# **UPMC** Rehabilitation Institute

The McGowan Institute for Regenerative Medicine

# REGENERATE CONGREGATE EDUCATE

# First Annual Symposium on Regenerative Rehabilitation

# November 3 - 4, 2011

DoubleTree by Hilton® Hotel & Suites Pittsburgh, Pa.

# Sponsored by:

University of Pittsburgh School of Medicine Center for Continuing Education in the Health Sciences

**UPMC** Rehabilitation Institute

The McGowan Institute for Regenerative Medicine

University of Pittsburgh School of Health and Rehabilitation Sciences

University of Pittsburgh Department of Physical Medicine & Rehabilitation

#### **Course Directors**

· Fabrisia Ambrosio, PhD, MPT

Assistant Professor

Department of Physical Medicine and Rehabilitation

Director, Cellular Rehabilitation Laboratory

University of Pittsburgh

Alan J. Russell, PhD

Distinguished University Professor of Surgery
Director, McGowan Institute for Regenerative Medicine
University of Pittsburgh & UPMC

Michael Boninger, MD

Professor and Chair

Department of Physical Medicine and Rehabilitation

University of Pittsburgh

#### Intent

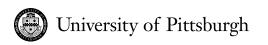
Medical advances in the field of Regenerative Medicine are accelerating at an unprecedented rate. Re-growing a lost limb, restoring function to a diseased organ, or harnessing the body's natural ability to heal itself are becoming part of our reality instead of a distant promise. Technologies, such as cellular therapies, bioscaffolds, and artificial devices, are now in use or are being tested in clinical trials throughout the country.

- How do we as clinicians and rehabilitation professionals follow up on a patient who had undergone a cellular therapy or a tissue engineering procedure?
- How do we as investigators in the field of Regenerative Medicine make the most of these revolutionary results?

Few opportunities are available to bring together scientists and clinicians working in these two currently quite disparate fields: rehabilitation science and regenerative medicine. However rehabilitation science and regenerative therapies have to work closely in order to achieve a successful outcome for the patient. This situation created the need for open cross disciplinary work and collaborative communication.

This symposium provides the opportunity for researchers and clinicians from around the world to gather and learn about the latest developments, share ideas and concepts and create sustainable collaborations.

The First Annual Scientific Symposium on Regenerative Rehabilitation will bring together world-renowned experts in the fields of regenerative medicine and rehabilitation.



# **Objectives**

During this course, participants will:

- · Interact with cutting-edge researchers.
- Learn of the status of translating scientific discoveries into clinical practice.
- Network with colleagues and potential collaborators.
- Raise questions, debate the implications, plan follow-up studies, and discuss results.
- Share the status of their own research and clinical observations.
- Meet with presenters to learn about their thinking and future research directions.

## **Who Should Attend**

This course will provide updates on emerging technologies and will facilitate networking amongst physical and occupational therapists, speech-language pathologists and audiologists, physiatrists and scientists who have an interest in regenerative rehabilitation.

# **Continuing Education Credit**

The University of Pittsburgh School of Medicine is accredited by the ACCME to provide continuing medical education for physicians. The University of Pittsburgh designates this live activity for a maximum of 11.5 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

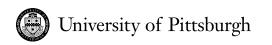
Other health care professionals are awarded 1.1 continuing education units (CEU's) which are equal to 11.5 contact hours.

For more information or to register, visit UPMC.com/RegenerativeSymposia

# **AGENDA**

# Day 1: Thursday, November 3, 2011

7:00am	Registration and light breakfast	12:15pm	Bone Regenerative Effects of FES-Rowing
8:00am	Welcome and Introduction		Leslie R. Morse, DO
	Alan J. Russell, PhD	12:40pm	Lunch and visit of the Exhibit Area
	Michael L. Boninger, MD Fabrisia Ambrosio, PhD, MPT	1:30pm - 3:55pm	Session B: Impact of Rehabilitation Strategies
			on Cell Therapies
8:15am	Introduction to Plenary Session	1:30pm	Regenerative Pharmacology
	Steve L. Wolf, PhD, PT, FAPTA, FAHA	•	for Genetic Myopathies
8:30am	Plenary Session:		Martin K. Childers, DO, PhD
	Hand Transplantation - From Laboratory Bench	1:55pm	Tissue Engineering Based on Muscle-derived
	to Occupational Therapy	1.55pm	Stem Cells: Potential Applications
	W. P. Andrew Lee, MD		for Tissue Regeneration
9:30am - 12:40pm	Session A: Mechanotransduction		Johnny Huard, PhD
	as a Tool in Tissue Healing	2.20	
9:30am	Mechanobiology of the Intervertebral Disc:	2:20pm	Cellular Rehabilitation for Improved Muscle Stem Cell Function
9.50aiii	A Force For Good?		Fabrisia Ambrosio, PhD, MPT
	Gwendolyn Sowa, MD, PhD		·
0.55		2:45pm	Stem Cells and Cardiac Regeneration
9:55am	Potential Role of Tissue Mobilization		Carmen Terzic, MD, PhD
	in Acute Vocal Fold Wound Healing Kittie Verdolini Abbott, PhD	3:10pm	Refreshment Break
10:20am	The Molecular and Cellular Mechanisms	3:30pm	Percutaneous Use of MSC's
.0.200	for Rehabilitation and Regeneration		in Knee and Hip Osteoarthritis
	of Injured Tendons		Christopher J. Centeno, MD
	James Wang, PhD	3:55pm	Keynote Address:
10:45am	Refreshment Break		Stem Cells in Tissue Repair, Regeneration,
			and Restoration
11:00am	Progress in Neural Stem/Progenitor Cell		Thomas A. Rando, MD, PhD
	& Rehabilitation Combined Approaches	4:40pm	Wrap Up Day 1
	Heather Ross, PhD		Alan J. Russell, PhD
11:25am	Acute Intermittent Hypoxia as a	5:00pm	Reception. Posters Session. Industry Exhibits.
	Neuroregenerative Tool to Enhance	5.00рП	Reception. Posters Session. Industry Exhibits.
	SCI Rehabilitation	6:30pm	Adjournment Day 1
	Randy D. Trumbower, PT, PhD		
11:50am	Capitalizing on Tissue Regenerative Capacity		
	to Improve Health after Spinal Cord Injury		
	Richard K. Shields, PT, PHD, FAPTA		



# **AGENDA**

# Day 2: Friday, November 4, 2011

7:00am	Continental Breakfast	11:00am	Regenerative Medicine and Rehabilitation:
8:00am	Introduction Day 2 of the conference Fabrisia Ambrosio, PhD, MPT Michael L. Boninger, MD		Implications for the Physical Therapy Education Process Anthony Delitto, PhD, PT, FAPTA
8:15am - 9:45am	Session C: Impact of Rehabilitation Strategies on Device Enabled Therapies	11:15am	Regenerative Medicine and Rehabilitation: Implications for the Medical Education Process Michael L. Boninger, MD
8:15am	Restoring Sight through Non-Visual Pathways  Amy C. Nau, OD, FAAO	11:30am	Live Long and Prosper: Regenerative Medicine is Realitynot Science Fiction!
8:40am	Implantable Neural Prostheses to Restore		Vonda Wright, MD
	Sensorimotor Functions in Disabled People Silvestro Micera, PhD	12:00pm	<b>Wrap Up and Final Comments</b> <i>Michael L. Boninger, MD</i>
9:05am	Cortical and Spinal Reorganization		Fabrisia Ambrosio, PhD, MPT
	after Chronic Spinal Cord Injury Monica Perez, PhD, PT	12:15pm	Conference Adjournment
9:30am	Refreshment Break		
9:45am	Introduction to Plenary Session Steve L. Wolf, PhD, PT, FAPTA, FAHA		
10:00am	Plenary Session: Rehabilitation as a Determinant Factor in Constructive Remodeling of Biologic Scaffolds Stephen F. Badylak, DVM, PhD, MD		Schedule is subject to change.

#### **Course Directors**

## Fabrisia Ambrosio, PhD, MPT

**Assistant Professor** 

Department of Physical Medicine and Rehabilitation

Director, Cellular Rehabilitation Laboratory

University of Pittsburgh

## · Alan J. Russell, PhD

Distinguished University Professor of Surgery
Director, McGowan Institute for Regenerative Medicine
University of Pittsburgh & UPMC

#### Michael Boninger, MD

Professor and Chair

Department of Physical Medicine and Rehabilitation

University of Pittsburgh

# **Guest Faculty**

#### Christopher J. Centeno, MD

Medical Director

Centeno Schultz Clinic

Denver, Colo.

#### Martin K. Childers, DO, PhD

Professor of Neurology and Regenerative Medicine

Wake Forest University Health Sciences

Winston-Salem, N.C.

#### W. P. Andrew Lee, MD

Chairman

Department of Plastic and Reconstructive Surgery

Johns Hopkins University School of Medicine

Baltimore, Md.

#### Silvestro Micera, PhD

Assistant Professor of BioRobotics

Scuola Superiore Sant'Anna

Pisa, Italy

#### Leslie Morse, DO

**Assistant Professor** 

Department of Physical Medicine & Rehabilitation

Harvard Medical School

Boston, Mass.

#### Thomas A. Rando, MD, PhD

Professor of Neurology and Neurological Sciences Stanford University School of Medicine Stanford, Calif.

#### **Heather Ross, PhD**

Research Assistant Professor Department of Physical Therapy University of Florida Gainesville, Fla.

#### Richard K. Shields, PT, PHD, FAPTA

Professor and Chair

Physical Therapy and Rehabilitation Science

University of Iowa

Iowa City, Iowa

### Carmen Terzic, MD, PhD

Associate Professor of Medicine and Physical Medicine and Rehabilitation Mayo Clinic

Rochester, Minn.

#### Randy D. Trumbower, PT, PhD

**Assistant Professor** 

Department of Rehabilitation Medicine

**Emory University** 

School of Medicine

Decatur, Ga.

## Steve L. Wolf, PhD, PT, FAPTA, FAHA

**Emory University School of Medicine** 

Professo

Departments of Rehab Medicine, Medicine, Cell Biology

Atlanta, Ga.

## **Local Faculty**

## Stephen Badylak, DVM, PhD, MD

Professor

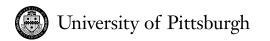
Department of Surgery

University of Pittsburgh School of Medicine

Pittsburgh, Pa.

#### Anthony Delitto, PhD, PT, FAPTA

Professor and Associate Dean of Research School of Health and Rehabilitation Sciences University of Pittsburgh Pittsburgh, Pa.



## Johnny Huard, PhD

Professor

Department of Orthopaedic Surgery, Molecular Genetics,

Biochemistry, Bioengineering and Pathology

University of Pittsburgh

Pittsburgh, Pa.

#### Amy C. Nau, OD, FAAO

Clinical Assistant Professor

University of Pittsburgh School of Medicine

Pittsburgh, Pa.

### Monica Perez, PhD, PT

**Assistant Professor** 

Department of Physical Medicine and Rehabilitation

University of Pittsburgh

Pittsburgh, Pa.

#### Gwendolyn Sowa, MD, PhD

**Assistant Professor** 

Department of Physical Medicine and Rehabilitation

University of Pittsburgh

Pittsburgh, Pa.

#### Kittie Verdolini Abbott, PhD

Professor

Communication Science and Disorders

University of Pittsburgh

Pittsburgh, Pa.

# James Wang, PhD

Associate Professor of Orthopaedic Surgery

Bioengineering, Mechanical Engineering & Materials Science

University of Pittsburgh School of Medicine

Pittsburgh, Pa.

# Vonda Wright, MD

Assistant Professor of Orthopedic Surgery

University of Pittsburgh School of Medicine

Pittsburgh, Pa.

In accordance with Accreditation Council for Continuing Medical Education requirements on disclosure, information about relationships of presenters with commercial interests (if any) will be included in materials distributed at the time of the conference.

## **Call for Posters**

We welcome posters from all participants. Standard poster space is 4' by 8'. If your poster is "oversized" please notify us; we will do our best to accommodate all requests. The posters will be available for viewing during the entire duration of the conference. Scientists will also have the opportunity to present their poster to symposium participants during the Reception at the end of Day 1.

To submit your poster (title and abstract), please e-mail your submission to munschl@upmc.edu.

Be sure to include:

- title,
- authors
- abstract (NTE 1,500 characters)

#### Format:

- 12 point
- Times New Roman
- not more than 1 page

Please send your abstracts before October 14. You will be notified if your poster was accepted by October 21.

## **Industry Exhibits**

This inaugural conference will be an excellent venue where industry representatives, academics and clinicians will gather to discuss the latest trends and developing scientific breakthroughs in regenerative rehabilitation. This unique environment is one where every exhibitor is regarded as both a valuable contributor to the meeting and a colleague.

The exhibits will be available for viewing during the entire duration of the conference. Industry exhibitors will also have the opportunity to present their exhibits to symposium participants during the Reception at the end of Day 1.

Exhibit tabletops are available at \$750/table.

Please contact Larisa Munsch at munschl@upmc.edu if you are interested in reserving exhibition space.

