

# POSTER SESSION I

Thursday, March 31, 2022 • 6:00 pm – 8:00 pm • Salon II

## **P.1 Decoding speech from human motor cortex using an intracortical brain computer interface**

Daniel Rubín<sup>1,2</sup>, Tommy Hosman<sup>3</sup>, Anastasia Kapitonova<sup>1</sup>, John Simeral<sup>4,3</sup>, Sydney Cash<sup>1,2</sup>, Leigh Hochberg<sup>4,3,1,2</sup>  
1Massachusetts General Hospital, Boston, USA. 2Harvard Medical School, Boston, USA. 3Brown University, Providence, USA. 4VA Providence Health Care System, Providence, USA

## **P.2 Worse Performance of Instrumental Activities of Daily Living Associates with Markers of Neurodegeneration**

Audrey Keleman, Rebecca Bollinger, Julie Wisch, Beau Ances, Susan Stark  
Washington University School of Medicine, St. Louis, MO, USA

## **P.3 Association between online motor-cognitive game performance and APOE e4 carrier status among older adult Mindcrowd users**

Andrew Hooyman<sup>1</sup>, Matt Huentelman<sup>2</sup>, Sydney Schaefer<sup>1</sup>  
1Arizona State University, Tempe, USA. 2The Translational Genomics Research Institute, Phoenix, USA

## **P.4 Phonological Component Analysis augmented by anodal HD-tDCS: A case study examining behavioral and fMRI data in a patient with aphasia**

Sara Pillay<sup>1</sup>, Cindy Li<sup>1</sup>, Priyanka Shah-Basak<sup>1</sup>, Joe Heffernan<sup>1</sup>, Lisa Conant<sup>1</sup>, Anna Frieberg<sup>1</sup>, Shelley Laitinen<sup>1</sup>, Samantha Hudson<sup>1</sup>, Jed Mathis<sup>1</sup>, Sabine Heuer<sup>2</sup>, Roy Hamilton<sup>3</sup>, Jeffrey Binder<sup>1</sup>  
1Medical College of Wisconsin, Milwaukee, USA. 2University Wisconsin-Milwaukee, Milwaukee, USA. 3University of Pennsylvania, Philadelphia, USA

## **P.5 Efficacy of Corsi Block Tapping Task as a viable visuospatial training approach: A proof-of-concept**

Sydney Schaefer, Andrew Hooyman, Nicole Haikalis, Randy Essikpe, Peiyuan Wang  
Arizona State University, Tempe, USA

## **P.6 Identifying Cognitive Predictors to Reactive Step Training in People with Parkinson's Disease**

Andrew Monaghan<sup>1</sup>, Jessica Trevino<sup>1</sup>, Jordan Barajas<sup>1</sup>, Lee Dibble<sup>2</sup>, Shyamal Mehta<sup>3</sup>, Daniel Peterson<sup>1,4</sup>  
1Arizona State University, Phoenix, USA. 2University of Utah, Salt Lake City, USA. 3Mayo Clinic, Scottsdale, USA. 4Phoenix VA Health Care Center, Phoenix, USA

## **P.7 Paired stimulation targeting spinal cord is more effective than targeting sensorimotor cortex**

Ahmet Asan, Ajay Pal, Jason Carmel  
Columbia University, New York, USA

## **P.8 Improvement in capacity for activity vs. improvement in performance of activity in daily life during outpatient neurorehabilitation**

Catherine E. Lang<sup>1</sup>, Carey L. Holleran<sup>1</sup>, Michael J Strube<sup>1</sup>, Terry D. Ellis<sup>2</sup>, Caitlin A. Newman<sup>3</sup>, Meghan Fahey<sup>3</sup>, Tamara R. DeAngelis<sup>2</sup>, Timothy Nordahl<sup>2</sup>, Darcy S. Reisman<sup>4</sup>, Gammon M. Earhart<sup>1</sup>, Keith R. Lohse<sup>1</sup>, Marghuretta D. Bland<sup>1</sup>  
1Washington University School of Medicine, Saint Louis, USA. 2Boston University, Boston, USA. 3Shirley Ryan Ability Lab, Chicago, USA. 4University of Delaware, Newark, USA

## **P.9 A Novel Trunk-based Index of Performance as a Biomarker of Upper Limb Motor Impairment in Stroke**

Daniele Piscitelli<sup>1,2</sup>, Melanie C. Baniña<sup>1,2</sup>, Timothy K. Lam<sup>3</sup>, Kay-Ann Allen<sup>3</sup>, Joyce L. Chen<sup>3,4</sup>, Mindy F. Levin<sup>1,2</sup>  
1School of Physical and Occupational Therapy, McGill University, Montreal, Canada. 2Feil/Oberfeld Jewish Rehabilitation Hospital/CRIR Research Centre, Laval, Canada. 3Hurvitz Brain Sciences Research Program, Sunnybrook Research Institute, Toronto, Canada. 4Faculty of Kinesiology and Physical Education, University of Toronto, Toronto, Canada

## **P.10 Willed movements versus passive observation during Mirror Therapy and Video Therapy in hemiplegic patients: a behavioral and EEG maps comparison.**

Davy Luneau, Pascal Giroux<sup>1,2</sup>, Ahmed Adham<sup>2</sup>, Clara Pfenninger<sup>3</sup>, Diana Rimaud<sup>1</sup>, Julia Touly<sup>1</sup>  
1Adult PRM department, University Hospital of Saint-Etienne, Saint-Etienne, France. 2Lyon Neuroscience Research Center (CRNL), Trajectoires team, INSERM UMR-S U1028, CNRS UMS 5292, Lyon, France. 3Laboratoire Inter-Universitaire de Biologie de la Motricité, EA 7424, Univ Lyon, UJM-Saint-Etienne, Saint-Etienne, France

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## **P.12 Relating Reactive Step Length and Step Latency to Falls in People with Multiple Sclerosis**

Andrew Monaghan<sup>1</sup>, Avril Mansfield<sup>2,3,4</sup>, Jessie Huisinga<sup>5</sup>, Daniel Peterson<sup>1,6</sup>  
<sup>1</sup>Arizona State University, Phoenix, USA. <sup>2</sup>KITE- Toronto Rehabilitation Institute, Toronto, Canada. <sup>3</sup>University of Toronto, Toronto, Canada. <sup>4</sup>Sunnybrook Research Institute, Toronto, Canada. <sup>5</sup>University of Kansas Medical Center, Kansas City, USA. <sup>6</sup>Phoenix VA Health Care Center, Phoenix, USA

## **P.13 Sensor-based categorization of upper limb performance in daily life.**

Jessica Barth, Keith Lohse, Jeffrey Konrad, Margherita Bland, Catherine Lang  
Washington University in St. Louis, St. Louis, USA

## **P.14 A Systematic Decomposition of Upper-Body Dressing**

Emily Fokas<sup>1</sup>, Avinash Parnandi<sup>1</sup>, Zuha Ahmed<sup>1</sup>, Anita Venkatesan<sup>1</sup>, Natasha Pandit<sup>1</sup>, Audre Wirtanen<sup>1</sup>, Dawn Nilsen<sup>2</sup>, Heidi Schambra<sup>1</sup>  
<sup>1</sup>NYU Langone, New York, USA. <sup>2</sup>Columbia University, New York, USA

## **P.15 Comparing the accuracy of open-source pose estimation methods for measuring gait kinematics**

Edward Washabaugh<sup>1,2</sup>, Thanikai Adhithiyam Shanmugam<sup>2</sup>, Rajiv Ranganathan<sup>3</sup>, Chandramouli Krishnan<sup>2,4</sup>  
<sup>1</sup>Wayne State University, Detroit, USA. <sup>2</sup>Michigan Medicine, Ann Arbor, USA. <sup>3</sup>Michigan State University, East Lansing, USA. <sup>4</sup>Michigan Robotics Institute, Ann Arbor, USA

## **P.16 Exoskeletons increase paretic limb use in stroke survivors during a bimanual virtual reality reaching task**

Alexander Brunfeldt<sup>1</sup>, Barbara Bregman<sup>1</sup>, Peter Lum<sup>2</sup>  
<sup>1</sup>Georgetown University, Washington, USA. <sup>2</sup>Catholic University of America, Washington, USA

## **P.17 Motor Imagery has Variable Effects on Peripheral Nerve Recovery**

Taewon Kim<sup>1</sup>, Susan Mackinnon<sup>1</sup>, Jana Dengler<sup>2,3</sup>, Benjamin Philip<sup>1</sup>  
<sup>1</sup>Washington University School of Medicine, Saint Louis, USA. <sup>2</sup>Sunnybrook Health Sciences Centre, Toronto, Canada. <sup>3</sup>University of Toronto, Toronto, Canada

## **P.18 Feasibility and Impact of transcranial photobiomodulation on fine hand motor skill learning in non-disabled young adults.**

Alexandra Messur, Jocelyn Pentec, Bokkyu Kim  
SUNY Upstate Medical University, Syracuse, USA

## **P.19 Predicting a functional rehabilitation outcome in chronic stroke survivors via a hierarchical Bayesian model of motor learning.**

Nicolas Schweighofer<sup>1</sup>, Dongze Ye<sup>2</sup>, David, Z. D'Argenio<sup>3</sup>, Carolee Winstein<sup>1</sup>  
<sup>1</sup>Biokinesiology and Physical Therapy, University of Southern California, Los Angeles, USA. <sup>2</sup>Computer Science, University of Southern California, Los Angeles, USA. <sup>3</sup>Biomedical Engineering, University of Southern California, Los Angeles, USA

## **P.20 Targeted Plasticity Therapy for Upper Limb Rehabilitation in Spinal Cord Injury**

Emmanuel Adehunoluwa<sup>1,2</sup>, Joe Epperson<sup>1,3</sup>, Chad Swank<sup>4</sup>, Christie Stevens<sup>4</sup>, Danae Arnold<sup>4</sup>, Jaime Gillespie<sup>4</sup>, Erina Sarker<sup>4</sup>, Jane Wigginton<sup>1</sup>, Michael Foreman<sup>4</sup>, Richard Naftalis<sup>4</sup>, Rita Hamilton<sup>4</sup>, Amy Porter<sup>1</sup>, Robert Rennaker<sup>1,2</sup>, Seth Hays<sup>1,3</sup>, Michael Kilgard<sup>1,2</sup>  
<sup>1</sup>Texas Biomedical Device Center, University of Texas at Dallas, Richardson, USA. <sup>2</sup>School of Behavioral and Brain Sciences, University of Texas at Dallas, Richardson, USA. <sup>3</sup>Erik Jonsson School of Engineering and Computer Science, University of Texas at Dallas, Richardson, USA. <sup>4</sup>Baylor Scott & White Institute for Rehabilitation, Dallas, USA

## **P.21 Improved Post-Stroke Motor Recovery with Alternate Day Fasting in Mice.**

Mahlet Mersha, Robert Hubbard, Steven Zeiler  
Johns Hopkins, Baltimore, USA

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## **P.22 A preliminary investigation of the neural correlates of balance performance in healthy adults.**

Vyoma Parikh, Ann Medley, Hui-Ting Goh  
Texas Woman's University, Dallas, USA

## **P.23 Interaction of transcranial direct current stimulation (tDCS) & visual feedback in an ankle motor control task**

Mark Cummings, Aditi Doshi, Farid Ihmoud, Lubna Shah, Sangeetha Madhavan  
University of Illinois at Chicago, Chicago, USA

## **P.24 Feasibility of error augmentation feedback for upper limb rehabilitation in stroke survivors**

Caroline Rajda<sup>1</sup>, Sigal Berman<sup>2</sup>, Shelly Levy-Tzedek<sup>2</sup>, Philippe Archambault<sup>1</sup>, Farnaz Ghazali Jahromi<sup>1</sup>, Mindy Levin<sup>1</sup>  
<sup>1</sup>McGill University, Montreal, Canada. <sup>2</sup>Ben-Gurion University, Negev, Israel

## **P.25 Sing for your Saunter: Musical Cues to Improve Gait in People With Parkinson Disease With and Without Dementia**

Lauren Tueth, Gammon Earhart, Elinor Harrison  
Washington University School of Medicine, St Louis, USA

## **P.26 An objective method for analyzing ipsilateral motor evoked potentials (iMEPs) in stroke survivors with severe upper limb hemiplegia**

Akhil Mohan<sup>1</sup>, Xin Li<sup>1</sup>, Jayme S Knutson<sup>2</sup>, Morgan Widina<sup>1</sup>, Bei Zhang<sup>3</sup>, Ela B Plow<sup>1</sup>, David A Cunningham<sup>2</sup>  
<sup>1</sup>Cleveland Clinic Lerner Research Institute, Cleveland, USA. <sup>2</sup>MetroHealth Rehabilitation Institute, Cleveland, USA. <sup>3</sup>Case Western Reserve University, Cleveland, USA

## **P.27 Multimodal Longitudinal Assessment of Infant Brain Organization and Recovery in Perinatal Brain Injury**

Ellen Sutter<sup>1,2</sup>, Catarina Saiote<sup>2</sup>, Ryan McAdams<sup>2</sup>, Douglas Dean III<sup>2</sup>, Raghavendra Rao<sup>1</sup>, Michael Georgieff<sup>1</sup>, Bernadette Gillick<sup>2,1</sup>  
<sup>1</sup>University of Minnesota, Minneapolis, USA. <sup>2</sup>University of Wisconsin-Madison, Madison, USA

## **P.28 Enabling Unsupervised Closed-loop Vagus Nerve Stimulation During Rehabilitation for Stroke or Spinal Cord Injury**

Joseph Epperson<sup>1,2</sup>, Eric Meyers<sup>1</sup>, David Pruitt<sup>1</sup>, Joel Wright<sup>1</sup>, Rachael Hudson<sup>1,3</sup>, Emmanuel Adehunoluwa<sup>1,3</sup>, Y-Nhy Nguyen-Duong<sup>1,3</sup>, Chad Swank<sup>4</sup>, Christi Stevens<sup>4</sup>, Jaime Gillespie<sup>4</sup>, Danae Arnold<sup>4</sup>, Jane Wigginton<sup>1,4</sup>, Robert Rennaker<sup>1,2,3</sup>, Michael Kilgard<sup>1,3</sup>, Seth Hays<sup>1,2</sup>  
<sup>1</sup>Texas Biomedical Device Center, Richardson, USA. <sup>2</sup>Erik Jonsson School of Engineering and Computer Science, Richardson, USA. <sup>3</sup>School of Behavioral and Brain Sciences, Richardson, USA. <sup>4</sup>Baylor Scott and White Institute for Rehabilitation, Dallas, USA

## **P.29 Unraveling neuro-motor control deficits in healthy aging: Implications for neurorehabilitation**

Daniele Piscitelli<sup>1</sup>, Rachael Walton-Mouw<sup>2</sup>, Stanislaw Solnik<sup>2,3</sup>  
<sup>1</sup>School of Physical and Occupational Therapy, McGill University, Montreal, Canada. <sup>2</sup>University of North Georgia, Dahlonega, USA. <sup>3</sup>University of Health and Sport Sciences in Wroclaw, Wroclaw, Poland

## **P.30 Effects of Rhythmic-Based and Tonal-Based Music Interventions on Upper Extremity Movements in Individuals with Parkinson's Disease: A Scoping Review**

Yi-An Chen, Emily Bell, Julia Baker, Meredith Parrott, Jessica Rosales  
Georgia State University, Atlanta, USA

## **P.31 Age Related Differences in Kinematic Responses While Walking Over A Compliant Surface**

Nesreen Alissa, Woohyoung Jeon, Ruth Akinlosotu, Kelly Westlake  
University of Maryland, Baltimore, USA

## **P.32 The Impact of SSRIs on Motor and Visual Recovery in Stroke Patients Undergoing BCI Intervention**

Anthony Bui<sup>1</sup>, Alexander Remsik<sup>2</sup>, Vivek Prabhakaran<sup>2</sup>  
<sup>1</sup>University of Wisconsin School of Medicine and Public Health, Madison, USA. <sup>2</sup>University of Wisconsin School of Medicine and Public Health - Department of Radiology, Madison, USA

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## **P.33 NeuroCuresNY: A Novel Clinical Trial Platform to Find Treatments for Chronic Neurologic Disability**

M. Cristina Falo<sup>1</sup>, Marissa Wuennemann<sup>1</sup>, Amy Bialek<sup>1</sup>, Susan Wortman-Jutt<sup>1</sup>, Jeremy Hill<sup>2,3</sup>, Russell Hardesty<sup>2</sup>, Timothy Fake<sup>2</sup>, Jonathan Wolpaw<sup>2,3</sup>, Bradford Berk<sup>4,5</sup>, Rajiv Ratan<sup>1,6</sup>, [Tomoko Kitago](#)<sup>1,7</sup>  
*1Burke Neurological Institute, White Plains, USA. 2National Center for Adaptive Neurotechnologies, Stratton VA Medical Center, Albany, USA. 3State University of New York at Albany, Albany, USA. 4Aab Cardiovascular Research Institute, Department of Medicine, University of Rochester School of Medicine and Dentistry, Rochester, USA. 5University of Rochester Neurorestoration Institute, University of Rochester School of Medicine and Dentistry, Rochester, USA. 6Feil Family Brain and Mind Research Institute, Weill Cornell Medicine, New York, USA. 7Department of Neurology, Weill Cornell Medicine, New York, USA*

## **P.34 Absence of perilesional neuroplastic recruitment in chronic post-stroke aphasia**

[Andrew DeMarco](#), Candace van der Stelt, Sachi Paul, Elizabeth Dvorak, Elizabeth Lacey, Sarah Snider, Peter Turkeltaub  
*Georgetown University, Washington, DC, USA*

## **P.35 Magnetic and electrical stimulation of the corticospinal pathway to assess residual connectivity in individuals with severe hemiparesis post-stroke: Preliminary results of a feasibility study**

[Mary Ellen Stoykov](#)<sup>1,2</sup>, Carley Butler<sup>2</sup>, George F Wittenberg<sup>3,4</sup>, Carolee J Winstein<sup>5</sup>, Monica Perez<sup>1,2</sup>  
*1Shirley Ryan Abilitylab, Chicago, USA. 2Northwestern University, Chicago, USA. 3University of Pittsburgh, Pittsburgh, USA. 4VA Pittsburgh HS, Pittsburgh, USA. 5University of Southern California, Los Angeles, USA*

## **P.36 Identifying racial and ethnic outcome disparities after discharge from acute inpatient rehabilitation.**

[Amanda Herrmann](#)<sup>1,2</sup>, Ella Chrenka<sup>1,2</sup>, Marny Farrell<sup>1,3</sup>, Leah Hanson<sup>1,2</sup>, Steven Jackson<sup>1,2,3</sup>  
*1HealthPartners Neuroscience Center, St. Paul, USA. 2HealthPartners Institute, Bloomington, USA. 3Regions Hospital, St. Paul, USA*

## **P.37 Expectation- and suggestibility-related placebo effects of tDCS on cognitive and motor training**

[Nicole Haikalis](#), Andrew Hooyman, Peiyuan Wang, Sydney Schaefer  
*Arizona State University, Tempe, USA*

## **P.38 Wearable activity monitors as part of physical activity intervention for people with neurodegenerative diseases: opportunities and considerations**

Hai-Jung Steffi Shih<sup>1</sup>, Philippa Morgan-Jones<sup>2</sup>, Katrina Long<sup>3</sup>, Abigail Schreier<sup>1</sup>, [Lori Quinn](#)<sup>1,4</sup>, Ciaran Friel<sup>5</sup>  
*1Teachers College, Columbia University, New York, USA. 2Cardiff University, Cardiff, United Kingdom. 3San Jose State University, San Jose, USA. 4Columbia University Irving Medical Center, New York, USA. 5Northwell Health, New York, USA*

## **P.39 Higher amyloid correlates to greater loneliness during the COVID-19 pandemic**

[Abigail Kehrer-Dunlap](#), Rebecca Bollinger, Beau Ances, Susan Stark  
*Washington University in St. Louis, St. Louis, MO, USA*

## **P.40 Ecological momentary assessment of post-amputation pain as an accurate and complementary alternative to traditional pain assessment**

[Kelli Buchanan](#), Binal Motawar, Scott Frey  
*University of Missouri, Columbia, USA*

## **P.41 Taking the Assessment of Freezing of Gait from the Lab into the Clinic and the Real World**

[David May](#), Gammon Earhart, Pietro Mazzoni  
*Washington University in St. Louis, St. Louis, MO, USA*

## **P.42 Evidence of excessive hip extension during a step-up task as compensation for distal joint impairment in individuals with bilateral cerebral palsy**

[Vatsala Goyal](#), Theresa Sukal-Moulton  
*Northwestern University, Chicago, IL, USA*

## **P.43 Development of a rehabilitation data repository: the first step to creating a learning health system focused on precision rehabilitation**

[Margaret French](#)<sup>1</sup>, Kelly Daley<sup>2</sup>, Preeti Raghavan<sup>1</sup>, Stephen Wegener<sup>3</sup>, Pablo Celnik<sup>1</sup>  
*1Johns Hopkins University, Baltimore, USA. 2Johns Hopkins Hospital, Baltimore, USA. 3Johns Hopkins University, Baltimore, USA*

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## **P.44 Healthcare Resource Utilization and Costs in Adult Patients With Spasticity – A Matched Cohort Analysis**

Michael Hull<sup>1</sup>, Vamshi Ruthwik Anupindi<sup>1</sup>, Jing He<sup>1</sup>, Natalya Danchenko<sup>2</sup>, Mitchell DeKoven<sup>1</sup>, [Jonathan Bouchard](#)<sup>3</sup>  
<sup>1</sup>IQVIA, Falls Church, USA. <sup>2</sup>Ipsen, Boulogne-Billancourt, France. <sup>3</sup>Ipsen, Cambridge, USA

## **P.45 Daily life upper limb use asymmetric in below-elbow amputees**

Binal Motawar, [Kelli Buchanan](#), Scott Frey  
University of Missouri, Columbia, USA

## **P.46 Role of the Vestibular System in the control of locomotion**

[Carl Tchoumi](#)<sup>1</sup>, Mindy Levin<sup>1</sup>, Anatol Feldman<sup>2</sup>  
<sup>1</sup>McGill University, Montreal, Canada. <sup>2</sup>Université de Montreal, Montreal, Canada

## **P.47 A system to test forepaw touch in rodents shows stability in health and loss of function with injury**

[Derrick Yoo](#)<sup>1</sup>, Aditya Ramamurthy<sup>1</sup>, Justin Lee<sup>1</sup>, Tong Chun Wen<sup>1</sup>, Andrew Sloan<sup>2</sup>, Jason Carmel<sup>1</sup>  
<sup>1</sup>Columbia University, New York, USA. <sup>2</sup>Vulintus Inc, Lafayette, USA

## **EXHIBIT HOURS**

### **OPEN HOURS**

#### **Thursday, March 31st**

6:00 - 8:00 pm --- Opening Reception & Poster Session

#### **Friday, April 1st**

7:00 - 8:00 am --- Mentoring Breakfast

10:00 - 10:30 am --- Break

1:00 - 2:00 pm --- Poster Session & Lunch

3:30 - 4:00 pm --- Break

5:00 - 5:30 pm --- Break

5:30 - 7:00 pm --- Foundation Reception

#### **Saturday, April 2nd**

07:00 - 8:00 am --- Mentoring Breakfast

10:30 - 11:00 am --- Break

# POSTER SESSION II

Friday, April 1, 2022 • 1:00 pm – 2:00 pm • Salon II

## **P.48 Assessing sensorimotor function after stroke. A survey of neurorehabilitation clinicians**

Joanna Eskander<sup>1,2</sup>, Michael Borich<sup>3</sup>, Trisha Kesar<sup>3</sup>, Darcy Reisman<sup>1,4</sup>, Jennifer Semrau<sup>1,2</sup>

*1Department of Biomechanics and Movement Science Program, University of Delaware, Newark, DE, USA. 2Department of Kinesiology and Applied Physiology, University of Delaware, Newark, DE, USA. 3Division of Physical Therapy, Department of Rehabilitation Medicine, Emory University, Atlanta, GA, USA. 4Department of Physical Therapy, University of Delaware, Newark, DE, USA*

## **P.49 Mapping the Human Cervical Spinal Cord with Electrical Stimulation for Neurorehabilitation**

James R. McIntosh<sup>1,2</sup>, Evan F. Joiner<sup>1</sup>, Jacob L. Goldberg<sup>2</sup>, Lynda M. Murray<sup>3,4</sup>, Bushra Yasin<sup>1,2</sup>, Anil Mendiratta<sup>1</sup>, Steven C. Karceski<sup>2</sup>, Earl Thuet<sup>5</sup>, Oleg Modik<sup>2</sup>, Evgeny Shelkov<sup>2</sup>, Christopher Mandigo<sup>1,5</sup>, K. Daniel Riew<sup>1,2,5</sup>, Noam Y. Harel<sup>3,4</sup>, Michael S. Virk<sup>2,5</sup>, Jason B. Carmel<sup>1,2</sup>

*1Columbia University, New York, USA. 2Weill Cornell Medicine, New York, USA. 3Icahn Sch. of Med. at Mount Sinai, New York, USA. 4James J. Peters VA Med. Ctr., Bronx, USA. 5New York Presbyterian, New York, USA*

## **P.50 Spinal Cord Injury: Do Residual Tissue Bridges Effect Neurophysiology and Functional Recovery?**

Alyssa Canales, Marylu Cabello, Alondra Medina, Kelsey Baker

*University of Texas Rio Grande Valley, Edinburg, USA*

## **P.51 Motor Cortical Map Reorganization in Persons with Cervical Spinal Cord Injury (SCI) is Related to Upper Limb Prehension Capability**

Jia Liu<sup>1</sup>, Tarun Arora<sup>2</sup>, Kyle O'Laughlin<sup>1</sup>, Gail Forrest<sup>3</sup>, Svetlana Pundik<sup>4</sup>, Kevin Kilgore<sup>5</sup>, Anne Bryden<sup>5</sup>, Steven Kirshblum<sup>3</sup>, Ela Plow<sup>1</sup>

*1Cleveland Clinic, Cleveland, USA. 2University Health Network, Toronto, Canada. 3Kessler Foundation, West Orange, USA. 4Louis Stokes Cleveland VA Medical Center, Cleveland, USA. 5MetroHealth System, Cleveland, USA*

## **P.52 Intraspinal microstimulation intended for motor rehabilitation modulates spinal nociceptive neural transmission.**

Maria Bandres, Jefferson Gomes, Jacob McPherson

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

## **P.53 Evaluating the Microbiome to Boost Recovery from Stroke: The EMBRS Study**

Tyler Hammond<sup>1</sup>, Arnold Stromberg<sup>1</sup>, Lumy Sawaki<sup>1</sup>, Ai-Ling Lin<sup>2</sup>

*1University of Kentucky, Lexington, KY, USA. 2University of Missouri, Columbia, MO, USA*

## **P.54 Aphasia outcomes are modulated by lesion size and race in chronic stroke survivors**

Davetrina Gadson, Candace van der Stelt, Elizabeth Lacey, Andrew DeMarco, Sarah Snider, Peter Turkeltaub

*Georgetown University School of Medicine, Washington DC, USA*

## **P.55 The Use of Transcranial Magnetic Stimulation for Upper Extremity Motor Assessment at the Bedside During Acute Stroke Hospitalization: A Feasibility Study**

Isha Vora<sup>1</sup>, David Lin<sup>2,3,4</sup>, Yi-Ling Kuo<sup>5</sup>, Russell Banks<sup>6</sup>, Julie DiCarlo<sup>2,3,4</sup>, Leigh Hochberg<sup>2,3,4</sup>, Teresa Kimberley<sup>1</sup>

*1MGH Institute of Health Professions, Boston, USA. 2MGH Center for Neurotechnology and Neurorecovery, Massachusetts General Hospital, Boston, USA. 3Department of Neurology, Massachusetts General Hospital, Boston, USA. 4RR&D Center for Neurorestoration and Neurotechnology, Providence VA Medical Center, Providence, USA. 5SUNY Upstate Medical University, Syracuse, USA. 6Linus Health, Boston, USA*

## **P.56 Abnormal motor control in the arm and not in the finger is linked to increased CReST activity during an arc pointing task in chronic stroke patients**

Myriam Taga<sup>1</sup>, Yoon N. G. Hong<sup>2</sup>, Charalambos C. Charalambous<sup>3</sup>, Sharmila Raju<sup>1</sup>, Jing Lin<sup>1</sup>, Pietro Mazzoni<sup>4</sup>, Jinsook Roh<sup>2</sup>, Heidi M. Schambra<sup>1</sup>

*1Department of Neurology, NYU Langone, School of Medicine, New York, USA. 2Department of Biomedical Engineering, University of Houston, Houston, USA. 3Department of Basic and Clinical Sciences, Medical School, University of Nicosia, Nicosia, Cyprus. 4Department of Neurology, Washington University, School of Medicine in St. Louis, St. Louis, USA*

# POSTER SESSION II

Friday, April 1, 2022 • 1:00 pm – 2:00 pm • Salon II

## **P.57 Polarity dependent effects of bi-hemispheric tDCS when paired with contralaterally controlled functional electrical stimulation (CCFES) on chronic post stroke corticospinal output: A TMS study**

David A. Cunningham<sup>1,2</sup>, Kevin H. Cheng<sup>1,2</sup>, Amy Friedl<sup>2</sup>, Ela B. Plow<sup>3</sup>, Kenneth B. Baker<sup>3</sup>, Richard D. Wilson<sup>1,2</sup>, Jayme S. Knutson<sup>1,2</sup>

*1Case Western Reserve University, Cleveland, USA. 2MetroHealth Center for Rehabilitation Research, Cleveland, USA. 3Cleveland Clinic, Cleveland, USA*

## **P.58 Transcallosal Inhibition in hand and arm muscles of chronic stroke and healthy controls**

Leticia Hayes<sup>1</sup>, Myriam Taga<sup>1</sup>, Charalambos Charalambous<sup>2,3</sup>, Sharmila Raju<sup>1</sup>, Jing Lin<sup>1</sup>, Elisa Stern<sup>1</sup>, Heidi Schambra<sup>1</sup>

*1Department of Neurology, NYU Langone, School of Medicine, New York, USA. 2Department of Basic and Clinical Sciences, Medical School, University of Nicosia, Nicosia, Cyprus. 3Center for Neuroscience and Integrative Brain Research (CENIBRE), Medical School, University of Nicosia, Nicosia, Cyprus*

## **P.59 Sensitivity to change & responsiveness of the upper-extremity Fugl-Meyer in individuals with acute stroke**

Baothy Huynh<sup>1</sup>, David Lin<sup>2</sup>, Julie DiCarlo<sup>2</sup>, Teresa Kimberley<sup>1</sup>, Perman Gochyyev<sup>1</sup>, Jessica Ranford<sup>2</sup>

*1MGH Institute of Health Professions, Boston, USA. 2Massachusetts General Hospital, Boston, USA*

## **P.60 Effects of repetitive transcranial magnetic stimulation of contralesional dorsal premotor cortex on interhemispheric functional connectivity in severe chronic stroke**

Xin Li<sup>1</sup>, David Cunningham<sup>1,2,3,4</sup>, Ken Sakaie<sup>5</sup>, Mark Lowe<sup>5</sup>, Yin-Liang Lin<sup>1,6</sup>, Steven Wolf<sup>7</sup>, Adriana Conforto<sup>8</sup>, Andre Machado<sup>9</sup>, Akhil Mohan<sup>1</sup>, Kyle O'Laughlin<sup>1</sup>, Xiaofeng Wang<sup>10</sup>, Morgan Widina<sup>1</sup>, Ela Plow<sup>1,9</sup>

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## **P.61 Contributions of the more affected arm and hand for bimanual tasks: insights about action selection and performance in chronic stroke survivors**

Marika Demers, Lauri Bishop, Amelia Cain, Nicholas Schweighofer, Carolee Winstein

*University of Southern California, Los Angeles, USA*

## **P.62 Contralesional M1 reorganization depends on stroke lesion volume and functional output of M1 of the lesioned hemisphere.**

Cathrin Buetefisch<sup>1</sup>, Marc Haut<sup>2</sup>, Kate Revill<sup>3</sup>, Scott Shaeffer<sup>4</sup>, Lauren Edwards<sup>4</sup>, Deborah Barany<sup>4,5</sup>, Samir Belagaje<sup>4,6</sup>, Fadi Nahab<sup>4</sup>, Neeta Shenvi<sup>7</sup>, Kirk Easley<sup>7</sup>

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## **P.63 Estimated functional connectivity derived from clinical MRI predicts performance on a cognitive-IADL measure after acute stroke**

Abhishek Jaywant<sup>1</sup>, Joan Toglia<sup>2</sup>, Zijin Gu<sup>3</sup>, Keith Jamison<sup>1</sup>, Faith Gunning<sup>1</sup>, Amy Kuceyeski<sup>1</sup>

*1Weill Cornell Medicine, New York, USA. 2Mercy College, Dobbs Ferry, USA. 3Cornell University, Ithaca, USA*

## **P.64 Persistent asymmetry of aperiodic resting-state neural activity in both cortical and sub-cortical strokes**

Richard Hardstone<sup>1</sup>, Lauren Ostrowski<sup>1</sup>, Aliceson N. Dusang<sup>2</sup>, Catherine Chu<sup>1</sup>, Sydney S. Cash<sup>1</sup>, Steven C. Cramer<sup>3,4</sup>, Leigh R. Hochberg<sup>1,2</sup>, David J. Lin<sup>1,2</sup>

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# POSTER SESSION II

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## **P.65 Examining the Relationships between Measures of Activity Behavior and Physical Health in Individuals with Chronic Stroke**

Allison Miller, Zachary Collier, Darcy S. Reisman  
University of Delaware, Newark, USA

## **P.66 Comorbid anxiety disorder as the strongest predictor of post-stroke depression**

Amber Criswell, BA, Timea Hodics, MD, Camila Quintero, BS, Mario Dulay, PhD  
Houston Methodist Neurological Institute, Houston, USA

## **P.67 The fastest may not be the best: Analysis of the effects of gait speed on multiple biomechanical gait variables post-stroke**

Michael Rosenberg<sup>1</sup>, Justin Liu<sup>1</sup>, Taniel Winner<sup>1,2</sup>, Gordon Berman<sup>1</sup>, Lena Ting<sup>1,2</sup>, Trisha Kesar<sup>1</sup>  
<sup>1</sup>Emory University, Atlanta, USA. <sup>2</sup>Georgia Institute of Technology, Atlanta, USA

## **P.68 Motor overflow in the leg after stroke: minimal role for corticomotor pathways**

Brice Cleland, Sangeetha Madhavan  
University of Illinois at Chicago, Chicago, USA

## **P.69 Impairment estimation from high dimensional motion data during functional task performance**

Avinash Parnandi<sup>1</sup>, Anita Venkatesan<sup>1</sup>, Natasha Pandit<sup>1</sup>, Audre Wirtanen<sup>1</sup>, Emily Fokas<sup>1</sup>, Grace Kim<sup>2</sup>, Dawn Nilsen<sup>3</sup>, Heidi Schambra<sup>1</sup>  
<sup>1</sup>NYU Langone, New York, USA. <sup>2</sup>NYU Steinhardt, New York, USA. <sup>3</sup>Columbia University Medical Center, New York, USA

## **P.70 Detection of Stroke-Induced Spatial Neglect and Prediction of Neglected Visual Targets with an Augmented Reality (AR)-Encephalography (EEG) System**

Jennifer Mak<sup>1</sup>, Deniz Kocanaogullari<sup>1</sup>, Xiaofei Huang<sup>2</sup>, Minmei Shih<sup>1</sup>, Emily Grattan<sup>1</sup>, Sarah Ostadabbas<sup>2</sup>, George F. Wittenberg<sup>1</sup>, Elizabeth Skidmore<sup>1</sup>, Murat Akcakaya<sup>1</sup>  
<sup>1</sup>University of Pittsburgh, Pittsburgh, USA. <sup>2</sup>Northeastern University, Boston, USA

## **P.71 Effect of Gamification with Social Incentives on Increasing Daily Steps after Stroke: A Randomized Clinical Trial**

Kimberly Waddell<sup>1,2</sup>, Mitesh Patel<sup>1,3</sup>, Kayla Clark<sup>1</sup>, Tory Harrington<sup>1,4</sup>, S. Ryan Greysen<sup>1,2</sup>  
<sup>1</sup>University of Pennsylvania, Philadelphia, USA. <sup>2</sup>Crescenz VA Medical Center, Philadelphia, USA. <sup>3</sup>Ascension Health, St. Louis, USA. <sup>4</sup>Continuum Clinical, Philadelphia, USA

## **P.72 Virtual Reality Assessment of Arm Choice Under Cognitive Load**

Cory Potts<sup>1</sup>, Shailesh Kantak<sup>1,2</sup>, Laurel Buxbaum<sup>1</sup>  
<sup>1</sup>Moss Rehabilitation Research Institute, Jefferson University, Elkins Park, USA. <sup>2</sup>Department of Physical Therapy, Arcadia University, Elkins Park, USA

## **P.73 The impact of the COVID-19 pandemic on rehabilitation outcomes and care post-stroke in Quebec**

Palak Vakil<sup>1,2,3</sup>, Perrine Ferré<sup>4</sup>, Johanne Higgins<sup>2,5,6</sup>, Louis-David Beaulieu<sup>7</sup>, Claude Vincent<sup>8,9</sup>, Kimberley Singerman<sup>3</sup>, Diana Zidarov<sup>2,5,6</sup>, Marie-Hélène Milot<sup>10</sup>, Marie-Hélène Boudrias<sup>1,2,3</sup>  
<sup>1</sup>McGill University, Montreal, Canada. <sup>2</sup>Centre for Interdisciplinary Research in Rehabilitation of Greater Montreal, Montreal, Canada. <sup>3</sup>Jewish Rehabilitation Hospital, CISSS-Laval, Laval, Canada. <sup>4</sup>Villa Medica Rehabilitation Hospital, Montreal, Canada. <sup>5</sup>University of Montreal, Montreal, Canada. <sup>6</sup>Institut de réadaptation Gingras-Lindsay-de-Montréal, CIUSSS-CSMTL, Montreal, Canada. <sup>7</sup>University of Quebec at Chicoutimi, Saguenay, Canada. <sup>8</sup>Center for Interdisciplinary Research in Rehabilitation and Social Integration, Quebec, Canada. <sup>9</sup>Laval University, Quebec, Canada. <sup>10</sup>Centre de recherche sur le vieillissement, University of Sherbrooke, Sherbrooke, Canada



# POSTER SESSION II

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## **P.74 Structural Neural Correlates of Objective and Patient-Reported Measures of Function and Health Status After Stroke**

Julie DiCarlo<sup>1,2</sup>, Kimberly Erler<sup>3</sup>, Abhishek Jaywant<sup>4</sup>, Perman Gochyyev<sup>3</sup>, Jessica Ranford<sup>1</sup>, Steven Cramer<sup>5,6</sup>, David Lin<sup>1,2</sup>  
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## **P.75 The Feasibility of a Remote Physical Activity Monitoring Program for Rural Veterans with Stroke or Parkinson's Disease**

Kimberly Waddell<sup>1,2</sup>, Mitesh Patel<sup>2,1,3</sup>, Jayne Wilkinson<sup>1,2</sup>, Robert Burke<sup>1,2</sup>, Sreelatha Koganti<sup>1</sup>, Stephanie Wood<sup>1</sup>, James Morley<sup>1,2</sup>  
*1Crescenz VA Medical Center, Philadelphia, USA. 2University of Pennsylvania, Philadelphia, USA. 3Ascension Health, St. Louis, USA*

## **P.76 Functional Implications of Lower Extremity Transcortical Reflex Responses Post-Stroke**

Caitlin Banks<sup>1,2,3,4</sup>, Elliott Perry<sup>1,2,4</sup>, Wandasun Sihanath<sup>1,2</sup>, Theresa McGuirk<sup>1,2,4</sup>,Carolynn Patten<sup>1,2,3,4</sup>  
*1Biomechanics, Rehabilitation, and Integrative Neuroscience Lab, Department of Physical Medicine & Rehabilitation, UC Davis Health, Sacramento, CA, USA. 2UC Davis Center for Neuroengineering & Medicine, Davis, CA, USA. 3UC Davis Biomedical Engineering Graduate Group, Davis, CA, USA. 4VA Northern California Health Care System, Martinez, CA, USA*

## **P.77 The Anatomical Tracings of Lesions After Stroke (ATLAS) Dataset – Release 2.0**

Sook-Lei Liew<sup>1</sup>, Bethany Lo<sup>1</sup>, Miranda Donnelly<sup>1</sup>, Artemis Zavaliangos-Petropulu<sup>1</sup>, Jessica Jeong<sup>1</sup>, Giuseppe Barisano<sup>1</sup>, Alexandre Hutton<sup>1</sup>, Julia Simon<sup>1</sup>, Julia Juliano<sup>1</sup>, Anisha Suri<sup>2</sup>, Tyler Ard<sup>1</sup>, Nerisa Banaj<sup>3</sup>, Michael Borich<sup>4</sup>, Lara Boyd<sup>5</sup>, Amy Brodtmann<sup>6</sup>, Cathrin Buetefisch<sup>7</sup>, Lei Cao<sup>8</sup>, Jessica Cassidy<sup>9</sup>, Valentina Ciullo<sup>3</sup>, Adriana Conforto<sup>10,11</sup>, Steven Cramer<sup>12</sup>, Rosalia Dacosta-Aguayo<sup>13</sup>, Ezequiel de la Rosa<sup>14,15</sup>, Martin Domin<sup>16</sup>, Adrienne Dula<sup>17</sup>, Wuwei Feng<sup>18</sup>, Alexandre Franco<sup>8,19,20</sup>, Fatemeh Geranmayeh<sup>21</sup>, Alexandre Gramfort<sup>22</sup>, Chris Gregory<sup>23</sup>, Colleen Hanlon<sup>24</sup>, Brenton Hordacre<sup>25</sup>, Steven Kautz<sup>23,26</sup>, Mohamed Salah Khelif<sup>27</sup>, Hosung Kim<sup>1</sup>, Jan Kirschke<sup>28</sup>, Jingchun Liu<sup>29</sup>, Martin Lotze<sup>16</sup>, Bradley MacIntosh<sup>30,31</sup>, Maria Mataró<sup>13,32</sup>, Feroze Mohamed<sup>33</sup>, Jan Nordvik<sup>34,35</sup>, Gilsoon Park<sup>1</sup>, Amy Pienta<sup>36</sup>, Fabrizio Piras<sup>37</sup>, Shane Redman<sup>36</sup>, Kate Revill<sup>7</sup>, Mauricio Reyes<sup>38</sup>, Andrew Robertson<sup>39,40</sup>, Na Jin Seo<sup>41</sup>, Surjo Soekadar<sup>42</sup>, Gianfranco Spalletta<sup>3</sup>, Alison Sweet<sup>36</sup>, Maria Telenczuk<sup>22</sup>, Gregory Thielman<sup>43</sup>, Lars Westlye<sup>44,45</sup>, Carolee Winstein<sup>1</sup>, George Wittenberg<sup>46,2</sup>, Kristin Wong<sup>47</sup>, Chunshui Yu<sup>29,29</sup>  
*1University of Southern California, Los Angeles, USA. 2University of Pittsburgh, Pittsburgh, USA. 3IRCCS Santa Lucia Foundation, Rome, Italy. 4Emory University School of Medicine, Atlanta, USA. 5University of British Columbia, Vancouver, Canada. 6University of Melbourne, Melbourne, Australia. 7Emory University, Atlanta, USA. 8Child Mind Institute, New York, USA. 9University of North Carolina at Chapel Hill, Chapel Hill, USA. 10São Paulo University, Sao Paulo, Brazil. 11Hospital Israelita Albert Einstein, Sao Paulo, Brazil. 12University of California Los Angeles, Los Angeles, USA. 13University of Barcelona, Barcelona, Spain. 14icomatrix, Leuven, Belgium. 15Technical University of Munich, Munich, Germany. 16University of Greifswald, Greifswald, Germany. 17The University of Texas Austin, Austin, USA. 18Duke University School of Medicine, Durham, USA. 19Nathan Kline Institute for Psychiatric Research, Orangeburg, USA. 20NYU Grossman School of Medicine, New York, USA. 21Imperial College London, London, United Kingdom. 22Université Paris-Saclay, Palaiseau, France. 23The Medical University of South Carolina, Charleston, USA. 24Wake Forest School of Medicine, Winston Salem, USA. 25University of South Australia, Adelaide, Australia. 26Ralph H Johnson VA Medical Center, Charleston, USA. 27The Florey Institute of Neuroscience and Mental Health, Heidelberg, Australia. 28Technical University Munich, Munich, Germany. 29Tianjin Medical University General Hospital, Tianjin, China. 30University of Toronto, Toronto, Canada. 31Hurvitz Brain Sciences Program, Toronto, Canada. 32Institut de Recerca Sant Joan de Déu, 08950 Esplugues de Llobregat, Spain. 33Jefferson Magnetic Resonance Imaging Center, Philadelphia, USA. 34CatoSenteret Rehabilitation Center, SON, Norway. 35Oslo Metropolitan University, Oslo, Norway. 36University of Michigan, Ann Arbor, USA. 37IRCCS Santa Lucia Foundation, Rome, USA. 38University of Bern, Bern, Switzerland. 39University of Waterloo, Waterloo, Canada. 40Sunnybrook Research Institute, Toronto, Canada. 41Medical University of South Carolina, Charleston, USA. 42Charité -Universitätsmedizin Berlin, Berlin, Germany. 43University of the Sciences, Philadelphia, USA. 44University of Oslo, Oslo, Norway. 45Oslo University Hospital, Oslo, Norway. 46Department of Veterans Affairs, Pittsburgh, USA. 47University of Texas at Austin, Austin, USA*

## **P.79 Feasibility and compliance of remote monitoring of physical, cognitive, and emotional function in individuals after stroke**

Margaret French<sup>1</sup>, Junyao Li<sup>2</sup>, Ryan Roemmich<sup>1</sup>, Meghan Beier<sup>1</sup>, Peter Seanson<sup>1</sup>, Stephen Wegener<sup>1</sup>, Pablo Celnik<sup>1</sup>, Preeti Raghavan<sup>1</sup>  
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# POSTER SESSION II

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## **P.80 Pre-training neural correlates for predicting gains from robot-assisted finger training after stroke**

Sebastian Rueda Parra<sup>1</sup>, Joel C. Perry<sup>2</sup>, Eric T. Wolbrecht<sup>3</sup>, David Reinkensmeyer<sup>4,5</sup>, Disha Gupta<sup>6,7</sup>

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## **P.81 Different cortical oscillatory signatures during reactive balance are associated with distinct aspects of balance control post-stroke**

Jasmine Mirdamadi<sup>1</sup>, Jacqueline Palmer<sup>1</sup>, Aiden Payne<sup>1</sup>, Lena Ting<sup>1,2</sup>, Michael Borich<sup>1</sup>

<sup>1</sup>Emory University, Atlanta, USA. <sup>2</sup>Georgia Tech, Atlanta, USA

## **P.82 Wearable Myoelectric Interface for Neurorehabilitation (MINT) of Arm Function in Chronic Stroke**

Abed Khorasani, Vivek Paul, Nathan Hung, Prashanth Prakash, Torin Kovach, Joel Hulsizer, Marc Slutzky

Northwestern University, Chicago, USA

## **P.83 Towards individualized Transcranial Magnetic Stimulation for motor recovery from hemiparesis: study of Corticomuscular Network**

Gansheng Tan<sup>1,2</sup>, Jixian Wang<sup>1</sup>, Jinbiao Liu<sup>1</sup>, Yixuan Sheng<sup>1</sup>, Qing Xie<sup>1</sup>, Peter Brunner<sup>2</sup>, Honghai Liu<sup>3</sup>

<sup>1</sup>Shanghai Jiao Tong University, Shanghai, China. <sup>2</sup>Washington University in St. Louis, St. Louis, USA. <sup>3</sup>Harbin Institute of Technology (Shenzhen), Shenzhen, China

## **P.84 Validating the measurement of upper extremity sensorimotor behavior utilizing a tablet device in neurologically intact and stroke populations**

Devin S Austin, Makenna Dixon, Joshua GA Cashaback, Jennifer A Semrau

University of Delaware, Newark, DE, USA

## **P.85 Are there wrist-worn sensor metrics that are a better proxy for functional arm/hand behaviors than “activity counts” for chronic stroke survivors?**

Marika Demers<sup>1</sup>, Lauri Bishop<sup>1</sup>, Justin Rowe<sup>2</sup>, Daniel Zondervan<sup>2</sup>, Carolee Winstein<sup>1</sup>

<sup>1</sup>University of Southern California, Los Angeles, USA. <sup>2</sup>Flint Rehabilitation Devices, Irvine, USA

## **P.86 Voluntary Muscle Activation Increases the Threshold at which an Electrical Stimulus Is Detected Post-Hemiparetic Stroke: Preliminary Findings**

Ninghe Cai, Alan Duong, Eileen Medina, Netta Gurari

Northwestern University, Chicago, USA

## **P.87 Characterizing upper extremity movement smoothness in patients with acute stroke**

Sarah Cavanagh<sup>1,2</sup>, Taya Hamilton<sup>2</sup>, Nicole Dusang<sup>1,2</sup>, Perman Gochyyev<sup>2</sup>, Julie DiCarlo<sup>1,2</sup>, Sydney McKiernan<sup>2</sup>, Hannah Jacobs<sup>2</sup>, Rashida Nayeem<sup>3</sup>, Steven Kautz<sup>4,5</sup>, Dagmar Sternad<sup>3</sup>, Leigh Hochberg<sup>1,2</sup>, David Lin<sup>1,2</sup>

<sup>1</sup>VA Medical Center, Providence, USA. <sup>2</sup>Massachusetts General Hospital, Boston, USA. <sup>3</sup>Northeastern University, Boston, USA. <sup>4</sup>Medical University of South Carolina, Charleston, USA. <sup>5</sup>VA Medical Center, Charleston, USA

## **P.88 Understanding the effects of cross-priming using non-paretic leg movement in severe stroke**

Hyosok Lim<sup>1,2</sup>, Sangeetha Madhavan<sup>1</sup>

<sup>1</sup>Brain Plasticity Laboratory, Department of Physical Therapy, University of Illinois at Chicago, Chicago, USA. <sup>2</sup>Graduate program in Rehabilitation Sciences, College of Applied Health Sciences, University of Illinois at Chicago, Chicago, USA

## **P.89 Motor control and cognitive deficits impact gait coordination in individuals with stroke**

Prakruti Patel, Neha Lodha

Colorado State University, Fort Collins, USA

# POSTER SESSION II

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## **P.90 A Case Study – The effect of the use of an EMG-driven FES device for Hand function recovery in an individual with moderate hemiparetic stroke**

Jasmine Benitez<sup>1</sup>, Justin Drogos, PT, DPT<sup>1</sup>, Ray Arceo<sup>1</sup>, Carolina Carmona, PT, DPT, NCS<sup>1</sup>, Julius P.A. Dewald, PT, PhD<sup>1,2,3</sup>, Jun Yao, PhD<sup>1</sup>

<sup>1</sup>Department of Physical Therapy and Human Movement Sciences. <sup>2</sup>Department of Biomedical Engineering. <sup>3</sup>Department of Physical Med & Rehab., Northwestern University

## **P.91 A gamified electromyographic computer interface to measure specific motor control abnormalities in healthy controls and individuals with arm impairment due to stroke**

Danielle Marouni<sup>1</sup>, Yiyun Wang<sup>1</sup>, David Cunningham<sup>2</sup>, Ania Busza<sup>3</sup>

<sup>1</sup>University of Rochester, Rochester, USA. <sup>2</sup>Case Western, Cleveland, USA. <sup>3</sup>University of Rochester, Rochester, USA

## **P.92 Bilateral upper extremity motor priming (BUMP) plus task specific training for severe, chronic upper limb hemiparesis: Study protocol for a randomized clinical trial.**

Mary Ellen Stoykov, Olivia M. Biller, Alexandra Wax, Erin King, Jacob M. Schauer, Louis F. Fogg, Daniel M. Corcos

<sup>1</sup>Northwestern University, Chicago, USA. <sup>2</sup>Northwestern University, Chicago. <sup>3</sup>Shirley Ryan Ability Lab, Chicago, USA

## **P.93 Corticomuscular Coherence and Corticospinal Tract Injury Associations During Early Stroke Recovery**

Rachana Gangwani, Jasper Mark, Rachel Vaughn, Jessica Cassidy

University of North Carolina at Chapel Hill, Chapel Hill, USA

## **P.94 Early diagnosis of spasticity in acute post-stroke patients.**

Mindy F. Levin<sup>1,2</sup>, Alice Misana<sup>1,2</sup>, Marie-Hélène Boudrias<sup>1,2</sup>, Alexander Thiel<sup>3,4</sup>, Theodore Wein<sup>3,5,6</sup>

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