



# AGENDA

## Day 1: Wednesday, November 1

### PPG Place Wintergarden

- 6:00 p.m.      **Doors open**
- 6:30 p.m.      **Welcome to Pittsburgh and Opening Remarks**  
Gwendolyn Sowa, MD, PhD  
University of Pittsburgh School of Medicine
- 6:40–9 p.m.      **Special Session: Regenerative Rehabilitation for Traumatic Brain Injury (TBI)**  
Moderator: Gwendolyn Sowa, MD, PhD  
University of Pittsburgh School of Medicine
- 6:40–6:50 p.m.      *Overview and Development of TBI Research Program at Pittsburgh*  
Rocky S. Tuan, PhD  
University of Pittsburgh School of Medicine
- 6:50–7:20 p.m.      *Cell Replacement After Traumatic Brain Injuries: Contributions of Resident vs. Transplanted Neural Stem Cells*  
Steven W. Levison, PhD  
Rutgers University, Cancer Research Center
- 7:20–7:50 p.m.      *New Therapies for TBI: Operation Brain Trauma Therapy (OBTT) and Beyond*  
Patrick M. Kochanek, MD, MCCM  
Children's Hospital of Pittsburgh of UPMC
- 7:50–8:20 p.m.      *Optimizing TBI Rehabilitation to Promote Regeneration and Recovery*  
Elizabeth R. Skidmore, PhD, OTR/L, FAOTA  
School of Health and Rehabilitation Sciences University of Pittsburgh
- 8:20–9:00 p.m.      *Panel Discussion with TBI presenters*
- 9:00–10:00 p.m.      **Networking Reception with Hors d'oeuvres and Wine Bar**

7:45–8:45 a.m.	<b>Continental Breakfast</b> Seating available in Sterlings I, II and III	Sterlings Foyer
8:30–8:50 a.m.	<b>Introduction and Welcome</b>	Commonwealth Two
8:30–8:40 a.m.	Fabrisia Ambrosio, PhD, MPT University of Pittsburgh	
8:40–8:50 a.m.	Hiroshi Kuroki, PT, PhD Kyoto University, Japan	
8:50–9:40 a.m.	<b>Keynote Speaker: <i>Exploiting Mechanics to Promote Regeneration</i></b> David J. Mooney, PhD Harvard University	Commonwealth Two
9:40–9:55 a.m.	<b>Morning Break</b>	Commonwealth Foyer
9:55–11:55 a.m.	<b>Session 1: Applied Mechanobiology Part I</b> Moderator: Nick Willett, PhD Emory University School of Medicine	Commonwealth Two
9:55–10:20 a.m.	<i>Advanced Biofabrication Strategies for Engineering 3D Muscle Tissue</i> Adam Feinberg, PhD Carnegie Mellon University	
10:20–10:45 a.m.	<i>Regenerative Rehabilitation Therapy for Volumetric Muscle Loss</i> Thomas A. Rando, MD, PhD Stanford University School of Medicine	
10:45–11:10 a.m.	<i>Regenerative Therapy for Muscle Dystrophy by Transplantation of Muscle Stem Cells Derived from Human iPS Cells</i> Hidetoshi Sakurai, MD, PhD Kyoto University, Japan	
11:10–11:35 a.m.	<i>Physiologically Oriented Engineered Skeletal Muscle for Treatment of Volumetric Muscle Loss</i> Ngan F. Huang, PhD Stanford University	
11:35–11:45 a.m.	<i>Oral Presentation: Pathologic Fibrosis Progressively Increases following Volumetric Muscle Loss Injury</i> Sarah M. Greising, PhD US Army Institute of Surgical Research	
11:45–11:55 a.m.	<i>Oral Presentation: Pericyte Response to Muscle Contraction</i> Svyatoslav Dvoretzkiy University of Illinois at Champaign-Urbana	

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## Day 2: Thursday, November 2 Wyndham Grand Downtown Pittsburgh

11:55 a.m.–noon	<b>Group Picture of all Symposium Attendees and Presenters</b>	TBD
Noon–2:00 p.m.	<b>Lunch and networking</b> Buffet lunch will be provided Seating available in Sterlings I, II & III	Sterlings Foyer
2:00–3:15 p.m.	<b>Session 1: Applied Mechanobiology Part II</b> Moderator: Christopher Evans, PhD Mayo Clinic	Commonwealth Two
2:00–2:25 p.m.	<i>Multiaxial Load as a Driver of Human MSC Chondrogenesis</i> Martin Stoddart, PhD, FRSE AO Research Institute, Davos, Switzerland	
2:25–2:50 p.m.	<i>Mechanomedicine: Mechanobiology and Its Implications for the Field of Regenerative Rehabilitation</i> Keiji Naruse, MD, PhD Okayama University, Japan	
2:50–3:15 p.m.	<i>Mechanical Control of MSC Fate: The Role of the Actin Cytoskeleton</i> William Thompson, DPT, PhD Indiana University – Purdue University Indianapolis	
3:15–5:45 p.m.	<b>Session 2: Neurologic Applications of Regenerative Rehabilitation</b> Moderator: Linda Noble-Haeusslein, PhD The University of Texas at Austin	Commonwealth Two
3:15–3:40 p.m.	<i>Re-Building Brain Tissue After Stroke</i> S. Thomas Carmichael, MD, PhD Geffen School of Medicine, UCLA	
3:40–4:05 p.m.	<i>Exploring Synergistic Effects of Physical and Cell Therapy in Stroke</i> Michel Modo, PhD University of Pittsburgh	
4:05–4:20 p.m.	Afternoon Break	Commonwealth Lobby
4:20–4:45 p.m.	<i>Clinical Trials of Stem Cell Transplantation for Treatment of Stroke</i> Lawrence R. Wechsler, MD University of Pittsburgh School of Medicine	Commonwealth Two
4:45–5:10 p.m.	<i>Clinical and Neurophysiological Evidences of Brain Plasticity</i> Carmelo Chisari, MD University Hospital of Pisa, Pisa, Italy	

5:10–5:35 p.m.	<i>The Use of Autologous Stem Cells in Rehabilitation of Multiple Sclerosis</i> George H. Kraft, MD, MS University of Washington	
5:35–5:45 p.m.	<i>Oral Presentation: Conductive Conduits to Augment Cell Therapy for Peripheral Nerve Injury</i> Shang Song, PhD Stanford University School of Medicine	
5:45–7:00 p.m.	<b>Poster Session</b> Poster presenters please be at your posters	Commonwealth One
6:15–7:15 p.m.	<b>Networking Reception with Cheese and Wine Bar</b>	Commonwealth Foyer, One & Two
7:00–8:00 p.m.	<b>Special Session Panel Discussion: “Glories, Gripes &amp; Grapes”</b> Moderator: Michael Boninger, MD University of Pittsburgh School of Medicine  Panelists: Esther E. Dupont-Versteegden, PhD University of Kentucky  G. Kelley Fitzgerald, PT, PhD, FAPTA University of Pittsburgh  Ralph Nitkin, PhD Health Scientist Administrator NIH (NICHD)  Martin Stoddart, PhD, FRSB AO Research Institute, Davos, Switzerland  Kimberly S. Topp, PT, PhD, FAAA University of California, San Francisco	Commonwealth Two

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## Day 3: Friday, November 3 Wyndham Grand Downtown Pittsburgh

7:30–8:15 a.m.	<b>Special Interest Group: Clinical-track Breakfast/Networking</b> Spend breakfast meeting with clinicians and clinical-track students, sharing stories, debating treatments and brainstorming strategies. As the frontline in dealing with this new clinical population, your ideas and enthusiasm are key to translational success of Regenerative Rehabilitation.	Sterlings III
7:45–8:45 a.m.	<b>Continental Breakfast</b> General seating in Sterlings I & II	Sterlings Foyer
8:30 a.m.	Fabrisia Ambrosio, PhD, MPT University of Pittsburgh	Commonwealth Two
8:35–11:00 a.m.	<b>Session 3: Translate Your Science: Regenerative Rehabilitation Technologies, Methods &amp; Approaches</b> Moderator: M. Terry Loghmani, PT, PhD Indiana University – Purdue University Indianapolis	Commonwealth Two
8:35–8:50 a.m.	<i>Rehabilitation and Regeneration of Peripheral Nerve Injury</i> Ryosuke Ikeguchi, MD, PhD Kyoto University Graduate School of Medicine, Japan	
8:50–9:05 a.m.	<i>Introduction of Scaffold-Free Bio 3D Printer for Organ Regeneration</i> Koichi Nakayama, MD, PhD Saga University, Japan	
9:05–9:10 a.m.	Joint Question and Answer Session	
9:10–9:35 a.m.	<i>Human Brain-Computer Interfaces for Sensorimotor Science and Rehabilitation</i> Robert Gaunt, PhD University of Pittsburgh	
9:35–9:50 a.m.	<i>Comprehensive Evaluation of VML Injury and Repair in Animal Models: From Biological Relevance to Biomechanics</i> George J. Christ, PhD University of Virginia	
9:50–10:05 a.m.	<i>Quantifying the Impact of TA VML Injuries on Rat Gait</i> Shawn Russell, PhD University of Virginia	
10:05–10:10 a.m.	Joint Question and Answer Session	
10:10–10:25 a.m.	Morning Break	Commonwealth Foyer

10:25–10:50 a.m.	<i>Evaluating Clinical Outcomes of Biological Treatments</i> James J. Irrgang, PT, PhD, ATC, FAPTA University of Pittsburgh	Commonwealth Two
10:50–11:00 a.m.	Oral Presentation: <i>Comprehensive Characterization of Rodent Gait Kinetics and Kinematics as a Standard of Comparison for Regenerative Therapies</i> Jack Dienes University of Virginia	Commonwealth Two
11:00 a.m.	Final remarks	Commonwealth Two
11:15 p.m.	Symposium adjournment	
Noon	Hotel check-out	
<b>Post-Symposium Workshops</b> Preregistration required; no on-site registration will be offered. Box lunch will be provided.		Sterlings Rooms
Noon–12:30 p.m.	Workshop check-in and boxed lunch pick-up	Sterlings Foyer
Regenerative Rehabilitation Research Workshops – concurrent sessions		
12:30–2:30 p.m.	Track 1 <i>Clinical Study Design for Regenerative Rehabilitation</i> Marcas Bamman, PhD, FACSM University of Alabama, Birmingham	Commonwealth Two
12:30–2:00 p.m.	Track 2 <i>Rehabilitation Strategies in Preclinical Models: An Overview of the Fundamentals</i> Linda Noble-Haeusslein, PhD The University of Texas at Austin and Gordon L. Warren, III, PhD, FACSM Georgia State University	Sterlings III