

**Schedule**  
**McGowan Institute for Regenerative Medicine**  
**2022 Annual Retreat**  
**University Club – All in-person sessions to be held in Ballroom B and Foyer– 2<sup>nd</sup> Floor**  
**Online Sessions – Teams Meetings**

**Monday, March 7<sup>th</sup>, 2022**

**8:00 AM – 9:00 AM (In Person)**

***Breakfast***

**9:00 AM - 9:45 AM (In Person)**

***State of the Institute/Retreat Kickoff***

William Wagner, PhD

Director, McGowan Institute for Regenerative Medicine

Distinguished Professor, Departments of Surgery; Chemical Engineering; and Bioengineering

**10:00 AM – 11:15 AM (In Person)**

***Positioning Dental, Oral, and Craniofacial Technologies for Advanced Development and Commercial Launch***

**Session Chair:**

Charles Sfeir, DDS, PhD

Director, Center for Craniofacial Regeneration

Chair, Department of Periodontics and Preventative Dentistry

Associate Dean, Research, School of Dental Medicine

Associate Professor, Periodontics and Preventative Dentistry, Oral and Craniofacial Sciences; and Bioengineering

Speakers: TBD

**11:30 AM – 12:30 PM (In Person)**

***Lunch***

**12:45-2:00 PM (In Person)**

***Synthetic Biology Approaches to Regenerative Medicine***

**Session Chair:**

Andrew Duncan, PhD

Associate Professor

Department of Pathology

### ***Introduction***

Andrew Duncan, PhD  
Associate Professor  
Department of Pathology

### **Speakers**

#### ***Synthetic Morphogenesis: Build to Understand Human-based Multicellular Systems***

Mo Ebrahimkhani, MD  
Associate Professor  
Department of Pathology

#### ***Synthetic Human Livers, PLRC Approach and Services***

Alex Soto-Gutierrez, MD, PhD  
Associate Professor  
Department of Pathology

### **Combined Q&A**

### **CATER T32 Fellows Rapid Fire Talks**

#### ***Understanding Kidney Disease and Therapies Utilizing Kidney Organoids***

Joseph Maggiore, BS  
PhD candidate  
Integrative Systems Biology Graduate Program  
Medical Scientist Training Program

#### ***Understanding and Engineering Hematopoiesis Using a Genetically Engineered Fetal Liver Niche***

Ryan LeGraw, BS  
PhD candidate  
Cellular and Molecular Pathology Graduate Program

#### ***Generation of Innervated Tissue Chip to Study Joint Pain***

Meagan Makarczyk, BS  
PhD candidate  
Bioengineering Graduate Program

#### ***Targeting Stroma-Mediated Drug Resistance in HER2+ Breast Cancer***

Matthew Poskus, BS, MS  
PhD candidate  
Bioengineering Graduate Program

#### ***Modeling Human Post-Implantation Embryogenesis via a Synthetic Circuit***

Joshua Hislop, BS  
PhD candidate  
Bioengineering Graduate Program

**2:00 PM - 3:15 PM (In Person)**

**Regenerative Rehabilitation**

**Session Co-Chair:**

Allison Bean, MD, PhD

Assistant Professor, Department of Physical Medicine and Rehabilitation

**Session Co-Chair:**

Amrita Sahu, PhD

Assistant Professor, Department of Physical Medicine and Rehabilitation

**Introduction:**

Allison Bean, MD, PhD

Assistant Professor, Department of Physical Medicine and Rehabilitation

**Speakers:**

*Sub-Additive and Suppressive Effects of Physical Therapy on Cell Therapy in Stroke*

Mike Modo, PhD

Professor, Department of Radiology

*Exploring the Transcriptome and Connectome for the Study of Muscle-Brain Axis*

Amrita Sahu, PhD

Assistant Professor, Department of Physical Medicine and Rehabilitation

**Combined Q&A**

**BiRM Fellows, Rapid Fire Talks**

*Cell Mechanics of Tissue Shaping and Extrusion*

Sommer Anjum, BS

PhD candidate

Bioengineering Graduate Program

*Use of Computational Morphometry and Modeling to Assess the Impact of Aging and Prolapse Repair on Female Pelvic Anatomy*

Shaniel Bowen, MS

PhD candidate

Bioengineering Graduate Program

*Assessing the Macrophage-Directed Remodeling Kinetics of a Peripheral Nerve Matrix Hydrogel*

Tyler Meder, BS

PhD candidate

Bioengineering Graduate Program

***Engineering Rotating Apical-Out Airway Organoid for Assessing Respiratory Cilia Motility***

Piyumi Wijesekara, BS

PhD candidate

Bioengineering Graduate Program

Carnegie Mellon University

**3:30 PM – 5:30 PM (In Person)**

Poster Session

2<sup>nd</sup> Floor Foyer

Hors d'oeuvres and Drinks

**Tuesday, March 8<sup>th</sup>, 2022**

**8:00 AM – 9:00 AM (In Person)**

**Breakfast**

**9:00 AM - 10:15 AM (In Person)**

**Cardiovascular Bioengineering**

**Session Chair:**

Rama Mukkamala, PhD

Professor, Department of Anesthesiology and Perioperative Medicine; and Bioengineering

**Speakers:**

**9:00 AM – 9:25 AM**

***Predictive Analytics for Critical Care***

Michael Pinsky, MD

Professor, Department of Critical Care Medicine; Cardiovascular Diseases; Clinical & Translational Science, Anesthesiology; and Bioengineering

**9:25 AM – 9:50 AM**

***Hospital Cardiac Output Monitoring***

Rama Mukkamala, PhD

Professor, Department of Anesthesiology and Perioperative Medicine; and Bioengineering

**Rapid Fire Talks**

**9:50 AM – 10:15 AM**

***Cuffless Blood Pressure***

Cederick Landry, PhD

Postdoctoral Associate

Department of Bioengineering

***Regenerative Treatments for Abdominal Aortic Aneurysm***

Ande Marini, BS  
PhD Candidate  
Bioengineering Department

***Oxygenator for Premature Babies***

Katelin Omecinski, BS  
PhD Candidate  
Bioengineering Department

**10:30 AM - 11:45 AM (In Person)**

***Overview of the Center for Military Medicine Research – Strategic Partnerships & Funding Opportunities***

**Session Chair:**

Ron Poropatich, MD  
Director, Center for Military Medicine Research  
Professor, Department of Pulmonary, Allergy, and Critical Care Medicine; Sports Medicine and Nutrition

**Speakers:**

***CMMR Overview, Partnerships (MIRM, SSoE, Trauma/Transfusion, DoD, VA), Omnibus IV Update, and Upcoming Meetings***

Ron Poropatich, MD  
Director, Center for Military Medicine Research  
Professor, Department of Pulmonary, Allergy, and Critical Care Medicine; Sports Medicine and Nutrition

***Defense Innovation Economy in Pittsburgh***

Ann Gleeson, MS  
Managing Director, Center for Military Medicine Research

***Trauma and Transfusion Medicine Research Center***

Philip Spinella, MD, FCCM  
Associate Medical Director, Center for Military Medicine Research  
Co-Director, Trauma and Transfusion Medicine Research Center  
Professor, Surgery and Critical Care Medicine

***Leveraging DoD SBIR/STTR Funding for Commercialization***

Jan Berkow, MBA  
Program Manager for Commercialization, Center for Military Medicine Research

***Swanson School of Engineering Partnership with the Center for Military Medicine Research and Department of Defense***

Eva Lai, PhD

Director for Partnerships and Innovations  
Swanson School of Engineering

### **Discussion to Follow Presentations**

**12:00 PM – 1:00 PM (In Person)**

**Lunch**

**3:00 PM - 4:30 PM (Online)**

**\* Requires Separate Registration Here: <https://www.pdforum.org/> \***

***Pediatric Device Trial Infrastructure: Clinical investigation of an implantable pediatric ventricular assist device - NHLBI PumpKIN (Pumps for Kids Infants and Neonates) Trial***

#### **Panel Members:**

Harvey Borovetz, PhD (chair)

Member, NIH Executive Committee for the PumpKIN Program

Distinguished Professor, Department of Bioengineering, University of Pittsburgh

Ashley Magnavita, MPH, PMP – PumpKIN contact of record, [www.clinicaltrials.gov](http://www.clinicaltrials.gov); Clinical Trial Monitoring & Protocol Design

Director, Clinical Research Project Management, HealthCore

Bob Kroslowitz – Device Development & Testing

President & CEO, Berlin Heart

Kurt Dasse, PhD – Member, NIH Executive Committee for the PumpKIN Program

President, VADovations, Inc.

Tim Baldwin, PhD – Former Deputy Chief of Advanced Technologies & Surgery Branch,

NHLBI Division of Cardiovascular Sciences, Program Officer for PumpKIN

Senior Staff Fellow/Reviewer, Circulatory Support Devices Team, FDA

Pedro del Nido, MD – PumpKIN Site Principal Investigator & Patient Selection Criteria

Chairman, Department of Cardiac Surgery, Boston Children's Hospital

William E. Ladd Professor of Child Surgery, Harvard Medical School

Richard Schaub, PhD – PumpKIN Site Support Center Preparedness & Bioengineering Pump Management

Adjunct Assistant Professor of Bioengineering, University of Pittsburgh

Sr. Director of Artificial Heart Program, UPMC

Sr. Director of Mechanical Circulatory Support, Procirca