**INSTRUCTIONS for abstract submission**

Abstracts will be published on the meeting website and to ensure that all abstracts are submitted to a publishable standard, authors must adhere to the requirements detailed below. Abstracts that do not adhere to these requirements will not be accepted.

The deadline for abstract submission is Friday 22nd November 2013.

Submit abstracts to Associate Professor Michael Ridding via email attachment:

[michael.ridding@adelaide.edu.au](file:///D%3A%5CANS%202014%5Cmichael.ridding%40adelaide.edu.au)

Abstracts should be a maximum of 250 words (excluding title, authors, and affiliations). Abstracts exceeding this limit will not be accepted. All text is to be in 12 point Times New Roman font with single line spacing. Text should be unjustified and aligned to the left. The body of the abstract should include the following headings in bold font: Introduction, Methods, Results, Conclusion. Please see the example abstract below for styling of the title, authors, and affiliations.

**EXAMPLE ABSTRACT**

THE INFLUENCE OF CORTICAL BETA OSCILLATORY ACTIVITY ON MOTOR EVOKED POTENTIAL VARIABILITY IN HUMANS

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**Introduction**: Transcranial magnetic stimuli (TMS) applied to the human motor cortex evoke electromyographic (EMG) responses in contralateral hand muscles, known as motor evoked potentials (MEPs). The trial by trial amplitude of MEPs is highly variable. Reasons for this variability are not fully understood but modulations of cortical excitability due to oscillatory activity may be important. Beta frequency oscillatory activity (13-30 Hz) is influenced by motor activity. Here we examined whether changes in beta frequency electroencephalographic (EEG) activity might contribute to MEP variability. **Methods**: EEG recordings were made from normal subjects (n=12) with a pair of Ag/AgCl electrodes, one over the motor hand area and the other over Fz. EMG recordings were made from the right first dorsal interosseous muscle (FDI). Single pulse TMS was applied with an intensity sufficient to evoke MEPs of 0.5-1 mV in the relaxed FDI. Subjects were studied 3 times on different days. On each occasion a 30 s EEG epoch was recorded with the subjects’ eyes closed. Approximately 1 minute later 20 MEPs were recorded. A 15 s epoch of artefact free EEG was then analysed using fast Fourier transform. The beta frequency band power was correlated against the coefficient of variation of MEP amplitude for each testing occasion. **Results**: Regression analysis revealed a highly significant (p=0.003) 2nd order polynomial correlation (R=0.55) between the MEP coefficient of variation and beta power. Relatively low and high levels of beta power were associated with greater variability than moderate levels of beta power. **Conclusion**: This result suggests that ongoing modulation of beta power may be a significant cause of MEP variability.