

ANS Sensorimotor Satellite Meeting

1st February 2014

Program

8:00 Registration desk opens and presentation file upload available

8:30 Welcome

Session 1: Motor Impairment (Chair: Professor Simon Gandevia)

8:40 Plenary Lecture: Professor Randolph Nudo
University of Kansas, USA

Functional relevance of motor map reorganization after stroke: lessons from animal models.

9:10 Professor Winston Byblow
University of Auckland, New Zealand

Are motor evoked potentials necessary to predict motor recovery after stroke?

9:25 Professor S Jayne Garland
University of British Columbia, Canada

Motor control strategies associated with postural reactions to external perturbations in people post-stroke.

9:40 Dr Cathy Stinear
University of Auckland, New Zealand

Is hemispheric balancing necessary for motor recovery after stroke?

9:55 Mr Brenton Hordacre
Flinders University and Repatriation General Hospital

Reorganisation of the primary motor cortex in amputees undertaking prosthetic rehabilitation.

10:10 Dr Michael Lee
Neuroscience Research Australia and University of New South Wales

Short-term peripheral nerve stimulation ameliorates motor axonal dysfunction after acute spinal cord injury.

10:25-10:55 Morning tea

Session 2: Pain and upper limb movement (Chair: Dr Julia Pitcher)

10:55 Dr Kylie Tucker
University of Queensland

Experimental pain influences the perception of action capabilities and performance of a maximal single leg hop.

11:10 Mr Michael Bergin
University of Queensland

Has interpretation of the motor adaptation to pain been too simplistic?

11:25 Dr Annie Butler
Neuroscience Research Australia and University of New South Wales

Hand representation vs. object perception: Does body image change with what we lift?

11:40 Dr Hiske van Duinen
Karolinska Institutet, Sweden

Decoding static hand positions from human brain activity.

11:55 Ms Verity Pearson-Dennett
University of South Australia

Hand function is altered in individuals with a history of illicit stimulant use.

12:10-13:15 Lunch and posters

Session 3: Plasticity (Chair: Associate Professor Michael Ridding)

13:15 Plenary Lecture: Professor John Rothwell
University College London, UK

Separate human motor cortex interneuron circuits driving different forms of neurophysiological and behavioural plasticity

13:45 Mr Kelly Munro
Western Australian Neuroscience Research Institute and Charles Darwin University

The effect of acute aerobic exercise on excitability and plasticity in the motor cortex.

Continued



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Session 3: Plasticity (Chair: Associate Professor Michael Ridding)

14:00 Ms Siobhan Fitzpatrick
Neuroscience Research Australia and University of New South Wales

More is better: an increased number of paired conditioning stimuli enhances synaptic plasticity in the human corticospinal pathway.

14:15 Dr Ann-Maree Vallence
University of Adelaide

The influence of cortical alpha oscillatory activity on motor cortical excitability and plasticity induction.

14:30 Mr Mitchell Goldsworthy
University of Adelaide

Modulation of the input-output properties of the human corticospinal tract following continuous theta burst stimulation of the motor cortex.

14:45 Ms Kalina Makowiecki
University of Western Australia

Low-intensity repetitive transcranial magnetic stimulation improves topography in abnormal visual cortical circuits and upregulates BDNF expression.

15:00 Ms Stephanie Grehl
University of Western Australia and University of Pierre and Marie Curie, France

Low intensity magnetic stimulation increases neural circuit repair and effects cortical neurons in vitro.

15:15-15:45 Afternoon tea

Session 4: Neurophysiology (Chair: Dr Gabrielle Todd)

15:45 Plenary Lecture: Professor Vincenzo Di Lazzaro
Campus Biomedico University, Italy

Non-invasive evaluation of sensorimotor integration in humans.

16:15 Dr James Coxon
University of Auckland, New Zealand

The role of primary motor cortex inhibition during motor skill learning.

16:30 Mr Nigel Rogasch
Monash University and Alfred Hospital

Cortical inhibition measured from motor and non-motor regions using combined TMS-EEG.

16:45 Mr George Opie
University of Adelaide

Age-related changes in pre- and post-synaptic intracortical inhibition in a human hand muscle.

17:00 Dr Mark Hinder
University of Tasmania

Neural correlates of age-related changes in motor function.

17:15 Mr James McLoughlin
University of New South Wales and Flinders University

Identifying walking induced motor fatigue in people with Multiple Sclerosis.

17:30-19:00 Social drinks and nibbles

See over for list of Poster Presentations

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Poster presentations

Jocelyn L Bowden, Gaven G Lin, Penelope A McNulty

Post-stroke cutaneous and proprioceptive sensory impairment identified after modality-specific stratification.

Lynley Bradnam, Michelle McDonnell, Michael Ridding

Theta-burst stimulation to cerebellum in cervical dystonia: A sham-controlled clinical trial.

Ryan Causby, Michelle McDonnell, Lloyd Reed, Susan Hillier

Measuring dexterity in Podiatrists: A comparison of novice and experienced Podiatrists.

Patrick L Faulkner, Miranda Leach, Caroline Rae, Michael Hayes, Robert A Wilcox, Janet L Taylor, Jane E Butler, Simon C Gandevia, Jana Godau, Daniela Berg, Olivier Piguet, Kay L Double, and Gabrielle Todd

Hand function in healthy older adults at risk of Parkinson's disease.

Samantha Harman, Zhen Zheng, Michael Azari, Barbara Polus

The association between neck pain and injury and errors in limb position sense and movement; systematic literature review.

Heba K Khamis, Stephen J Redmond, Ingvars Birznieks

Real-time continuous estimates of manipulation force parameters derived from monkey fingertip afferent responses.

Miranda Leach, Elizabeth Hotham, Susan L Hillier, Jason M White, Gabrielle Todd

ADHD children manipulate new objects differently to healthy children.

Penelope A McNulty, Terry Trinh, Paul Lee, Christine T Shiner

Assessments of functional movement ability do not detect improved motor control and joint kinematics with post-stroke rehabilitation.

Michelle N McDonnell, John D Buckley, George M Opie, Michael C Ridding, John G Semmler

Can aerobic exercise promote motor cortical neuroplasticity?

Sauro E Salomoni, Kylie Tucker, Francois Hug, Paul W Hodges

Experimental knee pain and maximal voluntary activation of knee extensor muscles.

Paul F Sowman, Andrew C Etchell, Blake W Johnson

Synchronization of finger taps to isochronous beats: A magnetoencephalography study using dynamic causal modelling.

Alex Tang, Andrew Garrett, Robert Woodward, Stephan Karl, Bill Bennet, Michael Garry, Mark Hinder, Alison Canty, Jeffery Summers, Gary Thickbroom, Jennifer Rodger

Design and evaluation of rodent TMS coils.

Vaughan G Macefield, Niamh Goulding, Lucy Norcliffe-Kaufmann, Felicia B Axelrod, Horacio Kaufmann

Knee joint taping improves proprioceptive acuity at the knee and improves gait in humans devoid of muscle spindles.

Sebastian Doeltgen, Rebecca Mossop, Debra Verner, Alicia Wallace

Transcranial brain stimulation in post-stroke swallowing rehabilitation.



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