International Conference

Building Bridges:
Mobilising international interdisciplinary science to benefit societies

2nd - 3rd November 2015

Ian Gulland Lecture Theatre, Whitehead Building, Goldsmiths

Programme: Monday 2ⁿᵈ November

Time	Session	Speaker
09:30-10:00	**Registration**	
10:00-10:50	Opening remarks *Introducing collaborative opportunities:* Yulia Kovas & Sergey Malykh *Introducing Goldsmiths University:* Jane Powell *Introducing Tomsk State University:* Artyom Rykun	
10:50-11:20	**Keynote:** Translational Research with Education: Building Bridges Between Psychological Science & School Practice	Alice Jones
11:20-11:35	Using Psychological Research Tools to Evaluate and Improve Education and Wellbeing Projects in Rural Africa: An International Collaboration with NGO 'Lively Minds'	Hannah Smith
11:35-11:50	**Coffee break (provided)**	
11:50-12:20	**Keynote:** Computational Modelling: Linking Genetics, Neuroscience, and Psychology	Michael Thomas
12:20-12:50	'Where's the boss?'.......or 'It's My Party' – JEF©: A New Ecologically-Valid Assessment of Executive Functions	Ashok Jansari
12:50-13:50	**Lunch* (not provided)**	
13:50-14:10	RSTR Film	
14:10-14:40	**Keynote:** Refining Brain Oscillatory and Potential Measures for Use in Psychiatry and Genetics	Grainne McLoughlin
14:40-14:47	Promising research into the cognitive affective neuroscience of math anxiety	Tomasz Bloniewski
14:48-14:55	The Etiology of Spatial Anxiety and its Relationship with Mathematics Anxiety, General Anxiety and Spatial Ability	Margherita Malanchini
14:55-15:25	**Keynote:** Interdisciplinary Research in Genetics: Integrating Ethics and Science	Richard Ashcroft
15:25-15:45	**Coffee break (provided)**	
15:45-16:45	Inauguration of TAGC	
	TAGC's work	Emily Smith-Woolley
	Genetics: Law and Ethics	Fatos Selita
	Misconceptions about Genetics	Robert Chapman
16:45-17:00	Signing of the Memorandum of Understanding between Goldsmiths and TSU	
17:00-19:00	Drinks reception, poster session, and collaborative opportunities discussion	

Refreshments will be served in the Whitehead Building Atrium

*Lunch will not be provided, however delegates will be shown where to eat

Tuesday 3ʳᵈ November

Time	Session	Speaker
10:00-10:30	**Keynote:** Supporting Families to Support Children: What	Gordon Harold
10:30-11:00	**Keynote:** Behavioural Genetics for Education	Yulia Kovas
11:00-11:25	**Keynote:** Scalable Machine Learning, Big Data Analytics and High Performance Computing in Interdisciplinary Research	Daniel Starnate
11:25-11:30	Machine Learning Aproaches in Mental Health Data Analysis	Wajdi Alghamdi
11:30-11:45	**Coffee break (provided)**	
Parallel sessions		
11:45-13:30	Law School Collaborations: Round Table Discussion in *Room: WB 221*	Fatos Selita (Organiser)
11:45-13:30	Discussion: Data science: Research and Education (*Room TBC*)	
11:45-12:15	Lightning talks	Olga Bogdanova Irina Novitskaya Anastasiia Karetina Valeriya Budenkova Pierre-Francois
12:15-12:30	Investigating and Understanding Cross-National Differences in Bullying	Peter K. Smith
12:30-12:45	Cross-National Data on Victim Rates: Testing Predictions Related to Hofstede and Gelfand Dimensions	Susanne Robinson
12:45-13:00	Genetic and Environmental Underpinnings of Spatial Abilities and their Role in Predicting Academic Achievement and Success in STEM	Kaili Rimfield
13:00-14:15	**Lunch (not provided)**	
14:15-14:45	**Keynote:** Critical Roles of Motivation in Learning: A Multimethod Approach	Kou Murayama
14:45-15:00	Lightning talks	Amanda Holland Alexandra Anikina Yokfah Isaranon
15:00-15:30	**Keynote:** Child and adolescent psychopathology: the relevance of sleep and genetics	Alice Gregory
15:30-15:45	Student Presentation Awards and closing	
15:45-17:30	TEDS film, coffee, and further networking	

More information overleaf

Day 1 Presentations and events

Opening remarks

Yulia Kovas, Director of InLab, Goldsmiths and Co-Director of International Centre for Research in Human Development, Tomsk State University
Sergey Malykh, Director of the Laboratory of Developmental Behavioural Genetics at the Psychological Institute of the Russian Academy of Education; and Co-director of International Centre for Research in Human Development, Tomsk State University
Jane Powell, Pro Warden, Goldsmiths, University of London
Artyom Rykun, Vice-Rector for International Affairs, Tomsk State University

Keynote speakers

Alice Jones, Goldsmiths
Translational Research With Education: Building Bridges Between Psychological Science and School Practice

One of the greatest barriers to a child reaching their potential at school is the presence of social, emotional and behavioural difficulties. Our research aims to bring together basic research on emotion competences and regulation with classroom performance. We work closely with schools to develop new ways of working that are based on the relevant research-evidence base, and evaluate these using rigorous tools. This talk will illustrate how translational research can work in practice, and discuss some of the challenges we still need to work through.

Michael Thomas, Birkbeck, University of London.
Computational Modelling: Linking Genetics, Neuroscience, and Psychology   Abstract: TBC

Grainne McLoughlin, King's College London
Refining brain oscillatory and potential measures for use in psychiatry and genetics

 A prominent property of neural networks in the brain is their tendency to engage in oscillatory activity. Neural oscillations are fundamental mechanisms for enabling coordinated activity during normal brain functioning. Neural oscillations in low (theta and alpha) and high (beta and gamma) frequency ranges establish precise temporal correlations between distributed neuronal responses. Stimulus-induced or event-related neuronal oscillations (EROs) reflect the dynamic integration of neuronal activities within and between brain regions to enable the emergence of coherent brain functions, including perception, thinking, and action. Features of the EROs, specifically the timing (phase) and amplitude can provide information on these brain functions. Deficits in neural oscillations may be sensitive and specific to the pathophysiology of a number of psychiatric disorders and may represent functional disconnection between and within cortical areas of the brain.
While rhythmic oscillations are a significant feature of neural activity, these oscillations are rarely seen in a "pure" form in EEG due to volume conduction and superposition of numerous spatially distinct sources at each recording electrode. One computational approach proving particularly useful for precise identification of cortical EROs is independent component analysis (ICA). ICA decomposition of EEG data into separate source activities identifies component processes that are not only temporally near independent but also functionally independent in the sense that they exhibit more distinct patterns of response to a range of experimental events than do the raw channel recordings. In this talk I will discuss the application of ICA to EEG data, focusing in particular on the identification on oscillatory alpha and theta subspaces in ICA decompositions, and the extraction of trial-by-trial phase and amplitude measures of the associated EROs.

Richard Ashcroft, Queen Mary, University of London.
Interdisciplinary research in genetics: Integrating Ethics and Science

Multidisciplinary research is increasingly the norm in the sciences. The UK research councils, the European Commission and even the leading scientific journals, such as Nature, promote interdisciplinarity keenly as a royal road to solving social and technological problems of importance. In my lecture I want to address three things: (1) the relationship between interdisciplinarity and the disciplines; (2) the pleasures and pains of interdisciplinary collaboration; and (3) the special features of collaboration between the sciences and the humanities. I will illustrate my argument with reflections on my own career in interdisciplinary research, working on ethics in the sciences and medicine, drawing on philosophy and the social sciences.

Presentations

Hannah Smith, Goldsmiths: *Using psychological research tools to evaluate and improve education and wellbeing projects in rural Africa: An international collaboration with NGO 'Lively Minds'*
Ashok Jansari, Goldsmiths: *'Where's the boss?'.......or 'It's My Party' – JEF©: A New Ecologically-Valid Assessment of Executive Functions*
Tomasz Bloniewski, Goldsmiths: Promising research into the cognitive affective neuroscience of math anxiety

Posters

Saskia Selzam, Ziada Ayorech & Emily Smith-Woolley, King's College London: 55 years of Behavioral Genetics
Elaine White, Goldmiths & Tomsk: Cross cultural investigation into teacher/classroom effects on academic progress in relation to motivational factors
Daniel Stahl, King's College London: Applying Machine Learning Methods to Improve Analyses of Psychological Research Studies
Deborah Agbedjiro, King's College London: Data Reduction and Imputation combined with Lasso to Predict Heterogeneity of Treatment Success for Cognitive Remediation Therapy
Maja Rodic, University of Sussex: Spatial complexity of character based writing systems and arithmetic in primary school: a longitudinal study

Inauguration of The Accessible Genetics Consortium (TAGC)

The Accessible Genetics Consortium was established by InLab, Goldsmiths and the International Centre for Research in Human Development, TSU. The mission of the Consortium is to communicate genetic knowledge in an accessible way and to address its ethical and legal implications - to enable everyone to benefit from genetic discoveries. The Consortium includes many members from across different disciplines from all over the world and invites new members - individuals and institutions to join and contribute their expertise.

Signing of Memorandum of Understanding (MOU)

The signing of the Memorandum of Understanding, to formalize the collaboration between (TSU) Tomsk State University and Goldsmiths, University of London

Day 2 Presentations and events

Keynote speakers

Gordon Harold, University of Sussex
Supporting Families to Support Children: What Really Works?

The development of psychopathology among youth constitutes an area of significant social, clinical, policy and public health concern. Understanding processes and mechanisms that underlie the development of psychopathology during childhood and adolescence requires theoretical and methodological integration across multiple scientific domains, including developmental science, neuroscience, genetics and prevention science. The primary focus of this presentation is to examine the relative role of genetic and family environmental influences on children's emotional and behavioural development. Specifically, a complementary array of genetically sensitive and longitudinal research designs will be employed to examine the role of early environmental adversity (e.g. inter-parental conflict, harsh parenting practices) relative to inherited factors in accounting for individual differences in children's symptoms of psychopathology (depression, aggression). Examples of recent applications of this research to the development of evidence-based interventions programmes aimed at reducing psychopathology in the context of high-risk family settings will also be presented.

Yulia Kovas, Goldsmiths & Tomsk State University

Behavioural Genetics for Education

Continuous advances in genetic science have led to dramatic changes in our understanding of how DNA affects our behaviour. For example, today we know that genetic effects are not static or deterministic, but change throughout life and in different educational and cultural contexts. The talk will consider how existing and future insights into interactive gene-environment processes may help to optimise education for all learners.

Daniel Stamate, Goldsmiths
Scalable Machine Learning, Big Data Analytics and High Performance Computing in Interdisciplinary Research

The talk illustrates the contribution of scalable automated / machine learning, big data analytics, and high performance computing approaches to modern scientific interdisciplinary research in various fields. A number of case studies that would normally encounter particular complexities and challenges or would be intractable if conventional data analysis and processing methodologies were employed, but that have successfully benefitted of the application of modern methods, approaches and technologies in data science, are presented.

Kou Murayama, University of Reading
Critical Roles of motivation: Multi-method Approach

Researchers have agreed that motivation is an important factor in learning, but its influences are more nuanced than indicated by the current literature. In this talk, I will present a summary of my research program examining the roles of motivation in learning. Potential topics include 1) the effects of extrinsic incentives on motivation, 2) motivation and long-term learning consolidation, and 3) effects of competition on task performance. A combined use of multiple methodologies (e.g., behavioral experiments, longitudinal surveys, neuroimaging, meta-analysis, intervention etc.) provided a fine-grained and clear picture on these topics.

Alice Gregory, Goldsmiths
Child and adolescent psychopathology: the relevance of sleep and genetics

Sleep problems commonly occur during childhood and are associated with a plethora of difficulties. More recently we are coming to understand that sleep disturbances may forecast other difficulties over time and therefore constitute a red flag for those problems. This is particularly noteworthy as compared to other aspects of mental health, sleep may be a topic which people are more comfortable discussing in a clinical setting. Our work has now turned to trying to further understand the mechanisms underlying these associations and we have focused in particular on increasing understanding of genetic and environmental influences on sleep disturbances and associations with other phenotypes. Our plans for future work will also be discussed.

Presentations

Wajdi Alghamdi, Goldsmiths: *Machine Learning Approaches in Mental Health Data Analysis*
Peter Smith, Goldsmiths: *Investigating and understanding cross-national differences in bullying*
Kaili Rimfeld, King's College London: *Genetic and environmental underpinnings of spatial abilities and their role in predicting academic achievement and success in STEM*
***Susan* Robinson, Goldsmiths:** *Cross-National Data on Victim Rates: Testing Predictions Related to Hofstede and Gelfand Dimensions*

Lightning talks

Olga Bogdanova, Tomsk State University: *Interdisciplinary Research Advancing Science and Promoting Well-being*
Irina Novitskaya, Tomsk State University: *Encyclopedia on Early Childhood Development: An International Collaboration*
Anastasiia Karetina, Tomsk State University: *Cross-cultural Adaptation and Evaluation of the Early Childhood Development Program*
Valeriya Budenkova, Tomsk State University: *Identity in the Age of Globalization: principles of study*
Pierre-Francois Gerard, Goldsmiths: *Spatial Memory for knowledge construction*
Amanda Holland, Goldsmiths: 3-5-year-olds fast map and retain functions as well as object labels but actions win the race
Alexandra Anikina, Goldsmiths: *Cognitive studies and moving image: a case of mise-en-abîme*
Yokfah Isaranon, Goldsmiths: *Facebook, Narcissism, and Affirmation for the Ideal Self: A Cross-Cultural Comparison*

Law School Collaborations Round Table

This session will cover discussions on interdisciplinary research and teaching collaborations between law schools, and will include law school from Russia and the UK. *Panellists:* Paul Kohler, SOAS School of Law; Oleg Voronin, TSU Institute of Law; Ruth Stirton, Sussex Law School; Oscar Guardiola-Rivera, Birkbeck School of Law

Data Science Parallel Session on Research & Education

This parallel session concerns a discussion on current and future developments in the area of Data Science at Goldsmiths and Tomsk State University. In particular joint developments in research and teaching between the two universities will be addressed.

Building bridges: mobilising international interdisciplinary science to benefit societies

Goldsmiths, University of London and Tomsk State University (TSU) have organized a two-day conference to celebrate the established relationships in Psychology, Genetics and education; to advance the developing relationships in data science, law and ethics; and to facilitate new collaborations across disciplines and institutions.

Conference organisers:

InLab (International Laboratory for Interdisciplinary Investigations into Individual Differences in Learning)

InLab is a collaborative research group, dedicated to understanding the origins the complex interactions between genetic, social, and cultural factors and their effects on learning and cognition. In our cross-cultural research, we combine different disciplines, including experimental and other areas of psychology, genetics, neuroscience, and education.

International Network for Research in Child Health and Development (INRiCHD)

TBC

International Centre for Research in Human Development at Tomsk State University

TBC

Conference committee members:

Conference Chair: Fatos Selita

Organising Committee Chair: Tomasz Bloniewski
Organising Committee Members:
Janine Khuc
Joshua Graham
Giulia Pannini
Rosa Cheesman
Ruta Adamone
Elena Leone
Alice McAulay
Alexandra Anikina
Natalie Hadjiloizou

Programme Committee Chair: Elaine White
Programme Committee Members:
Margherita Malanchini
Emily Smith-Woolley
Ruta Adamone
Belina Barreti

Award Committee
Margherita Malanchini
Elaine White

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National Research
Tomsk State University

InLab