

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.

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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

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AGENDA

Day 1: Thursday, November 3, 2011

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

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Day 2: Friday, November 4, 2011

7:00am	Continental Breakfast	11:00am	Regenerative Medicine and Rehabilitation: Implications for the Physical Therapy Education Process <i>Anthony Delitto, PhD, PT, FAPTA</i>
8:00am	Introduction Day 2 of the conference <i>Fabrisia Ambrosio, PhD, MPT</i> <i>Michael L. Boninger, MD</i>		
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 <i>Michael L. Boninger, MD</i>
8:15am	Restoring Sight through Non-Visual Pathways <i>Amy C. Nau, OD, FAAO</i>	11:30am	Live Long and Prosper: Regenerative Medicine is Reality....not Science Fiction! <i>Vonda Wright, MD</i>
8:40am	Implantable Neural Prosthesis to Restore Sensorimotor Functions in Disabled People <i>Silvestro Micera, PhD</i>	12:00pm	Wrap Up and Final Comments <i>Michael L. Boninger, MD</i> <i>Fabrisia Ambrosio, PhD, MPT</i>
9:05am	Cortical and Spinal Reorganization after Chronic Spinal Cord Injury <i>Monica Perez, PhD, PT</i>	12:15pm	Conference Adjournment
9:30am	Refreshment Break		
9:45am	Introduction to Plenary Session <i>Steve L. Wolf, PhD, PT, FAPTA, FAHA</i>		
10:00am	Plenary Session: Rehabilitation as a Determinant Factor in Constructive Remodeling of Biologic Scaffolds <i>Stephen F. Badylak, DVM, PhD, MD</i>		Schedule is subject to change.

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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

Professor
Departments of Rehab Medicine, Medicine, Cell Biology
Emory University School of Medicine
Atlanta, Ga.

Local Faculty

Stephen Badylak, DVM, PhD, MD

Professor
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Pittsburgh, Pa.

Anthony Delitto, PhD, PT, FAPTA

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

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Johnny Huard, PhD

Professor
Department of Orthopaedic Surgery, Molecular Genetics,
Biochemistry, Bioengineering and Pathology
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Amy C. Nau, OD, FAAO

Clinical Assistant Professor
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Monica Perez, PhD, PT

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Gwendolyn Sowa, MD, PhD

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Kittie Verdolini Abbott, PhD

Professor
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James Wang, PhD

Associate Professor of Orthopaedic Surgery
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Vonda Wright, MD

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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.