WEDNESDAY - POSTER SESSION I

Wednesday, April 23, 2025 • 4:30pm – 6:30pm • Grand Ballroom West

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Underlined names indicate presenting author.

In the interest of making the Poster & Exhibit Hall space easily accessible to all, the posters will be divided into two groups to allow for more space between rows. Posters numbered 1-74 will be up for the first day, including Wednesday night's Poster Reception. Posters numbered 75-151 will be up for the second day, including Thursday night's Poster Reception.

P. 1 Validation of the Immersive Virtual Reality Lateralized Attention Test for Post-Stroke Neglect
Emily Grattan1, Grace Edwards2, Laurel Buxbaum3,4
1University of Pittsburgh, Pittsburgh, USA. 2National Institutes of Health, Bethesda, USA.3Jefferson Moss Rehabilitation Research Institute, Elkins Park, USA. 4Thomas Jefferson University, Philadelphia, USA.

P. 2 Validation of real-world actigraphy to capture post-stroke motor recovery.
Keith Lohse, Allison Miller, Marghuretta Bland, Jin-Moo Lee, Catherine Lang.
Washington University School of Medicine, Saint Louis, USA.

P. 3 Educating Students On Stakeholder Perspectives Following Brain Injury: A Preliminary Investigation With Graduate Engineers And Neuroscientist
Kevin Parcetich1, Lindsey Sydnor2, Haley Logan1, Jessica Ehret1, Garren Snow1, Nicole Pitterson2, James Sulzer3, Netta Gurari2
1Radford University, Roanoke, USA. 2Virginia Tech, Blacksburg, USA. 3Case Western Reserve University, Cleveland, USA.

P. 4 Using TENS to Remember: Sensory Stimulation Enhances Locomotor Adaptation Savings in Multiple Sclerosis
Andrew Hagen1, Tyler Whittier2, Jaclyn Stephens1, Brett Fling1
1Colorado State University, Fort Collins, CO, USA. 2Montana State University, Bozeman, MT, USA.

P. 5 The Role of Visuospatial Working Memory in Visual Feedback-Based Motor Corrections During Walking After Stroke
S Manzoor1, ED Thompson2, H Wright2, TR Wright2, AM Barela3, ML Cohen4, DS Reisman1
1Biomechanics & Movement Sciences (BIOMS), University of Delaware, Newark, USA. 2Department of Physical Therapy, University of Delaware, Newark, USA. 3Institute of Physical Activity and Sport Sciences, Cruzeiro do Sul University, Sao Paulo, Brazil. 4Department of Communication Sciences and Disorders, University of Delaware, Newark, USA.

P. 6 Perspectives of therapists on the design and delivery of the personalized integrated COgnitive-somatoSensory-Motor (iCOSMO) intervention to improve upper limb function after stroke: A qualitative study
Urvashy Gopaul, Mark Bayley
Toronto Rehabilitation Institute-KITE Research Institute, Toronto, Canada.

P. 7 Expectations of tDCS Efficacy on Motor Performance Are Modulated by Informational Priming and Prior TDCS Knowledge
Bernardo Villa-Sánchez1, Andrew Hooyman1,2, Sydney Schaefer1
1School of Biological and Health Systems Engineering, Arizona State University, Tempe, USA, 2Chapman University, Irvine, CA, USA.

P. 8 Neurophysiological Changes Associated with Gait Recovery in Incomplete Spinal Cord Injury: A Preliminary Analysis of TMS Measures
Mengdi Wang1, Kuan-Chun Liao1, Faith Meza2,3, Chad Swank2,3, Hui-Ting Goh1
1Texas Woman's University, Dallas, USA. 2Baylor Scott & White Research Institute, Dallas, USA. 3Baylor Scott & White Institute for Rehabilitation, Dallas, USA.

P. 9 Role of Lateralized Cognitive and Motor Deficits on Functional Independence Post Stroke
Pramisha Thapa1, Michele Darger1, Mark Folkertsma2, Scott Lunos3, Diane Chappuis4, Shanie Jayasinghe1
1Division of Physical Therapy and Rehabilitation Science, Department of Family Medicine and Community Health, University of Minnesota, Minneapolis, USA. 2Department of Radiology, University of Minnesota, Minneapolis, USA. 3Clinical and Translational Science Institute, University of Minnesota, Minneapolis, USA. 4Physical Medicine and Rehabilitation, Allina Health, Minneapolis, USA.

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P. 10 Usability and Reliability of a Novel Behavioral Test to Screen for Dementia Risk in Primary Care: A Step Towards Implementation
Sydney Schaefer1,2, Elizabeth Fauth3, Josey Batura3, Andrew Hooyman4, Jill Love2,5
1Arizona State University, Tempe, USA. 2Neurosessments LLC, Tempe, USA. 3Utah State University, Logan, USA. 4Chapman University, Irvine, USA. 5Peters & Love, Inc., Redondo Beach, USA.

P. 11 Current Potential: Functional Electrical Stimulation as a Tool for Motor Recovery and Diagnostic Insight in Functional Neurological Disorder
Ilana Wolf, Daniel Leet
Burke Rehabilitation Hospital, White Plains, USA.

P. 12 Towards A Comparative Study Of Diffusion MRI Models For Fibre Tracking Through Region Of Edema: Implications For Post-Stroke Neuroimaging
Parvathy Hareesh1, Isaac Prentiss1, Sasha Hakhu1, Leland Hu2, Yuxiang Zhou2, Leslie Baxter2, Edward Ofori1, Kurt Schilling3, Scott Beeman1, Sydney Schaefer1
1Arizona State University, Tempe, USA. 2Mayo Clinic, Phoenix, USA. 3Vanderbilt University, Nashville, USA.

P. 13 Pursuing Telerehabilitation: Early Feasibility of a Protocol for Post-Stroke Mixed Reality Training and Computer Vision Assessment
Justin Huber, Amanda Glueck
University of Kentucky, Lexington, USA.

P. 14 Personalized poststroke brain state-dependent TMS targeting the residual corticospinal tract is feasible
Uttara Khatri1, Tharan Suresh1, Vridhi Rohira1, Valeria Márquez Cárdenas1, Muskan Manesiya1, Michael Borich2, Sara J Hussain1
1University of Texas at Austin, Austin, USA. 2Emory University, Atlanta, USA.

P. 15 Drift in expectations about tDCS efficacy during online stimulation and motor training: Implications for placebo effects and mindfulness
Heidi Benson Rodríguez1, Bernardo Villa-Sánchez1, Andrew Hooyman2, Benedict Alter3, Nicole K. Haikalis1, Jessica L. Trevino1, Sydney Y. Schaefer1
1Arizona State University, Tempe, USA. 2Chapman University, Irvine, USA. 3University of Pittsburgh, Pittsburgh, USA.

P. 16 Reduced Capacity To Modulate Sensory Information Processing During Reactive Balance Control Is Associated With Lower Balance And Cognitive Set Shifting Ability In Aging And After Stroke
Jasmine Mirdamadi, Janna Protzak1,2, Lena Ting1,2, Michael Borich1
1Emory University, Atlanta, USA. 2Georgia Tech, Atlanta, USA.

P. 17 A Gamified Visuomotor Task Reveals Differences in Motor Performance and Learning among Children Born Preterm and Term
Cassandra Kemmel-Bartletti, Md. Raihan Mia, Sheikh Iqbal Ahamed, Naveen Bansal, Samuel Nemanich
Marquette University, Milwaukee, USA.

P. 18 Understanding the Effect of Upper Limb Proprioception on Paretic Arm Activity After Stroke
Joanna E. Hoh1,2, Darcy S. Reisman1,3, Jennifer A. Semrau1,2,4
1Interdisciplinary Graduate Program in Biomechanics and Movement Science, University of Delaware, Newark, USA. 2Department of Kinesiology and Applied Physiology, University of Delaware, Newark, DE, USA. 3Department of Physical Therapy, University of Delaware, Newark, DE, USA. 4Department of Biomedical Engineering, University of Delaware, Newark, DE, USA.

P. 19 Distinct patterns of neuroplasticity of sensorimotor network following gait therapy with versus without transcranial Direct Current Stimulation (tDCS)
Margaret Skelly1, Sarah Carr2, Jessica McCabe1, Ahlam Salameh1,3, Lisa Leonhardt1, Terri Hisel1, Svetlana Pundik1,4
1VA Northeast Ohio Healthcare System, Cleveland, USA. 2King's College, London, United Kingdom. 3Kent State University College of Podiatric Medicine, Kent, USA. 4Case Western Reserve University School of Medicine, Cleveland, USA.

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P. 20 Changes in white matter structure in response to gait therapy with and without transcranial Direct Current Stimulation (tDCS) in chronic stroke

Jessica McCabe1, Sarah Carr2, Margaret Skelly1, Ahlam Salameh1,3, Kelsey Duncan3,4, Lisa Leonhardt1, Terri Hisel1, Svetlana Pundik1,3

1VA Northeast Ohio Healthcare System, Cleveland, USA. 2King's College, London, United Kingdom. 3Case Western Reserve University School of Medicine, Cleveland, USA. 4University Hospitals of Cleveland, Cleveland, USA.

P. 21 Drawing With Either Hand Depends on a Left Hemisphere Motor-Premotor System, Regardless of Peripheral Impairment

Namarta Kapil1, Taewon Kim1,2, Samah Gassass1, Ruiwen Zhou1, Alexandre Carter1, Ian Dobbins1, Mark McAvoy1, Yong Wang1, Benjamin Philip1

1Washington University in St. Louis, St. Louis, USA. 2Pennsylvania State University, University Park, USA.

P. 22 The Differential Effects Of Fast Walking Speed On Muscle Coactivation In The Paretic And Non-paretic Extremities Post-stroke

Samantha N. Jeffcoat1, Andrian Kuch1, Andrew Hooyman1, Aria Haver-Hill2, Maryana Bonilla-Yanez2, Christina Holl2, Kristan Leech2,3, Natalia Sanchez1,4

1Chapman University, Irvine, USA. 2University of Southern California, Los Angeles, USA. 3Neuroscience Graduate Program, University of Southern California, Los Angeles, USA. 4Department of Electrical Engineering and Computer Science, Chapman University, Irvine, USA.

P. 23 Correlation Between Impairments and Motor Pathway Asymmetry in Chronic Hemiparetic Stroke

Rita Huan-Ting Peng1,2, Paul B. Camacho3, Brad Sutton1,3, Yuan Yang1,2,4

1Department of Bioengineering, Grainger College of Engineering, University of Illinois Urbana-Champaign, Urbana, USA. 2Clinical Imaging Research Center, Stephenson Family Clinical Research Institute, Carle Foundation Hospital, Urbana, USA. 3Beckman Institute for Advanced Science and Technology, University of Illinois Urbana-Champaign, Urbana, USA. 4Department of Physical Therapy and Human Movement Sciences, Northwestern University, Urbana, USA.

P. 24 Graded Intensity Aerobic Exercise To Improve Cerebrovascular Function And Cognition In Older Adults

Joe Nocera1,2, Keith McGregor3, Kevin Mammino1, Medina Bello1, Mark Vernon1, Thomas Novak1

1Center of Visual and Neurocognitive Rehabilitation (CVNR); Joseph Maxwell Cleland Atlanta VA Medical Center, Decatur, USA. 2Emory University, School Of Medicine, Atlanta, USA. 3The University of Alabama at Birmingham, Birmingham, USA.

P. 25 Quantifying An Explanatory Model For Balance Ability

Jasmine Cash1,2, Margaret French3, Mark Bowden4, Jesse Dean1,2, Steven Kautz1,2, Craig Velozo1, Bryant Seamon1,2

1Medical University of South Carolina, Charleston, USA. 2Ralph H. Johnson VA Medical Center, Charleston, USA. 3University of Utah, Salt Lake City, USA. 4Brooks Rehabilitation, Jacksonville, USA.

P. 26 Closed-loop Vagus Nerve Stimulation (CLV) Paired with Lower limb Rehabilitation Improves Walking after Chronic Incomplete Spinal Cord Injury: A Pilot Study

Emmanuel Adehunoluwa1,2, Spencer Dunbar1,3, Rhys Switzer1, Joseph Epperson1, Christi Stevens4, Chad Swank4, Jane Wigginton1, Amy Porter1, Robert Rennaker1,2, Seth Hays1,3, Michael Kilgard1,2

1Texas Biomedical Device Center, University of Texas at Dallas, Richardson, USA. 2School of Behavioral and Brain Sciences, University of Texas at Dallas, Richardson, USA. 3Erik Jonsson School of Engineering and Computer Science, University of Texas at Dallas, Richardson, USA. 4Baylor Scott & White Institute for Rehabilitation, Dallas, USA.

P. 27 A Computational Model To Predict Muscle Spindle Firing During Passive And Active Rhythmic Movements

Surabhi Simha, Tim Cope, Lena Ting

Emory & Georgia Tech, Atlanta, USA.

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P. 28 Relationship Between Self-reported Body Position and Arm Use Time in Chronic Stroke: An Ecological Momentary Assessment Study
Rushali Pandya1, Yi-An Chen2, Hui-Ting Goh3, Chih-Hsiang Yang1, Carolee Winstein4, Jill C. Stewart1
1University of South Carolina, Columbia, USA. 2Georgia State University, Atlanta, USA. 3Texas Women's University, Denton, USA. 4University of Southern California, Los Angeles, USA.

P. 29 The Cortical N1 Response to a Balance Disturbance is Associated with Anxiety and the Error-Related Negativity in Children
Aiden Payne1, N. Brad Schmidt1, Alex Meyer2, Greg Hajcak2
1Florida State University, Tallahassee, USA. 2Santa Clara University, Santa Clara, USA.

P. 30 Reduced coordination complexity and altered spatiotemporal coordination in post-stroke fingers
Patrick Ihejirika1, Michael Rosenberg2, Jing Xu1
1University of Georgia, Athens, USA. 2Emory University, Atlanta, USA.

P. 31 Assessing Presynaptic Inhibition of Spinal Reflex Circuits During Gait Post-Stroke
J. Sebastian Correa1,2, Ricardo Siu2, Dana Lorenz2, Shreya Ramani2, William Kozak2, David Cunningham1,2, James Sulzer1,2
1Case Western Reserve University, Cleveland, USA. 2The MetroHealth System, Cleveland, USA.

P. 32 Harnessing Wearable Technology for Stroke Recovery: Perspectives from Research Experts
Marika Demers1, Amelia Cain2, Tanisha Gunby2, Carolee Winstein2
1Université de Montréal, Montreal, Canada. Centre de Recherche Interdisciplinaire en Réadaptation du Montréal métropolitain, Montreal, Canada. 2University of Southern California, Los Angeles, USA.

P. 33 Development and Evaluation of a Non-Invasive Brain-Spine Interface Using Transcutaneous Spinal Cord Stimulation
Carolyn Atkinson, Lorenzo Lombardi, Meredith Lang, Rodolfo Keesey, Rachel Hawthorn, Zachary Seitz, Eric Leuthardt, Peter Brunner, Ismael Seáñez
Washington University in St. Louis, St. Louis, USA.

P. 34 Modulation of cortical beta burst dynamics predict reactive stepping behavior in older adults and show impairments after stroke
Jacquelyn VL Sertic1, Si-Yu Tsai1, Aiden M Payne2, Jasmine L Mirdamadi3, Lena H Ting3, Michael R Borich3, Jacqueline A Palmer1
1University of Minnesota, Minneapolis, USA. 2Department of Psychology, Florida State University, Tallahassee, USA. 3Emory University, Atlanta, USA.

P. 35 Slower reactive stepping kinematics are associated with delayed cortical evoked responses and lower behavioral performance during balance recovery after stroke
Si-Yu Tsai1, Aiden M Payne2, Jasmine L Mirdamadi3, Lena H Ting3, Michael R Borich3, Jacqueline A Palmer1
1University of Minnesota, Minneapolis, USA. 2Department of Psychology, Florida State University, Tallahassee, USA. 3Emory University, Atlanta, USA.

P. 36 Proof-of-concept of a Markerless Approach in Analyzing Upper Limb Kinematics in Tetraplegic Patients
Anne-Charlotte Desbarbieux1,2, Abolfazl Mohebbi1, Dorothy Barthélemy2,3, Diana Zidarov2,3, Youssef El Khamlichi2, Amedeo Ceglia2,3, Marika Demers2,3
1Polytechnique Montréal, Montreal, Canada. 2Centre de Recherche Interdisciplinaire en Réadaptation (CRIR), Montreal, Canada. 3University of Montreal, Montreal, Canada.

P. 37 Subgroups of Individuals with Stroke Characterized by Unique Functional Mobility Recovery Patterns
Margaret French1, Ryan Roemmich2,3, Preeti Raghavan3
1University of Utah, Salt Lake City, USA. 2Kennedy Krieger Institute, Baltimore, USA. 3Johns Hopkins University, Baltimore, USA.

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P. 38 Accelerated High-Frequency rTMS For Post-Stroke Fatigue: Protocol and Preliminary Findings
Jasmine Cash1,2, Korey Little1, Mark Bowden3, Chen Lin4,5, Lisa McTeague1,2, Steve Kautz1,2, John Kindred1,2
1Ralph H. Johnson VA Health Care System, Charleston, USA. 2Medical University of South Carolina, Charleston, USA. 3Brooks Rehabilitation, Jacksonville, USA. 4Birmingham VA Health Care System, Birmingham, USA. 5University of Alabama at Birmingham, Birmingham, USA.

P. 39 Relationship Between Trial-To-Trial Variability in Cognitive-Motor Task and Instrumental Activities Of Daily Living After Stroke
Anjali Tiwari, Stefan Delmas, Neha Lodha
Colorado State University, Fort Collins, USA.

P. 41 Self-Supervised Learning to Quantify Motor Control Strategies from Spatiotemporal Movement Trajectories in Young Children
Md Raihan Mia1, Sheikh Iqbal Ahamed1, Cassandra Kemmel-Bartletti2, Subarna Alam1, Samuel Nemanich2
1Department of Computer Science, Marquette University, Milwaukee, USA. 2Department of Occupational Therapy, Marquette University, Milwaukee, USA.

P. 42 Impact of Transcranial Photobiomodulation on Cortical Excitability in Chronic Stroke Survivors: A Pilot Study
Bokkyu Kim, Laura Sarkisian, Gabriella Walsh, Julia Ivanick, Yi-Ling Kuo
SUNY Upstate Medical University, Syracuse, USA.

P. 44 kTMP: A Novel Method of Non-Invasive Brain Stimulation to Enhance Motor Function with No Discomfort in Chronic Stroke Patients
Christina M Merrick1, Feiyang Dai1, Philipp Reber2, Saumya Singh2, Katheryn Thayer-Pham1, Angel V Peterchev3, Cidnee Luu1, Daniel Sheltraw1, Ludovica Labruna1, Richard B Ivry2, Karunesh Ganguly4
1Magnetic Tides, Inc., Berkeley, USA. 2University of California Berkeley, Departments of Psychology and Neuroscience, Berkeley, USA. 3Duke University, Departments of Psychiatry and Behavioral Sciences, Biomedical Engineering and Electrical and Computer Engineering, Durham, USA. 4University of California San Francisco, Department of Neurology, Weill Institute for Neuroscience, San Francisco, USA.

P. 45 The MouthPad^: A High Bandwidth Wearable Intra-oral Computer Interface
Suraj Gowda, Fernando del Campo, Julian Castellon, Randy Castellon, Corbin Halliwill, Jana Hemsing, Virgie Hoban, Shin Dawn Lo, Brian Loh, Gabi Munoz, Jose Pozuelo, Oscar Rosello, Corten Singer, Tomas Vega
Augmental Technologies, San Francisco, USA.

P. 46 The Influence of Action Observation on Sensorimotor Integration During Motor Performance
Layla Abdullatif, Maria Lindsey, Ethan Percell, Tia Tweh, Lewis Wheaton
Georgia Institute of Technology, Atlanta, USA.

P. 47 Replication of sensor-based categorization of upper-limb performance in daily life of people with stroke and its generalizability to other populations
Chelsea E. Macpherson1, Marghuretta D Bland1, Christine Gordon1, Allison E. Miller1, Caitlin Newman2, Carey L. Holleran1, Christopher J. Dy1, Lindsay Peterson1, Keith R. Lohse1, Catherine E. Lang1
1Washington University in St. Louis, St. Louis, USA. 2Shirley Ryan Ability Lab, Chicago, USA.

P. 48 Center of Mass-Driven Exoskeleton Control Scheme Generalizes Across Movement Contexts
Kristen Jakubowski1,2, Gregory Sawicki2,3, Lena Ting1,2
1Emory University, Atlanta, USA. 2Georgia Tech, Atlanta, USA. 3Institute for Human and Machine Cognition, Pensacola, USA.

P. 49 Remote-supervised Upper-extremity Motor Exercises (ReSUME) Training using Grip Sensor-based Exergaming Combined with Transcranial Direct Current Stimulation: A Case Series
Vikram Shenoy Handiru1,2, Sai Pamula2, Karen Nolan1,2
1Kessler Foundation, West Orange, USA. 2Rutgers New Jersey Medical School, Newark, USA.

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P. 50 Multivariate Machine-learning Approach for Predicting Hand Dexterity of the Affected Arm in Individuals with Acquired Brain Injury Using Diffusion Tensor Imaging

Vikram Shenoy Handiru1,2, Nichole Sanchez3, Easter Selvan Suviseshamuthu1,2, Soha Saleh4, Kirk Lercher5, Didier Allexandre6, Guang Yue1,2

1Kessler Foundation, West Orange, USA. 2Rutgers New Jersey Medical School, Newark, USA. 3Montclair State University, Montclair, USA. 4Rutgers Health School of Health Professions, Newark, USA. 5Kessler Institute for Rehabilitation, West Orange, USA. 6Meta Reality Labs, Burlingame, USA.

P. 52 Transient Effects In Corticospinal And Reticulospinal Excitability Induced By Motor-Skill And Isometric Resistance Training

Rachel Hawthorn, Carolyn Atkinson, Meredith Lang, Rodolfo Keesey, Haolin Nie, Zachary Seitz, Ismael Seáñez

Washington University in St. Louis, St. Louis, USA.

P. 53 Optimizing Electric Field Modeling to Advance Neuromodulation Interventions in Chronic Stroke

Diego E. Arias, Alex Ford, Kevin A. Caulfield, Whitney Washington, Seth Stalcup, Kirstin-Friederike Heise

Medical University of South Carolina, Charleston, USA.

P. 54 Cerebellar DBS Promotes Corticomotor Excitability in Chronic Post-Stroke Survivors - A DBS + TMS Study

Xin Li1, Kenneth Baker2,3, Kyle O'Laughlin1, Yin-Liang Lin1,4, Kelsey Baker1,5, Robert Chen6,7, Jacqueline Chen8, Andre Machado2,9, Ela B. Plow1,2,10

1Department of BME, Cleveland Clinic, Cleveland, USA. 2Center for Neurological Restoration, Neurological Institute, Cleveland Clinic, Cleveland, USA. 3Department of Neurosciences, Lerner Research Institute, Cleveland Clinic, Cleveland, USA. 4Department of Physical Therapy and Assistive Technology, National Yang Ming Chiao Tung University, Taipei, China. 5Department of Neuroscience, School of Medicine, University of Texas Rio Grande Valley, Rio Grande Valley, USA. 6Krembil Research Institute, University Health Network, Toronto, Canada. 7Division of Neurology, Department of Medicine, University of Toronto, Toronto, Canada. 8Department of Diagnostic Radiology, Cleveland Clinic, Cleveland, USA. 9Department of Neurosurgery, Neurological Institute, Cleveland Clinic, Cleveland, USA. 10Cleveland Clinic Rehabilitation Hospitals (CCRH), Department of PM&R, Cleveland Clinic, Cleveland, USA.

P. 55 A Novel Co-contraction Index Analysis Reveals a Phasic Role of Intermuscular Coherence During Elbow Extension in People with Chronic Motor Deficits After Stroke

Ahlam Salameh1,2,3, Joshua Pollock4, Margaret Skelly3,5, Lisa Leonhardt5, Jessica McCabe5, Svetlana Pundik2,3,5

1Kent State University College of Podiatric Medicine, Independence, USA. 2Case Western Reserve University, Cleveland, USA. 3Cleveland FES Center, Cleveland, USA. 4Kent State University, Kent, USA. 5VA Northeast Ohio Healthcare System, Cleveland, USA.

P. 56 Integrating Sleep-Based Targeted Memory Reactivation with Myoelectric Interface Neurorehabilitation to Enhance Stroke Recovery

Abed Khorasani, Cynthia Gorski, Prashanth Prakash, Jason Huang, Nathan Whitmore, Ken Paller, Marc Slutzky

Northwestern University, Chicago, USA.

P. 57 Optimized EEG Channel Selection and Multidimensional Analysis for Monitoring Neural Dynamics and Supporting Neurorehabilitation in Stroke Patients

Parikshat Sirpal1, Nishaal Parmar1, Hazem Refai1, Yuan Yang2,3,4,5

1School of Electrical and Computer Engineering, Gallogly College of Engineering, University of Oklahoma, Norman, USA. 2University of Illinois Urbana-Champaign, Department of Bioengineering, Grainger College of Engineering, Urbana, USA. 3Carle Foundation Hospital, Stephenson Family Clinical Research Institute, Clinical Imaging Research Center, Urbana, USA.4University of Illinois Urbana-Champaign, Beckman Institute for Advanced Science and Technology, Urbana, USA. 5Northwestern University, Physical Therapy and Human Movement Sciences, Evanston, USA.

P. 58 Exploring the Relationship Between Abnormal Intermuscular Coordination and Joint Torque Coupling: Insights for Post-Stroke Rehabilitation

Kyoungsoon Kim1, Marcia O'Malley2, Jinsook Roh1

1University of Houston, Houston, USA. 2Rice University, Houston, USA.

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P. 60 Mapping The Human Direct And Indirect Motor Descending Pathways Using High-resolution Tractography With Diffusion Imaging
Divya Rai1, Sweya Surapaneni1, Timothy Verstynen2, Jing Xu1
1University of Georgia, Athens, USA. 2Carnegie Mellon University, Pittsburgh, USA.

P. 61 Neural Processes Underlying Gamified Biofeedback to Augment Gait Performance
Bennett Alterman, Alexandra Slusarenko, Jasmine Mirdamadi, Catherine Mason, Michael Borich, Trisha Kesar
Emory University, Atlanta, USA.

P. 62 Lateralized Attentional Biases After Right-Hemisphere Stroke Can Affect Performance on Tests With Horizontal Stimulus Layouts Even in the Absence of Significant Hemispatial Neglect
Sarah Haile, Kasey Stack, Anna Seydell-Greenwald
Georgetown University Medical Center, Washington D.C., USA.

P. 63 An Intuitive, Bimanual, High-throughput QWERTY Keyboard Touch Typing Neuroprosthesis
Justin Jude1,2, Hadar Levi-Aharoni1,2, Alexander Acosta1, Shane Allcroft3, Nicholas S. Card4, Maitreyee Wairagkar4, David M. Brandman4, Sergey D. Stavisky4, Ziv Williams1,5, John Simeral3,6,8, Leigh R. Hochberg1,2,3,6, Daniel B. Rubin1,2
1Ctr. for Neurotechnology and Neurorecovery, Dept. of Neurology, Massachusetts General Hospital, Boston, USA. 2Dept. of Neurology, Harvard Medical School, Boston, USA. 3Sch. of Engineering, Brown University, Providence, USA. 4Dept. of Neurological Surgery, University of California Davis, Davis, USA. 5Program in Neuroscience, Harvard-MIT Program in Health Sciences and Technology, Harvard Medical School, Boston, USA. 6VA R&D Ctr. for Neurorestoration and Neurotechnology, Dept. of VA Med. Ctr., Providence, USA. 7Sch. of Engineering, Brown University, Providence, USA. 8Carney Institute for Brain Science, Brown University, Providence, USA.

P. 64 Repetitive Intermittent Hypoxia Exposure Increases Serum BDNF Concentration and Corticospinal Excitability to the Lower Limb
Aviva Pollet1, Alysha Bogard1, Andrew Harding1, Peter Kim1, Andrew Quesada Tan1,2
1University of Colorado Boulder, Boulder, USA. 2CU Boulder Center for Neuroscience, Boulder, USA.

P. 65 Only Baseline Asymmetry Predicts The Magnitude Of Asymmetry During Gait With Visual Feedback
Andrian Kuch, Samantha Jeffcoat, Alejandro Aguirre Ramirez, Evan Shrier, Natalia Sanchez
Chapman University, Orange, USA.

P. 66 Transcranial magnetic stimulation of non-primary motor areas immediately improves reaching in individuals with chronic stroke
Roberto de Freitas1, Golnaz Haddadshargh2, Amy Boos3,4 Jennifer Mak2,3,4, Xiaoqi Fang3,4, Liu Fang3,5, George Wittenberg2,3,4,5
1Department of Neurological Surgery, University of Pittsburgh, Pittsburgh, USA. 2Department of Bioengineering, University of Pittsburgh, Pittsburgh, USA. 3TECH-GRECC & HERL, VA Pittsburgh Healthcare System, Pittsburgh, USA. 4Department of Neurology, University of Pittsburgh, Pittsburgh, Pittsburgh, USA. 5Department of Physical Medicine and Rehabilitation, University of Pittsburgh, Pittsburgh, USA.

P. 67 Neural Mechanisms of Prism Adaptation in Healthy Aging
Fisayo Aloba1,2, Maithri Muthukumar3, Trisha M. Kesar1,2
1Emory University Neuroscience Graduate Program, Atlanta, USA. 2Emory University School of Medicine, Department of Physical Medicine and Rehabilitation, Atlanta, USA. 3Emory University, Neuroscience Undergraduate Program, Atlanta, USA.

P. 68 Factors Associated with Inpatient Rehabilitation Admission and Length of Stay: A Retrospective Stroke Cohort Study
Alejandra Cardenas-Rojas1, Grace C. Bellinger1, Annette Lavezza1, Margaret A. French2, Ryan T. Roemmich1,3
1Johns Hopkins University School of Medicine, Baltimore, USA. 2University of Utah, Salt Lake City, USA. 3Kennedy Krieger Institute, Baltimore, USA.

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P. 69 Cortical Response to Balance Perturbation is More Sensitive in Modern Dancers than Nondancers during Biomechanically Similar Balance Recovery

Kennedy Kerr1, Scott Boebinger1, Jasmine Mirdamadi1, Michael Borich2, Lena Ting1
1Emory University and Georgia Tech, Atlanta, USA. 2Emory University, Atlanta, USA.

P. 70 Ipsilateral Corticomotor Pathways in People with Cervical Spinal Cord Injury: Implications for Upper Limb Motor Function

Jia Liu1, Madeline Cantu2, Kyle O'laughlin1, David Cunningham3, Akhil Mohan1, Gail Forrest4, Steven Kirshblum5, Kevin Kilgore3, Anne Bryden3, Svetlana Pundik6, Tarun Arora7, Gregory Nemunaitis1, Francois Bethoux1, Xiafeng Wang1, M. Kristi Henzel6, Ela B. Plow1,8
1Department of BME, Cleveland Clinic, Cleveland, USA. 2Case Western Reserve University, Cleveland, USA. 3MetroHealth, Cleveland, USA. 4Kessler Foundation, East Hanover, USA. 5Kessler Institute for Rehabilitation, East Hanover, USA. 6Louis Stokes Cleveland VA Medical Center, Cleveland, USA. 7Oslo University Hospital, Oslo, Norway. 8Cleveland Clinic Rehabilitation Hospitals (CCRH), Department of PM&R, Cleveland Clinic, Cleveland, USA.

P. 72 Clinimetric Properties of the Wolf Motor Function Test and its Modified Versions: a Systematic Review with Meta-analysis

Leonardo Pellicciari1, Lorena Sabrina Pometti1, Alessandro Ugolini2, Francesco Ferrarello3, Francesco Notturni4, Andrea Coppari5, Serena Caselli6, Fabio La Porta1, Mindy F. Levin7, Daniele Piscitelli8
1IRCCS Istituto delle Scienze Neurologiche di Bologna, Bologna, Italy. 2Independent researcher, Empoli (FI), Italy. 3Unit of Functional Rehabilitation, Department of Allied Health Professions, Azienda USL Toscana Centro, Prato, Italy. 4CRT, Clinica di Riabilitazione Toscana, Montevarchi (AR), Italy. 5Physical and Rehabilitation Medicine Unit, Azienda Sanitaria Territoriale, Jesi (AN), Italy. 6Azienda Ospedaliero-Universitaria di Modena, Modena, Italy. 7School of Physical and Occupational Therapy, Faculty of Medicine and Health Sciences, McGill University, Montreal, Canada. 8Doctor of Physical Therapy Program, Department of Kinesiology, University of Connecticut, Storrs, USA.

P. 73 Clinical Relationship Between the Tonic Stretch Reflex Threshold and μ as Measures of Upper Limb Spasticity and Motor Impairment Following Stroke

Daniele Piscitelli1, Joy Khayat2,3, Anatol G. Feldman4, Mindy F. Levin3,5
1Doctor of Physical Therapy Program, Department of Kinesiology, University of Connecticut, Storrs, USA. 2School of Physical and Occupational Therapy, Faculty of Medicine and Health Sciences, McGill University, Montreal, Canada. 3Center for Interdisciplinary Research in Rehabilitation (CRIR), Montreal, Canada. 4Department of Neuroscience, University of Montreal, Montreal, Canada. 5School of Physical and Occupational Therapy, Faculty of Medicine and Health Sciences, McGill University, Montreal, Canada.

P. 74 Shared cortical responses to upper-limb and whole-body perturbations

Janna Protzak1,2, Iran Gutierrez1, Jasmine Mirdamadi1, Michael Borich1, Lena Ting1,2
1Emory University, Atlanta, USA. 2Georgia Tech, Atlanta, USA.

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In the interest of making the Poster & Exhibit Hall space easily accessible to all, the posters will be divided into two groups to allow for more space between rows. Posters numbered 1-74 will be up for the first day, including Wednesday night's Poster Reception. Posters numbered 75-151 will be up for the second day, including Thursday night's Poster Reception.

P. 75 Cortical contributions to balance are related to ideal exoskeleton assistance levels
JoonHan Kim1, Rish Rastogi2, Giovanni Martino3, Max Shepherd2, Gregory Sawicki4, Lena Ting1,4, Kristen Jakubowski1,4
1Emory University, Atlanta, USA. 2Northeastern, Boston, USA. 3University of Padova, Padua, Italy. 4Georgia Institute of Technology, Atlanta, USA.

P. 76 Low Intensity Muscle Stimulation from Non-Invasive Brain-Computer Interface Device Improves Poststroke Brain and Behavior Measures
Alexander Remsik, Brayden Fry, Peter van Kan, Veena Nair, Vivek Prabhakaran
University of Wisconsin-Madison, Madison, USA.

P. 77 Cortically-Mediated Muscle Responses to Balance Perturbations Increase With Perturbation Magnitude in Older Adults With and Without Parkinson's Disease
Scott Boebinger1,2, Jife Xiao3, Aiden Payne3, Michael Borich1, Lena Ting1
1Emory University, Atlanta, USA. 2Georgia Institute of Technology, Atlanta, USA. 3Florida State University, Tallahassee, USA.

P. 78 A Domain-Specific Approach to Characterizing Falls Efficacy Post-Stroke
Grace Kellaher, Ryan Pohlig, Darcy Reisman, Jeremy Crenshaw
University of Delaware, Newark, USA.

P. 79 Aging and cognitive-motor challenge differentially modulate cortical motor contributions to standing balance control
Catherine Mason1, Sujay Edavalapati1, Camille Guzman1,2, Taylor Leone1, Nathan Baune1, Rish Rastogi2, Rajashree Ramamoorthy2, Keenan Whitesides1, Alejandro Lopez1, Michael Borich1,2, Trisha Kesar1,2, Lena Ting1,2
1Emory University, Atlanta, USA. 2Georgia Institute of Technology, Atlanta, USA.

P. 80 Repetitive Intermittent Hypoxia Improves Motor Learning and Savings of Adaptive Mediolateral Control During Split-Belt Walking
Norah Nyangau1, Alysha Bogard1, Aviva Pollet1, Logan Pelligrino1, Andrew Quesada Tan1,2
1University of Colorado, Boulder, Boulder, USA. 2CU Boulder Center for Neuroscience, Boulder, USA.

P. 81 A Novel Movement Quality Biomarker For Neuromodulation: Personalized ctDCS Effects On Dynamic Stability And Bimanual Coordination
Stanislaw Solnik1, Aubrey Alvilhiera1, Grady Howell1, Daniele Piscitelli2, Cristian Cuadra3
1University of North Georgia, Dahlonega, USA. 2University of Connecticut, Storrs, USA. 3University at Buffalo, Buffalo, USA.

P. 82 Do underlying mechanisms of handedness affect early fine motor symptoms in Parkinson's Disease
Jessica Manning1, Caroline Selb1, Matthew J. Barrett2, Brian D. Berman2, Peter Pidcoe3, Dean Krusienski4, Brooke Dexheimer1
1Virginia Commonwealth University Department of Occupational Therapy, Richmond, USA. 2Virginia Commonwealth University Department of Neurology, Richmond, USA. 3Virginia Commonwealth University Department of Physical Therapy, Richmond, USA. 4Virginia Commonwealth University Department of Biomedical Engineering, Richmond, USA.

P. 83 Impact of Cognitive Load on Brain-Muscle Functional Connectivity Post-stroke
Rachana Gangwani, Umesh Radhakrishnan, Caroline Cabaniss, Jessica Cassidy
University of North Carolina, Chapel Hill, USA.

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P. 84 Patient-Reported Performance Metrics and Relationship to Remote Activity Monitoring

Gina Brunetti1, Hannah Grimes1, Josh Encarnacion2, Jessica Howarth2, Mark Bowden3

1Brooks Rehabilitation, Center for Innovation, Jacksonville, USA. 2Brooks Rehabilitation, Clinical Research Center, Jacksonville, USA. 3Brooks Rehabilitation, Division of Clinical Integration and Research, Jacksonville, USA.

P. 85 The Impact of Backward and Forward Non-Body Weight Supported Treadmill Training on Post-Stroke Survivors with Severe Walking Impairment: A Pilot Randomized Control Trial

Saiprasad Naidu1, Colin Drury2, Oluwole Awosika2

1University of Cincinnati College of Medicine, Cincinnati, USA. 2University of Cincinnati College of Medicine Department of Neurology and Rehabilitation Medicine, Cincinnati, USA.

P. 86 Validation of Early Prognostic Data for Recovery Outcome after Stroke for Future, Higher Yield Trials (VERIFY) Study

Cathy Stinear1, Pooja Khatri2, Achala Vagal2, Steven Cramer3, Kalli Beasley2, Harry Jordan1, Tyler Behymer2, Sharon Yeatts4, Lydia Foster4, Catherine Dillon4, Natalia Hays4, Max Mays2, Laura Benken2, Joseph Broderick2, Carlos Faraco5, Scott Janis5

1University of Auckland, Auckland, New Zealand. 2University of Cincinnati, Cincinnati, USA. 3University of California, Los Angeles, USA. 4Medical University of South Carolina, Charleston, USA. 5NINDS, Bethesda, USA.

P. 87 Size Estimation Following Reduced Somatosensory Feedback of the Upper Limb and Hand with Prosthesis Use

Phenique Parker, Shreya Dhara, Lewis Wheaton

Georgia Institute of Technology, Atlanta, USA.

P. 88 Evaluating The Effect Of Ethnicity And Amyloid On Gait Speed In The Healthy Aging Brain Study-Health Disparities Study

Alexandra Reed1, Andrew Hooyman2, Edward Ofori1, Sydney Schaefer1

1Arizona State University, Tempe, USA. 2Chapman University, Orange, USA.

P. 89 Reduced Arm Movement-Evoked Neuromodulatory Responses In Patients With Stroke

Richard Hardstone1,2, Aliceson N. Dusang1,2,3, Sarah Cavanagh1,2,4,5, Julie A. DiCarlo1, Leigh R. Hochberg1,2,3,5, David J. Lin1,2,5

1Center for Neurotechnology and Neurorecovery, Department of Neurology, Massachusetts General Hospital, Boston, MA, USA. 2VA RR&D Center for Neurorestoration and Neurotechnology, Department of Veterans Affairs Medical Center, Providence, RI, USA. 3Carney Institute for Brain Science and School of Engineering, Brown University, Providence, RI, USA. 4John A. Paulson School of Engineering and Applied Sciences, Harvard University, Cambridge, MA, USA. 5Harvard Medical School, Boston, MA, USA.

P. 90 Cervical transcranial magnetic stimulation to measure spinal excitability at spinal level post-stroke

Amit Sethi1, Ghaleb Almalki2, Danny Magruder1, Anadil Bayazeed2, Lauren Terhorst2, Emily Grattan2, Chandramouli Krishnan3

1University of Utah, Salt Lake City, USA. 2University of Pittsburgh, Pittsburgh, USA. 3University of Michigan, Ann Arbor, USA.

P. 91 Characterizing Wrist Flexor and Extensor Muscle Activation Timing via Electromyographic-Computer Interface

Aaron Huynh1,2, Shiyang (Tori) Gu1, Adarsh Mavathaveedu1, Paige Hepple1, Ania Busza1,2

1University of Rochester Medical Center, Rochester, USA. 2University of Rochester School of Medicine and Dentistry, Rochester, USA.

P. 92 Utility of 3D Inertial Sensors to Capture Training Associated Changes in Dynamic Postural Stability in Chronic Stroke Survivors

Khwahish Singh1, Brad Woodie1, Colin Drury1, Lorenna Altman2, Amit Bhattacharya2, Oluwole Awosika1

1University of Cincinnati College of Medicine Department of Neurology and Rehabilitation Medicine, Cincinnati, USA. 2Early Detection of Degenerative Disorders & Innovative Solutions, Department of Environmental Health, University of Cincinnati, Cincinnati, USA.

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P. 93 Variability in Muscle Co-activation Patterns Within Upper Extremity Fugl-Meyer Sub-Scores After Stroke

Adrian Lin1,2,3, Sarah Cavanagh2,3,4, Christian Finetto5,6, Federico Tessari7, Kelly Rishe2,3,5, Michelle Woodbury5,6, Steve Kautz5,6, David Lin2,3,8,9

1Brown University, Providence, USA. 2Center for Neurotechnology and Neurorecovery, Department of Neurology, Massachusetts General Hospital, Harvard Medical School, Boston, USA. 3VA RR&D Center for Neurorestoration and Neurotechnology, Rehabilitation R&D Service, Department of VA Medical Center, Providence, USA. 4John A. Paulson School of Engineering and Applied Sciences, Harvard University, Cambridge, USA. 5Department of Health Sciences and Research, Medical University of South Carolina, Charleston, USA. 6Ralph H. Johnson VA Medical Center, Charleston, USA. 7Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, USA. 8Department of Rehabilitation Sciences, MGH Institute of Health Professions, Boston, USA. 9Division of Neurocritical Care, Department of Neurology, Massachusetts General Hospital, Boston, USA.

P. 94 Modulation of spinal excitability with balance task difficulty and cognitive dual task performance

Camille Guzman1,2, Catherine Mason1, Lena Ting1,2, Trisha Kesar1,2, Michael Borich1,2

1Emory University, Atlanta, USA. 2Georgia Institute of Technology, Atlanta, USA.

P. 95 Limited Utility of the Rey-Osterrieth Complex Figure for Differentiating Stroke Survivors and Controls: Findings Consistent Across Raters and Scoring Systems

Kasey Stack1, Sarah Haile1, Regan Hau1,2, Anna Seydell-Greenwald1,3

1Georgetown University Medical Center, Washington, USA. 2Colgate University, Hamilton, USA. 3MedStar National Rehabilitation Hospital, Washington, USA.

P. 96 Fundamental Limitations Of Kilohertz-Frequency Carriers In Afferent Fiber Recruitment With Transcutaneous Spinal Cord Stimulation

Rodolfo Keesey1, Ursula Hofstoetter2, Zhaoshun Hu3, Lorenzo Lombardi1, Rachel Hawthorn1, Noah Bryson1, Abdallah Alashqar3, Andreas Rowald3, Karen Minassian2, Ismael Seáñez1

1Washington University in St. Louis, Saint Louis, USA. 2Medical University of Vienna, Vienna, Austria.3University of Erlangen-Nuremberg, Erlangen, Germany.

P. 97 Delayed Cortical Contributions to Muscle Activity During Reactive Balance Control in People after Stroke

Jifei Xiao1, Jacqueline Palmer2, Michael Borich1,3, Lena Ting1,3, Scott Boebinger1

1Wallace H. Coulter Department of Biomedical Engineering, Emory University and Georgia Institute of Technology, Atlanta, USA. 2Division of Physical Therapy and Rehabilitation Science, University of Minnesota, Minneapolis, USA. 3Division of Physical Therapy, Department of Rehabilitation Medicine, Emory University, Atlanta, USA.

P. 98 Characteristics of Transcranial Magnetic Stimulation Responses in the Trunk Muscles of People with Parkinson's Disease

Callen Maupin, Emily Lecy, Jae Chung, Colum MacKinnon

University of Minnesota, Minneapolis, USA.

P. 99 Facilitating Neuroplasticity with Occlusion-Reperfusion in Early subacute Stroke Rehabilitation – An Exploratory Study

Giovanni Oppizzi1, Soh-Hyun Hur2, Dali Xu2, Li-Qun Zhang1,2

1University of Maryland, College Park, USA. 2University of Maryland, Baltimore, USA.

P. 100 Dynamical Gait Signatures Capture Holistic Changes in Post-Stroke Gait Biomechanics with Walking Speed

Michael Rosenberg1, Taniel Winner1, Gordon Berman1, Tisha Kesar1, Lena Ting1,2

1Emory University, Atlanta, USA. 2Georgia Tech, Atlanta, USA.

P. 101 Performance Differences between Black and White Stroke Survivors on the Shortened Geneva Emotion Recognition Test Suggest Effects of Sociocultural Background on Emotion Recognition

Sarah Phillips, Abigail Marsh, Anna Seydell-Greenwald

Georgetown University, Washington DC, USA.

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P. 102 Evaluating Ischemic Stroke Outcomes from Lesion Location Characteristics: A Retrospective Analysis of a Regional Primary Stroke Center

Isabella Rhangos1, Aisha Bushra2, Alaina Moore1, Rebekah Dry1, Khadeeja Shabbir1, Jing Xu2, Deborah Barany1,2

1Augusta University/University of Georgia Medical Partnership, Athens, USA. 2University of Georgia, Athens, USA.

P. 103 TMS-induce I-waves and their role in chronic post-stroke hemiplegia

Rifeng Jin1,2,3, Jisung Yuk1,3, Shreya Ramani2, David Cunningham1,2,3

1Case Western Reserve University School of Medicine, Cleveland, USA. 2The MetroHealth Systems, Cleveland, USA. 3Cleveland Functional Electrical Stimulation Center, Cleveland, USA.

P. 104 The Influence of Vision and Attention on Gait Initiation in People with Parkinson Disease

Chelsea Parker Duppen1,2, Jenevieve Surkin2, Shefaali Mahendar2, Jordan Saunders2, Jenna Cole2, Nina Browner2, Michael D. Lewek2

1University of North Carolina at Chapel Hill, Chapel Hill, USA. 2Virginia Commonwealth University, Richmond, USA.

P. 105 Ensemble Machine Learning for Early-Onset Parkinson's Disease Classification Using Upper Limb Robotics and Gait Analysis

Daniel Salinas1, Gerardo Medellin2, Katherine Bolado2, Diego Rojano2, Marysol Cabello2, Tomas Gomez2, Christopher Cavazos2, Nawaz Hack1, Ramu Vadukapuram2, Jorge Igor Zwir1, Kelsey Potter-Baker2

1University of Texas Rio Grande Valley, Harlingen, USA. 2University of Texas Rio Grande Valley, Edinburg, USA.

P. 106 Post-stroke Hand and Finger Function Predictions are Improved by Adding Motor Network Disconnectivity Information to MEP Status

Kate Pirog Revill1, Elizabeth Rizor2, Marc Haut3, Stephanie Rellick3, Scott Grafton2, Cathrin Buetefisch3

1Emory University, Atlanta, USA. 2University of California, Santa Barbara, Santa Barbara, USA. 3West Virginia University, Morgantown, USA.

P. 107 Remote Ischemic Conditioning Combined with Hand Arm Bimanual Therapy Enhances Bimanual Coordination, Hand Function, and Bimanual Performance in Children with Unilateral Cerebral Palsy: A Randomized Controlled Trial

Swati Surkar1, Shailesh Gardas1, Christine Lysaght1, John Willson1, Jessica Cassidy2, Shailesh Kantak3

1East Carolina University, Greenville, USA. 2University of North Carolina at Chapel Hill, Chapel Hill, USA. 3Rancho Research Institute, Downey, USA.

P. 108 Estimating the Prevalence of Upper Extremity Motor Deficits in Acute and Chronic Stroke Through Medical Chart Review

Jennifer Hebert1,2, Julie DiCarlo1,2, Kailey Takaoka1, Sydney McKiernan1, Kristi Emerson1, Kristina Goode2, David Lin1,2

1Massachusetts General Hospital, Boston, USA. 2Providence Veterans Affairs Medical Center, Providence, USA.

P. 109 Can Twenty Minutes of Exercise Change Cortical GABA Levels in Chronic Stroke Patients?

Emily Smith1,2, Anastasia Bohsali3, Kevin Mammino1, Veronica Rowe3, Arash Harzand1,4, Venkatagiri Krishnamurthy1,4, Steven Wolf4, Keith McGregor5, Lisa Krishnamurthy1,4

1Atlanta Veterans Affairs Medical Center, Atlanta, USA. 2Georgia Institute of Technology and Emory University, Atlanta, USA. 3Georgia State University, Atlanta, USA. 4Emory University, Atlanta, USA. 5University of Alabama at Birmingham, Birmingham, USA.

P. 110 Measures Of Corticospinal Tract Conduction During Fine And Gross Motor Actions Were Unaffected By Age

Rob MacLennan1,2, Shawn Reese3, Alex Olmos4, Claire Smith5, Clayton Swanson1,2, Jason DeFreitas5

1Department of Veteran Affairs, Gainesville, USA. 2University of Florida, Gainesville, USA. 3Fairmont State University, Fairmont, USA. 4Christopher Newport University, Newport, USA. 5Syracuse University, Syracuse, USA.

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P. 111 Soleus H-reflex and M-wave Magnitudes Are Not Contaminated by Crossed Spinal Inhibitory Pathways During Bilateral Recruitment Curves
Bridgette Damewood, Mark Lyle
Emory University, Atlanta, USA.

P. 112 Implications of Weight-Bearing Asymmetry on Balance Function and Perceptual Ability Post-Stroke
Mehek Sharma1, Lena Ting2,3, Michael Borich3, Jasmine Mirdamadi3
1Augusta University, Augusta, USA. 2Georgia Institute of Technology, Atlanta, USA. Emory University, Atlanta, USA.

P. 113 Adaptive roles of corticospinal excitability and intracortical inhibition at rest and during movement preparation in chronic post-stroke hemiplegia
Jisung Yuk1,2, Rifeng Jin1,2,3, Shreya Ramani1, David Cunningham1,2,3
1Physical Medicine and Rehabilitation, The MetroHealth System, Case Western Reserve University School of Medicine, Cleveland, USA. 2Cleveland Functional Electrical Stimulation Center, Cleveland, USA. 3Department of Biomedical Engineering, Case Western Reserve University. Cleveland, USA.

P. 114 Balance and dual task gait deficits among older adults without and with mild cognitive impairment
Vyoma Parikh, Nia Whittle, Stephen Orr, Joe Nocera, Madeleine Hackney, Trisha Kesar
Emory University, Atlanta, USA.

P. 116 Effect of Dance-Based Intervention on Average and Variability Metrics of Forward and Backward Walking in Individuals with Parkinson's Disease
Chitra Lakshmi K Balasubramanian1, Caroline Santella2, Chelsea Moehlenbrock2, Kelly O'Daniel2, Jane Freund2, Srikant Vallabhajosula2
1University of North Florida, Jacksonville, USA. 2Elon University, Elon, USA.

P. 117 Can Subscales of the Upper Limb Fugl-Meyer Assessment Provide Evidence for Competition Between Descending Motor Tracts after Stroke?
Alkis Hadjiosif1,2,3, Julie DiCarlo1,4, David Lin2,5
1Center for Neurotechnology and Neurorecovery, Department of Neurology, Massachusetts General Hospital, Boston, MA, USA. 2Department of Veterans Affairs, Rehabilitation Research and Development Service, Center for Neurorestoration and Neurotechnology, Providence, RI, USA. 3School of Engineering and Applied Sciences, Harvard University, Cambridge, MA, USA. 4Department of Psychology, Tufts University, Medford, MA, USA. 5Department of Neurology, Division of Neurocritical Care and Stroke Service, Center for Neurotechnology and Neurorecovery, Massachusetts General Hospital, Harvard Medical School, Boston, MA, USA.

P. 118 Use of Marker-less Motion Capture Systems for Neurological Disorders in Community Care Settings: A Systematic Review
Anjana Ganesh, Kelsey Baker
UTRGV School of Medicine, Edinburg, USA.

P. 119 The role of cognitive function in upper extremity motor impairments after stroke
Julie DiCarlo1,2, Abhishek Jaywant3, Nathan Ward2, David Lin1
1Department of Neurology, Center for Neurotechnology and Neurorecovery, Massachusetts General Hospital, Boston, USA. 2Department of Psychology, Tufts University, Medford, USA. 3Departments of Psychiatry and Rehabilitation Medicine, Weill Cornell Medicine, New York, USA.

P. 120 Self-Reported Global Rating Of Change Scores: Perceptions Of Walking-Related Change Following The PROWALKS Intervention
Elizabeth D. Thompson1, Kiersten M. McCartney1,2, Tamara Wright1, Henry Wright1, Darcy S. Reisman1,2
1University of Delaware, Physical Therapy Department, Newark, DE, USA. 2University of Delaware, Biomechanics and Movement Science (BIOMS) Program, Newark, DE, USA.

P. 121 Turning Performance in Older Adults: The Role of Cognitive Function and Cortical Thickness
Clayton Swanson1,2, Anthony Gruber2, Adam Woods3, Dorian Rose1, Rachael Seidler1, David Clark1,2
1University of Florida, Gainesville, USA. 2Malcom Randall VA Medical Center, Gainesville, USA. 3University of Texas at Dallas, Richardson, USA.

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P. 122 Quantifying Axonal Damage in Ischemic Stroke Using AxCaliber MRI in High-Gradient Diffusion Imaging
Liqi Shu1, Aneri Bhatt2,3, Wanyi Qing3,4, Qiuyun Fan2,3, David Lin3, Susie Huang2,2
1Warren Alpert Medical School of Brown University, Providence, USA. 2Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Boston, USA. 3Massachusetts General Hospital and Harvard Medical School, Boston, USA. 4Hong Kong Polytechnic University, Hong Kong, China.

P. 123 Computing Motor Modules with an Autoencoder Enables Stronger Confidence in Module Structure and Functional Interpretability
Siddharth Nathella1, Aaron Young1, Lena Ting1,2
1Georgia Institute of Technology, Atlanta, USA. 2Emory University, Atlanta, USA.

P. 124 Association between Depression and Executive Functioning within the First Year after a Traumatic Brain Injury
Chitra Lakshmi K Balasubramanian1, John Reddell2, Diego Moreno2, Summer Rolin2, Jeremy Davis2, Sandeep Subramanian2
1University of North Florida, Jacksonville, USA. 2UT Health, San Antonio, USA.

P. 125 Hybrid Robot – FES Ankle Rehabilitation Post Stroke
Dali Xu1, Raziyeh Baghi1, Meizhen Huang2, Soh-Hyun Hur, Giovanni Oppizzi3, Wei Yin4, Zongpan Li1, Gad Alon1, Glenn Kehs5, Robynne Braun5, Li-Qun Zhang1,3
1University of Maryland Baltimore, Baltimore, USA. 2Hong Kong Polytec University, Hong Kong, Hong Kong. 3University of Maryland College Park, College Park, USA. 4New Jersey Institute Technology, Newark, USA. 5University of Maryland Rehabilitation and Orthopaedic Institute, Baltimore, USA.

P. 126 Hemisphere-specific Differences In The Use Of Perceptual Feedback During Bimanual Practice After Unilateral Stroke
Shailesh Kantak1,2,3, Joshua Jacob3, Jessica Hesling3, George Wittenberg4,5
1Rancho Research Institute, Downey, USA. 2University of Southern California, Los Angeles, USA. 3Jefferson Moss Rehabilitation Research Institute, Philadelphia, USA. 4University of Pittsburgh, Pittsburgh, USA. 5TECH-GRECC, VA Pittsburgh Healthcare System, Pittsburgh, USA.

P. 127 Effects of Unilateral Gait Biofeedback on Bilateral Joint Mechanical Work in Able-Bodied and Post-Stroke Individuals
Hansol X. Ryu1,2, Nicole K. Rendos2, Trisha M. Kesar2
1Georgia Institute of Technology, Atlanta, GA, USA. 2Emory University, Atlanta, GA, USA.

P. 128 Biomechanical Comparison of the Effects of Game-Based Versus Conventional Biofeedback for Stroke Gait Retraining
Alexandra Slusarenko, Jorjie Wilson, Bennett Alterman, Minuk Kim, Anna Cho, Trisha Kesar
Emory University, Atlanta, USA.

P. 129 Galvanic Vestibular Stimulation Modulates Upper Limb Spinal Excitability: A Study On The Flexor Carpi Radialis H-Reflex
Ignacio Novoa, Cristian Cuadra
SUNY Buffalo, Buffalo, USA.

P. 130 Assessing The Feasibility Of Trans-spinal Magnetic Stimulation In Probing The Descending Tracts Connection To Spinal Motoneurons In Individuals With Stroke
Yu-Chen Chung1, Subaryani Soedirdjo1, Soumya Thomas2, Yasin Dhaher1
1University of Texas Southwestern Medical Center, Dallas, USA. 2University of Texas at Dallas, Dallas, USA.

P. 131 Effects Of Theta-Burst Stimulation To The Left Supramarginal Gyrus On Working Memory Performance In Neurotypical Adults
Connor Pate, Rachael Harrington, C. Nikki Arrington, Robin Morris
Georgia State University, Atlanta, USA.

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P. 132 A Data-Driven Approach to Planar Reaching Movement: Intuition and Analysis in Context of Upper Extremity Stroke Hemiparesis
Liqi Shu1, Sarah Cavanagh2, Aleksei Krotov3, Richard Hardstone4, Julie DiCarlo4, Nicole Dusang5, Perman Gochyyev6, Leigh Hochberg5, Karen Furie1, Dagmar Sternad3, David Lin4
1Warren Alpert Medical School of Brown University, Providence, USA. 2John A Paulson School of Engineering and Applied Sciences, Harvard University, Boston, USA. 3Departments of Biology, Electrical and Computer Engineering, and Physics, Northeastern University, Boston, USA. 4Center for Neurotechnology and Neurorecovery, Department of Neurology, Massachusetts General Hospital, Boston, USA. 5Carney Institute for Brain Science and School of Engineering, Providence, USA. 6Department of Rehabilitation Sciences, MGH Institute of Health Professions, Boston, USA.

P. 133 Quantifying the Relationships Between Muscle Coordination and Walking Dynamics in People Post-Stroke
Benjamin Fargnoli1, Taniel Winner2, Trisha Kesar2, Gordon Berman2, Michael Rosenberg2, Lena Ting2
1Georgia Institute of Technology, Atlanta, USA. 2Emory University, Atlanta, USA.

P. 134 Fatigue and Physical Function are Associated with Satisfaction with Leisure Activities in People with Multiple Sclerosis
Liraz Arie1, Ehsan Sinaei1, Simon Gregory2, Prudence Plummer1
1MGH Institute of Health Professions, Boston, USA. 2Duke University, Durham, USA.

P. 135 High-Definition Transcranial Direct Current Stimulation (HD-tDCS) of Posterior Parietal Cortex Has Lateralized Effects on Fine Motor Control
Narges Yaghoubi, Sydney Sharp, Jessica Manning, Caroline Selb, Peter Pidcoe, Brooke Dexheimer
Virginia Commonwealth University, Richmond, USA.

P. 136 Beyond TRANSPORT2: Testing Safety and Tolerability of Even Higher tDCS Doses Applied Concurrently with mCIMT
Abraham Madjidov1, Abigail Hay1, Anant Shinde1,2, Gottfried Schlaug1,2
1*Department of Neurology, University of Massachusetts Chan Medical School–Baystate, Springfield, USA. 2Department of Biomedical Engineering, Institute of Applied Life Sciences, University of Massachusetts, Amherst, USA.*

P. 137 Computational Modeling of Pathway-Specific Homeostatic Plasticity Following Partial Vision Loss
Danielle Dowe1, Robert Lamprecht1, Morgan Bade1,2, Ming-Fai Fong1
1*Department of Biomedical Engineering, Georgia Institute of Technology and Emory University, Atlanta, USA. 2Department of Ophthalmology, Emory University School of Medicine, Atlanta, USA.*

P. 138 Vestibular Contributions to the Stance Phase of Gait During Downhill Walking
Caleb Bergman, Danielle Dwyer, Lynnette Montgomery
Drexel University, Philadelphia, USA.

P. 139 Lesion Correlates of Hand Motor Function and Wrist Proprioception After Stroke
Anne Schwarz, Min-Keun Song, Eden Farahmand, Rio M Gagnon, Matthew Hansen, Mikaela Kwan, Rebecca M Lee, Shivani Sakthi, Maeve M Settle, Emily Sobel, Rachel Wing, Xinyue Yang, Brittany Young, Steven C Cramer
Department of Neurology, David Geffen School of Medicine at UCLA, Los Angeles, USA. California Rehabilitation Institute, Los Angeles, USA.

P. 140 Alteration in Large-Scale Signal Propagation as Predictors of Motor Recovery After Stroke
Youngjo Song1, Taewon Kim2,3
1MORESCIENCE, Seoul, Korea, Republic of. 2Penn State College of Medicine, Hershey, USA. 3The Pennsylvania State University, University Park, USA.

P. 141 Influence of Task Demands and Reward on Arm Nonuse in Individuals with Chronic Stroke
Shauna Zodrow1, Alex DeAngelis1, Maxim Karrenbach2, Cory Potts3, Rachana Gangwani1, Shailesh Kantak4, Laurel Buxbaum1
1Jefferson Moss Magee Rehabilitation Research Institute, Elkins Park, USA. 2Carnegie Mellon University, Pittsburgh, USA. 3State University of New York at Plattsburgh, Plattsburgh, USA. 4Rancho Research Institute, Downey, USA.

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P. 142 Alteration in Quantitative EEG Following Sensorimotor Control in Stroke
Jordan Williamson1, Nishaal Parmar2, Parikshat Sirpal2, Beni Mulyana1,3, Rita Peng1,3, Yuan Yang1,3,4
1University of Illinois Urbana Champaign, Urbana, USA. 2University of Oklahoma, Tulsa, USA. 3Carle Foundation Hospital, Urbana, USA. 4Northwestern University, Chicago, USA.

P. 143 Motor Skill Learning as an Effective Risk and Monitoring Digital Biomarker for Subjective Cognitive Scores Among a Nation-Wide Cohort
Sydney Schaefer1, Andrew Hooyman2
1Arizona State University, Tempe, USA. 2Chapman University, Irvine, USA.

P. 144 Efficacy of tDCS on Facial Emotion Recognition Therapy in Young Adults with Autism
Michelle Nishida1, Maya Cherukuri2, Jyutika Mehta1
1Texas Woman's University, Denton, USA. 2University of Texas at Dallas, Richardson, USA.

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