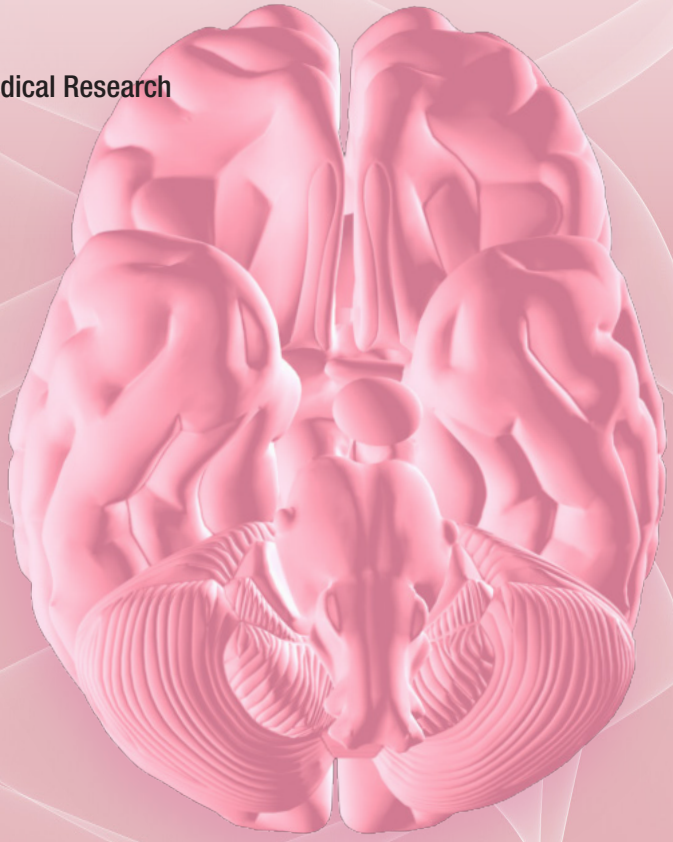
www.brainmodes.org

BrainModes 2012

LARGE-SCALE MODELS
OF THE BRAIN

3-4 December

Queensland Institute of Medical Research
300 Herston Road, Herston QLD



Queensland Institute of
Medical Research

BrainModes 2012: Large-scale models of the brain

Monday 3 December 2012

9:00 – 12:45	**Clinical and Translational Modelling** Chair: Michael Breakspear (Queensland Institute of Medical Research)
9:00 – 10:00	**Towards epilepsy of the virtual brain** Victor Jirsa (Aix-Marseille Université, France)
10:00 – 10:25	**A bifurcation analysis of a neural field model with conductance-based synapses: Implications for epilepsy** Andre Peterson (University of Melbourne)
10:25 – 10:50	**Wrong on so many levels: Parkinsonism in a multiscale net work/field model** Cliff Kerr (State University of New York, USA)
10:50 – 11:20	Morning tea
11:20 – 12:20	**Brain networks in epilepsy: Endophenotypes and generative models** John Terry (University of Exeter, UK)
12:20 – 12:45	**Crackling noise in cortex after perinatal hypoxia** James Roberts (Queensland Institute of Medical Research)
12:45 – 13:45	Lunch
13:45 – 16:55	**Computational and Biophysical Modelling** Chair: Peter Robinson (University of Sydney)
13:45 – 14:45	**PDE methods for two-dimensional neural fields** Carlo Laing (Massay University, New Zealand)
14:45 – 15:10	**Statistical indicators of Hopf bifurcations in neural mass model** Matt Aburn (University of Queensland)
15:10 – 15:40	Afternoon tea
15:40 – 16:05	**Geometry and Structural Cortical Networks** James Henderson (University of Sydney)
16:05 – 16:30	**Perceptual decision making and the time-order effect: A neural circuit model of biased vibrotactile discrimination** Angela Langdon (University of New South Wales)
16:30 – 16:55	**Spatiotemporal neural dynamics from fMRI: Deconvolution using a spatiotemporal hemodynamic response function** Kevin Aquino (University of Sydney)

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Tuesday 4 December 2012

9:35 – 12:45	**Oscillations and Waves** Chair: Tjeerd Boonstra (University of New South Wales)
9:35 – 10:35	**From noisy neurons to mass dynamics of phase distributions** Andreas Daffertshofer (VU University Amsterdam, the Netherlands)
10:35 – 11:00	**Decoding travelling waves in cortex by dendritic computation** Stewart Heitmann (University of New South Wales)
11:00 – 11:30	Morning tea
11:30 – 11:55	**FPGA implementation of Izhikevich's spiking neuron model and application to central pattern oscillators** Nicolangelo Ianella (University of Adelaide)
11:55 – 12:20	**Patterns of the resting-state EEG networks: Fast time-scale with low frequency modulation** Saeid Mehrkanoon (University of New South Wales)
12:20 – 12:45	**Imaging neural population codes in the zebrafish tectum** Lilach Avitan (University of Queensland)
12:45 – 13:45	Lunch
13:45 – 16:55	**Model Inversion: From Data to Networks** Chair: André van Schaik (University of Western Sydney)
13:45 – 14:45	**Brain states: From measurements and models to manifolds and mechanisms** Petra Ritter (MPI Leipzig and Charité University Medicine, Berlin, Germany)
14:45 – 15:10	**Data-driven neural modelling** Dean Freestone (University of Melbourne)
15:10 – 15:40	Afternoon tea
15:40 – 16:05	**Dynamic causal modeling of time-frequency modulations** Bernadette van Wijk (VU University Amsterdam, the Netherlands)
16:05 – 16:30	**Modular organization of resting state networks, advances in methods and applications** Anton Lord (Queensland Institute of Medical Research)
16:30 – 16:55	**Event-related connectomics with fMRI** Alex Fornito (University of Melbourne)