

**F2017 McGowan Retreat Agenda
Update-March 2, 2017**

Sunday-March 5th

12:30-7:00 PM

Meeting Registration

Note: Hotel check-in available after 4 PM

**Marquis
Ballroom
Foyer**

1:30- 3:30 PM

General Session 1 - Craniofacial

Lecture Hall

Organizer:

Charles Sfeir, DDS, PhD

Associate Dean of Research - School of Dental Medicine

Associate Professor, Clinical and Translational Science Institute

Associate Professor, School of Dental Medicine and the School of Engineering

Founding Director of the Center for Craniofacial Regeneration

University of Pittsburgh

Introduction / Overview of the Challenges in the Craniomaxillofacial Region

Charles Sfeir DDS, PhD

Clinical Challenges of the Temporomandibular Joint and Regenerative Strategies

Alejandro Almarza, PhD

Associate Professor in Oral Biology

University of Pittsburgh School of Dental Medicine

Clinical Challenges of Bone Augmentation and Peri-Implantitis and Current Regenerative Strategies

Kelly L. Williams, MS, DMD

Assistant Professor Director

Advanced Dental Education Residency Program in Periodontics

University of Pittsburgh

and

Andrew Brown

Graduate Student Researcher

School of Dental Medicine

Center for Craniofacial Regeneration

University of Pittsburgh

Beyond Growth Factors: Inorganic Ions as Drivers of Cell Differentiation

Dobrawa Napierala, PhD

Associate Professor

School of Dental Medicine - Center for Craniofacial Regeneration

University of Pittsburgh

and

Charles, Sfeir, DDS, PhD

Challenges and Strategies for Pulp Treatment

Herbert Ray Jr., DMD
Assistant Professor of Endodontics
Director, Graduate Endodontic Residency Program
University of Pittsburgh School of Dental Medicine

Scaffolds Used in Craniomaxillofacial Regeneration and Challenges

David Kohn, PhD
Professor
Departments of Biologic and Materials Sciences and Biomedical Engineering
University of Michigan

3:45- 5:45 PM

General Session 2 - Cardiovascular

Lecture Hall

Organizer:

Robert L Kormos MD, FRCS(C), FACS, FAHA
Brack G. Hattler Professor of Cardiothoracic Transplantation
Professor Cardiothoracic Surgery and Bioengineering
Department of Cardiothoracic Surgery
Heart and Vascular Institute
University of Pittsburgh Medical Center

Reducing the Injury from Myocardial Infarction: Engineered Biohybrid Cardiac Patch

Antonio D'Amore, PhD
Research Assistant Professor
Wagner Laboratory-McGowan Institute
University of Pittsburgh

Designing a Novel Bioengineered Vascular Graft that Resists Platelet Adhesion

Luka Pocivavsek, MD, PhD
General Surgery Resident
University of Pittsburgh Medical Center

Challenges and Milestones in Building the Next Pediatric Left Ventricular Assist Device

Mahesh Sharma, MD
Assistant Professor of Cardiothoracic Surgery
University of Pittsburgh School of Medicine

Lessons Learned in Molecular Biology, Bioengineering and Clinical Cardiology: Changing How the HVI Approaches Clinical Problems

Marc A. Simon, MD, MS, FACC
Associate Professor of Medicine, Bioengineering, and Clinical Translational Science
Director, Heart Failure Research / Clinical Hemodynamics Core Facility
Director, Vascular Clinical and Translational Research Center
Vascular Medicine Institute
University of Pittsburgh Medical Center

Mechanical Circulatory Support at UPMC: How Science and Clinical Care Provide a Vision for the Future

Christopher Sciortino, MD, PhD
Assistant Professor of Cardiothoracic Surgery
University of Pittsburgh School of Medicine
Surgical Director of the UPMC Advanced Heart Failure Center

3:45- 5:45 PM

Trainee Session- Pathways to a Career in Academia

**Sequoia
(2nd Floor)**

Organizers:

Satdarshan (Paul) Singh Monga, MD
Endowed Research Chair in Experimental Pathology and the Vice-Chair
of the Division of Experimental Pathology, Department of Pathology,
University of Pittsburgh
and

Andrew Duncan, PhD
Assistant Professor Department of Pathology
University of Pittsburgh

Presenters:

Gelsy Torres-Oviedo, PhD
Assistant Professor of Bioengineering
Swanson School of Engineering
University of Pittsburgh

Takashi Daniel Yoshida Kozai, PhD
Assistant Professor of Bioengineering
Swanson School of Engineering
University of Pittsburgh

Kari N. Nejak-Bowen, PhD
Assistant Professor of Pathology
University of Pittsburgh School of Medicine

Andrew W. Duncan, PhD
Assistant Professor of Pathology
University of Pittsburgh School of Medicine

4:00- 6:15 PM

Poster Setup

Marquis Ballroom

Organizer:

Andrew W. Duncan, PhD
Assistant Professor of Pathology
University of Pittsburgh School of Medicine
Poster Prizes sponsored by sciVelo

6:15- 7:30 PM	Buffet in Poster Session Area	Marquis Ballroom
7:30-8:30 PM	Clinical Outcomes Session Moderator: Charles Sfeir, DDS, PhD Associate Dean of Research - School of Dental Medicine, Associate Professor in the Clinical and Translational Science Institute Associate Professor in the School of Dental Medicine and the School of Engineering Founding Director of the Center for Craniofacial Regeneration Speaker: Bernard J. Costello, MD, DMD, FACS Professor and Chief of the Division of Craniofacial and Cleft Surgery Fellowship Program Director Department of Oral and Maxillofacial Surgery Associate Dean of Faculty Affairs, and Co-Director of the Dentofacial Interdisciplinary Team, School of Dental Medicine University of Pittsburgh	Marquis Ballroom

Monday-March 6th

7:00 -8:00 AM	Breakfast	Marquis Ballroom
8:00-10:00 AM	Director's Welcome and Overview William R. Wagner, PhD Director of the McGowan Institute for Regenerative Medicine Professor of Surgery, Bioengineering and Chemical Engineering University of Pittsburgh Keynote Lecture Dietrich A. Stephan, PhD Chairman and Professor, Department of Human Genetics School of Public Health Associate Director for Translation and Population Health Institute for Personalized Medicine University of Pittsburgh	Lecture Hall
10:00-10:15 AM	Break	

**General Session 3 -
Manufacturing and NSF-ERC for Revolutionizing
Metallic Biomaterials**

Organizer:

David Vorp, PhD

Associate Dean for Research

Swanson School of Engineering

University of Pittsburgh

John A. Swanson Professor of Bioengineering

Professor, Departments of Cardiothoracic Surgery, Surgery, and the Clinical &
Translational Sciences Institute

University of Pittsburgh

Manufacturing

Design Optimization Tool Development for Additive Manufacturing

Albert To, PhD

Associate Professor

CNG Faculty Fellow

Director, ANSYS Additive Manufacturing Research Laboratory

Department of Mechanical Engineering & Materials Science

University of Pittsburgh Swanson School of Engineering

3D Printing of Soft and Biological Materials

Adam W Feinberg, PhD

Associate Professor

Department of Materials Science & Engineering

Department of Biomedical Engineering

Carnegie Mellon University

Manufacturing/ERC

*Advanced Manufacturing and Applications of Biodegradable Metallic Alloys –
Challenges and Opportunities*

Prashant Kumta, PhD

Edward R. Weidlein Chair Professor of Bioengineering

Professor of Bioengineering, Chemical and Petroleum Engineering and Mechanical
Engineering and Materials Science

Director, Center for Complex Engineered Multifunctional Materials

Swanson School of Engineering

Department of Oral Biology, School of Dental Medicine

McGowan Institute of Regenerative Medicine

University of Pittsburgh

ERC

*Photo-Chemical Etching as a New Tool for Fabricating Vascular Stents. Case Study:
Magnesium Biodegradable Stent*

Vesselin N. Shanov, PhD

Professor, Director of the Nanoworld Laboratories

Department of Biomedical, Chemical and Environmental Engineering

University of Cincinnati

Mg Biocompatibility and Testing of Absorbable Metals

Aaron Barchowsky, PhD

Professor

Department of Environmental and Occupational Health

University of Pittsburgh

10:15 AM-12:15 PM **Strategic Planning Session A - Craniomaxillofacial Regeneration** **Grand Ballroom D**
Organizer: Charles Sfeir, DDS, PhD

NIH/NIDCR has established a multi-institutional resource center to support validation, manufacturing, and preclinical testing of tissue engineering and regenerative medicine (TE/RM) therapies for dental, oral and craniofacial tissues. The Michigan/Pittsburgh/Wyss consortium has been designated a DOC Resource Center and is prepared to begin conceptualizing ideas for projects that demonstrate the development of translational therapies in support of DOC areas that have the potential to lead to FDA submission. This workshop is intended to generate and discuss new ideas, approaches, concepts or techniques which catalyze clinical translation leading to the submission of Investigational New Drug (IND)/Investigational Device Exemption (IDE) applications to the U.S. Food and Drug Administration to eventually impact clinical practice.

All investigators and clinicians are welcome to attend and discuss their ideas.

Please note strategic planning session may be recorded for administrative purposes.

10:15 AM-12:15 PM **Strategic Planning Session B - Cardiovascular** **Grand Ballroom A**
Organizer:
Robert Kormos, MD, FRCS(C), FACS, FAHA

Please note strategic planning session may be recorded for administrative purposes.

12:15-1:30 PM **Lunch** **Marquis Ballroom**

1:30- 3:30 PM **General Session 4 - Wound Healing** **Lecture Hall**
Organizer:
J. Peter Rubin, MD, FACS
Chair-Department of Plastic Surgery, UPMC Endowed
Professor of Plastic Surgery, and Professor of Bioengineering
University of Pittsburgh

Transport Oatterns of Anti-TNF- α in Burn Wounds: Therapeutic Implications of Hyaluronic Acid Conjugation

Newell Washburn, PhD

Associate Professor of Chemistry and Biomedical Engineering
Carnegie Mellon University

Urinary Bladder Matrix for the Management of Complex Wounds

Thomas Gilbert, PhD
Chief Science Officer
ACell

Controlled Topical Drug Delivery for Wound Healing

Ellen Gawalt, PhD
Chair of the Department of Chemistry and Biochemistry
Hillman Distinguished Professor
Professor of Chemistry and Biochemistry
Duquesne University
and
Wilson Meng, PhD
Associate Professor, Pharmaceutical Sciences
Duquesne University

Matrix Control of Cellular-Transplantation to Improve Scarring Outcomes Affliction

Cecelia Yates, PhD
Assistant Professor of Nursing and Pathology
University of Pittsburgh School of Nursing
McGowan Institute for Regenerative Medicine

1:30- 3:30 PM

Strategic Planning Session C - Manufacturing

Grand Ballroom D

Organizer:
David Vorp, PhD

This session will focus on the manufacturing infrastructure necessary to implement advances in biomedical research, with an emphasis on regenerative medicine and tissue engineering. Manufacturing in this case is defined as the techniques and processes to create materials and manipulate them into forms useful for biomedical application, as well as the devices required to produce those materials and apply them. In this context, materials can be organic (cells, tissues, extracellular matrix, etc.) or inorganic (synthetics, polymers, metals, etc.), and can be considered for either in vivo or external application. Of particular interest is the ability to scale these manufacturing processes / techniques to levels suitable for widespread application.

Please note strategic planning session may be recorded for administrative purposes.

1:30- 3:30 PM

Strategic Planning Session D – DOD Needs

Grand Ballroom A

Organizer:
Ronald Poropatich, MD
Executive Director-Center for Military Medicine Research
Professor of Medicine -Division of Pulmonary, Allergy, and
Critical Care Medicine - University of Pittsburgh

ECMO Research Grant from DoD and Lessons Learned

Mauricio Rojas, MD

Associate Professor and Scientific Director

Simmons Center for Interstitial Lung Diseases

University of Pittsburgh

3:30- 3:45 PM

Break

3:45-5:45 PM

General Session 5 - Burns

Lecture Hall

Organizer:

Jörg Gerlach, MD, PhD

Professor Department of Surgery and Bioengineering,

Swanson School of Engineering,

University of Pittsburgh

A Practical Guide to Attracting Angel Investment

(Attendance for all Trainees and CATER Students is recommended)

Jay Bhogal

Vector Asset Management

Vancouver, Canada

Active Wound Dressings

Neil Mehta

Founder, President & CEO

GlobalOne Sciences

Dayton, OH

Skin Cell-Spray Autografting; A Stem Cell Therapy's Journey from Lab to Commercial Venture

Thomas Bold

RenovaCare Inc.

New York, NY

Regulatory Aspects To Be Considered for Young Investigators, When Planning Clinical Translation: Do's and Dont's"

Patsy J. Trisler, JD, RAC

Regulatory Consulting, Medical Devices

(Attendance for all Trainees and CATER Students is recommended)

Human Bionic Lab Platform for in vitro Studies/Skin

Jörg Gerlach, MD, PhD

3:45-5:45 PM **Strategic Planning Session E – Wound Healing** **Grand Ballroom A**
Organizer:
J. Peter Rubin, MD, FACS

This session will be facilitated in partnership with ACell. ACell is a leading regenerative medicine company that develops and manufactures products designed to facilitate the body's ability to repair and remodel tissue. This session will focus on acute complex wounds (e.g., wounds with exposed tendons, hardware, or avascular structures, wounds with necrotizing fasciitis, wounds associated with hidradenitis), pressure ulcers, diabetic foot ulcers, deep partial-thickness burns, closure of surgical site incisions.

This session is open to McGowan Affiliated faculty only

Please note strategic planning session may be recorded for administrative purposes.

3:45-5:45 PM **Strategic Planning Session F -** **Grand Ballroom D**
NSF-ERC for Revolutionizing Metallic Biomaterials
Organizer:
Richard Hoff
McGowan Institute for Regenerative Medicine
University of Pittsburgh

Please note strategic planning session may be recorded for administrative purposes.

6:15- 7:45 PM **Buffet Dinner** **Marquis Ballroom**

7:45- 9:15 PM **Dessert in Poster Session Area** **Marquis Ballroom**
Poster Presentations
Poster Prizes sponsored by sciVelo

Tuesday March 7th

7:00-8:00 AM **Breakfast** **Marquis Ballroom**

8:00-10:00 AM **General Session 6 – Cell Therapy** **Lecture Hall**
Organizer:
J. Peter Rubin, MD, FACS
Chair Department of Plastic Surgery,
UPMC Endowed Professor of Plastic Surgery, and
Professor of Bioengineering
University of Pittsburgh

Adipose Therapies-The Healing Power of Fat
J. Peter Rubin, MD, FACS

The Cell Therapy Landscape at Pitt and UPMC and Accelerating Clinical Delivery
Lauren Kokai, PhD
Research Assistant Professor
Department of Plastic Surgery
University of Pittsburgh

Processing for Clinical Cell Therapies –What Everyone Needs to Know
Albert Donnenberg, PhD
Professor, Infectious Disease and Microbiology
Graduate School of Public Health and
Professor of Medicine
University of Pittsburgh School of Medicine

Differentiated iPSC for Disease Modeling, Bioengineering and Therapeutic Strategies
David Mann, PhD
Global Business Director
Drug Discovery and Bioengineering
Cellular Dynamics International, Inc.

Cell Therapy Tools Development: A Workflow-Based Approach
Mark Powers, PhD
Director, Research and Development< Cell Biology
Thermos Fisher Scientific

8:00-10:00 AM	Strategic Planning Session G – Burns (Session 1) (Closed Session: See Jörg Gelach to arrange participation) Organizer: Jörg Gerlach, MD, PhD	Grand Ballroom D
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Please note strategic planning session may be recorded for administrative purposes.

10:00-10:15 AM	Break	
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10:15 AM-12:15 PM	General Session 7 - Vision and Hearing Organizer: Jeffrey Gross, PhD Professor of Ophthalmology and the E. Ronald Salvitti Chair in Ophthalmology - Department of Ophthalmology Director of the Louis J. Fox Center for Vision Restoration and of the Ocular Development, Disease, and Regeneration Laboratory University of Pittsburgh School of Medicine	Lecture Hall
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Challenges and Opportunities in Ocular Drug Delivery

Morgan Fedorchak, PhD

Departments of Ophthalmology, Chemical Engineering,
and Clinical & Translational Sciences

University of Pittsburgh

Mitochondrial Transfer between Mesenchymal Stem Cells and Corneal Epithelial Cells

Ladan Espandar, MD, MS

Cornea, Cataract and External Disease Services

Refractive Surgery Service

University of Pittsburgh School of Medicine

*The Role of Biomechanics in the Racioethnic Disparity of Primary Open Angle
Glaucoma*

Jonathan Vande Geest, PhD

Department of Bioengineering,

University of Pittsburgh Swanson School of Engineering

*Pharmacological Intervention of Rhodopsin Homeostasis and Implication to Retinal
Degeneration*

Yuanyuan Chen, PhD

Department of Ophthalmology, Case Western

Department of Ophthalmology (in 2017)

University of Pittsburgh

Chasing Phantom Sounds - Understanding and Treating Tinnitus

Thanos Tzounopoulos, PhD

Auditory Physiology

University of Pittsburgh

10:15 AM-12:15 PM

Strategic Planning Session H - Burns (Session 2)

(Closed Session: See Jörg Gelach to arrange participation)

Organizer:

Jörg Gerlach, MD, PhD

Professor Department of Surgery and Bioengineering,

Swanson School of Engineering,

University of Pittsburgh

Grand Ballroom D

Please note strategic planning session may be recorded for administrative purposes.

10:15 AM-12:15 PM

Strategic Planning Session I - Pediatric

Grand Ballroom A

Organizer:

George Gittes, MD

Benjamin R. Fisher Chair of Pediatric Surgery and
Surgeon-in-Chief, Children's Hospital of Pittsburgh,
Director of Surgical Research, Children's Hospital of Pittsburgh
Professor of Surgery and Pediatrics,
University of Pittsburgh School of Medicine

Theme: "Bioscaffolds for Tissue Regeneration and Injury Recovery"

Materials used for scaffold construction must be chosen appropriately to minimize adverse reaction and maximize cell adhesion and differentiation. This strategic planning workshop will highlight three forms of scaffold materials: extracellular matrix; metallic biomaterials; and polymers. Investigators from McGowan will provide an overview of each technology and then engage in an open discussion with the clinicians, scientists and engineers in the audience on how these platform technologies could be applicable to various clinical needs for pediatric patients.

All retreat registrants are welcome to attend.

Speakers:

- *Extracellular Matrix Technology*
Stephen Badylak, DVM, PhD, MD
Deputy Director, McGowan Institute for Regenerative Medicine
University of Pittsburgh
- *Novel Degradable Ultra High Ductility (UHD) Alloys for Pediatric Stent Applications*
Prashant Kumta, PhD
Edward R. Weidlein Chair Professor
University of Pittsburgh Swanson School of Engineering
- *Synthetic Polymers for Tissue Regeneration*
Chelsea Stowell, PhD
Department of Bioengineering
University of Pittsburgh Swanson School of Engineering

Please note strategic planning session may be recorded for administrative purposes.

10:15 AM-12:15 PM

Trainee Session- Pathways to a Career in Industry

**Sequoia
(2nd Floor)**

Organizer:

Kacey Marra, PhD

Associate Professor,
Departments of Plastic Surgery and Bioengineering
Director, Plastic Surgery Research Laboratory
University of Pittsburgh

Presenters:

Lauren Kokai, PhD
Formerly Allergan, Inc.
Currently Plastic Surgery,
University of Pittsburgh School of Medicine

Alicia DeFail Baumberger, PhD
Abbott
Pleasanton, CA

Chris J. Medberry, PhD
DePuy Synthes Companies of Johnson and Johnson
West Chester, PA

12:15-1:30 PM	Lunch Poster session awards presented by Andrew Duncan, PhD Awards sponsored by sciVelo	Marquis Ballroom
1:30-3:30 PM	Session Understanding the Grant Lifecycle: Tips for Effective Proposal Submission and Project Management for New Investigators Organizer: Brian Smith, McGowan Institute Finance Office	Sequoia (2 nd Floor)
1:30-3:30 PM	Strategic Planning Session J - Vision and Hearing Organizer: Jeffrey Gross, PhD Professor of Ophthalmology and the E. Ronald Salvitti Chair in Ophthalmology - Department of Ophthalmology Director of the Louis J. Fox Center for Vision Restoration and of the Ocular Development, Disease, and Regeneration Laboratory University of Pittsburgh School of Medicine	Grand Ballroom D

Please note strategic planning session may be recorded for administrative purposes.

1:30-3:30 PM

Strategic Planning Session K- Cell Therapy

Grand Ballroom A

Organizer:

J. Peter Rubin, MD, FACS

Chair Department of Plastic Surgery,

UPMC Endowed Professor of Plastic Surgery, and

Professor of Bioengineering

University of Pittsburgh

Enabling Cell Therapy from Concept through Commercialization

Bryan Poltilove, PhD

General Manager, Cell Therapy

Thermo Fisher Scientific

The objective of this session will be to discuss and debate the enablement of cell therapy as a treatment modality, and to share current and emerging technologies/capabilities in this rapidly expanding field. Thermo Fisher Scientific will share a brief overview of how it has effectively partnered with customers in the area of Cell Therapy, including a capabilities overview, case studies, and a high-level roadmap of development areas.

This session is open to McGowan Affiliated faculty only

Please note strategic planning session may be recorded for administrative purposes.

3:30 PM

Departure