



ACCESS

Anesthesiologists Concerned with
Cognition, Emergence, Sleep, and Sedation

Thursday, February 11, 2016

12:00 pm to 3:00 pm	Arrival at Queenstown - All guests are asked to make their travel plans so that they arrive in time for the Breakout Sessions.
3:00 pm to 3:15 pm	Tea, Coffee, Biscuits , Served in <u>Impressions Bar, Level 6</u>
3:15 pm to 5.15pm	<p>Breakout Sessions. <i>The idea of the breakout sessions is to get a small group to critically evaluate existing information around an area of interest, and come up with some practical recommendations as to optimal methods of analysis, and the direction of future developments. We have allocated participants to join a particular working group. The group coordinator will pre-email relevant background papers, information, and questions to participants before the workshop, so as to try and provide an objective basis for concrete discussions, rather than simply subjective opinions.</i></p> <p>Assigned Groups:</p> <ul style="list-style-type: none"> a. <u>Rob Sanders (Conference Room I):</u> What are key recovery characteristics? (clinical, demographics, surgical, pharmacology metrics) What is the best clinical metric of emergence/ CAM-ICU RASS/ Pain evaluation? Paul García, Matt Whalin, Martyn Harvey, AeyalRaz, Jessica Martin, Amy Gaskell, Joel Winders b. <u>Jamie Sleigh (Conference Room II):</u> What are the best ways to extract EEG features? 1) Single channel: What are the best features? Spectral powers, quantifying oscillations and inter-oscillation phase, underlying broadband 1/f noise/multifractals, complexity measures; is it better to use symbolic-transformed data? 2) multi-channel data. Montage, raw channel data vs source localization, methods of estimating spatially synchronous activation Matthias Kreuzer, Satoshi Hagihira, Alistair Steyn-Ross, Uncheol Lee c. <u>Alex Proekt (Conference Room III):</u> What is the best way to represent the trajectories of multidimensional neurophysiological data that is associated with return of consciousness? Recovery of consciousness is fundamentally a search through a vast parameter space that defines neuronal activity This prompts several very basic questions: 1) What is the structure of the space, what are the various ways of representing the data (mainly time domain and frequency domain approaches) 2) How does the brain explore this space, are the trajectories are smooth or abrupt. How to deal with highly non-stationary data. 3) What are the mechanisms responsible for the motion of the brain in the space of activity? What is the role of noise in exploration of neuronal dynamics (i.e is exploration fundamentally a stochastic process)? Logan Voss, Darren Hight, David Liley, Suresh, Matt Banks, Katie Warnaby, September Hesse
5:15pm to 7:30 pm	Flexible time to complete assigned tasks by group leaders
7.30pm to 9:30 pm	Opening Dinner , Served in <u>Conference Room II, Level 5</u> – off the Hotel’s Lobby. Dinner is considered an important component of the meeting as we will use the time to review the meeting goals. The dinner is also the part of the agenda where time is allotted for individual introductions.



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Friday, February 12, 2016

8:00 am to 8:45 am	Breakfast , Served in <u>Impressions Restaurant, Level 6</u> – <i>one level up from the Hotel's Lobby</i>
	<i>All general meeting sessions on Friday and Saturday will be held in: Conference Room I, Level 5– off the Hotel's Lobby</i>
8:45 am to 9:00 am	Welcome and opening remarks by Jamie Sleigh
Session 1 9:00 am to 11:00 am	<i>What we have seen: categorizing emergence and emergence trajectories in patient data:</i>
9:00 am to 9:30 am	Between-Patient EEG Variability – Approaches to characterizing EEG trajectories/signatures. Darren Hight
9:30 am to 10:00 am	Between-Patient (and Institution) Clinical Variability and Outcomes – a multivariate analysis. September Hesse
10:00 am to 10:30 am	Clinical and EEG Within-Patient Variability (Multiple Anesthetics and Variability) Matt Whalin
10:30 am to 11:00 am	Alpha theta coupling and interhemispheric synchrony peri-emergence Matthias Kreuzer
11:00 am to 11:30 am	Tea, Coffee, Biscuits , Served in <u>Impressions Bar, Level 6</u>
Session 2 11:30 am to 1:00 pm	<i>What are the sequences? Physiology that Underlies the re-construction of Consciousness</i>
11:00 am to 11:30 am	Changes in inter-frequency coupling in general anesthesia? Satoshi Hagihira
11:30 am to 12:00 pm	FMRI of GA Induction and Emergence – asymmetrical processes Katie Warnaby
12:00 pm to 12:30 pm	The role of EEG patterns during induction and emergence from GA in children children Jessica Martin
12.30 pm to 1.00 pm	Cortical vs subcortical influences in recovery of responsiveness Paul García
1:00 pm to 2:00 pm	Buffet lunch , Served in <u>Impressions Bar, Level 6</u>



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Session 3 2:00 pm to 4:00 pm	Methodological stumbling blocks in modeling emergence as a dynamic system.
2:00 pm to 2:30 pm	Reconfiguration principles of brain networks during anesthesia Uncheol Lee
2.30 pm to 3.00 pm	Diagnosing macro and micro phase transitions Alistair Steyn-Ross
3:00 pm to 3:30 pm	How do cortical network connectivity and dynamics change with LOC/ROC? Matt Banks
3:30 pm to 4:00 pm	Xenon as a model for dissociation/delirium. Approaches to the multichannel EEG/MEG analysis. David Liley
4.00 pm to 4.30 pm	STAR WARS - the patient awakens Martyn Harvey
4:30 pm to 5.00 pm	Tea, Coffee, Biscuits , Served in <u>Impressions Bar, Level 6</u>
5:00 pm to 6:30 pm	Further breakout revision/discussion/finalization
	<p>The breakout rooms for the afternoon are: Conference Room I, Level 5 Conference Room I, Level 5 Rob Sanders (lead): What are key recovery characteristics? Anticipated Outcome: Development of a standard/canonical emergence clinical evaluation for use in clinical studies</p> <p>Conference Room II, Level 3 Jamie Sleigh (lead): What are the best ways to extract EEG features? Anticipated Outcome: Establishing a subset of quantitative EEG features that captures the most standard and the most salient information.</p> <p>Conference Room III, Level 5 Alex Proekt: What is the best way to represent the trajectories of multidimensional neurophysiological data that is associated with return of consciousness? Anticipated Outcome: A visual description of trajectories to consciousness potentially applicable to several possible datasets focused on emergence: EEG, ECoG, behavior?</p>
7:00 pm	Walk to Dinner <i>Meet at Copthorne Lobby and walk to Evening reception/dinner at Prime Waterfront Restaurant and Bar, 2 Rees St, Downtown Queenstown</i>
7:30 pm - 8:00pm	Appetizers and Drinks at Prime Waterfront Restaurant and Bar
8:00pm - 9:30 pm	Dinner



A C C E S S

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Saturday, February 13, 2016

8:00 am to 8:45 am	Breakfast , Served in <u>Impressions Restaurant, Level 6</u> – one level up from the Hotel's Lobby
	All general meeting sessions on Friday and Saturday will be held in: Conference Room I, <u>Level 5</u> – off the Hotel's Lobby
Session 4 8.45 am to 10.45 am	Anaesthesia is all about the cortex
8:45 am to 9:15 am	Top down anaesthesia. Aeyal Raz
9:15 am to 9:45 am	Anaesthesia = cortical disruption Logan Voss
9:45 am to 10:15 am	MEG/fMRI potholes / ketamine and confusion Suresh Muthukumaraswamy
10:15 am to 10:45 am	The frontal cortex has nothing to do with behavioral responsiveness: Differences between IFT positive patients and non-responders. Amy Gaskell
10:45 am to 11:15 am	Tea, Coffee, Biscuits , Served in <u>Impressions Bar, Level 6</u>
Session 5 11:15 am to 12:45 pm	Break out groups report and general discussion Conference Room I, <u>Level 5</u> – off the Hotel's Lobby
11:15 am to 11:45 am	What are the key recovery characteristics? Rob Sanders
11:45 am to 12:15 pm	What are the best ways to extract EEG features? Jamie Sleight
12:15 pm to 12:45 pm	What is the best way to represent the trajectories of multidimensional neurophysiological data that is associated with return of consciousness? Alex Proekt
12:45 pm to 1:00 pm	Final wrap up Paul Garcia
1:00 pm to 2:00 pm	Buffet lunch , Served in <u>Impressions Bar, Level 6</u>
2:00 pm to 4:30 pm	Extended session: Meeting organizers (<i>Sleight, García, Sanders</i>)
3:30 pm to 4:00 pm	Tea, Coffee, Biscuits , Served in <u>Impressions Bar, Level 6</u>