



Trinity College Dublin

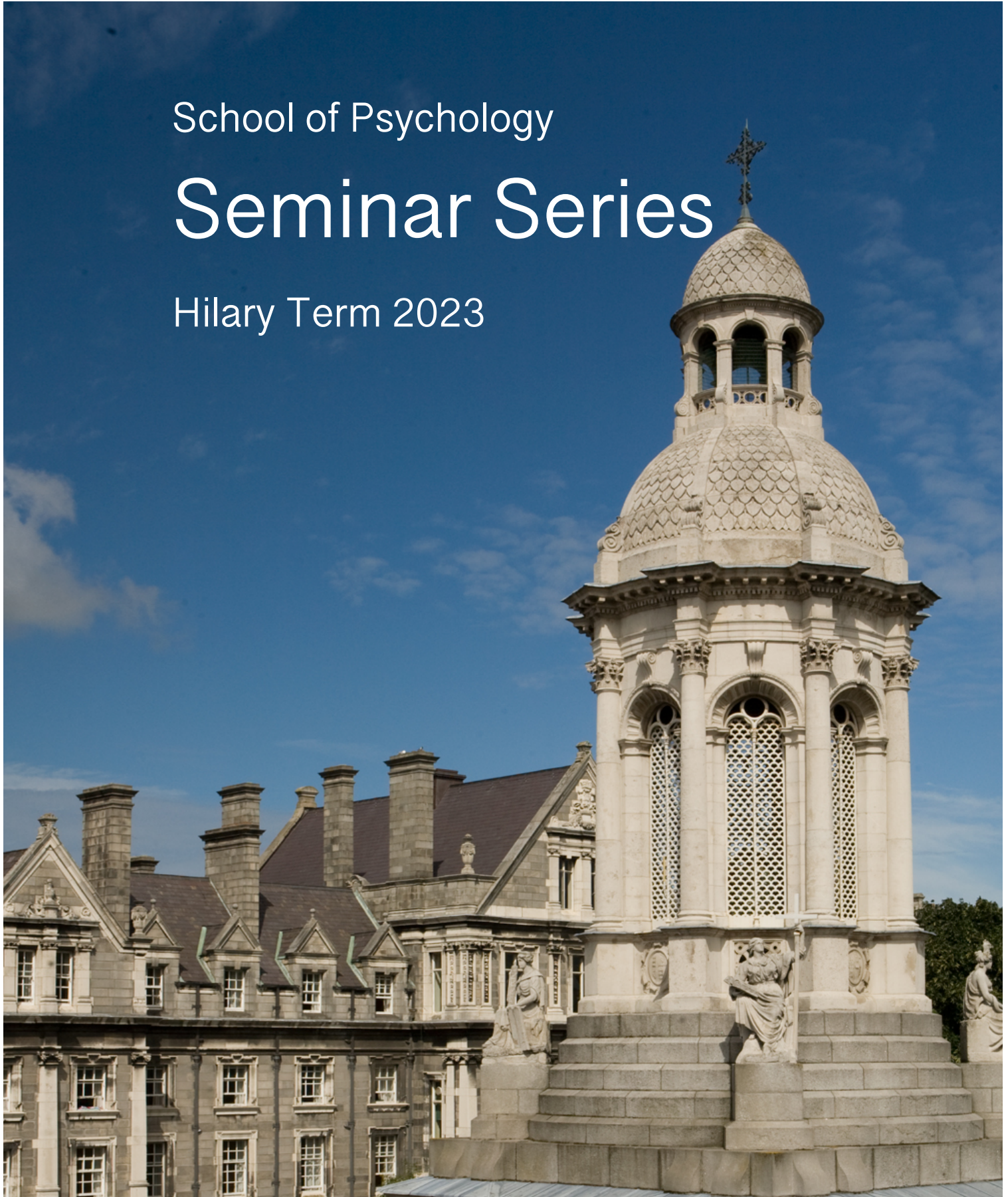
Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

School of Psychology

Seminar Series

Hilary Term 2023



LINE-UP AT A GLANCE

- January 26th, 2023, 1pm
Professor Tali Sharot, University College London
How people form beliefs
Hosted by: Dr Claire Gillan
- February 9th, 2023, 1pm
Professor Sophie Scott, University College London
The science of Laughter
Hosted by: Professor Fiona Newell
- February 23rd, 2023, 1pm
Professor Sophie von Stumm, University of York
The risks and advantages of 'personalising' education
Hosted by: Dr Kristin Hadfield
- March 9th, 2023, 1pm
Professor Lorraine Hope, University of Portsmouth
Capturing information from memory: Innovations in investigative interviewing
Hosted by: Professor Shane O'Mara
- March 23rd, 2023, 1pm
Sarah Harrison, Mental Health & Psychosocial Support Network
The red cross red crescent movement's MHPSS approach in emergencies
Hosted by: Dr Frédérique Vallieres
- April 6th, 2023, 1pm
Dr Lorijn Zaadnoordijk, Trinity College Dublin
Lessons from infant learning for unsupervised machine learning
Hosted by: Prof Rhodri Cusack
- April 13th, 2023, 1pm
Professor Steve Fleming, University College London
Metacognition, subjective experience and mental health
Hosted by: Prof Redmond O'Connell

Talks will take place in-person in the Lloyd Building, LB11 and begin sharply at 1pm.

A light sandwich lunch with tea and coffee will be provided in the 3rd floor common room from 2pm, providing a chance to interact with the speaker, other staff, faculty, and students.

THURSDAY, JANUARY 26TH AT 1PM

PROFESSOR TALI SHAROT, UNIVERSITY COLLEGE LONDON

HOSTED BY DR CLAIRE GILLAN

How People Form Beliefs

In this talk I will present our recent behavioural and neuroscience research on how the brain motivates itself to form particular beliefs and why it does so. I will propose that the utility of a belief is derived from the potential outcomes associated with holding it. Outcomes can be internal (e.g., positive/negative feelings) or external (e.g., material gain/loss), and only some are dependent on belief accuracy. We show that belief change occurs when



the potential outcomes of holding it alters, for example when moving from a safe environment to a threatening environment. Our findings yield predictions about how belief formation alters as a function of mental health. We test these predictions using a linguistic analysis of participants' web searches 'in the wild' to quantify the affective properties of information they consume and relate those to reported psychiatric symptoms. Finally, I will present a study in which we used our framework to alter the incentive structure of social media platforms to reduce the spread of misinformation and improve belief accuracy.

BIOGRAPHY

Tali Sharot is a Professor of Cognitive Neuroscience in the department of Experimental Psychology and The Max Planck UCL Centre for Computational Psychiatry at University College London and on the faculty of the Department of Brain and Cognitive Sciences at MIT. Prof. Sharot is a Wellcome Trust Senior Research Fellow, a Deputy Editor for Science Advances and President Elect of the Society of Neuroeconomics. Sharot holds a BA in Economics and Psychology from Tel Aviv University and a PhD from New York University. Sharot's research integrates neuroscience behavioral economics and psychology to study how emotion and motivation influences people's beliefs and decisions. Awards in recognition of this work include twice the British Psychological Society Book Award and the Society for Neuroeconomics Early Career Award, among others. She is the author of *The Optimism Bias* (2011) and *The Influential Mind* (2017).

THURSDAY, FEBRUARY 9TH AT 1PM

PROFESSOR SOPHIE SCOTT, UNIVERSITY COLLEGE LONDON

HOSTED BY PROF FIONA NEWELL

The Science of Laughter

In this talk I will consider some scientific studies of laughter - from its evolution and its role in development, to the ways that the brain controls and perceives it. I will argue that laughter is a critically important social cue, which plays a central role for human interactions from infancy onwards.



BIOGRAPHY

Professor Sophie Scott CBE is Director of the Institute for Cognitive Neuroscience at University College London, and the leader of the Speech Communication group. She studies the neurobiology of human vocal communication, from speech and sound to social interactions and non verbal emotional expressions, such as laughter.

THURSDAY, FEBRUARY 23RD AT 1PM

PROFESSOR SOPHIE VON STUMM, UNIVERSITY OF YORK

HOSTED BY DR KRISTIN HADFIELD

The Risks and Advantages of ‘Personalising’ Education

Children’s differences in school performance have pervasive long-term influence on their education, health, and wellbeing. Because school performance is predictable, for example from prior exam performance and family background, education can be ‘personalised’ to meet children’s differential learning needs. However, ‘personalising’ education necessarily requires selecting children into some and out of other learning environments, which stands against the principle of equal learning opportunities for all. In this talk, I will present current empirical evidence for the predictability of individual differences in educational success, drawing on findings from psychology, education science, and behavioural genomics. I will then discuss if and how equality in opportunity in education may be conciliated with equity in educational outcomes.



BIOGRAPHY

Sophie von Stumm is Professor of Psychology in Education at the University of York, where she directs the Hungry Mind Lab (www.hungrymindlab.com). Sophie's research focuses on the causes and consequences of individual differences in learning, and she integrates theories and methods across the disciplines psychology, education, sociology, epidemiology, and genomics. Her studies address how family background, early life experiences, and education opportunities informs children’s cognitive development and their educational outcomes. Sophie has published more than 80 articles in peer-reviewed journals, and she holds a Mid-Career Fellowship from the British Academy, a CRISP Fellowship from the Jacobs Foundation, and awards from the Nuffield Foundation.

THURSDAY, MARCH 9TH AT 1PM

PROFESSOR LORRAINE HOPE, UNIVERSITY OF PORTSMOUTH

HOSTED BY PROF SHANE O'MARA

Capturing Information from Memory: Innovations In Investigative Interviewing

Solving crimes, mitigating security threats, and protecting the public often relies on interviewers obtaining detailed information or intelligence about what happened - or what is about to happen. Effective interviews with witnesses, victims, suspects and sources that elicit accurate and detailed information are crucial and the onus is on the interviewer to maximize both the quality and quantity of information obtained. Critical



to that skill is an understanding of memory – and an appreciation of the reasons why even entirely cooperative interviewees do not spontaneously report all the information they know. In this talk, I will examine some of these reasons from a memory perspective, including cross-cultural differences, and discuss techniques and tools developed in our lab, in collaboration with practitioners, to maximise information gain in investigative contexts. I will reflect on how far we've come in terms of injecting psychological science into the task of investigative interviewing and consider how researchers can most effectively translate applied research to inform practice.

BIOGRAPHY

Dr Lorraine Hope is Professor of Applied Cognitive Psychology at the University of Portsmouth (UK) and a lead for the Information Elicitation programme of the UK National Centre for Research and Evidence on Security Threats (CREST) (<https://crestresearch.ac.uk>). Over the past 20 years, her research has resulted in the development of innovative tools and techniques, informed by psychological science and practitioner demand, for eliciting accurate and detailed information and intelligence across a range of investigative contexts (e.g., Timeline Technique, Self-administered Interview, Structured Interview Protocol, Reporting Information about Networks and Groups (RING) technique). Her work has had global impact and she regularly delivers tools, research, evaluation and training for investigative interviewing and information elicitation in international policing, intelligence and security sectors, including inter- and multi-national agencies, such the UN, Organisation for the Security and Cooperation in Europe (OSCE), the International Criminal Court (ICC) and the High-Value Detainee Interrogation Group (HIG). As a leader in interviewing research developments and experienced in working with a range of stakeholders and end-users, Professor Hope publishes extensively on interviewing, information elicitation, and applied memory topics in high quality scientific journals and practitioner-focused outlets.

THURSDAY, MARCH 23RD AT 1PM

SARAH HARRISON, MENTAL HEALTH & PSYCHOSOCIAL
SUPPORT NETWORK

HOSTED BY DR FRÉDÉRIQUE VALLIERES

**The Red Cross Red Crescent Movement's MHPSS Approach in
Emergencies**

The Red Cross Red Crescent Movement works through its network of 192 National Societies and 14+ million volunteers. The National Societies have a unique auxiliary role with their respective National Governments/authorities that often cover emergency response services, search and rescue, first aid, and community based health and social services amongst others. Each National Society operates differently related to their agreements with the National authorities, but



all are equal members of the RCRC Movement. In 2019, the 192 National Societies, ICRC and IFRC, along with 196 Member States signed a Resolution to Address the MHPSS impacts arising from armed conflict, natural disasters and other emergencies. This Resolution along with a Movement wide MHPSS Policy guides the work of all National Societies, the ICRC and the IFRC. This talk will explain our approach and also draw upon recent examples such as responding to the Ukraine international armed conflict, the hunger crisis in parts of Africa, migration flows and various natural disasters.

BIOGRAPHY

Sarah Harrison, is Head of the Mental Health and Psychosocial Support Advisors Unit at the International Federation of Red Cross Red Crescent Societies' Reference Centre for Psychosocial Support (IFRC PS Centre) – part of the world's largest humanitarian network. Sarah has worked in humanitarian contexts since 2007 and between 2016-2021, she co-chaired the IASC Reference Group on mental health and psychosocial support in emergency settings. She is a Psychologist with Masters' degrees from the University of St. Andrews and Uppsala University, and a human rights diploma from the University of Oxford. She has published in academic journals and textbooks, and lectured at Universities in Italy, Ireland and the USA. She is based in Copenhagen, Denmark.

THURSDAY, APRIL 6TH AT 1PM

DR LORIJN ZAADNOORDIJK, TRINITY COLLEGE DUBLIN

- POSTDOC PRIZE WINNER -

HOSTED BY PROF RHODRI CUSACK

Lessons from Infant Learning for Unsupervised Machine Learning

The desire to reduce the dependence on curated, labelled data sets and to leverage the vast quantities of unlabeled data has triggered renewed interest in unsupervised learning algorithms. Inspiration from cognitive (neuro)science has mostly been based on adult learners with access to labels and a vast amount of prior knowledge. I will discuss three crucial factors enabling infants' quality and speed of learning, assess the extent to which these insights have already been exploited in machine learning, and provide concrete suggestions for how they can be further adopted in next-generation systems so that unsupervised machine learning can finally take the next step in growing up.



BIOGRAPHY

Dr. Lorijn Zaadnoordijk is a Research Fellow at Trinity College Dublin at the Trinity College Institute of Neuroscience since January 2019. In 2020, she was awarded a Marie Curie Individual Fellowship "InterPlay" on parent-child interaction and the development of infants' visual attention. Furthermore, she is a collaborator on the ERC Advanced FOUNDCOG project, led by Prof. Rhodri Cusack, which uses neuroimaging and deep learning techniques as well as behavioral studies to understand early cognitive development in infants born preterm and at term. Prior to her employment at TCD, she was a PhD student at the Donders Institute for Brain, Cognition, and Behaviour, where she studied infants' sense of agency together with Prof. Sabine Hunnius. Dr. Zaadnoordijk is one of the founding chairs of the international ManyBabies-AtHome consortium, developing novel approaches for behavioral online testing of infants across the world. She has published in articles in the fields of developmental science, cognitive (neuro)science, philosophy, and artificial intelligence.

THURSDAY, APRIL 13TH AT 1PM
PROFESSOR STEVE FLEMING, UNIVERSITY COLLEGE
LONDON

HOSTED BY PROF REDMOND O'CONNELL

Metacognition, Subjective Experience, And Mental Health

Metacognition refers to the capacity to estimate features of our own cognition and mental states. Human metacognition can be divided into two types: a) subpersonal, implicit estimates of uncertainty and confidence, and b) personal-level, conscious beliefs about performance. Subpersonal estimates of uncertainty play a central role in shaping subjective experience. The idea is that when a particular mental state being tagged as "reliable" - a reflection of a real state of the world, rather than internally generated imagery or noise - then we perceive it as real and vivid. In a recent neuroimaging study we have found evidence for this view, with dissociations between the tracking of perceptual content (in early visual cortex), and awareness of content (in prefrontal cortex). This model also explains why people sometimes struggle to distinguish between imagination and reality, as both can lead to high-confidence perceptual content. We have documented such striking failures of reality monitoring – erroneously attributing imagined content to reality, and vice-versa – in novel high-N, low-trial psychophysics experiments involving surreptitious one-trial presentations of “real” stimuli. In the final part of the talk, I will turn to personal-level metacognition: when estimates of confidence become conscious, we gain the capacity to represent our skills and abilities to ourselves. We have found that these self-performance estimates predict variance in transdiagnostic dimensions of mental health, and are altered in healthy ageing. I will present new findings that reveal how self-performance estimates are updated in response to feedback, and how they transfer across distinct domains.



BIOGRAPHY

Steve Fleming is Professor of Cognitive Neuroscience and Royal Society/Wellcome Sir Henry Dale Fellow at the Department of Experimental Psychology, UCL, where he leads the Metacognition Group, and also Principal Investigator at the Max Planck-UCL Centre for Computational Psychiatry and Wellcome Centre for Human Neuroimaging. Steve's research on the neuroscience of metacognition and self-awareness has been recognised by early career awards including the British Academy Wiley Prize in Psychology, a Philip Leverhulme Prize in Psychology, and the British Psychological Society Spearman Medal. He is the author of *Know Thyself* (2021), a trade book on the science of metacognition.