

# ASNR2026 POSTER LISTING

Regency Ballroom West

**Posters in red font indicate those selected by the review committee as Special Mention.**  
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**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.**

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

Layla Abdullatif<sup>1</sup>, Maria Lindsey<sup>1</sup>, Veronica Rowe<sup>2</sup>, Lewis Wheaton<sup>1</sup>

<sup>1</sup>Georgia Institute of Technology, Atlanta, USA. <sup>2</sup>Georgia State University, Atlanta, USA.

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

J. Sebastián Correa<sup>1,2</sup>, Natalia Sánchez<sup>3</sup>, Dana Lorenz<sup>1,2</sup>, Jake Stahl<sup>1,2</sup>, Kristine Hansen<sup>2</sup>, David Cunningham<sup>1,2</sup>, James Sulzer<sup>1,2</sup>

<sup>1</sup>Case Western Reserve University, Cleveland, USA. <sup>2</sup>The MetroHealth System, Cleveland, USA. <sup>3</sup>Chapman University, Irvine, USA.

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

J. Sebastián Correa<sup>1,2</sup>, Ricardo Siu<sup>1</sup>, Dana Lorenz<sup>1,2</sup>, Kristine Hansen<sup>2</sup>, David Cunningham<sup>1,2</sup>, James Sulzer<sup>1,2</sup>

<sup>1</sup>Case Western Reserve University, Cleveland, USA. <sup>2</sup>The MetroHealth System, Cleveland, USA.

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

Tseng Wan Yan, 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**

Juan C. Perez-Ibarra, 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**

Ergi Spiro<sup>1,2</sup>, Xinrui Wang<sup>1</sup>, Jody A. Feld<sup>3,1</sup>, Ziping Huang<sup>1,2</sup>, Lei Zhu<sup>1</sup>, Salman Ikramuddin<sup>1</sup>, Charalambos C. Charalambous<sup>1</sup>, Wayne Feng<sup>1</sup>

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

Sara Dyslin<sup>1</sup>, Andrew DeMarco<sup>1</sup>, Ryan Staples<sup>1</sup>, Peter Turkeltaub<sup>1,2</sup>

*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 Madjidov<sup>1</sup>, Abigail Hay<sup>1</sup>, Wuwei Feng<sup>2</sup>, Anant Shinde<sup>1</sup>, Sirisha Nouduri<sup>3</sup>, Muhammed Enes Gunduz<sup>4</sup>, Christy Cassarly<sup>5</sup>, Veronica Rowe<sup>6</sup>, Stacy Fritz<sup>7</sup>, Steve Wolf<sup>8</sup>, Joseph Broderick<sup>9</sup>, Gottfried Schlaug<sup>1</sup>

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**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 Hospodar<sup>1</sup>, Annie Dishchyan<sup>2</sup>, Marcus Partida<sup>1</sup>, Florencia Enriques<sup>1</sup>, Aylin Paez<sup>1</sup>, Heather Feldner<sup>3</sup>, Julia Looper<sup>4</sup>, Kari Kretch<sup>1</sup>

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**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-Shargie<sup>1</sup>, Michael Glassen<sup>1</sup>, Gregory R. Ames<sup>2</sup>, Christina M. Dandola<sup>2</sup>, Karen J. Nolan<sup>2</sup>, Soha Saleh<sup>1</sup>

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

Zechen Yang<sup>1</sup>, Jan Stenum<sup>2</sup>, Rini Varghese<sup>1,3</sup>, Ryan Roemmich<sup>1,2</sup>

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## **P. 14 sEMG-based High-Resolution Gesture Decoding using Optimized Swin-Transformer Architectures**

Peiwen Fu<sup>1</sup>, Giovanni Oppizzi<sup>1</sup>, Li-Qun Zhang<sup>1,2</sup>

<sup>1</sup>University of Maryland, College Park, College Park, USA. <sup>2</sup>University of Maryland, Baltimore, Baltimore, USA.

## **P. 15 Detecting Recovering Hand Extension Intention Poststroke and Interpreting Shifts in Model Decision Patterns**

Peiwen Fu<sup>1</sup>, Giovanni Oppizzi<sup>1</sup>, Dali Xu<sup>2</sup>, Soh-Hyun Hur<sup>2</sup>, Michael Penafiel<sup>1</sup>, Li-Qun Zhang<sup>1,2</sup>

<sup>1</sup>University of Maryland, College Park, College Park, USA. <sup>2</sup>University of Maryland, Baltimore, Baltimore, USA.

## **P. 16 Associations Between Flexor Synergy Severity and Short/Long-Latency Stretch Reflex Excitability in Chronic Stroke**

JooHwan Sung<sup>1,2</sup>, Mahmood Darvish<sup>1,2</sup>, Beni Mulyana<sup>1,2</sup>, Xiaoxi Chen<sup>1,2</sup>, Huan-Ting Peng<sup>1,2</sup>, Yuan Yang<sup>1,2,3,4,5</sup>

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## **P. 17 Subthreshold Vibration as a Noninvasive Sensory Intervention to Suppress Spasticity in Chronic Stroke**

JooHwan Sung<sup>1,2</sup>, Mahmood Darvish<sup>1,2</sup>, Beni Mulyana<sup>1,2</sup>, Xiaoxi Chen<sup>1,2</sup>, Huan-Ting Peng<sup>1,2</sup>, Yuan Yang<sup>1,2,3,4,5</sup>

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## **P. 18 Wrist-Worn Accelerometry Reveals Capacity-Performance Gaps in Real-World Hand Use Post-Stroke: Implications for Neurorehabilitation Trial Outcomes**

Estevan Nieto<sup>1</sup>, Crystal Mendoza<sup>1</sup>, Yazbel Arriaga<sup>1</sup>, Kenya Flores<sup>1</sup>, Mia Montelongo<sup>1</sup>, Alejandra Hernandez<sup>1</sup>, Peter Lum<sup>2</sup>, Shashwati Geed<sup>3</sup>

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

Jose Roberto Torres Andrade<sup>1</sup>, Syed Qadri<sup>2</sup>, Alvaro Gurovich<sup>3</sup>, Matthew Edwardson<sup>4</sup>, Shashwati Geed<sup>3</sup>

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

Daria Pressler<sup>1</sup>, Sarah M. Schwab-Farrell<sup>1</sup>, Oluwole Awosika<sup>1</sup>, Darcy S. Reisman<sup>2</sup>, Sandra A. Billinger<sup>3</sup>, Michael A. Riley<sup>1</sup>, Pierce Boyne<sup>1</sup>, On behalf of HST2 Investigators

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**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. Houle<sup>1</sup>, Aaron N. Huynh, MS<sup>1,2</sup>, Henry Roloff<sup>1</sup>, Paige Hepple, BS<sup>1</sup>, Ania C. Busza, MD PhD<sup>1,2,3,4</sup>

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

Kushaal Rao<sup>1</sup>, Henry Jenkins<sup>1</sup>, Jacob Gusman<sup>1</sup>, Maarten Ottenhoff<sup>1</sup>, Ruixiang Li<sup>1</sup>, Alexander Acosta<sup>2</sup>, Lucille Panagos<sup>2</sup>, Andrew Dempsey<sup>2</sup>, Shane Allcroft<sup>1,3</sup>, Emilia Mann<sup>4</sup>, James Arnold<sup>4</sup>, David Pont-Esteban<sup>4</sup>, Harrison Young<sup>4</sup>, Umut Civici<sup>4</sup>, Connor McCann<sup>4</sup>, Conor Walsh<sup>4</sup>, Daniel Rubin<sup>2,4</sup>, John Simeral<sup>3,1</sup>, Carlos Vargas-Irwin<sup>1,3</sup>, Leigh Hochberg<sup>3,1,2,4</sup>

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**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**

Pooja C. Iyer, 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**

Ehsan Sinaei, 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**

Grace Bellinger<sup>1</sup>, Kelly Daley<sup>1</sup>, Bingqing Ye<sup>1</sup>, Preeti Raghavan<sup>1</sup>, Margaret French<sup>2,1</sup>, Ryan Roemmich<sup>3,1</sup>

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## **P. 30 Aging And The Art Of Letting Go: Selective Slowing Of Grip-Force Release In A Go/No-Go Force-Matching Task**

Syed Qadri<sup>1</sup>, Jose Roberto Torres Andrade<sup>2</sup>, Seraphina Culp<sup>3</sup>, Beatrice Lee<sup>2</sup>, Peter Lum<sup>3</sup>, Shashwati Geed<sup>2</sup>

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## **P. 31 Limitations of Visual Compensation for Proprioceptive Impairments in Individuals with Stroke**

Devin Austin, 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**

Patience Yeboah, 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**

Netta Gurari<sup>1</sup>, Skylar Connelley<sup>2</sup>, Shellie Cook<sup>2</sup>, Alexis Garner<sup>2</sup>, Logan Vance<sup>2</sup>, Lindsey Sydnor<sup>1</sup>, Nicole Pitterson<sup>1</sup>, James Sulzer<sup>3</sup>, Kevin Parcetich<sup>2</sup>

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## **P. 34 Development and Preliminary Testing of a Compact Stimulator for Objective Tactile Assessment**

Nahid Kalantaryardebily, Ardalan Kahak, Scott Mahaney, Suyi Li, Netta Gurari  
*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<sup>1</sup>, Jeff Yang<sup>2</sup>, Macie Hakim<sup>3</sup>, Ayah Syeed<sup>4</sup>, Brooke Hall<sup>1</sup>, Lauryn Currens<sup>1</sup>, Alex Pantelyat<sup>1</sup>, Ryan Roemmich<sup>1,2</sup>  
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**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<sup>1,2,3</sup>, Sophia T. Jenz<sup>1</sup>, Matthew T. Farley<sup>2</sup>, Bradley S. Heit<sup>1</sup>, James A. Beauchamp<sup>4</sup>, Charles J. Heckman<sup>1,2</sup>, Monica A. Perez<sup>1,2,3</sup>, Gregory E. P. Pearcey<sup>5</sup>  
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**P. 40 Bilateral tDCS effects on corticospinal excitability vary with motor impairment severity after chronic stroke.**

Jisung Yuk<sup>1,2</sup>, Rifeng Jin<sup>1,3,2</sup>, Justin McCurdy<sup>1,2</sup>, David Cunningham<sup>1,3,2</sup>  
*1The MetroHealth System, Case Western 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<sup>1</sup>, Allegra Latimer<sup>1</sup>, Keith Tansey<sup>2</sup>, Dobrivoje Stokic<sup>3</sup>  
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**P. 42 Predicting Online Motor Learning After Stroke - Using Machine Learning**

Anjali Tiwari<sup>1</sup>, Stefan Delmas<sup>1</sup>, Hunter Paxtion<sup>2</sup>, Prasoon Diwakar<sup>2</sup>, Gaurav Misra<sup>1</sup>, Neha Lodha<sup>1</sup>  
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## **P. 43 Cross-sectional Relationship Between Perivascular Space Morphology and Post-Stroke Sensorimotor Outcomes: An ENIGMA Analysis**

Stuti Chakraborty<sup>1</sup>, Giuseppe Barisano<sup>2</sup>, Jeiran Choupan<sup>3</sup>, Amisha Kumar<sup>4</sup>, Mahir H. Khan<sup>5</sup>, Octavio Marin-Pardo<sup>1</sup>, Ashley Catchpole<sup>1</sup>, Bethany P. Tavenner<sup>6</sup>, Aisha Abdullah A.<sup>7</sup>, Justin W. Andrushko<sup>8</sup>, Michael R. Borich<sup>9</sup>, Lara A. Boyd<sup>10</sup>, Amy Brodtmann<sup>11</sup>, Cathrin M. Buetefisch<sup>12</sup>, Jessica M. Cassidy<sup>13</sup>, Adriana B. Conforto<sup>14,15</sup>, Steven C. Cramer<sup>16,17</sup>, Martin Domin<sup>18</sup>, Adrienne Dula A.<sup>19</sup>, Jennifer K. Ferris<sup>20</sup>, Fatemeh Geranmayeh<sup>21</sup>, Brenton Hordacre<sup>22</sup>, Steven A. Kautz<sup>23,24</sup>, Martin Lotze<sup>18</sup>, Fabrizio Piras<sup>25</sup>, Kate P. Reville<sup>26</sup>, Andrew Robertson<sup>27</sup>, Emily Rosario<sup>28</sup>, Heidi Schambra<sup>29,30</sup>, Na Jin Seo<sup>24</sup>, Maria Mataro Serrat<sup>31</sup>, Surjo R. Soekadar<sup>32</sup>, Shraddha Srivastava<sup>33</sup>, Daniela Vecchio<sup>25</sup>, Emilio Werden<sup>34</sup>, Lars T. Westlye<sup>35,36</sup>, Carolee J. Winstein<sup>37,38</sup>, George F. Wittenberg<sup>39,40</sup>, Neda Jahanshad<sup>41</sup>, Sophia I. Thomopoulos<sup>41</sup>, Paul M. Thompson<sup>41</sup>, Sook-Lei Liew<sup>1,37,3,41,42</sup>

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

Yi Yu<sup>1</sup>, Yannick Darmon<sup>2,3</sup>, Russell Johnson<sup>4,2</sup>, Carolee Winstein<sup>2</sup>, Victor Barradas<sup>5</sup>, Emily Rosario<sup>3</sup>, Gerald Loeb<sup>6</sup>, James Finley<sup>2</sup>, Nicolas Schweighofer<sup>2</sup>

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**P. 45 Impaired Proprioception of Individual Digits Post Stroke**

Soh-Hyun Hur<sup>1</sup>, Giovanni Oppizzi<sup>2</sup>, Dali Xu<sup>1</sup>, Joshua Mathew<sup>2</sup>, Sahith Mada<sup>2</sup>, Xiaoyan Li<sup>2</sup>, Derek Kamper<sup>3</sup>, Li-Qun Zhang<sup>1</sup>

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

Candice Maenza<sup>1,2</sup>, Carolee Winstein<sup>3</sup>, Terrence E. Murphy<sup>1</sup>, Nick M. Kitchen<sup>1,2</sup>, Jennifer Tanaka<sup>3</sup>, Jisung Yuk<sup>4</sup>, Rini Varghese<sup>5</sup>, Robert L. Sainburg<sup>2,1</sup>

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**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

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**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**

Svetlana Pundik<sup>1,2</sup>, Margaret Skelly<sup>1</sup>, Jessica McCabe<sup>1</sup>, Ahlam Salameh<sup>1,3</sup>, Lisa Leonhardt<sup>1</sup>, Terri Hisel<sup>1</sup>, Sarah Carr<sup>4</sup>

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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**

Jessica McCabe<sup>1</sup>, Sarah Carr<sup>2</sup>, Margaret Skelly<sup>1</sup>, Ahlam Salameh<sup>1,3</sup>, Lisa Leonhardt<sup>1</sup>, Terri Hisel<sup>1</sup>, Svetlana Pundik<sup>1,4</sup>

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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.**

Margaret Skelly<sup>1</sup>, Jessica McCabe<sup>1</sup>, Marom Bikson<sup>2</sup>, Ahlam Salameh<sup>3</sup>, Lisa Leonhardt<sup>1</sup>, Terri Hisel<sup>1</sup>, Svetlana Pundik<sup>1,4</sup>

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**P. 51 The Effects of Motor Module-Guided Exercise on Spinal Motoneuronal Activation in Stroke: A Pilot Study**

Sean Chakraborty<sup>1</sup>, Supraja Vaidhyanathan<sup>1</sup>, Manuel Portilla-Jiménez<sup>1</sup>, Gang Seo<sup>2</sup>, Michael Houston<sup>3</sup>, Yoon No Gregory Hong<sup>1</sup>, Sheng Li<sup>4</sup>, Hyung-Soon Park<sup>5</sup>, Yingchun Zhang<sup>3</sup>, Martina Coscia<sup>6</sup>, Jinsook Roh<sup>1</sup>

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**P. 53 Neural Substrates of Arm Nonuse Post-stroke**

Rachana Gangwani<sup>1</sup>, Alex DeAngelis<sup>1</sup>, Shauna Zodrow<sup>1</sup>, Apoorva Kelkar<sup>2</sup>, John Medaglia<sup>2</sup>, Branch Coslett<sup>3</sup>, Shailesh Kantak<sup>4</sup>, Laurel Buxbaum<sup>1</sup>

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**P. 54 Clinical Predictors of Distal Motor Evoked Potential Status in Chronic Stroke**

Sean Li<sup>1</sup>, Xin Li<sup>2</sup>, Yanjun Wu<sup>3</sup>, Morgan Widina<sup>3</sup>, Kyle O'Laughlin<sup>3</sup>, Jia Liu<sup>3</sup>, Ela Plow<sup>3</sup>

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**P. 55 Similarities Between Abnormal Resting Arm Posture After Stroke and Resting Arm Posture in Healthy Individuals**

Alkis Hadjiosif<sup>1,2,3</sup>, Jennifer Hebert<sup>1,2</sup>, Kelly Rische<sup>1,2</sup>, Wanyi Qing<sup>1,4</sup>, David Lin<sup>1,2</sup>  
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**P. 56 Specificity of Agonist-Antagonist Muscle Activation During Reactive Balance Recovery Declines with Aging**

Crystal Gettman<sup>1</sup>, Aiden Payne<sup>2</sup>, Jacqueline Palmer<sup>1</sup>  
*1University of Minnesota, Minneapolis, MN, USA. 2Ohio University, Athens, OH, USA.*

**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 Tillu<sup>1</sup>, Lorie Brinkman<sup>2,3</sup>, Marc Feldman<sup>2,3</sup>, Natalie Olivares<sup>2,3</sup>, Andrea Stehman<sup>2,3</sup>, Isabel Cardoso Ferreira<sup>2,3</sup>, Christina Holl<sup>2,3</sup>, Megan Atkinson<sup>2,3</sup>, Anne Schwarz<sup>2,3</sup>, Genevieve Kras<sup>2,3</sup>, Nina Soleimani<sup>2,3</sup>, Vu Le<sup>2,4</sup>, Michael Su<sup>2,3</sup>, Steven Cramer<sup>2,3</sup>  
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**P. 60 Acute Intermittent Hypoxia Augments Ankle Strength in People with Multiple Sclerosis**

Aravind Nehrujee<sup>1,2</sup>, Rachel Kalvakota<sup>1</sup>, Kailynn Mannella<sup>1,2</sup>, Leah O'Shea<sup>1</sup>, Alexander Barry<sup>1</sup>, William Zev Rymer<sup>1,2</sup>, Alexander Nemeth<sup>2</sup>, Bruce Cohen<sup>2</sup>, Molly Bright<sup>2</sup>, Milap Sandhu<sup>1,2</sup>  
*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**

Caroline Selb<sup>1</sup>, Jessica Manning<sup>1</sup>, Matthew J. Barrett<sup>2</sup>, Brian D. Berman<sup>2</sup>, Peter Pidcoke<sup>3</sup>, Dean Krusienski<sup>4</sup>, Brooke Dexheimer<sup>1</sup>  
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Caroline Perron<sup>1,2</sup>, Julie Restout<sup>1,2</sup>, Lucie Chesné<sup>2</sup>, Héroïse Bourgeois<sup>2</sup>, Julie Comtois<sup>2</sup>, Nancy Dubé<sup>2</sup>, Diana Zidarov<sup>1,2</sup>, Dorothy Barthélemy<sup>1,2</sup>, Marika Demers<sup>1,2</sup>

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## **P. 63 Cortical Correlates Of Attention Allocation In People With Parkinson's Disease**

Melissa Pool, Sarah J Conklin, 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**

Thomas E. Augenstein<sup>1</sup>, Janmesh Ukey<sup>2</sup>, Chandramouli Krishnan<sup>1</sup>, Amit Sethi<sup>2</sup>

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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**

Julia X. Ivanick<sup>1,2</sup>, Yi-Ling Kuo<sup>1</sup>

*1SUNY Upstate, Syracuse, USA. 2University of Southern California, Los Angeles, USA.*

## **P. 66 Feasibility And Preliminary Efficacy Of Dynamic Treadmill Walking For Improving Propulsion Symmetry In Post-Stroke Gait**

Brooke Hall<sup>1,2</sup>, Caitlin Banks<sup>1,2</sup>, Ryan Roemmich<sup>1,2</sup>

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Pashtun Shahim<sup>1,2,3</sup>, Shashwati Geed<sup>4</sup>, Leighton Chan<sup>2</sup>, Matthew Edwardson<sup>3</sup>

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*4Department of Physical Therapy and Movement Sciences, The University of Texas at El Paso, El Paso, USA.*

## **P. 68 Impaired Proprioception After Stroke Affects The Ability To Perform Complex, Sequenced Movements**

Amelia Decarie<sup>1</sup>, Joanna E. Hoh<sup>1</sup>, Tarkeshwar Singh<sup>2</sup>, Jennifer A. Semrau<sup>1</sup>

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**P. 69 Structural and functional connectivity after stroke and in association with behavior**

Anne Schwarz<sup>1,2</sup>, Keith Jamison<sup>3</sup>, Lorie Brinkman<sup>1,2</sup>, Isabel Cardoso Ferreira<sup>1,2</sup>, Nina Soleimani<sup>1,2</sup>, Andrea Stehman<sup>1,2</sup>, Marc Feldman<sup>2</sup>, Natalie Olivares<sup>1,2</sup>, Michael Su<sup>1,2</sup>, Amy Kuceyeski<sup>3</sup>, Steven Cramer<sup>1,2</sup>

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

Thomas E. Augenstein<sup>1</sup>, Shreeya Buddaraju<sup>1</sup>, Aryan Bhagat<sup>1</sup>, Heidi Kraemer<sup>1</sup>, Edward S. Claflin<sup>2</sup>, C. David Remy<sup>3</sup>, Chandramouli Krishnan<sup>1</sup>

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

Fisayo Aloba<sup>1</sup>, Alexandra Slusarenko<sup>2</sup>, Maithri Muthukumar<sup>3</sup>, Sanjana Ghosh<sup>3</sup>, Jay Patel<sup>4</sup>, Michael Borich<sup>2</sup>, Trisha Kesar<sup>2</sup>

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

Aaron Huynh<sup>1,2</sup>, Laura Houle<sup>1</sup>, Kobina Asafu-Adjaye<sup>1</sup>, Ceri Williams<sup>1</sup>, Paige Hepple<sup>1</sup>, Ania Busza<sup>1,2,3,4</sup>

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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**

Ghaleb Almalki<sup>1,2,3</sup>, Emily Grattan<sup>1</sup>, Lauren Terhorst<sup>1</sup>, Elizabeth R. Skidmore<sup>1</sup>, Amit Sethi<sup>4</sup>

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

Michelle Corkrum, Tong Wen, Jason Carmel  
*Columbia University, New York, USA.*

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## **P. 76 Deficits in Executive Function Selectively Contribute to Upper Extremity Motor Impairment After Stroke**

Julie DiCarlo<sup>1,2</sup>, Daniel Barch<sup>1,2</sup>, Nathan Ward<sup>2</sup>, David Lin<sup>1</sup>

*1Massachusetts General Hospital, Boston, USA. 2Tufts University, Medford, USA.*

## **P. 77 Reactive Stepping Strategies During Lateral Slip Perturbations in People With Multiple Sclerosis**

Jiyun Ahn, Daniel Peterson

*Arizona State University, Phoenix, USA.*

## **P. 78 Effect of Different Polarities of Cerebellar Transcranial Direct Current Stimulation on Motor Adaptation During Split-Belt Treadmill Training in Individuals with Chronic Stroke**

Jiixin JIANG, 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**

Marianna Leite<sup>1</sup>, Rafael Eduardo Streit<sup>2</sup>, Pedro Reginato<sup>2</sup>, Elizabet Weba<sup>3</sup>, Maria Theresa Leal Galvão<sup>4</sup>, Vivian Gagliardi<sup>5</sup>, Michel F. Machado<sup>6</sup>

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## **P. 80 Closing the Gap in Stroke Recovery: Data Science and Analytics for Precision Rehabilitation (DAPR)**

Keith Lohse<sup>1</sup>, James Finley<sup>2</sup>, Octavio Marin-Pardo<sup>2</sup>, Sook-Lei Liew<sup>2</sup>

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## **P. 81 Brain-Behavioral Relationships Post-Stroke: Preliminary Results From A Backward Walking Training Program**

Dorian Rose<sup>1,2,3</sup>, Abigail Water<sup>1,2</sup>, Kelly Hawkins<sup>1,2</sup>, John Williamson<sup>1,2</sup>, Ronald Cohen<sup>1,2</sup>

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## **P. 82 “Where would you stimulate?” Beliefs about anatomical relevance for enhancing motor performance with non-invasive electrical stimulation**

Bernardo Villa-Sánchez<sup>1</sup>, Andrew Hooyma<sup>2</sup>, Seth Hays<sup>3</sup>, Sydney Schaefer<sup>1</sup>

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**P. 83 Expectancy Effects of Transcranial Direct Current Stimulation on Motor Skill Learning**

Bernardo Villa-Sánchez<sup>1</sup>, Andrew Hooyman<sup>2</sup>, Heidi Schambra<sup>3</sup>, Benedict Alter<sup>4</sup>, Sydney Schaefer<sup>1</sup>  
*1School of Biological and Health Systems Engineering, Arizona State University, Tempe, USA. 2Department of Physical Therapy, Chapman University, Irvine, USA. 3Department of Neurology and Department of Physical Medicine and Rehabilitation, Grossman School of Medicine, New York University, New York, USA. 4Department of Anesthesiology and Perioperative Medicine, University of Pittsburgh, Pittsburgh, USA.*

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

Kiersten M. McCartney<sup>1,2</sup>, Ruiqi Yan<sup>1,2</sup>, Rujula Upasani<sup>3</sup>, Stephen Hampton<sup>1</sup>, Robert E. Burke<sup>1,2</sup>, M. Kit Delgado<sup>1,2</sup>, Kimberly J. Waddell<sup>1,2,4</sup>  
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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 Lafitte<sup>1</sup>, Hideki Kadone<sup>2</sup>, Masakazu Taketomi<sup>2</sup>, Yukiyo Shimizu<sup>3</sup>, Chun Kwang Tan<sup>1</sup>, Shigeki Kubota<sup>4</sup>, Yasushi Hada<sup>3</sup>, Kenji Suzuki<sup>5</sup>, Masashi Yamazaki<sup>4</sup>  
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**P. 87 Electroencephalogram Beta-Frequency Band Is Associated With Proprioceptive Processing And Recalibration Of Passive Finger Movements**

Hunter Hayes<sup>1</sup>, Monica Torricella<sup>2,1</sup>, David Reinkensmeyer<sup>1</sup>, Disha Gupta<sup>3,4</sup>, Andria Farrens<sup>5,1</sup>  
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**P. 88 Evolution Of Three Distinct Motor Learning Processes At Different Stages Of Stroke Recovery: A Feasibility Study**

Rukshana Poudel<sup>1</sup>, Hinshing Mai<sup>2</sup>, Hannah Cone<sup>3</sup>, Niko Fullmer<sup>3</sup>, Emily Rosario<sup>3</sup>, Carolee Winstein<sup>1</sup>, Nicolas Schweighofer<sup>1</sup>  
*1University of Southern California, Division of Biokinesiology and Physical Therapy, Los Angeles, USA. 2University of Southern California, Computer Science, Los Angeles, USA. 3Casa Colina Research Institute, Pomona, USA.*

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

Devon Derrenbacher<sup>1</sup>, Brady Thomas<sup>1</sup>, Brad Manor<sup>2</sup>, Alvaro Pascual-Leone<sup>2</sup>, Melike Kahya<sup>1</sup>  
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Catherine Lang<sup>1</sup>, Marghureta Bland<sup>1</sup>, Caitlin Newman<sup>2</sup>, Christine Gordon<sup>1</sup>, Carey Holleran<sup>1</sup>, Allison Miller<sup>1</sup>, Chelsea Macpherson<sup>1</sup>, Christopher Dy<sup>1</sup>, Lindsay Peterson<sup>1</sup>, Keith Lohse<sup>1</sup>  
*1WashU Medicine, St. Louis, USA. 2Shirley Ryan Ability Lab, Chicago, USA.*

**P. 91 Cognitive and Motor Impairment Patterns among HIV+ Adults with and without Stroke in Botswana**

Michelle J. Johnson<sup>1,2</sup>, Rochelle Mendonca<sup>3</sup>, Frances Shofer<sup>1</sup>, Ngadzi Goitseman<sup>2</sup>, Lefika Bothomilwe<sup>2</sup>, Ntsatsi Mogorosi<sup>2</sup>, Justus Mackenzie Nthitu<sup>4</sup>, Cassandra Ocampo-Ilgan<sup>5</sup>, Billy Tsim<sup>5</sup>, Lingani Mbakile-Mahlanza<sup>5</sup>, Maikutlo Kebaetse<sup>5</sup>  
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**P. 92 Multiplayer Robotic Gaming: A New Direction for Community-Based Stroke Rehabilitation**

Erica Waters<sup>1</sup>, Nova Meng<sup>1</sup>, Natalia Stroutinsky Sobotka<sup>2</sup>, Pamela Z. Cacchione<sup>1,3,4,5</sup>, Rochelle J. Mendonca<sup>6</sup>, Michelle J. Johnson<sup>1</sup>  
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**P. 93 Neurotransmitter Imbalance from MRSI in Chronic Hemiparetic Stroke: A Pilot Study**

Rita Huan-Ting Peng<sup>1,2</sup>, Yudu Li<sup>1</sup>, Yibo Zhao<sup>1</sup>, Zhi-Pei Liang<sup>1</sup>, Yuan Yang<sup>1,2</sup>  
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**P. 94 Neural contributors to impaired interlimb coordination in people with chronic stroke**

Brice Cleland, Natalya Brown, Sangeetha Madhavan  
*University of Illinois Chicago, Chicago, USA.*

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

Demi Brizee<sup>1,2</sup>, Zeyu Xu<sup>1,2</sup>, Min Wu<sup>2</sup>, Nicholas Shackle<sup>1</sup>, Lara Biller<sup>1,2</sup>, Grace Kimber<sup>2</sup>, Nina Hilton<sup>2</sup>, Tessa Yates<sup>2</sup>, Gabriel Manrique Gutierrez<sup>2</sup>, Faye Tabone<sup>1,2</sup>, Andrew Sharott<sup>1</sup>, Anton Pick<sup>2,3</sup>, Melanie Flemming<sup>1,2</sup>, Catharina Zich<sup>1,2</sup>, Charlotte Stagg<sup>1,2</sup>  
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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 Schwertfeger<sup>1</sup>, Rikhil Makwana<sup>2</sup>

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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. Phillips<sup>1,2</sup>, Ena V. Sullivan<sup>1</sup>, Anna Seydell-Greenwald<sup>1</sup>

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

Sydney Schaefer<sup>1,2</sup>, Alexandra Reed<sup>3,2</sup>, Andrew Hooyman<sup>4</sup>, Lee Ryan<sup>5,2</sup>, Megan Johnson<sup>6</sup>, Matthew De Both<sup>6</sup>, Saurabh Sharma<sup>6</sup>, Darian Chambers<sup>6</sup>, Matthew Calamia<sup>7</sup>, Matthew Huentelman<sup>6,2</sup>

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**P. 100 The unique impact of medication usage on processing speed versus verbal memory among a nation-wide cohort**

Andrew Hooyman<sup>1</sup>, Megan Johnson<sup>2</sup>, Sydney Schaefer<sup>3</sup>, Lee Ryan<sup>4</sup>, Matt Huentelman<sup>2</sup>

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**P. 101 Balance confidence and walking activity have factor-specific relationships after stroke**

Jeremy Crenshaw, Grace Kellaher, Ryan Pohlig, Tamara Wright, Darcy Reisman

*University of Delaware, Newark, DE, USA.*

**P. 102 Multi-Scale Learning Trajectories in BCI-FES Therapy for Chronic Stroke Survivors: Implications for Personalized Rehabilitation Dosing**

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

*Casa Colina Hospital and Centers for Healthcare, Pomona, USA.*

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Dionne Barajas, Jeanette Gumarang, Sara Delgado, David Patterson, Justin Phillips, Neha Dhadwal, Emily Rosario, Caroline Schnakers

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Jessica Bath, Valerie Block

University of California San Francisco, San Francisco, USA.

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Jacob Spencer, Brice Cleland, Sangeetha Madhavan

University of Illinois Chicago, Chicago, USA.

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Jackeline Tafur-Oviedo, James Finley

University of Southern California, Los Angeles, USA.

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Spencer Dunbar<sup>1,2</sup>, Emmanuel Adehunoluwa<sup>1,3</sup>, Rhys Switzer<sup>1,2</sup>, Joseph Epperson<sup>1</sup>, Robert Rennaker<sup>1,3</sup>, Michael Kilgard<sup>1,3</sup>, Seth Hays<sup>1,2</sup>

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Saeid Kian<sup>1,2,3</sup>, Joseph Epperson<sup>1</sup>, Zachary Bynum<sup>1,2,3</sup>, Robert Rennaker<sup>1,3</sup>, Seth Hays<sup>1,4,3</sup>, Michael Kilgard<sup>1,3</sup>

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Luis Garcia-Fernandez<sup>1</sup>, Juan C. Perez-Ibarra<sup>1</sup>, Andria Farrens<sup>2,1</sup>, Vicky Chan<sup>1</sup>, Joshua Macopson<sup>1</sup>, David Reinkensmeyer<sup>1</sup>

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Alexandra Slusarenko, Taniel Winner, Fisayo Aloba, Trisha Kesar

Emory University School of Medicine, Department of Rehabilitation Medicine, Division of Physical Therapy, Atlanta, USA.

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Liraz Arie, Ehsan Sinaei, Prudence Plummer

*MGH Institute of Health Professions, Boston, USA.*

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Oindrila Sinha<sup>1,2</sup>, Laura Grace<sup>1</sup>, William Pleasant<sup>1</sup>, Connor Pate<sup>1</sup>, Michael Borich<sup>2</sup>, Lewis Wheaton<sup>1</sup>

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Abed Khorasani<sup>1</sup>, Cynthia Gorski<sup>1</sup>, Richard Harvey<sup>2</sup>, Jinsook Roh<sup>3</sup>, Marc Slutzky<sup>1</sup>

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Marika Demers<sup>1,2</sup>, Jeremy Nguyen<sup>1,2</sup>, Cyril Duclos<sup>1,2</sup>, Johanne Higgins<sup>1,2</sup>, Sylvie Nadeau<sup>1,2</sup>, Dahlia Kairy<sup>1,2</sup>

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Bennett Alterman, Austin Mohler, Jaclyn Stephens

*Colorado State University, Fort Collins, USA.*

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Célia Delcamp<sup>1,2</sup>, Zhibin Zhou<sup>3,4</sup>, Ramesh Srinivasan<sup>3,5</sup>, Steven Cramer<sup>1,2</sup>

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Sofia Canul<sup>1</sup>, Andria Farrens<sup>2</sup>, Vicky Chan<sup>1</sup>, Ian Russell<sup>3</sup>, Daniel Zondervan<sup>3</sup>, An Do<sup>4</sup>, David Reinkensmeyer<sup>1</sup>

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

Raziyeh Baghi, Robert Nickl, Kai Sheng Khor, Samantha Wu, Preeti Raghavan

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Guillem Cornella-Barba, Natanya Gunn, Vicky Chan, David J. Reinkensmeyer

*University of California Irvine, Irvine, USA.*

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Sidra Manzoor<sup>1</sup>, Matthew Cohen<sup>2</sup>, Ryan Pohlig<sup>3</sup>, Susanne Morton<sup>4</sup>, Elizabeth Thompson<sup>4</sup>, Henry Wright<sup>4</sup>, Tamara Wright<sup>4</sup>, Darcy Reisman<sup>1,4</sup>

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

Joanna E. Hoh, Darcy S. Reisman, Jennifer A. Semrau

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