**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%2CB_CiqwDV3EOyfVydHgNLSQ%2Cu32RvXdL-EqhWP005xtcMg%2CfmRw7wl7cUa1K0KTggYEfQ%2CjyWuA1lL8kS9fOUkExdsRw%2C9KgEmI9dgUOiY39ySXCLxw?mode=read&tenantId=a6112416-07b0-41a5-9bb1-d146b575c975))