

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 Makarczyk

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

"Extracellular 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](#))