Trinity College School of Psychology Research Seminar Series
Michaelmas 2019

12th September 2019, Thursday, 1-2pm LBII Lloyd Building

Sonia Bishop
Associate Professor, Dept. Psychology and Helen Wills Neuroscience Institute, UC Berkeley

Anxiety and impaired decision making under second-order uncertainty
In my talk, I will outline my lab’s recent work within the field of computational psychiatry; in particular, addressing how anxiety impacts decision-making under uncertainty. Here, I will describe how we use computational modelling to operationalize different forms of uncertainty and to inform empirical investigation of ambiguity-aversion. In everyday life our decision-making often takes place under some form of uncertainty. We can distinguish ‘first-order’ uncertainty which occurs when a given action only leads to a given outcome on a proportion of occasions from ‘second-order’ uncertainty, which describes uncertainty regarding the action-outcome contingency itself. Two sources of second-order uncertainty are contingency volatility and contingency ambiguity. Across two experiments we have explored whether anxiety is associated with deficits or biases in decision-making under second-order uncertainty. The first experiment manipulated contingency volatility and revealed that elevated trait anxiety was linked to a deficit in adjusting learning rate to changes in volatility and to a reduced peripheral (pupil dilation) response to volatility. The second experiment did not require learning across trials, instead manipulating the level of ambiguity – or missing information – present on each trial. Here, high trait anxious individuals were found to show elevated ambiguity aversion, being especially sensitive to the level of missing information when choosing between two urns. fMRI analyses revealed that trait anxiety was associated with altered patterns of frontal cortical activity as a function of level of ambiguity and urn choice (ambiguity engagement versus avoidance). I will conclude by discussing a third study currently in progress. Here, we are using bifactor modelling of internalizing symptomatology combined with hierarchical Bayesian modelling of task performance to investigate whether deficits in decision-making under second-order uncertainty are unique to anxiety or common to both anxiety and depression.

3rd October 2019, Thursday, 1-2pm LBII Lloyd Building

Tim Tully
Ho Chin-Tui Chair Professor, Institute of Systems Neuroscience, National Tsing Hua University, Taiwan

From Memory Enhancement to Cognitive and Clinical Therapies
Basic research on the neurobiology of memory formation in several experimental systems has revealed a remarkably conserved process at both the molecular and cellular levels.
Biochemically, memory formation can be “genetically dissected” into distinct temporal phases from initial acquisition through memory consolidation. Cellurally, a new experience first is represented by a persistent neural activity. With time, however, this neural activity drives restructuring of synaptic connections in a subset of the underlying circuitry. This synaptic plasticity is the cellular underpinning of memory consolidation and likely represents Lashley’s engram.

17th October 2019, Thursday, 1-2pm LBII Lloyd Building

Tristan Bekinschtein
Lecturer and Wellcome Trust Fellow at the Department of Psychology, University of Cambridge

Meditation, hypnagogia and the stability of consciousness
Seems limiting that we talk about phenomenology and experiences but we primarily we measure reaction times and errors. Can we study the contents of our mind? I would argue that we are always studying content in psychology but not caring or not willing to engage in the question. I will present two main methods to capture what we think - direct and indirect - that may allow us to formalize the questions about content. I would also like to discuss two methods in cognitive neuroscience to map the underpinnings of the contents: neural decoding and intensity tracking. I will illustrate the results and discussion with EEG and fMRI experiments during pharmacologically induced states, sleep transitions and meditative techniques.

14th November 2019, Thursday, 1-2pm LBII Lloyd Building

Stephen Gibson
Associate Professor in Psychology, York St John University

‘We have a choice’: The rhetorical enactment of collective resistance in the ‘two peers rebel’ condition of Stanley Milgram’s obedience experiments
The role of collective processes has always been an important, if under-theorised, aspect of standard social psychological accounts of Stanley Milgram’s obedience experiments. In particular, the observation that the introduction of defiant confederates in the ‘two peers rebel’ condition reduced obedience levels amongst naïve participants constitutes one of Milgram’s better-known findings. Recently, an influential and novel re-interpretation of Milgram’s studies has placed collective processes centre-stage. Informed by social identity theory, Reicher and Haslam have suggested that identification with the experimenter as a leader (‘engaged followership’) is a better explanation than the standard account of Milgram’s experiments in terms of obedience. However, little research has directly explored the dynamics of collective processes in Milgram’s experiments, and no previous analyses of Milgram’s experiments have considered the audio recordings of Milgram’s ‘two peers rebel’
condition, which are held in the archives at Yale University Library. The present study set out to explore the way in which collectivity was enacted in this condition, with a particular focus on the rhetorical enactment of collective resistance. Using the tools of discourse analysis and rhetorical psychology, analysis pointed to three key findings: 1. There were marked variations in the ways in which the experimenter and the confederate-teachers (i.e. the ‘peers’) constructed collectivity; 2. Naive participants could act jointly with confederate-teachers in resisting the experimenter; 3. Naive participants acting alone following the withdrawal of teacher-confederates could rhetorically invoke the other group members in their attempts to extricate themselves from the situation. Ultimately, resistance in this condition was far from a uniform process. Implications for the engaged followership model, as well as for theory and research on ‘obedience’ more broadly, are discussed.

5th December 2019, Thursday, 1-2pm LBII Lloyd Building

Lasana Harris
Associate Professor, Department of Experimental Psychology, University College London

Mental State Inference as a Gating Mechanism to Cognitive and Affective Processes
People flexibly infer mental states—think about the minds of others. This spontaneous psychological process imbues social targets with full humanity, or denies them full humanity when withheld. Mental state inferences can trigger or inhibit other psychological processes, including logical reasoning, learning, economic valuation, and empathic responses. Here, I discuss behavioural and brain evidence for this gating mechanism across economic and legal contexts. Specifically, I discuss research where people are commoditised, tortured, or engage in collusion, and highlight the influence of mental state inferences on these other psychological processes.

12th December 2019, Thursday, 1-2pm LBII Lloyd Building

Ann Catherin Eldh
Associate Professor, Department of Medical and Health Sciences, Linköping University

The adoption of implementation science methodologies to bridge the research evidence-to-practice gap
Human history and the present demonstrate that the implementation of innovations, such as new knowledge and evidence, into practice is far from regular. Rather, the uptake is dependent on several factors, most importantly the intervention in itself, the context in which it is to be implemented and the strategies applied to facilitate the implementation. There are certain theories and models that can aid the planning and performing of such projects, in clinical practice as well as in research, along with those that can aid evaluations. This seminar will propose an overview of what is known from implementation science, illustrating this with examples from recent and ongoing projects. Most importantly, the seminar will highlight means such as different approaches to bridge the gap between what is
and what should be everyday practice, given the barriers and enablers of various clinical interventions and healthcare contexts.