2026 ANNUAL MEETING

March 25-27, 2026
Long Beach, California

ASNR
AMERICAN SOCIETY OF
NEUROREHABILITATION

Welcome to the 2026 ASNR Annual Meeting!

Welcome to the 2026 Annual Meeting of the American Society of Neurorehabilitation! We are delighted to gather with you in Long Beach, California, at the Hyatt Regency from March 25–27, 2026, for three days dedicated to advancing neurorehabilitation science and improving patient outcomes.

Each year, ASNR brings together an exceptionally interdisciplinary community—clinicians, scientists, therapists, engineers, industry partners, and funding agencies—to foster collaboration and spark ideas that drive our field forward. This meeting's **single-track program** is designed to keep our community engaged across topics that range from basic and mechanistic research to clinical translation and patient-centered innovation.

Our 2026 program features **dynamic scientific symposia**, **oral presentations**, **and two poster receptions**, all highlighting cutting-edge advances across neurorehabilitation. Topics span the cognitive-motor interplay, neuromodulatory brain rhythms, spinal cord injury repair, motor recovery metrics, ischemic conditioning, precision tools for neurorehabilitation research, and the CYCLE2 trial findings.

This scientific program is complemented by our **professional development content**. This year it emphasizes building robust research programs, strengthening academic writing and communication, enhancing lab culture, and bridging gaps between scientific discovery and clinical implementation. These sessions reflect ASNR's commitment to supporting the growth and academic success of members at all career stages.

We also invite you to attend the **ASNR Business Meeting** on Wednesday to learn more about ongoing initiatives and opportunities within the society. As in past years, ASNR leadership will be easy to spot if you have questions — we'll be wearing the signature red **"Ask Me"** buttons.

Alongside the scientific program, Long Beach's oceanfront setting provides a vibrant, welcoming backdrop for conversation, reflection, and connection. From morning sessions to evening poster receptions, we hope you find this meeting both intellectually energizing and personally rewarding.

On behalf of ASNR and the Program Committee, thank you for joining us for **ASNR2026**. We look forward to a wonderful meeting and to the discoveries, collaborations, and innovations it will inspire.

Welcome to Long Beach, and welcome to ASNR2026!

Heidi Schambra, MD
ASNR Program Chair

2026 PROGRAM COMMITTEE

Kelsey Baker, PhD	Kathleen Friel, PhD	Heidi Schambra, MD
Lauri Bishop, PT, DPT, PhD	Emily Grattan, PhD, OTR/L	Gottfried Schlaug, MD, PhD
Steve Cramer, MD, MMSc	Netta Gurari, PhD	Rick Segal, PhD, PT
David Cunningham, PhD	Kate Hayward, PhD	Charlotte Stagg, MRCP, DPhil
Naveed Ejaz, PhD	Natalia Sanchez, PhD	Jill Stewart, PhD, PT

GENERAL MEETING INFORMATION

ANNUAL MEETING EVALUATION

Please complete the Annual Meeting survey throughout or following the meeting. The meeting evaluation can be found by scanning the QR code on the bottom of this page or on meeting signage throughout the conference space. Your responses are crucial to the future success of ASNR Annual Meetings. Thank you!

REGISTRATION HOURS

Tuesday, March 24 (outside Shoreline Room, 1st Floor)............................5:00pm – 6:00pm
Wednesday, March 25..7:00am – 5:00pm
Thursday, March 26..7:00am – 5:00pm
Friday, March 27...7:00am – 12:30pm

FOOD & BEVERAGE INCLUDED

Wednesday, March 25 │ Coffee & Tea │ 7:00 - 8:00am │ Seaview Ballroom Foyer (1st Floor)
Wednesday, March 25 │ Boxed Lunch │ 12:30 - 1:30pm │ Regency Foyer
Wednesday, March 25 │ Mid-Afternoon Beverage Break │ 2:30 - 2:45pm │ Regency Foyer
Wednesday, March 25 │ Light Hors D'oeuvres & Drinks │ 4:00 - 6:00pm │ Regency Foyer

Thursday, March 26 │ Coffee & Tea │ 7:00 - 8:00am │ Regency Foyer
Thursday, March 26 │ Mid-Morning Beverage Break │ 9:30 - 9:45am │ Regency Foyer
Thursday, March 26 │ Lunch │ 12:30 - 1:30pm │ Beacon Ballroom
Thursday, March 26 │ Mid-Afternoon Beverage Break │ 2:30 - 2:45pm │ Regency Foyer
Thursday, March 26 │ Light Hors D'oeuvres & Drinks │ 4:00 - 6:00pm │ Regency Foyer

Friday, March 27 │ Coffee & Tea │ 7:00 - 8:00am │ Regency Foyer
Friday, March 27 │ Mid-Morning Beverage Break │ 9:30 - 9:45am │ Regency Foyer

POSTER & EXHIBIT HALL

The poster & exhibit hall is located in Regency Ballroom West and will be open to visit throughout the conference. Dedicated times are from 4:00 - 6:00pm on Wednesday and Thursday, during the Poster Receptions.

WIRELESS INTERNET INSTRUCTIONS

1. Connect to the wireless network named Hyatt_Meeting
2. Open your web browser and go to a public website, such as www.asnr.com
3. Your browser will redirect to the Encore access page automatically
4. Enter the following access code: asnr2026

ASNR2026 Evaluation:

Connect with ASNR on social media!

Bluesky

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#ASNR2026

TUESDAY, MARCH 24

6:00 - 8:00PM **Pre-Conference Workshop & Dinner**
Defining Success and Eligibility for Implantable Brain-Computer Interfaces
Shoreline Room (1st Floor)

Doors open at 5:30pm
Advance Registration Required

Speakers: Vivek Pinto, PhD, MBA, Devjani Saha, PhD, Mijail Serruya, MD, PhD, Jessica Kelemen, MBA,

WEDNESDAY, MARCH 25

Food/Beverage provided today: AM coffee/tea, boxed lunch, afternoon beverage break, evening reception (light hors d'oeuvres)

8:00 - 11:00AM **Professional Development Roundtables**
Seaview Ballroom (1st Floor)

11:00 - 11:15AM **Break**

11:15AM - 12:30PM **Symposium 1 - Cognitive Contributions to Motor Performance: Measurement, Metrics and Mechanisms**
Regency Ballroom East

Speakers: Rachana Gangwani, PT, MS, PhD, Jessica Cassidy, DPT, PT, PhD, Lewis Wheaton, PhD

12:30 - 1:30PM **ASNR Business Meeting and Boxed Lunch**
Regency Ballroom East

1:30 - 2:30PM **Oral Abstract Session**
Regency Ballroom East

2:30 - 2:45PM **Mid-Afternoon Beverage Break**

2:45 - 4:00PM **Symposium 2 - Proprioceptive Biomarkers and Robotic Training for Tailored Movement Rehabilitation After Stroke**
Regency Ballroom East

Speakers: David Reinkensmeyer, PhD, Andria Farrens, PhD, Chris Johnson, PhD

4:00 - 6:00PM **Poster Reception 1**
Regency Ballroom West

THURSDAY, MARCH 26

8:00 - 9:30AM **Professional Development Session A - Closing the Gap Between Clinical Research and Practice: The Need for Good Common Data Through Collaborations**
Regency Ballroom East

Facilitators: Carolee Winstein, PT, PhD, Clarisa Martinez, PT, DPT, MS

9:30 - 9:45AM **Mid-Morning Beverage Break**

9:45 - 11:00AM **Symposium 3 - Stem Cell Therapies for Spinal Cord Injury: From Transcriptional Profiling to Primate Functional Repair**
Regency Ballroom East

Speakers: Eleni Sinopoulou, PhD, Jennifer Dulin, PhD, Alina Garbuzov, PhD

11:00 - 11:15AM **Break**

11:15AM - 12:30PM **Symposium 4 - Rethinking Recovery: Objective and Mechanistic Metrics for Post-Stroke Motor Function**
Regency Ballroom East

Speakers: Ahmet Arac, MD, Steve Cramer, MD, Margit Alt Murphy, PT, PhD

12:30 - 1:30PM **Lunch & Visit Exhibitors**
Lunch: Beacon Ballroom (4th Floor)
Exhibitors: Regency Ballroom West

1:30 - 2:30PM **Awards Presentation & Panel**
Regency Ballroom East

2:30 - 2:45PM **Mid-Afternoon Beverage Break**

2:45 - 4:00PM **Symposium 5 - Ischemic Conditioning as a Neurorehabilitation Primer: Mechanisms and Translational Applications Across Populations**
Regency Ballroom East

Speakers: Sangeetha Madhavan, PT, PhD, Allison Hyngstrom, PT, PhD, Lindsay Hannigan, PhD, CSCS

4:00 - 6:00PM **Poster Reception 2**
Regency Ballroom West

FRIDAY, MARCH 27

8:00 - 9:30AM **Professional Development Session B - Molecular Blood Biomarkers in Precision Neurorehabilitation: Capacity and Infrastructure Building Workshop**
Regency Ballroom East

Facilitator: Robynne G. Braun, MD, PhD

9:30 - 9:45AM **Mid-Morning Beverage Break**

9:45 - 11:00AM **Symposium 6 - The Impact of Balance Discordance on Clinical Outcomes in Neurological Populations: An Open Science Perspective**
Regency Ballroom East

Speakers: Jason Longhurst, PT, DPT, PhD, Daniel S. Peterson, PhD, Andrew Hooyman, PhD

11:00 - 11:15AM **Break**

11:15AM - 12:30PM **Symposium 7 - Slowing the Progression of Parkinson Disease: Results of CYCLE 2 Trial**
Regency Ballroom East

Speakers: Lee Dibble, PhD, PT, Cielita Lopez-Lennon, PT, DPT, Anson Rosenfeldt, PT, DPT, MBA

12:30 - 12:40PM **Conference Conclusion**
Regency Ballroom East

ASNR MISSION:
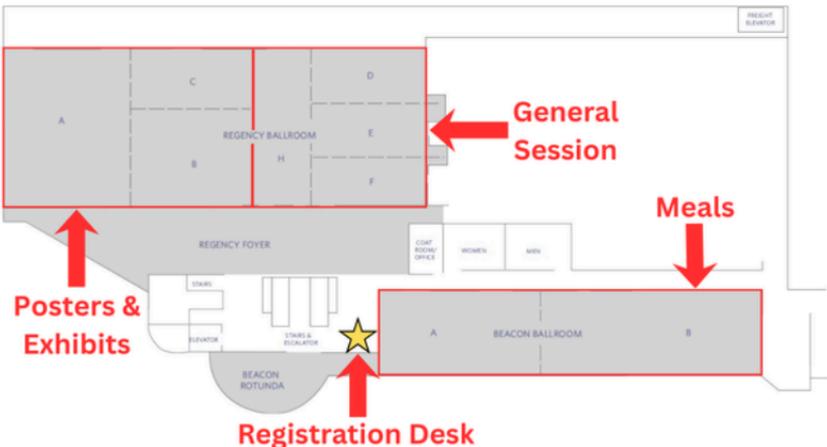TO ADVANCE THE SCIENCE OF NEUROREHABILITATION AND NEURAL REPAIR FROM UNDERSTANDING TO APPLICATION**.**

ASNR VISION:
NEURORECOVERY THROUGH DISCOVERY

HYATT REGENCY® LONG BEACH

MEETING ROOMS LAYOUT

Lower Level (1ˢᵗ Floor)

PACIFIC · HARBOR A B C · MEN · WOMEN · SHORELINE A B · SERVICE CORRIDOR · CORRIDOR · SEAVIEW BALLROOM A B C · ELEVATOR · SEAVIEW FOYER & ROTUNDA · ESCALATORS TO LOBBY · RAINBOW LAGOON · TO HOTEL TOWER · BAYSIDE BOARDROOM · PATIO DINING · POOL DECK · POOL · WHIRLPOOL · FIRE PIT

Pre-Conference Workshop ← (Shoreline)

Roundtables ← (Seaview Ballroom)

Upper Level (4ᵗʰ Floor)

FREIGHT ELEVATOR · A · C · D · REGENCY BALLROOM · E · B · H · F · REGENCY FOYER · COAT ROOM/ OFFICE · WOMEN · MEN · STAIRS · ELEVATOR · STAIRS & ESCALATOR · BEACON ROTUNDA · A · BEACON BALLROOM · B

General Session ← (Regency Ballroom)

Meals ↓ (Beacon Ballroom)

Posters & Exhibits ↑

Registration Desk ↑

TUESDAY PRE–CONFERENCE WORKSHOP

"Defining Success and Eligibility for Implantable Brain-Computer Interfaces"
Tuesday, March 24, 2026 · 6:00pm – 8:00pm · Shoreline Room (1st Floor)
Dinner Included - **ADVANCE REGISTRATION REQUIRED**

As implantable brain-computer interfaces (iBCIs) enter pivotal clinical trials, decisions made now will shape regulatory approval, reimbursement, and ultimately who will have access to these potentially life-changing technologies. This workshop brings together clinicians to provide input on two foundational questions: (1) what outcomes matter to patients and clinicians and (2) whether iBCI trial populations should be defined by disease/injury or by function/impairment. Through guided discussion, this session aims to build consensus on frameworks that support effective trial design and equitable access to iBCIs.

SPEAKERS:

Vivek Pinto, PhD, MBA

Devjani Saha, PhD

Mijail Serruya, MD, PhD

Jessica Kelemen, MBA

1. What outcomes matter to patients and clinicians?

Clinical trials must be designed to demonstrate benefit in terms that matter to patients. This requires understanding the aspects of health that are most meaningful to patients (i.e., "Meaningful Aspects of Health") and identifying concepts related to those aspects that are both measurable and reflective of iBCI benefit (i.e., "Concepts of Interest"). Establishing a consensus-driven framework for this process will guide endpoint selection and help ensure that when trials demonstrate promising outcomes, those results translate smoothly into regulatory approval.

2. How should iBCI clinical trial populations be defined – by disease/injury or function/impairment?

During the approval process, regulators must determine what populations a given iBCI is indicated for (i.e., "indications for use"), a decision that is informed by clinical trial design and will directly impact eligibility, access, and reimbursement. Typically, indications for use are defined by diagnosis (e.g., ALS, SCI, stroke). For iBCIs, this approach risks excluding individuals with the same functional impairments but different etiologies, particularly those with rare conditions. A shift toward functional indications for use would prioritize the functional need iBCIs address, enabling more equitable access for those with severe motor or communication impairment, regardless of underlying diagnosis. Clinician input on this topic will help determine a robust approach that is conducive to uptake by regulators.

This workshop will share draft frameworks and invite feedback through guided discussion from PTs, OTs, SLPs, physiatrists, and neurologists, ensuring that how we measure iBCI benefit and how we define eligible populations both reflect the lived goals of the people who will use these technologies and the clinicians who support their progress.

Presented by:

ASNR AMERICAN SOCIETY OF NEUROREHABILITATION   iBCI-CC

WEDNESDAY PROGRAM DETAILS

PROFESSIONAL DEVELOPMENT ROUNDTABLES

Wednesday, March 25, 2026 · 8:00am – 11:00am · Seaview Ballroom (1st Floor)

Table A:
Patient Perspective and Lived Experience

David Karchem

Tina Orkin

Table B:
Academia vs. Industry: Translating Rehab Science

David Reinkensmeyer, PhD

Chris Pulliam, PhD

Table C:
Managing Lab Dynamics - aka Building a Lab That Works

Sangeetha Madhavan, PT, PhD

Emily Grattan, PhD, OTR/L

Susanne Morton, PT, PhD

Table D:
Writing for Impact: Grants, Journals, and Public Engagement

Lara Boyd, PT, PhD

Seth Hays, PhD

Trisha Kesar, PT, PhD

Table E:
"White Matter" - Make New Connections!

Cristián Cuadra, PhD

David Cunningham, PhD

Allison Miller, DPT, PhD, PT

Table F:
Cost-Effective & Resilient Research in Uncertain Funding Climates

Sook-Lei Liew, PhD, OTR/L

James Finley, PhD

WEDNESDAY PROGRAM DETAILS

SYMPOSIUM #1 - Cognitive Contributions to Motor Performance: Measurement, Metrics and Mechanisms

Wednesday, March 25, 2026 · 11:15am – 12:30pm · Regency Ballroom East
Course Director: Rachana Gangwani, PT, MS, PhD

DESCRIPTION:

This symposium addresses the critical yet often overlooked integration of cognitive and motor systems. Cognitive processes are crucial for planning, initiating and executive movement, but are predominantly assessed and treated in isolation. This symposium brings together researchers investigating the cognitive-motor interface in individuals with stroke and amputees. Presenters will showcase experimental paradigms that quantify how cognitive processes contribute to motor performance, emphasizing kinematic, neuroimaging, and electrophysiological measures. Multimodal findings linking neural network dynamics to recovery outcomes will be highlighted, illustrating how mechanistic insights can guide the design of rehabilitation strategies that simultaneously target cognition and motor function. By combining behavioral and mechanistic perspectives, this symposium provides a comprehensive framework for understanding the cognitive-motor interface. Attendees will learn to interpret objective measures of cognitive-motor interactions, appreciate their underlying neural mechanisms, and explore potential applications for rehabilitation approaches that integrate the cognitive and motor systems. Ultimately, this symposium advances neurorehabilitation toward an integrative, mechanism-driven approach, emphasizing the translational potential of combining cognitive and motor assessments in research and clinical practice.

SPEAKERS:

Rachana Gangwani, PT, MS, PhD

Jessica Cassidy, DPT, PT, PhD

Lewis Wheaton, PhD

SCHEDULE:

11:15 - 11:25am: *Introduction* – Rachana Gangwani, PT, MS, PhD

11:25 – 11:40am: *Measuring Cognitive–Motor Interactions Through Neural Oscillations* – Jessica Cassidy, DPT, PT, PhD

11:40 – 11:55am: *Neurocognitive Mechanisms of Arm Choice Post-stroke* – Rachana Gangwani, PT, MS, PhD

11:55am – 12:10pm: *Designing Difficulty? A Human-Centered Approach to Evaluating Task Difficulty for Motor Learning and Rehabilitation* – Lewis Wheaton, PhD

12:10 – 12:30pm: *Discussion and Q&A* – ALL

ORAL ABSTRACT PRESENTATIONS

Wednesday, March 25, 2026 • 1:30pm – 2:30pm • Regency Ballroom East

P. 7 *Lesion-Based Evidence That Top-Down Connections From the Language Network Support Posterior Visual Word Form Area Function*
Authors: Sara Dyslin, Andrew DeMarco, Ryan Staples, Peter Turkeltaub
Presented by: Sara Dyslin, Georgetown University Medical Center

P. 20 *Predicting Musculoskeletal Adverse Events During Moderate- to High-Intensity Gait Training in Chronic Stroke Using Baseline Clinical Characteristics*
Authors: Daria Pressler, Sarah Schwab-Farrell, Oluwole Awosika, Darcy Reisman, Sandra Billinger, Michael Riley, Pierce Boyne
Presented by: Daria Pressler, University of Cincinnati

P. 60 *Acute Intermittent Hypoxia Augments Ankle Strength in People with Multiple Sclerosis*
Authors: Aravind Nehrujee, Rachel Kalvakota, Kailynn Mannella, Alexander Barry, Leah O'Shea, Alexander Nemeth, Bruce Cohen, Molly Bright, Milap Sandhu
Presented by: Aravind Nehrujee, Shirley Ryan AbilityLab, Northwestern University

P. 86 *Effect Of EMG-Triggered Robot-Assisted Rehabilitation Targeting The Shoulder Joint On Muscle Synergies In Chronic Stroke Survivors With Moderate-To-Severe Upper-Limb Motor Dysfunction*
Authors: Margaux Noémie Lafitte, Hideki Kadone, Masakazu Taketomi, Yukiyo Shimizu, Chun Kwang Tan, Shigeki Kubota, Yasushi Hada, Kenjii Suzuki, Masashi Yamazaki
Presented by: Margaux Noémie Lafitte, University of Tsukuba (Japan)

P. 87 *Electroencephalogram Beta-Frequency Band Is Associated With Proprioceptive Processing And Recalibration Of Passive Finger Movements*
Authors: Hunter Hayes, Monica Torricella, David Reinkensmeyer, Disha Gupta, Andria Farrens
Presented by: Hunter Hayes, University of California-Irvine

P. 105 *Differential Domain-Specific Rehabilitation Effects in Parkinson's Disease with Freezing of Gait: A Meta-Analysis of Postural Control, Cognitive, and Mood Outcomes*
Authors: Jessica Bath, Valerie Block
Presented by: Jessica Bath, University of California-San Francisco

PRESENTING AUTHORS:

Sara Dyslin

Daria Pressler, PT, DPT

Aravind Nehrujee

Margaux Noémie Lafitte, PhD

Hunter Hayes

Jessica Bath, PT, DPT, PhD

WEDNESDAY PROGRAM DETAILS

SYMPOSIUM #2 - Proprioceptive Biomarkers and Robotic Training for Tailored Movement Rehabilitation After Stroke

Wednesday, March 25, 2026 • 2:45pm – 4:00pm • Regency Ballroom East
Course Director: David Reinkensmeyer, PhD

DESCRIPTION:
Identify strategies for translating proprioceptive rehabilitation into clinical and home settings. Participants will explore practical examples of mobile and low-cost technologies, including portable robots, AI-based computer-vision tools, and smartwatch applications, that extend proprioceptive training beyond the lab. Participants will consider implementation pathways for integrating these methods into clinical practice and self-directed home use.

SPEAKERS:

David Reinkensmeyer, PhD

Andria Farrens, PhD

Chris Johnson, PhD

SCHEDULE:

2:45 - 3:05pm: **Hand training, finger proprioception, and EEG biomarkers** – Andria Farrens, PhD

3:05 – 3:25pm: **Gait training and ankle proprioception** – Chris Johnson, PhD

3:25 – 3:45pm: **Computational models and practical technologies** – David Reinkensmeyer, PhD

3:45 – 4:00pm: ***Discussion and Q&A*** - All

THURSDAY PROFESSIONAL DEVELOPMENT SESSION A

Closing the Gap Between Clinical Research and Practice: The Need for Good Common Data Through Collaborations

Thursday, March 26, 2026 • 8:00am – 9:30am • Regency Ballroom East
Course Directors: Carolee Winstein, PT, PhD, FAPTA, FASNR, Clarisa Martinez, PT, DPT, MS

DESCRIPTION:

There are increasing efforts to employ artificial intelligence (AI) in healthcare for cancer, diagnostics, image analysis, clinical decision tools, learning health systems, and specifically our interest, a growing effort toward precision rehabilitation. However, AI modeling requires larger, more diverse datasets than those typically collected in randomized controlled trials. Electronic medical records (EMR) can potentially provide large rehabilitation datasets if some of the current limitations of data quality and accessibility are addressed. Improving EMR data quality and accessibility will require engagement of both point-ofcare clinicians and researchers to collectively identify common priorities and address barriers. Organizers will present the case for leveraging EMR systems data, give previous examples of low-cost common data collection efforts (e.g. SIRROWS project) and several current efforts to leverage neurorehabilitation EMR data. We will present examples of potential common data elements for neurorehabilitation, such as walking speed or measures of independent mobility or self-care. Four Los Angeles-based neurorehabilitation healthcare providers will introduce their healthcare settings, discuss the degree to which common data points are routinely collected in clinical care, and how they are used. From the beginning, attendees will be organized into 4 roundtable groups, each facilitated by one of the healthcare providers. Over the course of the 90-minute session, each healthcare provider will facilitate roundtable discussions to first:1) identify how the routinely collected data point(s) could address both clinical and research priorities, 2) recognize the strengths and limitations of the data point(s) in their settings, and 3) facilitate opportunities to promote multi-institutional data collection and sharing.

LEADERS:

Carolee Winstein, PT, PhD, FAPTA, FASNR

Clarisa Martinez, PT, DPT, MS

DISCUSSION FACILTATORS:
Julie Hershberg, DPT, NCS
Matthew Konersman, DPT, SCCE
Marc Broberg, PT, DPT, MA, NCS
Joseph Robinson II, PT, DPT, NCS

SCHEDULE:

8:00 - 8:15am: ***Introductions and the case for common data*** – Carolee Winstein, PT, PhD, and Clarisa Martinez, PT, DPT, MS

8:15 - 8:25am: ***Overview of the problem-solving exercise*** – Carolee Winstein, PT, PhD, and Clarisa Martinez, PT, DPT, MS

8:25 - 8:40am: ***First roundtable collaboration*** – All

8:40 - 8:50am: ***Collaborative insights, small group discussion debriefing*** – All

8:50 - 9:05am: ***Second roundtable collaboration*** – All

9:05 - 9:25am: ***Collaborative insights, small group discussion debriefing*** – All

9:25 - 9:30am: ***Closing remarks, future directions*** – All

THURSDAY PROGRAM DETAILS

SYMPOSIUM #3 - Stem Cell Therapies for Spinal Cord Injury: From Transcriptional Profiling to Primate Functional Repair

Thursday, March 26, 2026 · 9:45am – 11:00am · Regency Ballroom East
Course Director: Eleni Sinopoulou, PhD

DESCRIPTION:

This symposium will explore the evolving landscape of stem cell–based therapies for spinal cord injury (SCI), focusing on strategies to enhance graft efficacy, define therapeutic windows, and validate anatomical repair and functional recovery in translational models. Dr. Jennifer Dulin will present rodent studies that optimize neural graft survival, integration, and host connectivity, emphasizing combinational approaches that pair grafting with rehabilitation. Dr. Alina Garbazov will share transcriptomic analyses of non-human primate corticospinal neurons, revealing molecular signatures that inform the timing and targeting of stem cell interventions. Dr. Eleni Sinopoulou will present anatomical findings from primate cervical SCI models, demonstrating robust axonal regeneration, host-graft integration and funtioanl recovery using a clinical-grade neural stem cell line. Together, these talks will illustrate a cohesive pipeline—from molecular insight to functional anatomy—supporting IND-enabling studies and clinical readiness. The session will emphasize scalable, ethically grounded strategies for restoring motor function after SCI.

SPEAKERS:

Eleni Sinopoulou, PhD

Jennifer Dulin, PhD

Alina Garbuzov, PhD

SCHEDULE:

9:45 – 9:50am: ***Introduction*** – Eleni Sinopoulou, PhD

9:50 – 10:05am: ***Rodent Graft Optimization - What have we learned from NPC grafting in rodent models of spinal cord injury?*** – Jennifer Dulin, PhD

10:05 – 10:20am: ***Primate CST Transcriptomics - Transcriptome of Non-Human Primate Corticospinal Neurons Informs Therapeutic Window for Stem Cell Grafts*** – Alina Garbuzov, PhD

10:20 – 10:35am: ***Primate Anatomical Repair - Neural Stem cell grafts promote extensive anatomical & behavioral recovery post injury in non human primate SCI models*** – Eleni Sinopoulou, PhD

10:35 – 11:00am: ***Discussion and Q&A –*** All

THURSDAY PROGRAM DETAILS

SYMPOSIUM #4 - Rethinking Recovery: Objective and Mechanistic Metrics for Post-Stroke Motor Function

Thursday, March 26, 2026 · 11:15am – 12:30pm · Regency Ballroom East
Course Director: Ahmet Arac, MD

DESCRIPTION:

Despite decades of progress in stroke rehabilitation and motor control research, the field still relies on ordinal clinical scales such as the Fugl-Meyer and ARAT to measure motor recovery. While these scales have proven reliability, they offer limited resolution, compress meaningful differences between patients, and fail to capture the complex, continuous nature of movement recovery. The next leap in neurorehabilitation requires metrics that are both objective and mechanistically interpretable. This symposium will bring together leading investigators in motor control and rehabilitation science to chart the path toward that future. Dr. Steve Cramer will open by reframing the concept of recovery – what it truly means to recover movement after stroke and how current behavioral measures fall short. Dr. Margit Alt Murphy will then discuss the advantages and barriers to clinical implementation of kinematic analysis, highlighting how movement capture and decomposition provide quantitative insight into impairment and recovery. Dr. Ahmet Arac will conclude by presenting a new composite kinematic framework that integrates multidimensional motion features into a single, interpretable score. This framework improves sensitivity to change, reveals a breakdown of impairment and recovery, and offers a practical bridge between laboratory precision and clinical utility. The session will conclude with an interactive discussion on how emerging kinematic metrics can redefine evidence-based assessment and accelerate translation of movement science into routine neurorehabilitation practice.

SPEAKERS:

Ahmet Arac, MD

Steve Cramer, MD, MMSc

Margit Alt Murphy, PT, PhD

SCHEDULE:

11:15 – 11:35am: ***What is recovery and how should it be measured?*** – Steve Cramer, MD, MMSc

11:35 – 11:55am: ***Advantages of and barriers in using kinematic analysis*** – Margit Alt Murphy, PT, PhD

11:55am – 12:15pm: ***A new kinematic framework for assessment and understanding of motor recovery*** – Ahmet Arac, MD

12:15 – 12:30pm: ***Discussion and Q&A*** – All

2026 ASNR AWARD CEREMONY

Thursday, March 26, 2026 • 1:30pm – 2:30pm • Regency Ballroom East

2026 FELLOWS OF THE AMERICAN SOCIETY OF NEUROREHABILITATION (FASNR)

The title of Fellow of the American Society of Neurorehabilitation is reserved for individuals who have contributed significantly to the field of Neurorehabilitation, and also to the American Society of Neurorehabilitation.

Teresa Kimberley, PT, PhD, FAPTA, FASNR

Mindy Levin, PT, PhD, FASNR

Sangeetha Madhavan, PT, PhD, FASNR

Steven Kirshblum, MD

2026 Visionary Innovator in Science, Translation, and Education (VISTE) Award Recipient

This award is presented annually in honor of Kenneth M. Viste, Jr., MD, a tireless advocate for neurorehabilitation & ASNR. Dr. Viste was active in the organization since its inception as President, Membership Committee Chair, & a member of the Practice Issues Committee. ASNR honors his memory by presenting the award annually to an individual in recognition of scholarly achievements and contributions to knowledge in the field of neurorehabilitation.

David Lin, MD

2026 Rising Investigator in Science and Innovation for Neurorehabilitation (Rising Star) Award Recipient

The Rising Investigator in Science and Innovation for Neurorehabilitation (Rising Star) Award is presented annually to an Instructor or Assistant Professor level individual who has shown potential as a leader in the field of neurorehabilitation.

2026 DIVERSITY TRAVEL FELLOWSHIP RECIPIENTS

Layla Abdullatif

Desmond Asante

Octavio Marin-Pardo

Ignacio Novoa-Cornejo

THURSDAY PROGRAM DETAILS

SYMPOSIUM #5 - Ischemic Conditioning as a Neurorehabilitation Primer: Mechanisms and Translational Applications Across Populations

Thursday, March 26, 2026 · 2:45pm – 4:00pm · Regency Ballroom East
Course Director: Sangeetha Madhavan, PT, PhD

DESCRIPTION:

Motor priming prepares the sensorimotor system for subsequent motor practice and can enhance neuroplasticity and motor recovery. Ischemic conditioning (IC), a novel, non-invasive priming technique involving brief, repeated bouts of limb ischemia followed by reperfusion, has shown promise as an adjuvant to rehabilitation interventions. IC engages both neural and humoral mechanisms that can augment the effects of neurorehabilitation by improving motor excitability, muscle performance, and vascular function. This educational session will explore the scientific rationale and clinical potential of IC as a primer for physical therapy in ageing, stroke, and amputee populations. Presenters will review mechanistic studies, summarize recent clinical findings, and discuss practical considerations for implementation. The session will conclude with a moderated discussion on clinical translation, addressing opportunities, barriers, and future directions for IC integration in neurorehabilitation.

SPEAKERS:

Sangeetha Madhavan, PT, PhD

Allison Hyngstrom, PT, PhD

Lindsay Hannigan, PhD, CSCS

SCHEDULE:

2:45 – 2:50pm: ***Welcome and Introduction*** – Sangeetha Madhavan, PT, PhD

2:50 – 3:00pm: ***Ischemic Conditioning as a Motor Priming Technique*** – Allison Hyngstrom, PT, PhD

3:00 – 3:10pm: ***Remote Ischemic Conditioning in Stroke*** – Sangeetha Madhavan, PT, PhD

3:10 – 3:25pm: ***Ischemic Conditioning in Older Adults and Amputee Populations*** – Lindsay Hannigan, PhD, CSCS

3:25 - 3:40pm: ***Panel Discussion: Clinical Implications, Opportunities, and Barriers*** – All

3:40 – 4:00pm: ***Discussion and Q&A –*** All

FRIDAY PROFESSIONAL DEVELOPMENT SESSION B

Molecular Blood Biomarkers in Precision Neurorehabilitation: Capacity and Infrastructure Building Workshop

Friday, March 27, 2026 · 8:00am – 9:30am · Regency Ballroom East
Course Director: Robynne Braun, MD, PhD

DESCRIPTION:

Despite increasing momentum in precision rehabilitation, many sites lack infrastructure and expertise to operationalize molecular biomarker workflows — a cornerstone of precision medicine. This interactive workshop is designed to build capacity in anticipation of forthcoming ISRRA Molecular Biomarkers Taskforce recommendations. No prior molecular biomarker expertise or experience is required. Clinicians, basic scientists, and clinician-researchers are equally welcome to attend. This workshop will equip participants with practical knowledge for specimen collection and handling, while also providing a discussion forum for protocols and workflows to support multi-site collaboration. Attendees will contribute to building shared infrastructure and learn to adopt open-source protocols necessary to advance the next phase of stroke recovery where molecular biomarkers inform precision neurorehabilitation.

SPEAKERS:

Robynne Braun, MD, PhD

Matthew Edwardson, MD

Steven Cramer, MD, MMSc

Chad Aldridge, MS, DPT

SCHEDULE:

8:00 - 8:05am: ***Welcome & Orientation to Workshop Structure and Goals*** – Robynne Braun, MD, PhD, and Matthew Edwardson, MD

8:05 - 8:20am: ***Station 1: Specimen Collection & Transport Workflow*** – Robynne Braun, MD, PhD, and Matthew Edwardson, MD

8:20 - 8:35am: ***Station 2: Storage & Coordination Site Workflows*** – Steven Cramer, MD, MMSc

8:35 - 8:50am: ***Station 3: Data Management, Analytics & Visualization*** – Chad Aldridge, MS, DPT

8:50 - 9:05am: ***Scenario-Based Problem Solving*** – Steven Cramer, MD, MMSc

9:05 - 9:20am: ***Panel Discussion on Barriers, Bottlenecks, and Opportunities*** – All

9:20 - 9:30am: ***Closing Remarks & Next Steps*** – Robynne Braun, MD, PhD, and Matthew Edwardson, MD

FRIDAY PROGRAM DETAILS

SYMPOSIUM #6 - The Impact of Balance Discordance on Clinical Outcomes in Neurological Populations: An Open Science Perspective

Friday, March 27, 2026 • 9:45am – 11:00am • Regency Ballroom East
Course Director: Jason Longhurst, PT, DPT, PhD

DESCRIPTION:

Falls remain a major contributor to disability, reduced independence, and increased care burden in neurorehabilitation populations. A growing body of evidence suggests that not only does an individual's balance ability matter, but also the alignment between an individual's actual and perceived balance ability is an important consideration for outcomes such as falls, cognition, and quality of life. Recent work has made strides in quantifying the degree of alignment/discordance across these variables, as well as the functional relevance of these outcomes. Together, this indicates that precise identification of deficits in 1) actual balance, 2) perceived balance, and 3) their alignment may improve the effectiveness of rehabilitation. This symposium will bring together three interlinked perspectives related to balance discordance: 1. Theoretical underpinnings and operationalization of alignment between balance ability and perception. 2. The generalizability of balance discordance and potentially modifiable factors that contribute to balance discordance across multiple populations and samples. 3. Clinical application, therapeutic implications, and future directions of this concept in neurorehabilitation practice. Additionally, throughout each of these perspectives, open science principles and examples will be discussed as they have been implemented in our approaches to develop and investigate the concept of balance discordance. Attendees will leave with a clear conceptual framework of balance discordance; awareness of clinical implications, including potential directions toward future precision interventions; and a roadmap for open, reproducible research practices to advance the field. The topic is well-suited for ASNR's focus on advancing neurorehabilitation science, bridging bench and bedside, and promoting best practices in research and translation.

SPEAKERS:

Jason Longhurst, PT, DPT, PhD

Daniel Peterson, PhD

Andrew Hooyman, PhD

SCHEDULE:

9:45 – 9:47am: ***Introduction*** – Jason Longhurst, PT, DPT, PhD

9:47 – 10:07am: ***Theoretical Support and Measurement of Alignment Between Balance Ability and Perception*** – Daniel Peterson, PhD

10:07 – 10:25am: ***Generalization of Balance Discordance*** – Andrew Hooyman, PhD

10:25 – 10:45am: ***Clinical Applications and Future Directions in Neurorehabilitation*** – Jason Longhurst, PT, DPT, PhD

10:45 – 11:00am: ***Discussion and Q&A –*** All

FRIDAY PROGRAM DETAILS

SYMPOSIUM #7 - Slowing the Progression of Parkinson Disease: Results of CYCLE 2 Trial

Friday, March 27, 2026 · 11:15am – 12:30pm · Regency Ballroom East
Course Director: Lee Dibble, PhD, PT

DESCRIPTION:

Aerobic exercise has well-documented benefits for improving motor function and overall physical health in individuals with Parkinson's disease (PD), but whether it can influence disease progression remains unknown. The NIH-supported Pragmatic Cyclical Lower Extremity Exercise (CYCLE-II) trial was a multi-site, randomized controlled trial designed to evaluate the long-term effects of a 12-month, home-based aerobic cycling intervention on PD progression. A total of 250 participants were randomized to either a home-based aerobic exercise group or a usual and customary care control group. The exercise group used a commercially available cycling platform to complete moderate-to-high intensity sessions three times per week while performance and adherence were remotely monitored. This symposium will present new data and implementation insights from the CYCLE-II trial, including feasibility of remote exercise delivery, participant adherence across 12 months, and the impact of aerobic exercise on disease progression for individuals with PD. Presenters will also discuss behavioral strategies that supported sustained engagement. The session will conclude with a discussion of how the CYCLE-II trial findings inform clinical practice and future research, emphasizing the potential for scalable, technology-supported exercise programs to extend access to neurorehabilitation in individuals with PD.

SPEAKERS:

*Lee Dibble,
PhD, PT*

*Anson Rosenfeldt,
PT, DPT, MBA*

*Cielita Lopez-
Lennon,
PT DPT*

SCHEDULE:

11:15 – 11:20am: ***Introduction*** – Lee Dibble, PhD, PT

11:20 – 11:30am: ***Evidence base for aerobic exercise in PD and rationale for CYCLE-II*** – Anson Rosenfeldt, PT, DPT, MBA

11:30 – 11:40am: ***Study design and use of commercial cycling technology for remote intervention*** – Anson Rosenfeldt, PT, DPT, MBA

11:40 - 11:50am: ***Participant characteristics, medication influences, and implementation challenges*** – Cielita Lopez-Lennon, PT, DPT

11:50am - 12:05pm: ***Motor and nonmotor results, clinical translation, and concluding discussion*** – Cielita Lopez-Lennon, PT, DPT

12:05 - 12:15pm: ***Adherence trends and strategies to sustain participation over 12 months*** – Lee Dibble, PhD, PT

12:15 – 12:30pm: ***Discussion and Q&A*** – All

ASNR2026 POSTER LISTING

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<u>Underlined names</u> indicate presenting author.

All posters will remain up in the Poster & Exhibit Hall for the duration of the conference. However, in the interest of making the space easily accessible to all during the poster receptions, poster presenters for odd-numbered posters will be present at their posters in the Poster & Exhibit Hall during Wednesday afternoon's poster reception, while presenters for even-numbered posters will be present at their posters during Thursday afternoon's poster reception.

P. 1 Understanding the interaction of gaze and error reduction during various movement phases in action execution following chronic stroke

<u>Layla Abdullatif1</u>, Maria Lindsey1, Veronica Rowe2, Lewis Wheaton1
1Georgia Institute of Technology, Atlanta, USA. 2Georgia State University, Atlanta, USA.

P. 2 Which Metrics Best Capture Spasticity's Impact During Gait to Inform Clinical Decision Making?

<u>J. Sebastián Correa1,2</u>, Natalia Sánchez3, Dana Lorenz1,2, Jake Stahl1,2, Kristine Hansen2, David Cunningham1,2, James Sulzer1,2
1Case Western Reserve University, Cleveland, USA. 2The MetroHealth System, Cleveland, USA. 3Chapman University, Irvine, USA.

P. 3 Does Presynaptic Inhibition Contribute to Spinal Reflex Excitability During Gait?

<u>J. Sebastián Correa1,2</u>, Ricardo Siu1, Dana Lorenz1,2, Kristine Hansen2, David Cunningham1,2, James Sulzer1,2
1Case Western Reserve University, Cleveland, USA. 2The MetroHealth System, Cleveland, USA.

P. 4 Distinct Sensorimotor Mechanisms Evoked by Before-Walk VS During-Walk Local Vibration

<u>Tseng Wan Yan</u>, Chou Li Wei
National Yang Ming Chiao Tung University, Taipei, Taiwan.

P. 5 Chatbot or Quackbot?: Therapists' Evaluation of an AI-Powered Chatbot Answering Stroke Rehabilitation Questions

<u>Juan C. Perez-Ibarra</u>, Luis Garcia-Fernandez, Andria Farrens, Vicky Chan, Guillem Cornella-Barba, Joshua Macopson-Jones, Jay J. Han, David Reinkensmeyer
University of California, Irvine, Irvine, USA.

P. 6 Predicting Upper Extremity Spasticity 90 Days After Stroke Using Decision Tree Models Integrating Motor Impairment And Corticospinal Integrity Measures

<u>Ergi Spiro1,2</u>, Xinrui Wang1, Jody A. Feld3,1, Ziping Huang1,2, Lei Zhu1, Salman Ikramuddin1, Charalambos C. Charalambous1, Wayne Feng1
1Department of Neurology, Duke University, Durham, USA. 2Department of Biomedical Engineering, Duke University, Durham, USA. 3Department of Orthopaedic Surgery, Duke University, Durham, USA.

P. 7 Lesion-Based Evidence That Top-Down Connections From the Language Network Support Posterior Visual Word Form Area Function

Sara Dyslin1, Andrew DeMarco1, Ryan Staples1, Peter Turkeltaub1,2
1Georgetown University Medical Center, Washington D.C., USA. 2MedStar National Rehabilitation Hospital, Washington D.C., USA.

P. 8 Correlates Of Corticospinal Wallerian Degeneration And Its Relation To Therapy Response

Abraham Madjidov1, Abigail Hay1, Wuwei Feng2, Anant Shinde1, Sirisha Nouduri3, Muhammed Enes Gunduz4, Christy Cassarly5, Veronica Rowe6, Stacy Fritz7, Steve Wolf8, Joseph Broderick9, Gottfried Schlaug1
1University of Massachusetts Chan Medical School-Baystate, Springfield, USA. 2Duke University School of Medicine, Durham, USA. 3University of Pittsburgh School of Medicine, Pittsburgh, USA. 4Yale School of Medicine, New Haven, USA. 5Medical University of South Carolina, Charleston, USA. 6Georgia State University, Atlanta, USA. 7University of South Carolina, Columbia, USA. 8Emory University, Atlanta, USA. 9University of Cincinnati Gardner Neuroscience Institute, Cincinnati, USA.

P. 9 Are Abnormal P300 Responses In Stroke Survivors With Aphasia Specific To Linguistic Stimulus Processing?

Andrew DeMarco, Zoe White, Sophie Steinberg, Elizabeth Anderson
Georgetown University, Washington DC, USA.

P. 10 Characterizing The Use Of A Suspension Walker By Pre-Walking Infants With Down Syndrome And Their Caregivers During Free Play: Infant Stepping and Walker Movement

Christina Hospodar1, Annie Dishchyan2, Marcus Partida1, Florencia Enriques1, Aylin Paez1, Heather Feldner3, Julia Looper4, Kari Kretch1
1University of Southern California, Los Angeles, USA. 2UCLA, Los Angeles, USA. 3University of Washington, Seattle, USA. 4University of Puget Sound, Tacoma, USA.

P. 11 Remote Therapeutic Monitoring in Outpatient Rehabilitation: A Pilot Study

Allison E Miller, Carey L Holleran, Marghuretta D Bland, Brandon J Jensen, Keith R Lohse, Ellen Fitzsimmons-Craft, Thomas M Maddox, Catherine E Lang
Washington University, St. Louis, USA.

P. 12 Source-Level Resting-State EEG Connectivity in Post-Stroke Adults Following a 10-Week Gait Rehabilitation Program

Fares Al-Shargie1, Michael Glassen1, Gregory R. Ames2, Christina M. Dandola2, Karen J. Nolan2, Soha Saleh1
1Department of Rehabilitation and Movement Sciences, School of Health Professions, Rutgers University, Newark, USA. 2Center for Mobility and Rehabilitation Engineering, Kessler Foundation, Newark, USA.

P. 13 A Graphical User Interface for Editing Keypoints from Human Pose Estimation Algorithms

Zechen Yang1, Jan Stenum2, Rini Varghese1,3, Ryan Roemmich1,2
1Center for Movement Studies, Kennedy Krieger Institute, Baltimore, MD, USA. 2Department of Physical Medicine and Rehabilitation, Johns Hopkins University School of Medicine, Baltimore, MD, USA. 3Department of Neuroscience, Johns Hopkins University School of Medicine, Baltimore, MD, USA.

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P. 14 sEMG-based High-Resolution Gesture Decoding using Optimized Swin-Transformer Architectures
<u>Peiwen Fu1</u>, Giovanni Oppizzi1, Li-Qun Zhang1,2
1University of Maryland, College Park, College Park, USA. 2University of Maryland, Baltimore, Baltimore, USA.

P. 15 Detecting Recovering Hand Extension Intention Poststroke and Interpreting Shifts in Model Decision Patterns
<u>Peiwen Fu1</u>, Giovanni Oppizzi1, Dali Xu2, Soh-Hyun Hur2, Michael Penafiel1, Li-Qun Zhang1,2
1University of Maryland, College Park, College Park, USA. 2University of Maryland, Baltimore, Baltimore, USA.

P. 16 Associations Between Flexor Synergy Severity and Short/Long-Latency Stretch Reflex Excitability in Chronic Stroke
<u>Joohwan Sung1,2</u>, Mahmood Darvish1,2, Beni Mulyana1,2, Xiaoxi Chen1,2, Huan-Ting Peng1,2, Yuan Yang1,2,3,4,5
1Department of Bioengineering, Grainger College of Engineering, University of Illinois Urbana-Champaign, Urbana, USA. 2Carle Foundation Hospital, Urbana, USA. 3Beckman Institute for Advanced Science and Technology, University of Illinois Urbana-Champaign, Urbana, USA. 4Neuroscience Program, University of Illinois Urbana-Champaign, Urbana, USA. 5Carle Illinois College of Medicine, University of Illinois Urbana-Champaign, Urbana, USA.

P. 17 Subthreshold Vibration as a Noninvasive Sensory Intervention to Suppress Spasticity in Chronic Stroke
<u>Joohwan Sung1,2</u>, Mahmood Darvish1,2, Beni Mulyana1,2, Xiaoxi Chen1,2, Huan-Ting Peng1,2, Yuan Yang1,2,3,4,5
1Department of Bioengineering, Grainger College of Engineering, University of Illinois Urbana-Champaign, Urbana, USA. 2Carle Foundation Hospital, Urbana, USA. 3Beckman Institute for Advanced Science and Technology, University of Illinois Urbana- Champaign, Urbana, USA. 4Neuroscience Program, University of Illinois Urbana-Champaign, Urbana, USA. 5Carle Illinois College of Medicine, University of Illinois Urbana-Champaign, Urbana, USA.

P. 18 Wrist-Worn Accelerometry Reveals Capacity–Performance Gaps in Real-World Hand Use Post-Stroke: Implications for Neurorehabilitation Trial Outcomes
<u>Estevan Nieto1</u>, Crystal Mendoza1, Yazbel Arriaga1, Kenya Flores1, Mia Montelongo1, Alejandra Hernandez1, Peter Lum2, Shashwati Geed3
1Department of Rehabilitation Sciences, The University of Teaxs at El Paso, El Paso, TX, USA. 2Department of Biomedical Engineering, The Catholic University of America, Washington, DC, USA. 3Department of Physical Therapy and Movement Science, The University of Teaxs at El Paso, El Paso, TX, USA.

P. 19 Stroke Lesion Morphology Influences Transcranial Direct-Current (tDS) Electric-Field Estimates: A Lesion-Accurate Modeling Pipeline and Study

Jose Roberto Torres Andrade1, Syed Qadri2, Alvaro Gurovich3, Matthew Edwardson4, Shashwati Geed3

1Interdisciplinary Health Sciences PhD Program, The University of Texas at El Paso, El Paso, TX, USA. 2Jefferson Moss-Magee Rehabilitation, Elkins Park, PA, USA. 3Department of Physical Therapy and Movement Sciences, The University of Texas at El Paso, El Paso, TX, USA. 4Department of Neurology, Georgetown University Medical Centre, Washington, DC, USA.

P. 20 Predicting Musculoskeletal Adverse Events During Moderate- to High-Intensity Gait Training in Chronic Stroke Using Baseline Clinical Characteristics

Daria Pressler1, Sarah M. Schwab-Farrell1, Oluwole Awosika1, Darcy S. Reisman2, Sandra A. Billinger3, Michael A. Riley1, Pierce Boyne1, On behalf of HST2 Investigators

1University of Cincinnati, Cincinnati, USA. 2University of Delaware, Newark, USA. 3University of Kansas Medical Center, Kansas City, USA.

P. 22 Impact of Reaching Angle and Hand Dominance on Robotic Upper-Limb Performance Metrics

Anjana Ganesh, Daniel Salinas, Kelsey Baker

The University of Texas Rio Grande Valley, Edinburg, USA.

P. 23 High-dose inpatient neurorehabilitation using gamified technologies: A multi-site quality improvement program

Mandy Bodily-Bartrum, Darla Perdue, Sue Olson

Vibra Healthcare, Mechanicsburg, USA.

P. 24 Assessing Wrist Flexor and Extensor Co-activation Variability in Healthy Controls On 2 Separate Days

Laura A. Houle1, Aaron N. Huynh, MS1,2, Henry Roloff1, Paige Hepple, BS1, Ania C. Busza, MD PhD1,2,3,4

1University of Rochester Medical Center, Department of Neurology, Stroke Division, Rochester, USA. 2University of Rochester School of Medicine and Dentistry, Department of Neuroscience, Rochester, USA. 3University of Rochester Medical Center, Department of Neurosurgery, Rochester, USA. 4University of Rochester Medical Center, Department of Physical Medicine & Rehabilitation, Rochester, USA.

P. 25 Restoring Upper Extremity Movement Following Spinal Cord Injury Using an Intracortical Brain-Computer Interface and a Soft Wearable Robot

Kushaal Rao1, Henry Jenkins1, Jacob Gusman1, Maarten Ottenhoff1, Ruixiang Li1, Alexander Acosta2, Lucille Panagos2, Andrew Dempsey2, Shane Allcroft1,3, Emilia Mann4, James Arnold4, David Pont-Esteban4, Harrison Young4, Umut Civici4, Connor McCann4, Conor Walsh4, Daniel Rubin2,4, John Simeral3,1, Carlos Vargas-Irwin1,3, Leigh Hochberg3,1,2,4

1Brown University, Providence, USA. 2Massachusetts General Hospital, Boston, USA. 3VA Providence Healthcare System, Providence, USA. 4Harvard University, Cambridge, USA.

P. 26 Posture And Task Modulation of Vestibular Evoked Myogenic Reflexes While Standing.

Ignacio Novoa, Kruti Vyas, Cristian Cuadra

University at Buffalo, Buffalo, USA.

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P. 27 Investigating The Role Of The Cerebellum In Facilitating Motor Learning In Parkinson's Disease
<u>Pooja C. Iyer</u>, Carolee Winstein, Beth E. Fisher
University of Southern California, Los Angeles, USA.

P. 28 Cognitive-Motor Dual-Task Assessments in People with Multiple Sclerosis: A Scoping Review
<u>Ehsan Sinaei</u>, Meaghan Costello, Liraz Arie, Jami Snow, Prudence Plummer
MGH Institute of Health Professions, Boston, USA.

P. 29 Relationships Between Physical Therapy Delivery Schedule During Acute Hospitalization for Stroke, Mobility Outcomes, and Discharge Destination
<u>Grace Bellinger1</u>, Kelly Daley1, Bingqing Ye1, Preeti Raghavan1, Margaret French2,1, Ryan Roemmich3,1
1Johns Hopkins University School of Medicine, Baltimore, USA. 2University of Utah, Salt Lake City, USA. 3Kennedy Krieger Institute, Baltimore, USA.

P. 30 Aging And The Art Of Letting Go: Selective Slowing Of Grip-Force Release In A Go/No-Go Force-Matching Task
<u>Syed Qadri1</u>, Jose Roberto Torres Andrade2, Seraphina Culp3, Beatrice Lee2, Peter Lum3, Shashwati Geed2
1Jefferson Moss-Magee Rehabilitation, Elkins Park, PA, USA. 2University of Texas - El Paso, El Paso, TX, USA. 3The Catholic University of America, Washington, DC, USA.

P. 31 Limitations of Visual Compensation for Proprioceptive Impairments in Individuals with Stroke
<u>Devin Austin</u>, Jennifer Semrau
University of Delaware, Newark, USA.

P. 32 Disrupted Prefrontal-Motor Coupling During Voluntary Arm Selection In Stroke Survivors With Learned Non-Use: A Case Study EEG Coherence Analysis
<u>Patience Yeboah</u>, Michelle Johnson
University of Pennsylvania, Philadelphia, USA.

P. 33 Learning From Lived Experience: Preliminary Findings on How Home and Community Immersions Transform Student Understanding of Brain Injury
<u>Netta Gurari1</u>, Skylar Connelley2, Shellie Cook2, Alexis Garner2, Logan Vance2, Lindsey Sydnor1, Nicole Pitterson1, James Sulzer3, Kevin Parcetich2
1Virginia Tech, Blacksburg, USA. 2Radford University, Roanoke, USA. 3Metro Health, Cleveland, USA.

P. 34 Development and Preliminary Testing of a Compact Stimulator for Objective Tactile Assessment
Nahid Kalantaryardebily, Ardalan Kahak, Scott Mahaney, Suyi Li, <u>Netta Gurari</u>
Virginia Tech, Blacksburg, USA.

P. 35 Hand Recovery in Subacute Stroke – Preliminary Results of the Role of Tonic GABAergic Modulation

Ariana Espinosa, Drake Laughlin, Mihaela Carmen Cirstea
University of Missouri, Columbia, USA.

P. 36 Objective Kinematic Measures of Bradykinesia in Parkinson's Disease Using Video-Based Movement Analysis

Jan Stenum[1], Jeff Yang[2], Macie Hakim[3], Ayah Syeed[4], Brooke Hall[1], Lauryn Currens[1], Alex Pantelyat[1], Ryan Roemmich[1,2]
1The Johns Hopkins University School of Medicine, Baltimore, USA. 2Kennedy Krieger Institute, Baltimore, USA. 3University of Pittsburg, Pittsburgh, USA. 4Ohio University, Cincinnati, USA.

P. 37 Combining Visual Biofeedback with Fast Walking in People with Chronic Stroke

Christina K. Holl, Nicolas Schweighofer, James M. Finley, Kristan A. Leech
University of Southern California, Los Angeles, USA.

P. 38 Learning Context Impacts the Generalization of Motor Memories in Walking

Adwoa Awuah, Gelsy Torres-Oviedo
University of Pittsburgh, Pittsburgh, USA.

P. 39 Considerations for the accurate assessment of motor unit firing properties in studies with force feedback.

Alex T. Benedetto[1,2,3], Sophia T. Jenz[1], Matthew T. Farley[2], Bradley S. Heit[1], James A. Beauchamp[4], Charles J. Heckman[1,2], Monica A. Perez[1,2,3], Gregory E. P. Pearcey[5]
1Northwestern University, Chicago, IL, USA. 2Shirley Ryan Ability Lab, Chicago, IL, USA. 3United States Department of Veterans Affairs, Hines, IL, USA. 4Carnegie Mellon University, Pittsburgh, PA, USA. 5Memorial University of Newfoundland, St Johns, NL, Canada.

P. 40 Bilateral tDCS effects on corticospinal excitability vary with motor impairment severity after chronic stroke.

Jisung Yuk[1,2], Rifeng Jin[1,3,2], Justin McCurdy[1,2], David Cunningham[1,3,2]
1The MetroHealth System, Case Wetsern Reserve University School of Medicine, Department of Physical Medicine and Rehabilitation, Cleveland, USA. 2Cleveland FES Center, Cleveland, USA. 3Case Western Reserve University, Department of Biomedical Engineering, Cleveland, USA.

P. 41 Intensity- and Frequency-Dependent Reduction of Spasticity by Continuous Transcutaneous Spinal Stimulation in Individuals with Chronic Spinal Cord Injury

Matthias Krenn[1], Allegra Latimer[1], Keith Tansey[2], Dobrivoje Stokic[3]
1University of Mississippi Medical Center, Jackson, USA. 2Department of Veterans Affairs Medical Center, Jackson, USA. 3Methodist Rehabilitation Center, Jackson, USA.

P. 42 Predicting Online Motor Learning After Stroke - Using Machine Learning

Anjali Tiwari[1], Stefan Delmas[1], Hunter Paxtion[2], Prasoon Diwakar[2], Gaurav Misra[1], Neha Lodha[1]
1Colorado State University, Fort Collins, USA. 2South Dakota School of Mines & Technology, Rapid City, USA.

Regency Ballroom West
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<u>Underlined names</u> indicate presenting author.

P. 43 Cross-sectional Relationship Between Perivascular Space Morphology and Post-Stroke Sensorimotor Outcomes: An ENIGMA Analysis

<u>Stuti Chakraborty1</u>, Giuseppe Barisano2, Jeiran Choupan3, Amisha Kumar4, Mahir H. Khan5, Octavio Marin-Pardo1, Ashley Catchpole1, Bethany P. Tavenner6, Aisha Abdullah A.7, Justin W. Andrushko8, Michael R. Borich9, Lara A. Boyd10, Amy Brodtmann11, Cathrin M. Buetefisch12, Jessica M. Cassidy13, Adriana B. Conforto14,15, Steven C. Cramer16,17, Martin Domin18, Adrienne Dula A.19, Jennifer K. Ferris20, Fatemeh Geranmayeh21, Brenton Hordacre22, Steven A. Kautz23,24, Martin Lotze18, Fabrizio Piras25, Kate P. Revill26, Andrew Robertson27, Emily Rosario28, Heidi Schambra29,30, Na Jin Seo24, Maria Mataro Serrat31, Surjo R. Soekadar32, Shraddha Srivastava33, Daniela Vecchio25, Emilio Werden34, Lars T. Westlye35,36, Carolee J. Winstein37,38, George F. Wittenberg39,40, Neda Jahanshad41, Sophia I. Thomopoulos41, Paul M. Thompson41, Sook-Lei Liew1,37,3,41,42

1Chan Division of Occupational Science and Occupational Therapy, University of Southern California, Los Angeles, USA. 2Department of Neurosurgery, Stanford University, Stanford, USA. 3Department of Neurology, University of Southern California, Los Angeles, USA. 4Dornsife College of Letters, Arts and Sciences, University of Southern California, Los Angeles, USA. 5Neuroscience Graduate Program, University of Southern California, Los Angeles, USA. 6Department of Psychology, University of California Riverside, Riverside, USA. 7Occupational Therapy Studios, Los Angeles, USA. 8School of Sport, Exercise and Rehabilitation, Faculty of Health and Wellbeing, Northumbria University, Newcastle upon Tyne, United Kingdom. 9Division of Physical Therapy, Department of Rehabilitation Medicine, Emory University School of Medicine, Atlanta, USA. 10Department of Physical Therapy, University of British Columbia, Vancouver, Canada. 11Department of Neuroscience, School of Translational Medicine, Monash University, Melbourne, Australia. 12Department of Neurology, Emory University School of Medicine, Atlanta, USA. 13Department of Physical Therapy, University of North Carolina at Chapel Hill, Chapel Hill, USA. 14Hospital das Clínicas, São Paulo University, São Paulo, Brazil. 15Hospital Israelita Albert Einstein, São Paulo, Brazil. 16Department of Neurology, David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, USA. 17California Rehabilitation Institute, Los Angeles, USA. 18Functional Imaging Unit, Department for Radiology and Neuroradiology, University Medicine Greifswald, Greifswald, Germany. 19Department of Neurology, Dell Medical School, The University of Texas at Austin, Austin, Austin, USA. 20Gerontology Research Center, Simon Fraser University, Vancouver, Canada. 21Department of Brain Sciences, Imperial College London, London, United Kingdom. 22Innovation, Implementation and Clinical Translation (IIMPACT) in Health, Allied Health and Human Performance, University of South Australia, Adelaide, Australia. 23Ralph H Johnson VA Health Care System, Charleston, USA. 24Department of Health Sciences and Research, Medical University of South Carolina, Charleston, USA. 25Neuropsychiatry Laboratory, Department of Clinical Neuroscience and Neurorehabilitation, IRCCS Santa Lucia Foundation, Rome, Italy. 26Facility for Education and Research in Neuroscience, Emory University, Atlanta, USA. 27Department of Kinesiology, University of Waterloo, Waterloo, Canada. 28Casa Colina Research Institute, Pomona, USA. 29Department of Neurology, NYU Grossman School of Medicine, New York City, USA. 30Department of Rehabilitation Medicine, NYU Grossman School of Medicine, New York City, USA. 31Department of Psychology and Psychobiology, University of Barcelona, Barcelona, Spain. 32Clinical Neurotechnology Laboratory, Department of Psychiatry and Neurosciences (CCM), Charité - Universitätsmedizin Berlin, Berlin, Germany. 33Courage Kenny Rehabilitation Institute,

Allina Health, Minneapolis, USA. 34Florey Department of Neuroscience and Mental Health, University of Melbourne, Melbourne, Australia. 35Department of Psychology, University of Oslo, Oslo, Norway. 36Center for Precision Psychiatry, Division of Mental Health and Addiction, Oslo University Hospital, Oslo, Norway. 37Division of Biokinesiology and Physical Therapy, University of Southern California, Los Angeles, USA. 38Department of Neurology, Keck School of Medicine, University of Southern California, Los Angeles, USA. 39Department of Neurology, University of Pittsburgh, Pittsburgh, USA. 40Department of Veterans Affairs Geriatrics Research Educational & Clinical Center, Veterans Affairs Pittsburgh Healthcare System (VAPHS), Pittsburgh, USA. 41Imaging Genetics Center, Mark and Mary Stevens Neuroimaging and Informatics Institute, Keck School of Medicine, University of Southern California, Los Angeles, USA. 42Department of Biomedical Engineering, Viterbi School of Engineering, University of Southern California, Los Angeles, USA.

P. 44 Estimating Musculotendinous properties of the Arm Post-Stroke via Bayesian Hill-type models

Yi Yu1, Yannick Darmon2,3, Russell Johnson4,2, Carolee Winstein2, Victor Barradas5, Emily Rosario3, Gerald Loeb6, James Finley2, Nicolas Schweighofer2
1Division of Biokinesiology and Physical Therapy, University of Southern California, Los Angeles, USA. 2Division of Biokinesiology and Physical Therapy, University of Southern California, Los Angeles, USA. 3Casa Colina Research Institute, Los Angeles, USA. 4Department of Physical Medicine and Rehabilitation, Northwestern University, Chicago, USA. 5Institute of Systems and Information Engineering, University of Tsukuba, Tsukuba City, Japan. 6Alfred E. Mann Dept. of Biomedical Engineering, University of Southern California, Los Angeles, USA.

P. 45 Impaired Proprioception of Individual Digits Post Stroke

Soh-Hyun Hur1, Giovanni Oppizzi2, Dali Xu1, Joshua Mathew2, Sahith Mada2, Xiaoyan Li2, Derek Kamper3, Li-Qun Zhang1
1University of Maryland, Baltimore, USA. 2University of Maryland, College Park, USA. 3North Carolina State University, Raleigh, USA.

P. 46 Targeted Remediation of the Ipsilesional Arm in Chronic Stroke: A Randomized Clinical Trial

Candice Maenza1,2, Carolee Winstein3, Terrence E. Murphy1, Nick M. Kitchen1,2, Jennifer Tanaka3, Jisung Yuk4, Rini Varghese5, Robert L. Sainburg2,1
1Penn State College of Medicine, Hershey, USA. 2Pennsylvania State University, University Park, USA. 3University of Southern California, Los Angeles, USA. 4Case Western Reserve University School of Medicine, Cleveland, USA. 5Johns Hopkins School of Medicine, Baltimore, USA.

P. 47 Effects of an Adaptive Exercise Program on Inflammation after Spinal Cord Injury.

Amanda Herrmann, Ella Chrenka, Lap Pui Chung, Steven Jackson, Samantha Sherman, Samuel Swanson, Ricky Lopez, Andrew Rapacz, Aleta Svitak, Marny Farrell, Ingrid Bentley, Srishti Seth, Leah Hanson
HealthPartners Institute, St. Paul, USA.

P. 48 Improved Gait Function is Associated with Changes in Primary Motor (M1) and Cerebellar Seed-based Functional Connectivity in Response to Gait Therapy Paired with tDCS for Chronic Deficits after Stroke

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P. 49 Seed-based Functional Connectivity Biomarkers of Response to Gait Therapy with and without Bihemispheric Transcranial Direct Current Stimulation (tDCS) for Chronic Deficits after Stroke: Findings from a Randomized Controlled Trial
<u>Jessica McCabe1</u>, Sarah Carr2, Margaret Skelly1, Ahlam Salameh1,3, Lisa Leonhardt1, Terri Hisel1, Svetlana Pundik1,4
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P. 50 Optimization and Personalization of Cerebellar Transcranial Direct Current Stimulation (tDCS) to Achieve Consistent and Precise Electrical Field (E-Field) in the Intended Targeted Regions for Pairing with Rehabilitation Therapy Post Stroke.
<u>Margaret Skelly1</u>, Jessica McCabe1, Marom Bikson2, Ahlam Salameh3, Lisa Leonhardt1, Terri Hisel1, Svetlana Pundik1,4
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P. 51 The Effects of Motor Module-Guided Exercise on Spinal Motoneuronal Activation in Stroke: A Pilot Study
Sean Chakraborty1, Supraja Vaidhyanathan1, Manuel Portilla-Jiménez1, Gang Seo2, Michael Houston3, Yoon No Gregory Hong1, Sheng Li4, Hyung-Soon Park5, Yingchun Zhang3, Martina Coscia6, <u>Jinsook Roh1</u>
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P. 53 Neural Substrates of Arm Nonuse Post-stroke
<u>Rachana Gangwani1</u>, Alex DeAngelis1, Shauna Zodrow1, Apoorva Kelkar2, John Medaglia2, Branch Coslett3, Shailesh Kantak4, Laurel Buxbaum1
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P. 54 Clinical Predictors of Distal Motor Evoked Potential Status in Chronic Stroke
<u>Sean Li1</u>, Xin Li2, Yanjun Wu3, Morgan Widina3, Kyle O'Laughlin3, Jia Liu3, Ela Plow3
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P. 55 Similarities Between Abnormal Resting Arm Posture After Stroke and Resting Arm Posture in Healthy Individuals

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P. 56 Specificity of Agonist-Antagonist Muscle Activation During Reactive Balance Recovery Declines with Aging

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P. 57 Speed-Dependent Modulation of Soleus H-reflexes During Gait in Older Adults and Stroke Survivors

Bridgette Damewood, Alexandra Slusarenko, Trisha Kesar, Mark Lyle
Emory University, Atlanta, USA.

P. 58 Building an Autonomous AI Workflow to Design a Database of Rehabilitation Science Variables

Octavio Marin-Pardo, Mahir H. Khan, Katherine Loomis, Stuti Chakraborty, Sri Vaishnavi Arza, Sook-Lei Liew
University of Southern California, Los Angeles, USA.

P. 59 Modeling Individual Motor Recovery From Daily Digital Assessments During Early Stroke Rehabilitation

Anica Tillu1, Lorie Brinkman2,3, Marc Feldman2,3, Natalie Olivares2,3, Andrea Stehman2,3, Isabel Cardoso Ferreira2,3, Christina Holl2,3, Megan Atkinson2,3, Anne Schwarz2,3, Genevieve Kras2,3, Nina Soleimani2,3, Vu Le2,4, Michael Su2,3, Steven Cramer2,3
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P. 60 Acute Intermittent Hypoxia Augments Ankle Strength in People with Multiple Sclerosis

Aravind Nehrujee1,2, Rachel Kalvakota1, Kailynn Mannella1,2, Leah O'Shea1, Alexander Barry1, William Zev Rymer1,2, Alexander Nemeth2, Bruce Cohen2, Molly Bright2, Milap Sandhu1,2
1Shirley Ryan AbilityLab, Chicago, USA. 2Northwestern University, Chicago, USA.

P. 61 Lateralization matters in early Parkinson's Disease: early left- vs. right-side motor symptoms coincide with distinct bimanual functional motor deficits

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P. 62 Intensifying Subacute Tetraplegia Rehabilitation: Participant Experience with Activity-Based Therapy and Transcutaneous Spinal Cord Stimulation
<u>Caroline Perron1,2</u>, Julie Restout1,2, Lucie Chesné2, Héloïse Bourgeois2, Julie Comtois2, Nancy Dubé2, Diana Zidarov1,2, Dorothy Barthélemy1,2, Marika Demers1,2
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P. 63 Cortical Correlates Of Attention Allocation In People With Parkinson's Disease
Melissa Pool, <u>Sarah J Conklin</u>, Yi-Fang Chiu, Jason K Longhurst
Saint Louis University, St. Louis, USA.

P. 64 The REAP Algorithm for Real-World Arm Use Prediction after Stroke
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P. 65 Neurophysiological Signatures of Reduced Persistent Post-Traumatic Headaches in Response to Repetitive Transcranial Magnetic Stimulation in Mild Traumatic Brain Injury
<u>Julia X. Ivanick1,2</u>, Yi-Ling Kuo1
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P. 66 Feasibility And Preliminary Efficacy Of Dynamic Treadmill Walking For Improving Propulsion Symmetry In Post-Stroke Gait
<u>Brooke Hall1,2</u>, Caitlin Banks1,2, Ryan Roemmich1,2
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P. 67 Plasma Brain-Derived Tau as a Prognostic Biomarker in Ischemic Stroke Recovery
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P. 68 Impaired Proprioception After Stroke Affects The Ability To Perform Complex, Sequenced Movements
<u>Amelia Decarie1</u>, Joanna E. Hoh1, Tarkeshwar Singh2, Jennifer A. Semrau1
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P. 69 Structural and functional connectivity after stroke and in association with behavior

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P. 70 Stroke- and Age-related Effects on Robotic Guidance-based Motor Skill Learning

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P. 71 Neural and Behavioral Effects of Prism Adaptation in Individuals with Post-stroke Spatial Neglect

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P. 72 Chronic Upper Extremity Co-Activation Is Associated With Functional Outcomes For Stroke Survivors

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P. 73 Descending Cortical Modulation of Spinal Sensorimotor Circuitry in Individuals Post-Stroke

Vyoma Parikh, Camille Guzman, Alejandro Lopez, Michael Borich, Trisha Kesar
Emory University, Atlanta, USA.

P. 74 A TMS-Based Responsiveness Classification to Differentiate Corticospinal Integrity in Individuals with Chronic Moderate-to-Severe Stroke

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P. 75 Thalamocortical Pathway Injury Independently Affects Motor Function: Implications for Rehabilitation

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Columbia University, New York, USA.

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P. 76 Deficits in Executive Function Selectively Contribute to Upper Extremity Motor Impairment After Stroke
<u>Julie DiCarlo</u>1,2, Daniel Barch1,2, Nathan Ward2, David Lin1
1Massachusetts General Hospital, Boston, USA. 2Tufts University, Medford, USA.

P. 77 Reactive Stepping Strategies During Lateral Slip Perturbations in People With Multiple Sclerosis
<u>Jiyun Ahn</u>, Daniel Peterson
Arizona State University, Pheonix, USA.

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<u>Jiaxin JIANG</u>, Yawen CHEN, Meizhen HUANG
Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Hong Kong.

P. 79 Wearable Devices for Upper Extremity Rehabilitation After Stroke: A Systematic Review and Meta-Analysis of Randomized Clinical Trials
<u>Marianna Leite</u>1, Rafael Eduardo Streit2, Pedro Reginato2, Elizabet Weba3, Maria Theresa Leal Galvão4, Vivian Gagliardi5, Michel F. Machado6
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P. 80 Closing the Gap in Stroke Recovery: Data Science and Analytics for Precision Rehabilitation (DAPR)
<u>Keith Lohse</u>1, James Finley2, Octavio Marin-Pardo2, Sook-Lei Liew2
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P. 81 Brain-Behavioral Relationships Post-Stroke: Preliminary Results From A Backward Walking Training Program
<u>Dorian Rose</u>1,2,3, Abigail Water1,2, Kelly Hawkins1,2, John Williamson1,2, Ronald Cohen1,2
1University of Florida, Gainesville, USA. 2Malcom Randall VAMC, Gainesville, USA. 3Brooks Rehabilitation, Jacksonville, USA.

P. 82 "Where would you stimulate?" Beliefs about anatomical relevance for enhancing motor performance with non-invasive electrical stimulation
<u>Bernardo Villa-Sánchez</u>1, Andrew Hooyman2, Seth Hays3, Sydney Schaefer1
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P. 83 Expectancy Effects of Transcranial Direct Current Stimulation on Motor Skill Learning

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P. 84 Where did you go? Factors Associated with Deviations in Recommended versus Actual Post-Acute Discharge Location

Kiersten M. McCartney1,2, Ruiqi Yan1,2, Rujula Upasani 3, Stephen Hampton1, Robert E. Burke1,2, M. Kit Delgado1,2, Kimberly J. Waddell1,2,4
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P. 85 Use of computer vision to augment post-stroke upper limb assessment of bilateral tasks.

Desmond Asante, Shelby Ziccardi, Stephen Guy, Rachel Hawe
University of Minnesota, Minneapolis, USA.

P. 86 Effect Of EMG-Triggered Robot-Assisted Rehabilitation Targeting The Shoulder Joint On Muscle Synergies In Chronic Stroke Survivors With Moderate-To-Severe Upper-Limb Motor Dysfunction

Margaux Noémie Lafitte1, Hideki Kadone2, Masakazu Taketomi2, Yukiyo Shimizu3, Chun Kwang Tan1, Shigeki Kubota4, Yasushi Hada3, Kenji Suzuki5, Masashi Yamazaki4
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P. 87 Electroencephalogram Beta-Frequency Band Is Associated With Proprioceptive Processing And Recalibration Of Passive Finger Movements

Hunter Hayes1, Monica Torricella2,1, David Reinkensmeyer1, Disha Gupta3,4, Andria Farrens5,1
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P. 88 Evolution Of Three Distinct Motor Learning Processes At Different Stages Of Stroke Recovery: A Feasibility Study

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P. 89 Multi-session Transcranial Alternating Current Stimulation to Improve Dual-task Standing in Older Adults with MCI

Devon Derrenbacher1, Brady Thomas1, Brad Manor2, Alvaro Pascual-Leone2, Melike Kahya1
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P. 90 Longitudinal Validity of Upper Limb Wearable Movement Sensor Metrics Across Rehabilitation Populations in Preparation for Transitioning Sensors into Routine Clinical Use

<u>Catherine Lang1</u>, Marghuretta Bland1, Caitlin Newman2, Christine Gordon1, Carey Holleran1, Allison Miller1, Chelsea Macpherson1, Christopher Dy1, Lindsay Peterson1, Keith Lohse1
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P. 91 Cognitive and Motor Impairment Patterns among HIV+ Adults with and without Stroke in Botswana

<u>Michelle J. Johnson1,2</u>, Rochelle Mendonca3, Frances Shofer1, Ngadzi Goitsemang2, Lefika Bothomilwe2, Ntsatsi Mogorosi2, Justus Mackenzie Nthitu4, Cassandra Ocampo-Ilagan5, Billy Tsima5, Lingani Mbakile-Mahlanza5, Maikutlo Kebaetse5
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P. 92 Multiplayer Robotic Gaming: A New Direction for Community-Based Stroke Rehabilitation

Erica Waters1, Nova Meng1, Natalia Stroutinsky Sobotka2, Pamela Z. Cacchione1,3,4,5, Rochelle J. Mendonca6, <u>Michelle J. Johnson1</u>
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P. 93 Neurotransmitter Imbalance from MRSI in Chronic Hemiparetic Stroke: A Pilot Study

<u>Rita Huan-Ting Peng1,2</u>, Yudu Li1, Yibo Zhao1, Zhi-Pei Liang1, Yuan Yang1,2
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P. 94 Neural contributors to impaired interlimb coordination in people with chronic stroke

<u>Brice Cleland</u>, Natalya Brown, Sangeetha Madhavan
University of Illinois Chicago, Chicago, USA.

P. 95 Movement-Informed Closed-Loop Beta Frequency tACS in Chronic Stroke Survivors.

<u>Demi Brizee1,2</u>, Zeyu Xu1,2, Min Wu2, Nicholas Shackle1, Lara Biller1,2, Grace Kimber2, Nina Hilton2, Tessa Yates2, Gabriel Manrique Gutierrez2, Faye Tabone1,2, Andrew Sharott1, Anton Pick2,3, Melanie Flemming1,2, Catharina Zich1,2, Charlotte Stagg1,2
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P. 96 Adaptive Coping needs and strategies identified in studies of people living with the effects of stroke differ from interventions developed to address coping for people post stroke: An analysis of results from a scoping review using coping skill domains and ICF categories.

Julie Schwertfeger1, Rikhil Makwana2
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P. 97 Bilateral Coordination Assessment: A Survey of Physical and Occupational Therapists

Bernard Sam, Rachel Hawe
University of Minnesota, Minneapolis, USA.

P. 98 Lateralization of emotional prosody processing in adults with and without stroke to the right cerebral hemisphere

Sarah F. Phillips1,2, Ena V. Sullivan1, Anna Seydell-Greenwald1
1Georgetown University Medical Center, Washington, DC, USA. 2University of Arizona, Tucson, AZ, USA.

P. 99 Motor-based assessments of cognition are less susceptible to demographic effects than traditional memory tests in older adults

Sydney Schaefer1,2, Alexandra Reed3,2, Andrew Hooyman4, Lee Ryan5,2, Megan Johnson6, Matthew De Both6, Saurabh Sharma6, Darian Chambers6, Matthew Calamia7, Matthew Huentelman6,2
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P. 100 The unique impact of medication usage on processing speed versus verbal memory among a nation-wide cohort

Andrew Hooyman1, Megan Johnson2, Sydney Schaefer3, Lee Ryan4, Matt Huentelman2
1Chapman University, Irvine, USA. 2Translational Genomics Research Institute, Pheonix, USA. 3Arizona State University, Tempe, USA. 4University of Arizona, Tucson, USA.

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Jeremy Crenshaw, Grace Kellaher, Ryan Pohlig, Tamara Wright, Darcy Reisman
University of Delaware, Newark, DE, USA.

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Joshua Macopson-Jones, Ryan Baxter, Shravan Thaploo, Po Wang, An Do, Zoran Nenadic
UC Irvine, Irvine, USA.

P. 103 Implementing tDCS for aphasia rehabilitation after stroke

Melissa Howard, Daniel Humphrey, Niko Fullmer, David Patterson, Emily Rosario, Caroline Schnakers
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P. 104 EEG signatures of non-invasive vagus nerve stimulation in acute stroke: Preliminary data

Dionne Barajas, Jeanette Gumarang, Sara Delgado, David Patterson, Justin Phillips, Neha Dhadwal, Emily Rosario, Caroline Schnakers
Casa Colina Hospital and Centers for Healthcare, Pomona, USA.

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<u>Jessica Bath</u>, Valerie Block
University of California San Francisco, San Francisco, USA.

P. 106 Cortical Silent Period Duration Is Associated with Lower-Limb Motor Performance After Chronic Stroke
<u>Jacob Spencer</u>, Brice Cleland, Sangeetha Madhavan
University of Illinois Chicago, Chicago, USA.

P. 108 A Utility-Based Approach to Evaluate How Adults Weigh Effort and Risk During Walking
<u>Jackeline Tafur-Oviedo</u>, James Finley
University of Southern California, Los Angeles, USA.

P. 109 Vagus Nerve Stimulation Paired With Lower Limb Rehabilitation Improves Walking After Chronic Spinal Cord Injury: A Pilot Study
<u>Spencer Dunbar</u>1,2, Emmanuel Adehunoluwa1,3, Rhys Switzer1,2, Joseph Epperson1, Robert Rennaker1,3, Michael Kilgard1,3, Seth Hays1,2
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P. 110 Closed-Loop Vagus Nerve Stimulation Enhances Typing Performance and Fine-Motor Function in Chronic Spinal Cord Injury
<u>Saeid Kian</u>1,2,3, Joseph Epperson1, Zachary Bynum1,2,3, Robert Rennaker1,3, Seth Hays1,4,3, Michael Kilgard1,3
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P. 112 Characterizing FDA-Approved Home Movement Rehabilitation Devices And User Information Needs To Build A Stroke-Focused Neurotechnology Database
Luis Garcia-Fernandez1, Juan C. Perez-Ibarra1, Andria Farrens2,1, Vicky Chan1, Joshua Macopson1, <u>David Reinkensmeyer1</u>
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P. 113 Response Variability Of Gait Speed And Gait Quality Variables Following Post-Stroke Gait Training
<u>Alexandra Slusarenko</u>, Taniel Winner, Fisayo Aloba, Trisha Kesar
Emory University School of Medicine, Department of Rehabilitation Medicine, Division of Physical Therapy, Atlanta, USA.

P. 114 Sensorimotor mechanisms of perceptual fatigue in MS: a proof-of-principle pilot study

Liraz Arie, Ehsan Sinaei, Prudence Plummer
MGH Institute of Health Professions, Boston, USA.

P. 115 Motor-Cortical Beta Dynamics Differentiate Learners and Non-Learners During a Modified Serial Reaction Time Task: Preliminary Evidence Toward Personalized Neurorehabilitation

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P. 116 Early Appearance of Abnormal Arm Muscle Synergies after Stroke

Abed Khorasani1, Cynthia Gorski1, Richard Harvey2, Jinsook Roh3, Marc Slutzky1
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P. 117 Dosage and Intensity Patterns of Four Adjunctive Rehabilitation Technologies: Implications for Personalized Neurorehabilitation

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P. 118 Atypical Dual Task Neural Recruitment In Young Adult Athletes With Repeat Sports-Related Concussion

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Colorado State University, Fort Collins, USA.

P. 119 COMT Genotype Shapes Ipsilesional Functional Connectivity Underlying Post-Stroke Grip Strength

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P. 120 Task-Specific vs. Motor Component Training for Upper Extremity Recovery after Stroke: A Comparison Using Home-Based Sensor Systems

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P. 121 Relationship Between Muscle Tissue Quality and Activation Patterns Following Stroke: A Preliminary Study

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<u>Underlined names</u> indicate presenting author.

P. 122 A New Smartwatch App for Increasing Active and Diverse Exploratory Movement After Stroke: Feasibility and Added Value of Motivational Interviewing

Guillem Cornella-Barba, <u>Natanya Gunn</u>, Vicky Chan, David J. Reinkensmeyer
University of California Irvine, Irvine, USA.

P. 123 Examining the Role of Multiple Cognitive Factors and Explicit Locomotor Learning After Stroke

<u>Sidra Manzoor</u>1, Matthew Cohen2, Ryan Pohlig3, Susanne Morton4, Elizabeth Thompson4, Henry Wright4, Tamara Wright4, Darcy Reisman1,4
1Biomechanics & Movement Sciences (BIOMS), University of Delaware, NEWARK, USA. 2Department of Communication Sciences and Disorders, University of Delaware, NEWARK, USA. 3University of Delaware, Biostatistics Core, NEWARK, USA. 4Department of Physical Therapy, University of Delaware, NEWARK, USA.

P. 124 Characterizing the Relationship Between Upper Limb Proprioception, Motor Function, and Movement Self-Efficacy After Stroke

<u>Joanna E. Hoh</u>, Darcy S. Reisman, Jennifer A. Semrau
University of Delaware, Newark, USA.

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NIH Grant P50HD118628

The Center for Advancing Precision Neural Circuit-Based Rehabilitation (Neuro-PRECISE Center) is an NIH-funded rehabilitation research center at the Medical University of South Carolina. The center addresses a critical need to develop the knowledge and tools necessary to characterize, modulate, and rehabilitate dysfunctional neural circuits to restore function for individuals with physical, cognitive, and psychosocial disabilities. We aim to serve as a national resource for researchers to develop next-generation rehabilitation tools and interventions. To achieve these aims, the Neuro-PRECISE Center provides workshops, training initiatives, scientific retreats, and pilot project funding for researchers interested in pursuing precision neurorehabilitation.

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Precision Rehabilitation Across the Lifespan
A Partnership of Kennedy Krieger Institute and Johns Hopkins School of Medicine

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- Center for Advancing Precision Neural Circuit-Based Rehabilitation (Neuro-PRECISE) MUSC
- National Center for Foundational Artificial Intelligence for Rehabilitation (FAIR Center) Stanford
- Precision Rehabilitation Across the Lifespan, KKI
- Data Science and Analytics for Precision Rehabilitation (DAPR) Center, USC
- ENGAGED: Disability Community Engaged Medical Rehabilitation Research Center, UIC
- Disability Health Promotion Research Center, UAB

Representatives from centers will share about their research programs and hands-on resources and pilot grant programs for the broader rehabilitation community.

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Notes