

# Decoding mental states using EEG

MARCH 7 - 8, 2018

Amphitheatre: de Grandpré  
Communications Centre  
Montreal Neurological  
Institute and Hospital, 3801  
University Street

Join us for a two-day workshop

## Decoding Mental States Using EEG

Open to all Students, Faculty & Researchers interested in cognitive neuroscience, functional MRI, and EEG

Wednesday, March 7, 12:30-17:00 & Thursday, March 8, 09:00-17:30, 2018

Organized by:

- [Dr Robert Zatorre](#), Montreal Neurological Institute / McGill University
- [Dr Alan Evans](#), Montreal Neurological Institute / McGill University
- [Adrian Owen](#), The Brain and Mind Institute / Western University

**Background:** Recent developments in cognitive neuroscience have led to exciting new possibilities for understanding consciousness. Much of this work has been carried out with fMRI; however, similar approaches can be developed with cost-effective and portable technologies, such as EEG, that could provide potentially better outcomes due higher temporal resolution.

**Our Aim:** With the goal of promoting interactions and future collaborations, this workshop will bring together investigators and trainees with complementary expertise in cognitive neuroscience, functional MRI, and EEG to discuss new ways in which EEG data could be used to extract signals of relevance to the study of mental states, both from a basic-science perspective and a clinical perspective.

**Live streaming:** Available from the [www.LudmerCentre.ca](http://www.LudmerCentre.ca) website

### Programme

#### Wednesday, March 7: 12:30-17:00

- 12:00                      **Lunch:** All participants, Helen Penfield Atrium
- 12:30    **Dr Robert Zatorre** (Moderator), MNI/McGill: Introduction
- 12:45    **Dr Alan Evans**, MNI/McGill: EEG platform considerations
- 1:00     **Dr Adrian Owen**, Canada Excellence Research Chair in Cognitive Neuroscience and Imaging, The Brain and Mind Institute, Western U: Using fMRI to decode mental states in behaviourally non-responsive patients
- 2:00     **Geoff LaForge**, PhD Student, Owen Lab, Western University: Using EEG to identify indices of conscious awareness in patients



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2:30 **Dr Bobby Stojanoski**, Research Scientist, Owen Lab, Western University: EEG markers of conscious processing in different stages of sleep

3:00 **Coffee break**

3:30 **Dr Pedro Valdés-Sosa**, Founder Vice-Director, Cuban Neuroscience Institute, Cuba; Coordinator, Cuban Human Brain Mapping Project; Director, joint China-Cuba Lab for Frontier Research in Translational Neurotechnology, Chengdu, China: EEG algorithms as applied to decoding of mental states

4:30 **Discussion**

**Thursday, March 8: 09:00-17:00**

9:15 **Coffee & Tea**

9:30 **Welcome**

10:00 **Dr Srivas Chennu**, School of Computing, University of Kent, UK: hdEEG connectivity correlates of conscious states and contents: applications in disorders of consciousness

11:00 **Dr Gilles Plourde & Dr Christian Guay**, Department of Anesthesia & Neurocritical Care, MNI / McGill University: EEG in the operating room: decoding mental states during general anesthesia

11:30 **Dr Stefanie Blain-Moraes**, School of Physical and Occupational Therapy, McGill University: EEG of brain network activity associated with recovery of cognitive function following anesthesia

12:00 **Lunch for all participants**

1:00 **Dr Sebastian Puschmann**, Postdoc, Zatorre Lab, MNI/McGill: Decoding cortical representations of speech in cocktail party situations using MEG

1:30 **Dr Mor Regev**, Postdoc, Zatorre Lab, MNI/McGill: fMRI studies of inter-subject correlation and connectivity to understand cognitive processes

2:00 **Avital Sternin**, PhD Student, Owen/Grahn Labs, Western University: Classifying music perception and imagination using EEG

2:30 **Coffee Break**

3:00 **Dr Edmund Lalor**, Biomedical Engineering and Neuroscience, University of Rochester, NY: Modeling EEG responses to natural stimuli

4:00 **Summary & General Discussion**

5:00 **Closing reception, all attendees are invited**

Information & registration: [Ludmer Centre web site](http://www.LudmerCentre.ca/events) (www.LudmerCentre.ca/events)

Location: Amphitheatre: de Grandpré Communications Centre  
Montreal Neurological Institute and Hospital, 3801 University Street

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