munyoki, PhD  
Department of Integrative Systems Biology  
University of Pittsburgh

"Histologic and Immunohistochemical Characterization of a Large Animal Model of Volumetric Muscle Loss"  
Shanae Butler  
PhD Candidate  
Department of Bioengineering, Swanson School of Engineering  
University of Pittsburgh

Panel Discussion to Follow

**12 PM to 1:00 PM**  
Lunch Session: Updates and Opportunities at McGowan Institute and Poster Session Awards  
Ballroom B

Speakers:

"PITT Nanofabrication and Characterization Facility – Medical Applications"  
Esta Abelev, PhD  
Research Associate Professor, Department of Mechanical and Materials Science  
Technical Director, Petersen Institute of NanoScience and Engineering  
University of Pittsburgh

"New Imaging Technologies at the Center for Biologic Imaging"  
Donna Stolz, PhD  
Associate Professor, Department of Cell Biology  
Associate Director, Center for Biologic Imaging  
Director, Cell Biology and Molecular Physiology Graduate Program  
University of Pittsburgh

"Overview of the Center for Military Medicine Research and the Federal Omnibus-IV Program"  
Ann Gleeson  
Managing Director, Center for Military Medicine Research  
University of Pittsburgh

"Poster Session Awards"  
Andrew Duncan, PhD  
Associate Professor, Departments of Pathology and Bioengineering  
University of Pittsburgh

**1:30 PM to 2:30 PM**  
Session 6: Advances in Organ Transplantation Strategies  
Ballroom B

Co-Chairs:  
Julie Phillippi, PhD  
UPMC Pellegrini Chair, Cardiothoracic Surgery; and  
Associate Professor, Cardiothoracic Surgery and Bioengineering  
University of Pittsburgh

and

David Kaczorowski, MD  
Surgical Director, Advanced Heart Failure Center  
University of Pittsburgh Medical Center Heart and Vascular Institute; and  
Associate Professor, Department of Cardiothoracic Surgery  
University of Pittsburgh

Speakers:

"Non-Human Primate Models for Transplantation and Mechanisms of Graft Tolerance"  
Mohamed Ezzelarab, MB, CHB  
Research Associate Professor, Department of Surgery  
University of Pittsburgh

"Ex Vivo Lung Perfusion and Mechanisms of Preserving Donor Lung Grafts"  
Kentaro Noda, PhD  
Research Assistant Professor, Department of Cardiothoracic Surgery  
Research Program Manager, Ex Vivo Lung Perfusion, Department of Cardiothoracic Surgery  
University of Pittsburgh

"Extracelluar Vesicles and Transplantation"  
Phil Campbell, PhD  
Research Professor, Institute for Complex Engineered Systems, Carnegie Institute of Technology  
Carnegie Mellon University

"Cardiac Xenotransplantation"  
David Kaczorowski, MD  
Surgical Director, Advanced Heart Failure Center  
University of Pittsburgh Medical Center Heart and Vascular Institute; and  
Associate Professor, Department of Cardiothoracic Surgery  
University of Pittsburgh

**3:00 PM to 4:30 PM**: (On Line) Pediatric Device Innovators Forum: Patient Matched Devices for Pediatrics: A Case Study (Use the [separate registration link](https://teams.microsoft.com/registration/FiQRprAHpUGbsdFGtXXJdQ,B_CiqwDV3EOyfVydHgNLSQ,u32RvXdL-EqhWP005xtcMg,fmRw7wl7cUa1K0KTggYEfQ,jyWuA1lL8kS9fOUkExdsRw,9KgEmI9dgUOiY39ySXCLxw?mode=read&tenantId=a6112416-07b0-41a5-9bb1-d146b575c975))