

Sponsors-2019 McGowan Institute Retreat

PittMcGowan



Program

2019 McGowan Institute Retreat March 11 and 12, 2019

(As of 02/08/19)

7:30-8:30am

Networking Breakfast

Location: Ballroom B

9:00-10:30am

Morning Breakout Sessions (3 concurrent)

Session 1

Pulmonary Regeneration and Repair

Ballroom B

Organizers:

Charlie Ren, PhD

Assistant Professor of Medical Engineering

Carnegie Mellon University

and

Keith Cook, PhD

Professor-Bioengineering

Carnegie Mellon University

“Iron-Sulfur Biogenesis Controls Endothelial Dysfunction in Pulmonary Hypertension”

Stephen Chan, MD, PhD, FAHA (9:00 - 9:20am)

Director, Center for Pulmonary Vascular Biology and Medicine

Associate Professor of Medicine

Pittsburgh Heart, Lung, Blood, and Vascular Medicine Institute

Division of Cardiology, Department of Medicine

UPMC and University of Pittsburgh School of Medicine

“EVLP: A Human Pre-Clinical Model for Lung Therapies”

Mauricio Rojas, MD (9:25 - 9:45am)

Scientific Director Dorothy P. and Richard P. Simmons Center for Interstitial Lung Diseases

Associate Professor, Division of Pulmonary, Allergy and Critical Care Medicine

Associate Professor of Clinical and Translational Research

Department of Medicine, University of Pittsburgh

“Clinical Aspects of ex vivo Lung Perfusion”

Pablo G. Sanchez, MD, PhD, FACS (9:50 - 10:10am)

Assistant Professor of Cardiothoracic Surgery

Vice Chairman, Benign Lung Diseases

Surgical Director, Lung Transplantation and ECMO

Director, Lung Transplant Research

Director, Ex Vivo Lung Perfusion (EVLP) Program

Department of Cardiothoracic Surgery, University of Pittsburgh

“Thirty-Day In Vivo Evaluation of a Wearable Pumping Artificial Lung”

Ryan Orizondo, PhD (10:15 - 10:30am)

Postdoctoral Associate

McGowan Institute

University of Pittsburgh

Each presentation will be followed by a 5 min Q&A

Session 2

Beyond PD1 Immunotherapy: Novel Strategies to Target the Tumor Microenvironment

Gold Room

Organizer:

Tullia Bruno, PhD

Research Assistant Professor

Department of Immunology

University of Pittsburgh

Session Chairs:

Tullia Bruno, PhD

and

Greg Delgoffe, PhD

Assistant Professor

Department of Immunology

University of Pittsburgh

“Engineering Metabolic Sufficiency in Adoptive Cell Therapies for Cancer”

Greg Delgoffe, PhD (9:30 - 9:50am)

Assistant Professor

Department of Immunology

University of Pittsburgh

“Tumor infiltrating B cells: an immunotherapy target on the rise”

Tullia Bruno, PhD (9:50-10:10am)

Research Assistant Professor

Department of Immunology

University of Pittsburgh

“Engineering Universal CAR and SynNotch Receptors for Programmable Antigen Targeting”

Jason Lohmueller, PhD (10:10 - 10:25am)

Postdoctoral Associate

Department of Immunology

University of Pittsburgh

“The Therapeutically Induced Matrisome (Tim) Protects and Promotes Metastatic Disease”

Andrew Bradshaw, BS (10:25 - 10:40am)

PhD Student

Department of Pathology

University of Pittsburgh

Panel Discussion (10:40 - 11:00am)

Greg Delgoffe, PhD; Tullia Bruno, PhD

Session 3

Importance of (Re)Vascularization

Conference Room A

Session Organizer and Chair:

Marie Billaud, PhD

Research Assistant Professor

Department of Cardiothoracic Surgery

University of Pittsburgh School of Medicine

Co-Chair: Sai Yerneni

PhD Student

Department of Biomedical Engineering

Carnegie Mellon University

“The Scope and Sequence of Growth Factor Delivery for Angiogenesis “

Steven Little, PhD (9:00 - 9:25am)

William Kepler Whiteford Endowed Professor and Chair

Department of Chemical and Petroleum Engineering

University of Pittsburgh Swanson School of Engineering

“Revascularization of the aortic adventitia: a new therapeutic target for aortic disease?”

Marie Billaud, PhD (9:30 - 9:55am)
Research Assistant Professor
Department of Cardiothoracic Surgery
University of Pittsburgh School of Medicine

“Decellularized Chick Chorioallantoic Membrane as an Inductive Biomaterial for Functional Blood and Lymph Vasculature”

Sai Yerneni, BS (10:00 - 10:15am)
PhD Student
Department of Biomedical Engineering
Carnegie Mellon University

Panel Discussion (10:15 - 10:30am)

Panelists: Steven Little, PhD; Marie Billaud, PhD; Stephen Badylak, DVM, MD, PhD, Sai Yerneni, BS

11:00-11:30am

Welcome and State of the Institute Address

William R. Wagner, PhD
Director-McGowan Institute
Location: Ballroom B

11:30am-12:30pm

Buffet Lunch and Roundtable topics

Ballroom B

1:00-2:00pm

"Pop-Up" Workshops

Workshop #1

Pharmaceutical Quality by Design Research and Education

Conference Room A

Workshop Organizer:

Jelena Janjic, PhD
Associate Professor
School of Pharmacy
Duquesne University

Workshop Chair:

James Drennen, PhD
Associate Dean for Research and Graduate Programs
Duquesne University School of Pharmacy

“Quality by Design: Modern Strategies for Product Development”

James K. Drennen, PhD (1:00 – 1:25pm)
Associate Dean for Research and Graduate Programs
Duquesne University School of Pharmacy

“Process analytical technology (PAT) technology and applications”

Carl Anderson, PhD (1:25 – 1:45pm)

Division Head

Pharmaceutical, Administrative & Social Sciences

Duquesne University School of Pharmacy

Panel Discussion (15 min)

Panelists: Peter Wildfong, PhD; Carl Anderson, PhD; Jelena Janjic, PhD; James Drennen, PhD

Workshop #2 **I Finished Training, Now What? Pathways to Independence**
Gold Room

Workshop Organizer and Chair:

Garrett Coyan, MD, MS

Resident

Cardiothoracic Surgery

University of Pittsburgh Medical Center

Title: TBA

Arthur Levine, MD

Senior Vice Chancellor for the Health Sciences

John and Gertrude Petersen Dean

School of Medicine

University of Pittsburgh

Title: TBA

Christopher Sciortino, MD, PhD

Assistant Professor of Cardiothoracic Surgery

Surgical Director, UPMC Advanced Heart Failure Center

Department of Cardiothoracic Surgery

University of Pittsburgh

Title: TBA

Fatima Syed-Picard, PhD

Assistant Professor

School of Dental Medicine

University of Pittsburgh

Title: TBA

Ryan Champagne

Grants Development Coordinator

Office of Research

University of Pittsburgh

2:00-2:30

Break

2:30-4:00pm

Afternoon Breakout Sessions (3 concurrent)

Session 4

The 15th Anniversary of the Center for Inflammation and Regeneration Modeling

Ballroom B

Session Organizers and Chairs:

Yoram Vodovotz, PhD

Professor

Department of Surgery

University of Pittsburgh

and

Gilles Clermont, MD

Professor

Department of Critical Care Medicine

University of Pittsburgh

“The CIRM at 15: From Translational Systems Biology to Model-based Precision Medicine for Trauma”

Yoram Vodovotz, PhD

Professor

Department of Surgery

University of Pittsburgh

“Why Modeling Sepsis?”

Gilles Clermont, MD

Professor

Department of Critical Care Medicine

University of Pittsburgh

“Computing Stem Cell Differentiation for Regenerative Medicine Applications”

Ipsita Banerjee, PhD

Associate Professor

Department of Chemical and Petroleum Engineering

University of Pittsburgh

“Kinetic Model Simulation and Antigenicity Analysis of a Miniaturized Fc-Binding Domain for Local Deposition of Antibodies”

Ngoc Pham, BS

PhD Student

Graduate School of Pharmaceutical Sciences

Duquesne University

Session 5 **Drug Delivery Strategies in the Extracellular and Intracellular Spaces**
Gold Room

Organizers:

Wilson Meng, PhD
Associate Professor
School of Pharmacy
Graduate School of Pharmaceutical Sciences
Duquesne University

and

Jelena Janjic, PhD
Associate Professor
School of Pharmacy
Duquesne University

Session Chair:

Wilson Meng, PhD

“Pulmonary Drug Delivery Using Perfluorocarbon Emulsions”

Keith Cook, PhD (2:30 - 3:00pm)
Professor of Biomedical Engineering
Carnegie Mellon University

“Nanoparticle-mediated CNS Drug Delivery”

Devika S. Manickam, PhD (3:00 - 3:20pm)
Assistant Professor of Pharmaceutical Sciences
Duquesne University

“Protein-Polymer Conjugates with Improved Transport Properties for Oral Drug Delivery”

Katherine Fein, BS (3:20 - 3:40pm)
PhD Student
Department of Chemical Engineering
Carnegie Mellon University

Panel discussion (3:40 - 4:00pm)

Panelists: Keith Cook, PhD; Devika Manickam, PhD; Katherine Fein, BS

Session 6 **Hepatic Regenerative Medicine**
Conference Room A

Session Organizer and Chair:

Paul Monga, MD
Professor of Pathology
Vice-Chair of Experimental Pathology

Department of Pathology
University of Pittsburgh

“Liver Regeneration after Hepatectomy”

Satdarshan (Paul) Singh Monga, MD, FAASLD (2:30-2:55 pm)
Professor of Pathology and of Medicine
Director, Pittsburgh Liver Research Center (PLRC)
Assistant Dean for Medical Scientist Training Program (MSTP)
Director of Cellular Approaches to Tissue Engineering & Regeneration (CATER)
Training Program
University of Pittsburgh

“Liver Regeneration Making Living Donation Feasible”

Swaytha Ganesh, MD (2:55-3:20 pm)
Assistant Professor
Department of Medicine - Division of Gastroenterology, Hepatology, and
Nutrition
Medical Director of Living Donor Program - UPMC Thomas E Starzl Transplant
Institute
Center for Liver Diseases
University of Pittsburgh

“BioFabrication of Human Liver Tissue”

Alejandro Soto- Gutierrez, MD, PhD (3:20-3:45 pm)
Associate Professor
Department of Pathology
University of Pittsburgh

**“Lack of Beta-Catenin in Hepatocytes Impairs Proliferation and Promotes Liver
Progenitor Cell-Mediated Repair in Response to Hepatic Injury”**

Jacquelyn Russell, BS (3:45-4:00 pm)
Graduate Student
Department of Pathology
University of Pittsburgh

4:00-4:30pm

Break

4:30-5:00pm

Rapid Fire Presentations

Location: Ballroom B

**“Adipose-Derived Stem Cells Partially Mitigate Muscle Atrophy after
Peripheral Nerve Injury in the Rodent Model”**

Benjamin K. Schilling, MS
PhD Student
Department of Bioengineering
University of Pittsburgh

“Elucidation and Integration of Tissue-Specific, Protein-Level Inflammatory Networks following Vascularized Composite Allotransplantation”

Ali Aral, MD
Postdoctoral Scholar
Department of Surgery
University of Pittsburgh

“Perfused 3D Printed Collagen Tubes Support Tissue Viability”

Jacqueline Wittmer, BS
PhD student
Biomedical Engineering
Carnegie Mellon University

“Cytokine Mimicking Microspheres for Use in Porous Scaffolds”

Katherine Lorentz, MS
PhD Student
Department of Bioengineering
University of Pittsburgh

“Biomagnetic Genetically Programmed Multicellular Microrobots”

Michael Behrens, BS
PhD Student
Department of Bioengineering
University of Pittsburgh

“Theranostic Analgesic Regenerative Gel-Emulsion Technology (T.A.R.G.E.T.) Platform for Local Analgesia and Promotion of Nerve Regeneration”

Mallory R. Wampler, MD
Postdoctoral Scholar
AIRMED/RESTOR
United States Army Institute of Surgical

5:00-7:00pm **Poster Session/Evening Reception**
Location: Ballroom A

5:00-6:00pm Even numbers present

6:00-7:00pm Odd numbers present

Tuesday-March 12, 2019

7:30-8:30am **Networking Breakfast** Ballroom B

8:30-9:00am **Break**

9:00-10:30am **Morning Breakout Sessions** (3 concurrent)

Session 7

Pediatric Innovations

Ballroom B

Organizer:

George Gittes, MD

Director

Richard King Mellon Foundation Institute for Pediatric Research; and

Co-Scientific Director

UPMC Children's Hospital

"PET Probe for Radioguided Surgery"

Marcus Malek, MD, FAAP

Assistant Professor of Surgery

Director, Pediatric Surgical Oncology

Department of Surgery

University of Pittsburgh

"Ventriculamniotic Shunt for Fetal Aqueductal Stenosis"

Stephen Emery, MD

Associate Professor

Department of Obstetrics, Gynecology, & Reproductive Sciences

Divisions of Ultrasound and Maternal-Fetal Medicine

Magee-Womens Research Institute

"ThreadRiteIV Catheter"

Cameron DeZfullian, MD

Assistant Professor, Adult and Pediatric Critical Care Medicine and Clinical and

Translational Science

Scientist, Safar Center for Resuscitation Research

Faculty, Vascular Medicine Institute

University of Pittsburgh School of Medicine

"Biodegradable Magnesium Alloy-Based Tracheal Stent"

Prashant Kumta, PhD

Edward R. Weidlein Chair Professor

Swanson School of Engineering

University of Pittsburgh

and

David Chi, MD

Associate Professor, Department of Otolaryngology

University of Pittsburgh

Clinical Director, Division of Pediatric Otolaryngology

Children's Hospital of Pittsburgh of UPMC

"interACTION: ACL"

Michael McClincy, MD

Assistant Professor
Department of Orthopaedic Surgery
University of Pittsburgh

“TBD”

TBA

Session 8

Emerging Military Threats, Combat Casualty Gaps and Opportunities for Innovation

Gold Room

Session Organizers and Chairs:

Jelena Janjic, PhD
Associate Professor
School of Pharmacy
Duquesne University

and

Margaux Salas, PhD
Senior Scientist
AIRMED

Session Co-Chair:

Nicholas Robbins, DO
General Surgery Resident
The Long School of Medicine
University of Texas Health San Antonio

“Prolonged Field Care on the Multi-Domain Battlefield: Current Emphasis and Future Needs”

Margaux Salas, PhD
Senior Scientist
AIRMED

“The AIRMED Program: Regenerative, Resuscitative and Restorative Technologies in Combat Casualty Care”

Vijay Gorantla, MD, PhD
Expert Consultant for Military Medicine, RESTOR Program, 59MDW ST, USAF
Director, Vascularized Composite Allotransplantation Program
Wake Forest Institute for Regenerative Medicine

“Inflammation Targeted Nanomedicine for Military Applications: Design, Manufacturing and Quality Control”

Jelena M. Janjic, PhD
ORISE Faculty Fellow
Principal Scientist
AIRMED Program, 59MDW ST, USAF;

Associate Professor
Duquesne University Pharmacy School

“Prevention of Ischemia-Reperfusion Injury and Chronic Rejection in a Porcine Vascularized Composite Allotransplantation Model”

Nicholas L. Robbins, DO
Research Fellow
59th MWD & US Army Institute of Surgical Research
Surgical Resident
UT Health San Antonio

Panel Discussion

Panelists: Margaux Salas, PhD, Vijay Gorantla, MD, PhD; Jelena Janjic, PhD;
Nicholas Robbins, DO

Session 9

Regenerative Rehabilitation

Conference Room A

Session Organizer and Chair:

Session Organizers:

Riccardo Gottardi, PhD
Principal Investigator
Center for Pediatric Airway Disorders
Children’s Hospital of Philadelphia

Session Co-Chair:

Benjamin Rothrauff, PhD
Postdoctoral Assignment, Med MD/PhD Program
Department of Cellular and Molecular Pathology
University of Pittsburgh

“Evaluating Clinical Outcomes of Biological Treatments and the TeMPO clinical trial (Comparing Different Types of Physical Therapy for Treating People with a Meniscal Tear and Osteoarthritis)”

James Irrgang, PT, PhD, ATC, FAPTA
Professor and Chair, Departments of Physical Therapy, Orthopaedic Surgery and the Clinical and Translational Science Institute
University of Pittsburgh School of Medicine

“Peripheral Nerve Regeneration and Physical Rehabilitation”

Kacey Marra, PhD
Professor, Department of Plastic Surgery
University of Pittsburgh School of Medicine

“Exposure of Muscle Stem Cells to a Stiff Microenvironment Drives an “Aged” Mitochondrial Phenotype”

Hikaru Mamiya, BS
PhD Student

Department of Bioengineering
University of Pittsburgh

Panel Discussion

Panelists: James Irrgang, PT, PhD, ATC, FAPTA; Kacey Marra, PhD; Hikaru Mamiya, BS

11:00am-12:30pm

Lunch

William Pitt Union Ballroom
3959 Forbes Ave, 1st Floor

Distinguished Lecture: "Lessons in regenerative medicine translation: are we designing for the right therapeutic target?"

Jennifer Elisseeff, PhD
Professor of Ophthalmology
Director of the Translational Tissue Engineering Center
Johns Hopkins University

1:00-2:00pm

"Pop-Up" Workshops (3 concurrent)

Workshop #1

Wearable Biosensors

Ballroom B

Session Organizers and Chairs:

Jana Kainerstorfer, PhD
Assistant Professor
Department of Biomedical Engineering
Carnegie Mellon University

and

Carmel Majidi, PhD
Associate Professor
Department of Mechanical Engineering
Carnegie Mellon University

"Continuous Monitoring and Treatment Opportunities, Applications and Challenges Using Biosensing Stickers"

Brian Stancil, PhD
President
Lifeware Labs

"Parylene Photonics: A New Platform for Flexible Optoelectronic Sensors"

Maysam Chamanzar, PhD
Assistant Professor
Department of Electrical and Computer Engineering
Carnegie Mellon University

“Monitoring of Cerebral Perfusion Continuously and at the Bedside with Near-Infrared Light”

Jana Kainerstorfer, PhD
Assistant Professor
Department of Biomedical Engineering
Carnegie Mellon University

“TBD”

Burak Ozdoganlar, PhD
Professor
Department of Mechanical Engineering
Carnegie Mellon University

Workshop #2 **Malignant Pleural Effusion: When Push Comes to Shove**
Gold Room

Session Organizers and Chairs:

Michael Lotze, MD
Professor of Surgery and Bioengineering
University of Pittsburgh

and

Rajeev Dhupar, MD, MPA
Assistant Professor of Cardiothoracic Surgery
Chief, Thoracic Surgery, VAMC of Pittsburgh
Department of Cardiothoracic Surgery
University of Pittsburgh
University of Pittsburgh

and

Chigozirim Ekeke, MD
Cardiothoracic Surgery Resident
University of Pittsburgh Medical Center

“Current Therapies for Malignant Pleural Effusion”

Chigozirim Ekeke, MD
Cardiothoracic Surgery Resident
University of Pittsburgh Medical Center

“Oncolytic Vaccinia Virus Delivering Cytokines – Trials and Tribulations”

David Bartlett, MD
Bernard Fisher Professor of Surgery
University of Pittsburgh School of Medicine

“Novel Immune Approaches to the Pleural Space”

Rajeev Dhupar, MD, MPA

Assistant Professor of Cardiothoracic Surgery
Chief, Thoracic Surgery, VAMC of Pittsburgh
Department of Cardiothoracic Surgery
University of Pittsburgh

“Therapeutic Targeting of The Pleural Effusion Environment”

Vera Donnenberg, PhD
Associate Professor
Department of Cardiothoracic Surgery
School of Medicine
University of Pittsburgh

Workshop #3 **LifeX**

Conference A

Organizer:
Mara McFadden, MBA
VP of Product and Medical Devices
LifeX Ventures

2:00-2:30

Break

2:30-4:00pm

Afternoon Breakout Sessions (3 concurrent)

Session 10

Let's Talk Science: Communicating Your Research to Different Audiences

Ballroom B

Session Organizers and Chairs:
Arvind Suresh, MS
Manager, Science Writing
UPMC Media Relations

and

Erin Hare, PhD
Manager, Science Writing
UPMC Media Relations

“Business Basics: Pitching your invention to potential partners “

Tony Torres
Entrepreneur in Residence
University of Pittsburgh

“Science in the News: What Makes Your Research Interesting to a Reporter”

Liz Reid
Health & Science Editor
90.5 WESA FM

“Being Social: Do's and Don'ts of Talking Science on Social Media”

Vaughn Cooper, PhD

Professor Department of Microbiology and Molecular Genetics
University of Pittsburgh

Panel Discussion

Panelists: Tony Torres; Liz Reid; Vaughn Cooper, PhD

Session 11

Image-Guided Therapeutic Delivery in Regenerative Medicine

Location: Gold Room

Session Organizer and Chair:

Michael Modo, PhD

Professor

Department of Radiology

University of Pittsburgh

“Image-Guided Intra-Arterial Delivery of Cell Therapy for Stroke”

Piotr Walczak, PhD

Assistant Professor

Department of Radiology

Johns Hopkins University

“Unmet Needs and Opportunities for Regenerative Medicine in Interventional Neuroradiology”

Monica Pearl, MD, DABR

Associate Professor, Interventional Neuroradiology

Director, Interventional Neuroradiology Fellowship Program

Director of Faculty Experience, Department of Radiology

Johns Hopkins University

“Interventional PET for Precise and Quantitative Monitoring of the Delivery of Biologicals to the Brain”

Mirosław Janowski, MA, MD, PhD

Associate Professor

Department of Radiology

Johns Hopkins University

“In vivo Non-Invasive Monitoring of the Immune Response to ECM Hydrogel Implantation”

Michel Modo, PhD

Professor

Department of Radiology

University of Pittsburgh

“Development of Imaging Nanoparticles for Translational MR Imaging in Regenerative Medicine”

Charlie O’Hanlon

President and CEO
CelSense

Session 12

Microphysiological Tissue Chip for Drug Development
Conference Room A

Session Organizers:
Riccardo Gottardi, PhD
Principal Investigator
Center for Pediatric Airway Disorders
Children's Hospital of Philadelphia

and

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

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

and

Alessandro Piroso, PhD
Postdoctoral Researcher
Department of Orthopaedic Surgery
University of Pittsburgh

“Development of Human MSC-Based Organotypic Cultures for Toxicity Testing”

Peter Alexander, PhD
Assistant Professor
Department of Orthopaedic Surgery
University of Pittsburgh

“iPSC-Based Three-Dimensional Neuronal Platforms for Modeling CNS Infections and Drug Screening”

Leonardo D'Aiuto, PhD
Research Instructor
Department of Psychiatry
University of Pittsburgh

“Organ-on-a-Chip System for the Modeling of Synovial Joint Pathologies”

Zhong Li, PhD

Postdoctoral Associate
Department of Orthopaedic Surgery
University of Pittsburgh

Panel Discussion

Panelists: Peter Alexander, PhD; Leonardo D’Aiuto, PhD; Zhong Li, PhD

4:00-5:00pm

Regenerative Medicine Forum-Open to the Public
“Hope vs. Hype of stem Cell Therapy”

Ballroom B

Organizer:

Bryan Brown, PhD
Assistant Professor
Department of Bioengineering
Swanson School of Engineering
University of Pittsburgh

Moderator:

Bill Flanagan
Chief Corporate Relations Officer
Allegheny Conference

Panel Discussion:

J. Peter Rubin, MD, FACS
UPMC Endowed Professor and Chair of Plastic Surgery
Chair of Plastic Surgery
Director, UPMC Wound Healing Services
Professor of Bioengineering
University of Pittsburgh

Carl Kurlander
Documentarian and Filmmaker
Visiting Distinguished Senior Lecturer
Faculty Adviser, Pitt In Hollywood
University of Pittsburgh

Michael Hufford, PhD
CEO, Lygenesis, Inc.
Vice President for Regulatory Affairs, Behavioral Science, and Innovation
Pinney Associates

5:00pm

Poster Awards

Andy Duncan, PhD
Ballroom B

5:00-6:00pm

Meet the Researchers Poster Session and Reception

Ballroom A

All poster presenters