



Welcome to the first Cognitive Economics Workshop. We look forward to two days of challenging discussion, exciting presentations of new research, and collaboration to create a vision for this developing field of economics.

Cognitive economics is not entirely new, but may be ready to come of age. There have been publications and occasional meetings since the 1990s, and we are building on the work of pioneers in the field such as Bourgin, Egidio, McCain, Nadal, Rizzello, Topol, Viale and Walliser. Many others have published related work under different headings: Osman on future-oriented thinking, Singer on empathy, Lamberton on information economics, Camerer on neuroeconomics, Gilbert & Wilson on prospecting, and Gopnik on causality – as well as the closely related work across behavioural economics and decision making. Nobel prize winners from Schelling and Simon to Akerlof, Shiller and Stiglitz have examined some of these questions in their work. And we are proud to welcome George Ainslie whose research, in particular his book *Picoeconomics*, touches on several of the topics we'll discuss.

More recently Marco Novarese, Miles Kimball and Nick Chater have carried the torch for the cognitive economics discipline, and a successful session at the American Economic Association in 2019 featured work by George Loewenstein, Emily Ho, David Hagmann, Ori Heffetz, Kristen Cooper, Dan Benjamin and me. Shabnam Mousavi and Riccardo Viale have worked hard on the link between cognitive processes and economic phenomena through the journal *Mind and Society* and the work of the Herbert Simon Society.

In the next two days, thirty-five researchers will present work related to cognitive economics, and we expect to see common connections and themes emerging throughout the workshop. Please join us in drawing out those themes and building a holistic picture of a discipline that will grow in impact as its theoretical foundations, empirical methods and practical applications become clearer. Thank you to everyone who has submitted work and travelled here to share your ideas with us – without you there would be no workshop!

The Cognitive Economics Society hopes to have your participation and support not just during this event but afterwards. We would love you to submit to our future workshops (North America in Spring 2020, Europe in Autumn 2020); to consider cognitive economics questions and topics in your research activities and publications; and to encourage students and fellow researchers to consider pursuing these topics too.

Finally, I would like to acknowledge our partners and colleagues all of whom have contributed in key ways to the creation and success of this event. The workshop is a collaboration between the Cognitive Economics Society and the Institute for New Economic Thinking's Young Scholars Initiative, which has provided funding and travel bursaries for several participants (particular thanks to Gerçek Çiçek of the Behavior & Society

working group for co-organising). King's College London are generously hosting us, with Shaun Hargreaves Heap and Elisa Cavatorta representing the institution in person. We have been supported by the Herbert Simon Society who have arranged the opportunity for your papers to be considered for a special issue of *Mind and Society*. The London Behavioural Economics Network has helped to promote the workshop and will be sharing some of the outputs with practitioners and academics at their next meeting on 19th November. Irrational Agency, a commercial cognitive and behavioural research agency, has provided sponsorship. And you will all have been in touch with Tara Cooper, who has worked very hard to make sure the planning and delivery of the workshop are a success.

I'm looking forward to hearing from you all and learning a lot!

Leigh Caldwell

Founder Cognitive Economics Society & Irrational Agency



Cognitive Economics Workshop

Schedule

Friday 8 November

| Time: | Session: | Details: |
|--------------|---|--|
| 09:15-10:00 | Arrival & Registration | Tea, coffee and pastries will be available. |
| 10:00-10:40 | Welcome & Keynote | Ten questions (and one answer) for cognitive economists Leigh Caldwell, Cognitive Economics Society & Irrational Agency |
| 10:45-11:45 | Paper presentations: bias | Criminal Punishment: is justice too merciful, rough and expensive? Mandeep K Dhami, Middlesex University, London Sorry, but almost everything we cognitive psychologists told you about loss aversion isn't true: A polemical apology in two parts with data and a post mortem A two part paper co-presented by: Tim Rakow, King's College London & Lukasz Walasek, University of Warwick, (Chair) |
| 11:45-12:00 | Morning break | |
| 12:00-13:20 | Paper presentations: decision theory | It's new, but is it good? How generalization and uncertainty guide the exploration of novel options Hrvoje Stojic, University College London Predicting biases in optimal stopping problems Sahira van de Wouw, Royal Holloway University of London How Does Responsibility Sharing Affect Investment Decisions? Kremena Bachmann, University of Zurich Heterogeneity in Cognition and Equilibrium Switching in Coordination Games Jianxun Lyu, University of Edinburgh (Chair) |
| 13:20-14:20 | Poster Session & Lunch | During lunch, please have a look at our posters and chat with the presenters. |

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|-------------|---|--|
| 14:20-15:00 | Keynote | The Fox and the Hedgehog: Nudging, Shoving or Boosting Human Decision-Making? Prof. Riccardo Viale, University of Milan Bicocca |
| 15:05-15:50 | Cognitive mediators in theories of decision making: a panel discussion | Many decision theories are primarily behavioural, focusing on the relationship between options as input and choices as output. But what if the internal cognitive state of a decision maker is important to the choices they make? This panel explores model-based (as opposed to model-free) ways of understanding agents and the cognitive objects or states that can mediate their decisions. Panellists: Mandeep K Dhami, Middlesex University, (Chair) Gerçek Çiçek, Otto von Guericke University |
| 15:50-16:05 | Afternoon break | |
| 16:05-17:05 | Paper presentations: wellbeing and nudges | Nudging into Flow: Optimizing Productivity with a Choice Architecture Troy Weekes, Florida Institute of Technology Self-signalling and commitment as tools to reduce the carbon footprint of food choices Luca Panzone, Newcastle University Are we happy with measuring happiness? Amanda Henwood & Prof. Paul Dolan, London School of Economics (Chair) |
| 17:10-17:50 | Keynote | Anxiety, cognitive performance and gender: Evidence from a randomized anti-anxiety training Elisa Cavatorta, King's College London |
| 17:50-18:00 | Closing Remarks | We will walk over to the drinks reception shortly after the closing remarks. |
| 18:15-19:45 | Evening Drinks & Nibbles Reception Bush House South | |

Saturday 9 November

| Time: | Session: | Details: |
|--------------|---|---|
| 08:30-09:00 | Arrival | Tea, coffee and pastries will be available. |
| 09:00-09:40 | Keynote | Information Preferences David Hagmann, Harvard University |
| 09:45-10:45 | Paper presentations: beliefs I | Cognitive and neural mechanisms underlying confirmation bias Max Rollwage, Wellcome Trust Center Persuasion and Confirmation Bias Luca Zamboni, Queen Mary University of London Understanding the mutual relation between the impossibility theorem and strategic equilibrium: A cognitive approach to the theory of collective decision-making Edgardo Bucciarelli, University of Chieti-Pescara & (Chair) Andrea Oliva, United Nations Academic Impact |
| 10:45-11:00 | Morning break | |
| 11:00-11:40 | Keynote | Anatomy of a Market Failure: The Cognitive Basis of Ineffective Altruism Sam Johnson, University of Bath |
| 11:45-12:45 | Paper presentations: beliefs II | Self-esteem and discrimination Steven Bosworth, University of Reading Social Effects of the Vote of the Majority: An Experiment on the Brexit-Vote Fernanda de Leon, University of Kent Self-Persuasion: Evidence from Field Experiments at Two International Debating Competitions Egon Tripodi, European University Institute (Chair) |
| 12:45-13:35 | Poster Session & Lunch | During lunch, please have a look at our posters and chat with the presenters. |

| | | |
|-------------|---|--|
| 13:35-14:15 | Marketing & finance applications: a panel discussion | Behavioural economics has become a popular topic in industry: marketing research and communications agencies are using it, while banks and hedge funds have behavioural finance teams. But can cognitive economics do the same? Can this discipline build on the momentum created by behavioural economics, with new commercial applications, and where and when? Panellists: Koen Smets, Saint Louis University, (Chair) Oliver Payne, The Hunting Dynasty Philip Corr, City, University of London |
| 14:20-15:00 | Keynote | The Ascent of Procedural Rationality Shabnam Mousavi, Max Planck Institute |
| 15:00-15:10 | Afternoon break | |
| 15:10-16:10 | Paper presentations: information narratives | Attention markets on social media Marina Della Giusta, University of Reading & Danica Vukadinovic-Greetham, Open University Explaining Why: The Cognitive Science Behind the Adaptation of Narratives in Causal Reasoning Dunya Baradari, University College London Fake news, confirmation bias and cognitive dissonance Prabirendra Chatterjee, Cardiff University Business School (Chair) |
| 16:10-16:50 | Keynote | Willpower with and without effort George Ainslie, Veterans Affairs Medical Center |
| 16:55-17:55 | The future of cognitive economics: a panel discussion | The discipline of cognitive economics has a 25-year history among economists, cognitive scientists, psychologists and information theorists. In the future, how can we stimulate and support further research and in which disciplines might this take place? How should we reach out to neuroscientists, the decision making community, related branches of economics research, marketing theorists and others? Panellists: Leigh Caldwell, Irrational Agency & Cognitive Economics Society, (Chair) |
| 17:55-18:00 | Closing remarks | |

Cognitive Economics Workshop: Extended Programme

Friday 8 November

09:15-10:00 - Arrival & registration

Tea, coffee and pastries available

10:00-10:40 - Welcome & keynote

Ten questions (and one answer) for cognitive economists

Leigh Caldwell, Cognitive Economics Society & Irrational Agency

Abstract:

Why invest time in creating a cognitive economics discipline? Because there are questions that existing economic theory can't answer. I will set out ten important economic questions that only a cognitive approach can resolve, and propose a research program that our developing field could follow. I also outline a model based on recent neuroscience and psychology discoveries that could provide a foundation for these answers. Some experimental and simulation evidence will offer support for this model, and initial directions towards answering a few of the ten questions.

Biography:

Leigh Caldwell is a mathematician and researcher in cognitive economics, psychology, agent-based modelling and marketing. He has presented research at conferences including AEA, SPUDM, DCAI, ICT, ICP, SJDM, MathPsych, Festival for New Economic Thinking, ESOMAR, and has published articles in Behavioural Public Policy and International Journal of Market Research. In 2012 he wrote *The Psychology of Price*, a book for business readers on applications of behavioural pricing techniques. In 1994 he founded the technology company Inon and in 2012 the market research firm Irrational Agency. He gave a TEDx talk in 2016 on the use of agent-based simulations to address gender inequality and other social problems. In 2019 he founded the Cognitive Economics Society and is happy to welcome you to the first Cognitive Economics Workshop.

10:45-11:45 - Paper presentations: bias

Criminal Punishment: is justice too merciful, rough and expensive?

Mandeep K Dhami, Middlesex University, London

Abstract:

Criminal punishment is a complex cognitive activity often performed by the unaided mind under suboptimal conditions. As such, sentencers may not behave according to policy, guidelines and training. I present two studies that highlight the suboptimal practice of criminal punishment. In Study 1, we analyzed the distribution of sentences meted out in one year in two different jurisdictions (i.e., England and Wales, and New South Wales, Australia). We reveal that sentencers prefer certain numbers when meting out sentence lengths (in custody and community service) and amounts (for fines/compensation). These 'common doses' accounted for over 90% of sentences in each jurisdiction. The size of these doses increased as sentences became more severe, and doses followed a logarithmic pattern. In study 2, I compared the sentences meted out to cases involving multiple-offences (MO) and those involving a single-offence (SO) in England and Wales. Regression analyses revealed that for six of the seven offence types studied, MO/SO case status was not a significant predictor of immediate custody. MO/SO case status was also not a significant predictor of custody length for six offence types. In fact, MO cases may receive equal or less severe penalties than their SO counterparts. Overall, the above findings run contrary to arguments against efforts to reduce judicial discretion. The findings undermine the notion of individualized justice, and demonstrate the counter-intuitive effects of showing mercy to offenders. We discuss the implications for the (cost-) effectiveness of criminal punishment."

Biography:

Mandeep K. Dhami, PhD is Professor in Decision Psychology at Middlesex University, London. Mandeep has previously held academic positions in Germany, the USA and Canada. She has also worked outside academia in two British prisons, and was a Senior Psychologist at DSTL (UK MoD). Mandeep is an internationally recognized expert on human judgment and decision-making. Her research interests include heuristic models of judgment and decision-making, risk perception and risk taking, and understanding and communicating uncertainty. She has applied these concepts to solving problems in the law enforcement, criminal justice and intelligence analysis domains. Mandeep has over 100 scholarly publications and is lead editor of a book entitled 'Judgment and Decision Making as a Skill' published by Cambridge University Press in 2011. Her research has received over £2 million in funding to-date and has won several awards including from the European Association for Decision Making and the Society for the Psychological Study of Social Issues (American Psychological Association). She is regularly invited to share her expertise at scholarly events as well as advise national and international Government bodies on evidence-based policies and practices. Most recently, Mandeep was the UK representative on the NATO SAS-114 research panel on 'Assessment and Communication of Risk and Uncertainty to Support Decision Making'.

Sorry, but almost everything we cognitive psychologists told you about loss aversion isn't true: A polemical apology in two parts with data and a post mortem

A two part paper co-presented by: Tim Rakow, King's College London & Lukasz Walasek, University of Warwick, (Chair)

Abstract:

Daniel Kahneman describes loss aversion as "the most significant contribution of psychology to behavioural economics". This notion that losses loom larger than gains has been an important component of models of decision making that place value on (perceived) changes in wealth rather than final states of wealth. Loss aversion has been used to explain a wide range of phenomena across a variety of domains, both in the laboratory setting and in the field. We argue, however, that this "gift" from psychology to economics may be more Trojan Horse than glittering prize.

Using data from multiple studies that we, and others, have conducted, we illustrate the ephemeral nature of the empirical markers of loss aversion. As a first example, in a large sequence of studies, we repeatedly failed to obtain an endowment effect – supposedly one of the most robust phenomena in riskless choice. Only when we relaxed the rigour of our measurement of valuation did the effect re-appear. This suggests that the endowment effect may reflect the methods of measurement as much as it does individuals' valuations. Second, we illustrate that loss aversion is often absent, or even reversed, in repeated choice experiments in which participants experience monetary losses and gains. In such studies, reverse loss aversion is seen when losses are frequent, or large, relative to gains – to the extent that gambles with negative expected value can become attractive options. This too can be manipulated by altering how the decision is framed, further suggesting that loss aversion may not be the dominant influence on preference that it is thought to be. Third, we present data for a series of studies, and independent replications, in which we examined how the propensity to accept or reject mixed 50-50 gambles varies with the distribution of losses and gains in the set of gambles considered. The range, and to a lesser extent the skew, of loss-amounts and gain-amounts alters the degree of loss aversion such that it disappears, or even reverses. This suggests that loss aversion – such as it does exist – is a property of the experiment, rather than a property of the individual. Fourth, we consider the stability of loss aversion: both as a property of the individual, and a property of the models that instantiate it. In our data, we find a modest correlation in the degree of loss aversion across different tasks. This therefore suggests that the notion that losses and gains might receive differential weighting is a meaningful one – though, importantly, the mere presence of individual differences in the relative weighting of losses and gains is further evidence of its plasticity. Using simulation studies, we also illustrate that loss aversion cannot be reliably estimated using people's choices between mixed gambles. Analysis of response times also reveal that people have a general tendency to reject mixed gambles. That is, individuals seem to be predisposed to reject gambles without any computation of utility of the choice alternatives.

Finally, we discuss how we got to this state of affairs. Drawing on analyses of the concept of loss aversion by Ert and Erev (2013) and Yechiam (2018), and on Kahneman's own reflections on how the concept of loss aversion gained traction beyond its roots in psychology, we re-evaluate the "gift" of loss aversion that cognitive psychologists gave economists.

Biographies:

Tim Rakow researches both basic and applied topics in judgment and decision making. Much of this research has critically examined the claims of prominent research programmes, addressing topics such as: the nature of simple heuristics for inference and choice; the role unconscious thought in decision making; risky choices made on the basis of prior experience. Most of Tim's applied research examines decisions in the domains of health and medicine, including the assessment and communication of risk. Tim joined King's College London in 2015 as part of the core teaching team for the new BSc Psychology degree at the Institute of Psychiatry, Psychology and Neuroscience. He is an Associate Editor at Thinking & Reasoning, and became a Principal Fellow of the Higher Education Academy in 2014.

Dr Lukasz Walasek received his BSc degree in Psychosocial Sciences from the University of East Anglia, UK. He obtained his MSc degree and PhD in psychology from the University of Essex, UK. Between 2013 and 2017, Dr Walasek worked as a postdoctoral fellow in the Psychology department at the University of Warwick. In 2017, he joined the Engineering Psychology group at WMG department as an Assistant Professor. Since 2018, Dr. Walasek has been employed as an Assistant Professor in the Psychology department (Behavioral Science group) at the University of Warwick. His main research interest is in the area of judgment and decision-making. Dr. Walasek published work on the subjects such as loss aversion in risky choice, valuation of consumer products, theory of ownership, gambling advertising, effects of income

inequality on consumption, and use of big data to study various psychological phenomena. He is currently leading the Behavioural Change: Nudging and Persuasion module on the Behavioural Economic Science MSc at Warwick. He is acting as an Associate Editor in the Journal of Behavioural Decision Making and in the Journal of Applied Psychology: An International Review.

11:45-12:00 - Morning break

12:00-13:20 - Paper presentations: decision theory

It's new, but is it good? How generalization and uncertainty guide the exploration of novel options

Hrvoje Stojic, University College London

Abstract:

How do people decide whether to try out novel options as opposed to tried-and-tested ones? We argue that they infer a novel option's reward from contextual information learned from functional relations and take uncertainty into account when making a decision. We propose a Bayesian optimization model to describe their learning and decision making. This model relies on similarity-based learning of functional relationships between features and rewards, and a choice rule that balances exploration and exploitation by combining predicted rewards and the uncertainty of these predictions. Our model makes two main predictions. First, decision makers who learn functional relationships will generalize based on the learned reward function, choosing novel options only if their predicted reward is high. Second, they will take uncertainty about the function into account, and prefer novel options that can reduce this uncertainty. We test these predictions in two preregistered experiments in which we examine participants' preferences for novel options using a feature-based multi-armed bandit task in which rewards are a noisy function of observable features. Our results reveal strong evidence for functional exploration and moderate evidence for uncertainty-guided exploration. These results suggest that preference formation is an active learning process, closely matched by approximately optimal learning account."

Biography:

I'm currently a post-doctoral researcher at University College London. In my research I focus on how people learn about the world and use their models of the world to make good decisions. My hope is that this work will help us understand the cognitive processes behind people's learning and decision making a bit better. I also hope it will allow us bring scientific insights closer to the real world, predicting behaviour in the wild - from making everyday choices in supermarkets to making choices with long ranging consequences on stock markets.

Predicting biases in optimal stopping problems

Sahira van de Wouw, Royal Holloway University of London

Abstract:

The consensus in the field of optimal stopping problems is that humans tend to terminate their search too early compared to computational models of optimality. However, the opposite was found on a version of the optimal stopping task dealing with mate choice (the facial attractiveness task). The aims of the current study

were 1) to replicate the findings on the facial attractiveness task, 2) to investigate whether oversampling is exclusively linked to the mate choice domain, and 3) to directly compare different decision making domains that could be classified as either primary or secondary reinforcers. Three experiments were conducted, examining the domains trustworthiness, mate choice, food, and holiday destinations, whilst using naturalistic stimuli. Contrary to the majority of previous research, but in line with the results of the facial attractiveness task, we found that participants sample more and end up with a lower-ranked image on all four domains, compared to a Bayesian ideal observer model. Thus, we replicated the findings on the facial attractiveness task and showed that oversampling is not exclusively linked to the mate choice domain. No evidence was found for a difference between the use of primary and secondary reinforcers as stimuli. For this reason, the previously proposed hypothesis by Furl et al. (2019) must be revisited: is the type of stimuli (naturalistic or abstract) predictive of the sampling bias shown by participants on an optimal stopping task? We suggest that viewing naturalistic images rather than text makes the task less tedious for participants, as it is a more ecologically valid paradigm of decision making, causing participants to sample more than optimal.

Biography:

I am a second year PhD student at Royal Holloway, University of London. I have a background in Cognitive Neurobiology and Clinical Neurophysiology, and received both my BSc and MSc from the University of Amsterdam. The topic of my PhD project is: understanding and predicting biases in optimal stopping problems. I find optimal stopping problems a fascinating topic because of their application to real-world decision making scenarios. Accept a job offer or keep looking? Park here or keep driving in the hope of a better parking space? Go on a date with your Tinder match or keep swiping right? I examine these kind of decisions through a cognitive economic lens by asking myself: when is the optimal time to stop evaluating new information and commit to a decision?

How Does Responsibility Sharing Affect Investment Decisions?

Kremena Bachmann, University of Zurich

Abstract:

This paper analyzes experimentally whether sharing the responsibility for previous decisions changes the way investors learn from new information and to which extent these differences in learning explain subsequent investment decisions. The results confirm previous findings that investors update their beliefs in a way that confirms their prior investment decisions. In addition, the results show that sharing the responsibility for these decisions reduces the bias in the beliefs updating process, in particular in the face of bad news associated with negative returns. If the responsibility for the decision is shared, investors are less likely to discount unfavorable information and more likely to revise their beliefs than investors who decide autonomously, which motivates more selling. As a consequence, the disposition to keep the losses, as observed in the group deciding autonomously, is completely eliminated. These findings suggest that there is a beliefs channel serving self-preserving needs that explain a significant amount of puzzling differences in the trading behavior across direct and managed investments with important implications for personal investment decision behavior and financial advisors.

Biography:

Kremena Bachmann is senior research associate at the University of Zürich and senior lecturer at the Zürich University of Applied Sciences. Her expertise and research interests include behavioural finance, household finance, personal finance, financial decision-making, and financial advice. Her research focus is on the impact of cognitive and emotional factors on financial decision-making, on the interaction with financial advisors

and on the development of measures improving the decision quality. She holds a MS degree in Economics from the University of St. Gallen (HSG) and a Ph.D. in Finance from the University of Zürich, Switzerland.

Heterogeneity in Cognition and Equilibrium Switching in Coordination Games

Jianxun Lyu, University of Edinburgh (Chair)

Abstract:

This paper studies the information processing behavior of a decision maker (DM) who can only process a subset of all information he receives: before taking an action, the DM receives sequentially a number of signals and decides whether to process or ignore each of them as it is received. The model generates an information processing behavior consistent with that documented in the psychological literature: first, the DM chooses to process signals that are strong; second, his processing strategy exhibits confirmation bias if he has a strong prior belief; third, he tends to process signals that suggest favorable outcomes (wishful thinking). As an application, I analyze how the Internet and the induced change in information availability affects the processing behavior of the DM. I show that providing more/better information to the DM could strengthen his confirming bias.

Biography:

Jianxun Lyu is a PhD student at the University of Edinburgh. His main research interests focus on the interactions between individual behaviours and social environment (such as cultural rituals and beliefs, norms and institutions). The main approach to these topics employed by Jianxun is learning theory and evolutionary game theory. He is also interested in behavioural economics and gender economics. Working Papers: Heterogeneity in Cognition and Equilibrium Switching in Coordination Games. 2019 Optimal Stopping Rule and Parental Investment with Discriminatory Preferences. 2019 Refundable Pledges and Alternative Cost-sharing Rules in Promoting Cooperation in Global Public Goods Provision: An Evolutionary Approach. Joint with Zhi Li, 2018.

13:20-14:20 - Lunch & poster session

During lunch, please have a look at our posters and chat with the presenters. Poster presenter biographies can be found towards the end of the programme.

14:20-15:00 - Keynote

The Fox and the Hedgehog: Nudging, Shoving or Boosting Human Decision-Making?

Prof. Riccardo Viale, University of Milan Bicocca

Abstract:

Do humans always need to be forced to act in order to safeguard their own interests or must they only be helped to do so, or on the contrary do they just need to be given the means with which to reach an independent decision? The current debate on coercive and libertarian paternalism and autonomy tries to answer these questions by presenting humans as more or less rational beings. With reference to the metaphor of Archilochus (famously evoked by Isaiah Berlin and more recently by Philip Tetlock), on the one hand we have those who regard the rational being as being like the hedgehog, an animal guided by a single,

big, all-comprehensive model of rationality capable of giving valid answers in a simplified and predictable environment. On the other hand, we have those (as it is the case of cognitive economics), who think of the rational agent as being like the fox, capable of adapting itself to a variety of environments characterized by uncertainty and complexity, by using different, ad hoc decision-making methods. Supporters of coercive paternalism believe in the hedgehog's model of rationality and therefore they acknowledge our recurrent, systematic weaknesses and incapacities and the need to compensate for them. Supporters of autonomous decision-making argue that people, like the fox, can adapt to the different, uncertain environments of choice, and that they can learn to select the most adaptive heuristics in any given context. Coercive paternalism proposes that the government should take the approach of enforcing and shoving in order to encourage individuals to make choices regarding their own wellbeing. On the contrary, those who argue in favour of independent decision-making insist that the government should empower and boost the citizen's performance and skills.. Between these two approaches lies the behavioral economics inspired libertarian paternalism of those who support nudging.

Biography:

Riccardo Viale is Full Professor of Behavioral Sciences and Cognitive Economics at the Department of Economics of the University of Milan Bicocca. He is also a professor of behavioral economics at the School of Government and at the LUISS School of European Public Economics. In 2019 he was a visiting professor at the Chinese Academy of Science in Beijing. Lecturer and scholar over the years in various foreign universities and research centers including the universities of Oxford, Columbia, Pennsylvania, California, Santa Barbara and the Max Planck Institute for Human Development in Berlin. He is the founder and General Secretary of the Herbert Simon Society and president of the Cognitive Insights Team at the Collegio Carlo Alberto in Turin. Editor in Chief by Mind & Society (Springer). He is currently Commissioner for Performance at the Ministry of Civil Service. He is the author of many books and publications including the forthcoming Handbook on Bounded Rationality (Routledge, 2020) and "Nudging" (The MIT Press, 2021).

15:05-15:50 - Cognitive mediators in theories of decision making: a panel discussion

Many decision theories are primarily behavioural, focusing on the relationship between options as input and choices as output. But what if the internal cognitive state of a decision maker is important to the choices they make? This panel explores model-based (as opposed to model-free) ways of understanding agents and the cognitive objects or states that can mediate their decisions.

Our panellists:

Mandeep K Dhami, Middlesex University, London (Chair)
(Biography above in paper presentations: bias)

Gerçek Çiçek, Otto von Guericke University

Gerçek is a PhD student in Economics at Istanbul Technical University, and just finished her second master's degree on Neuroscience at Medipol University. Gerçek, conducts multidisciplinary research in neuroeconomics where she specializes on decision making. For better policy-making, she challenges economic decision making models with an attempt to capture the complexity of actual human behavior in social context. To study behavior and social interaction, Gerçek looks into neural mechanisms underlying cognitive decision making via economic experiments. She researches hippocampal-prefrontal interactions using tasks/games under risk, uncertainty and strategic uncertainty while monitoring the brain activity via fMRI/fNIRS/EEG. Gerçek's goal is to utilize Cognitive Neuroscience to redefine Microeconomic decision

making models so that they reflect real people/real life; incorporate these newly found Microeconomic models and brain's plasticity to design and expand effective decision making techniques to increase individual happiness and social welfare.

15:50-16:05 - Afternoon break

16:05-17:05 - Paper presentations: wellbeing and nudges

Nudging into Flow: Optimizing Productivity with a Choice Architecture

Troy Weekes, Florida Institute of Technology

Abstract:

When humans are performing well, the information they attend to and action choices they make naturally maximize productivity and enable effective completion of tasks. The agent's dynamic tradeoffs under constraints and uncertainty of the work environment, and their own cognitive state constitute rational economic behavior. We propose a theoretical framework for a choice architecture that can be used to efficiently transform an agent's lagging work experience into productive work outcomes. The choice architecture operates within the interacting contexts of the human emotional and behavioral states and the work environment, and is the source of feelings of success, stress and the emergence of other emotions. Changes in these contexts will elicit changes in the response of the choice architecture, and corresponding changes in human behavior and productivity.

Our framework is based on the hypothesis that if the emotional and behavioral states that are conducive to effective work can be identified, then well-timed "nudges" in the work environment that alter human emotions or behavior in predictable ways without eliminating options or significantly modifying economic incentives can optimize the utility of the choice architecture. By doing so, the choice architecture may guide the human decision maker towards states of Flow as defined by Csikszentmihalyi. Flow is a mental state related to a state of high motivation that is characterized by the dynamic equilibrium of challenge and skill in a task with clear goals and immediate feedback. With the goal of maintaining flow for as long as necessary, our nudges personalize default settings, propose key anchors, incentivize the agent, and provide triggers that activate and sustain flow. When an agent is operating in flow and the emotional and behavioral contexts are aligned with the work environment, the agent can be deeply involved with work tasks while making the work itself effortless and enjoyable.

Biography:

Troy Weekes is a Ph.D. student and research assistant with the Harris Institute for Assured Information at Florida Tech. He is currently pursuing a doctorate in human-centered design with an emphasis on human augmentation with artificial intelligence. His research interests focus on visualizing the effects of teaming humans with intelligent agents that monitor their mental and emotional state, and use biofeedback stimulation to help achieve high performance outcomes. He currently serves as president for the Interdisciplinary Students Research Association, and is a research fellow of the Diverse Intelligences Summer Institute.

Self-signalling and commitment as tools to reduce the carbon footprint of food choices

Luca Panzone, Newcastle University

Abstract:

The pursuit of a low-carbon food basket requires self-control in order to give up immediate gratification from high-carbon items (e.g., meat) and prioritise low-carbon items. Commitment is a key motivator of self-control (Baca-Motes et al. 2013; Mazar, Amir, and Ariely 2008), and asking consumers to commit to purchasing low carbon items can result in significant levels carbon reductions. Similarly, self-signalling has been seen to motivate pro-social behaviour. Using an online supermarket that we created (with 900+ food products), we test whether endogenous and exogenous commitments, as well as a self-signalling badge can nudge consumers into reducing the carbon footprint of their food baskets. We use a sample of 726 participants from the general public, who actually received the food and drink they chose.

Biography:

I am an applied economist lecturing in Consumer Behaviour at Newcastle University, research topics in food consumption. My research interests focus on the analysis of social problems related to agriculture and food. In particular, I study the impact on environmental sustainability of food consumption in retail environments (primarily supermarkets), and explore what barriers prevent consumers to engage in sustainable consumption. My research also explores how public policy and marketing instruments can remove these barriers, and what impact these interventions have on the nutritional composition of consumers' shopping baskets. I am particularly interested in exploring how the effectiveness of policy changes over time. As a quantitative researcher, I use large consumption datasets (such as scanner data), design household surveys, and run behavioural lab and field experiments.

My research has generated 34 articles in 8 years, and over 40 professional presentations (Google H index: 10), including seminars at the Universities of Chicago and Cambridge. Moreover, I have been an invited speaker at the House of Lords, the Scottish Parliament, and Bioversity CGIAR.

Are we happy with measuring happiness?

Amanda Henwood & Prof. Paul Dolan, London School of Economics (Chair)

Abstract:

For various reasons, not least because revealed and stated preferences are often misaligned with the flow of people's wellbeing, economists have been paying greater attention to people's reports of their subjective wellbeing (SWB). Unless we are to rely only on snapshots of people's lives, SWB must accurately capture both the intensity and the duration of emotional experience. One of the most widely used measures of wellbeing over time is Ecological Momentary Assessment (EMA) but this does not typically account for duration. The Day Reconstruction Method (DRM) was developed to capture duration but it does so in relation to activities as opposed to emotional experience and so it may mask the effects of duration on SWB. In a study that involved one of the biggest comparisons of SWB measures over time, we explored whether duration contributes to SWB measurement by comparing duration weighted with non-duration weighted EMA and DRM reports. In two distinct samples of 283 Spanish participants and 312 people in the UK, we demonstrate that duration and non-duration reports of SWB are similarly associated in both EMA and DRM measures of SWB. These results hold even when examining different subgroups of the population and when calculating SWB scores using different methods. We intend to present these data and discuss their implications for the measurement of SWB as well as elicit suggestions on how to improve future measurement. We intend for this be a presentation and round table discussion.

Biographies:

Amanda Henwood is a PhD student in the department of Psychological and Behavioural Science at the LSE. Her research focuses on exploring the links between well-being, cognition and behaviour. She uses a mixed methodological approach, combining field and lab experiments, to investigate potential well-being related mechanisms underpinning people's responses to online cognitive and behavioural interventions. To do this, she draws upon insights from different disciplines including, psychology, computer science, human computer interaction and behavioural economics.

Paul is currently Professor of Behavioural Science at the LSE. He is Head of Department in Psychological and Behavioural Science and Director of Executive MSc Behavioural Science. There are two main themes to Paul's work: Developing measures of happiness and subjective wellbeing that can be used in policy and by individuals looking to be happier; and considering ways in which the lessons from the behavioural sciences can be used to understand and change individual behaviour, and to add to the evidence base in this regard. He uses a range of data and methods to address these issues, and to better integrate them e.g. surveys, big data, lab studies, and field experiments.

17:10-17:50 - Keynote**Anxiety, cognitive performance and gender: Evidence from a randomized anti-anxiety training**

Elisa Cavatorta, King's College London

Abstract:

We study the impact of an innovative anti-anxiety training on performance in a cognitive demanding task using a Randomized Control Trial design. We exogenously manipulate the cognitive bias associated with anxiety -- the tendency to disproportionately allocate attention to negative stimuli -- in a group of young men and women. We observe that the training reduces the cognitive bias of treated women and significantly improves their performance in the cognitive task. Evidence from exam results taken three months after the intervention suggests that the training may generate long-lasting benefits. "

Biography:

Elisa Cavatorta is an Associate Professor in the Department of Political Economy at King's College London. Elisa's research focuses on the study of conflict, the formation of individual preferences and beliefs, impact evaluation of policy interventions and the development of new measurement tools for applied research. Her research addresses questions like: how and why does living in a violent context shape the formation of people's preferences and beliefs? What factors drive the willingness and the ability to negotiate and cooperate? What conditions and interventions facilitate cooperation and improve socio-psychological wellbeing? She uses a variety of methods, including lab and field experiments, RCTs, large-N surveys and cohort studies.

18:15-19:45 - Evening Drinks & Nibbles Reception

The drinks and nibbles reception will be over the road in Bush House South. We will walk over to the drinks reception shortly after the closing remarks.

Saturday 9 November, 09:00-18:00

08:30-09:00 - Arrival

Tea, coffee and pastries will be available.

09:00-09:40 - Keynote

Information Preferences

David Hagmann, Harvard University

Abstract:

We commonly think of information as a means to an end. However, a growing literature suggests that information may directly enter the agent's utility function. People may derive enjoyment not only from what they consume, but also from what they believe about themselves and the world. This can create an incentive to avoid information, even when it is useful, free, and independent of strategic considerations: the benefits of making a more informed decision may be outweighed by the costs to the belief utility. I present an overview of the research documenting the occurrence of information avoidance and the strategies people employ to avoid information, drawing from economics and psychology. I then introduce a scale to measure information preferences and present evidence that it can predict information acquisition decisions beyond the domains contained within the scale.

Biography:

David Hagmann is a Postdoctoral Fellow at the Kennedy School of Government at Harvard University. He received his PhD in Behavioral Decision Research from the Department of Social and Decision Sciences at Carnegie Mellon University in 2019 and has previously been a Visiting Scholar at the Wharton School. David's research combines tools from economics and psychology to study people's complex relationship with information. David uses experiments to explore the desire to avoid information that may be painful to learn even when it can improve decision-making, the role of personal stories in shaping beliefs and relationships, persuasion on politically charged topics, and behavioral policy interventions (nudges). His work has been published in leading journals including Management Science, Nature Climate Change, The Journal of Economic Literature, and Behavioral Science and Policy.

09:45-10:45 - Paper presentations: beliefs I

Cognitive and neural mechanisms underlying confirmation bias

Max Rollwage, Wellcome Trust Center

Abstract:

Contested issues such as climate change often generate polarised and entrenched opinions. One prominent source of polarisation is confirmation bias, where evidence against one's position tends to be selectively disregarded. This effect is most starkly evident when opposing parties are highly confident in their decisions. Although an extensive literature has documented this bias in behaviour, the underlying cognitive,

computational and neuronal mechanisms remain unknown. Here we combined human magnetoencephalography (MEG) with behavioural and neural modelling to identify the drivers of a confirmation bias. We show that holding high confidence in a decision leads to a striking modulation of post-decision neural processing, such that integration of confirmatory evidence is amplified while disconfirmatory evidence processing is abolished. We conclude that confidence shapes a selective neural gating for choice-consistent information, reducing the likelihood of a change of mind on the basis of new information. A central role for confidence in shaping the fidelity of evidence accumulation indicates that metacognitive interventions may help ameliorate this pervasive cognitive bias, providing a pathway towards understanding and counteracting the drivers of intransigent and entrenched beliefs across a range of societal issues.

Biography:

My research applies methods from computational neuroscience to answer questions related to decision-making and politics. I am intrigued by behavioural biases (e.g. confirmation bias) and their impact on our society. However, often these biases are not deeply understood. In my research I am trying to uncover a mechanistic understanding of the cognitive and neural underpinnings of such biases, by combining computational modelling, neuroimaging (i.e. magnetoencephalography: MEG), supervised and unsupervised machine-learning techniques. During my PhD I acquired expertise in two areas of research:

In the first line of research, I led large scale online behavioural experiments (1000+ participants conducting complex behavioural tasks) in combination with computational modelling, revealing the cognitive underpinnings of political extremism. In my second line of research, I investigated the neural and information processing mechanisms underlying the phenomenon of confirmation bias by using a combination of MEG, computational modelling and machine-learning algorithms. I would be thrilled to apply these empirical findings to inform de-radicalization programs, counteract societal polarization and extremism.

Persuasion and Confirmation Bias

Luca Zamboni, Queen Mary University of London

Abstract:

In many economic settings, uninformed decision-makers need to rely on information provided by interested parties. Investors, for instance, allocate their savings across different investment plans based on risk and return measures computed by financial advisors, who may earn commissions to sell specific financial products. An extensive literature in economics studies communication under conflict of interest. A common assumption is that agents incorporate new information through the correct application of Bayes' rule, the normative benchmark of belief updating. Research in the field of cognitive psychology, however, highlights regular deviations. Among these, perhaps the best known and well-documented is confirmation bias, defined as the seeking and interpreting of evidence in manners that are partial to existing beliefs. My paper studies the implications of confirmation bias for communication in a setting of pure Bayesian persuasion: to influence her choice of an action, a Sender reveals information over the realization of a binary state of the world to a Receiver, through the design of a statistical experiment. I model the Receiver's updating behaviour following Rabin and Schrag (1999): when the Sender's experiment produces evidence that would undermine the Receiver's prior beliefs, she may inadvertently interpret such evidence as instead reinforcing them. I find that mild confirmation bias may benefit the Receiver, since it may lead the Sender to reveal more information in equilibrium. In working out the result, I develop a new method to rank the informativeness of binary experiments, based on the posterior beliefs that they induce in a Bayesian agent, and show its equivalence with the Blackwell ordering.

Biography:

Luca Zamboni is a 3rd year PhD student at Queen Mary University of London. He works in the field of microeconomics and his research broadly focuses on the economics of information. Since his early university years, he developed a keen interest in behavioural economics, especially in theoretical and experimental works related to bounded rationality in information processing. He's willing to explore the implications of cognitive biases and departures from full rationality in the context of strategic communication. This is the subject of his first paper "Persuasion of a Confirmation-Biased Agent". Recently, Luca has developed an interest in studying markets for information and the collection and use of user's individual data online.

Understanding the mutual relation between the impossibility theorem and strategic equilibrium: A cognitive approach to the theory of collective decision-making

Edgardo Bucciarelli, University of Chieti-Pescara (Chair) & Andrea Oliva, United Nations Academic Impact

Abstract:

Taking an interdisciplinary approach to cognitive sciences and drawing from Peano's and Hilbert's logical implications, we maintain that the language that mathematizes metalogic is known as metalanguage, or language about language characterizing abductive semantics, i.e., a model space founding truth values of an evaluation function involving the related object language. This calls for Tarski's undefinability (1956) as metalogic implies an increase in knowledge, ensuring consistent logical processes in the object language, thereby encapsulating cognitive processes as cognitive objects. Along these lines, the purpose of this study is to contribute to the literature on cognition and economics and, more specifically, to represent one of the pillars upon which the contemporary social choice theory rests - Arrow's impossibility theorem (see Arrow, 1950, 1963 [1951]) - treated metalogically. Collective decision-making theory is thus understood as a logical-and-metalogical modeling within a conceptual whole, involving the carrying out of the impossibility theorem proof. Ultimately, the metalogical abstractness allows us to prove that the impossibility theorem is a special case of Nash equilibrium (see Nash, 1950a, 1950b, 1951). Specifically, the proof of the existence of a Nash equilibrium is valid for finite games under symmetry conditions involving composition amongst automorphisms, while, the impossibility theorem is a Nash equilibrium regardless of any symmetry condition.

Biographies:

Edgardo Bucciarelli is an Italian economist. He earned the Master's degree in Economics at the University of Rome Tor Vergata and the Ph.D. in Economics at the University of Chieti-Pescara with specialisations in complexity theory, experimental decision theory, and quantitative methods. Since 2001, he has been carrying on research in experimental economics, classical behavioural microeconomics, sustainability-and-development economics, and algorithmic social science research. Since 2006, he has been teaching Methodology of Economics, Development Economics, Experimental Economics, and Cognitive Economics. His main scientific articles appeared, among others, in the Journal of Economic Behavior and Organization, Journal of Post Keynesian Economics, Metroeconomica, Applied Economics, Computational Economics, and other international journals. Several of his contributions appeared in Physica-Verlag and Springer-Nature Lecture Notes in Economics and Mathematical Systems series, and Computational Intelligence and Complexity series, also working as an Editor and co-Editor since 2014. He is the project leader, founder, and co-chair with Shu-Heng Chen of the international conference on Decision Economics. At present, he is a senior lecturer at the University of Chieti-Pescara (Italy) and the University of Salamanca (Spain), as well as research affiliate at the University of Michigan (Ann Arbor) and the Queensland University of Technology (Brisbane), currently supervising three Ph.D. students.

Andrea Oliva is an Italian physicist. He earned his Master's degree in Physics at the University of Camerino with further specialisations in econophysics, sociophysics, and mathematical economics. He entered his Ph.D. program in Economics and Statistics at the University of Chieti-Pescara. Currently, he is a Fellow of the Abruzzo Academy Foundation and research fellow at the Research Centre for Evaluation and Socio-economic Development for the social and cognitive sciences, also appointed to the United Nations Academic Impact (UN, New York). His main research interests lie in the area of complexity and network dynamics, logic and cognition, classical behavioural microeconomics, and mathematical foundations of economic theorising. Other activities include: educational and management consultancy for several public and private institutions, as well as visiting scientist at the University of Turin (Italy) and the University of Bern (Switzerland). He writes a monthly opinion column on economics and related topics for an Italian media outlet. He is a Fellow of the Cognitive Economics Society (London, UK). He has been collaborating with a range of scholars, including Włodzimierz M. Tulczyjew and Edgardo Bucciarelli, in order to introduce formal cognitive understanding to choice theory (i.e., rational and social choice theory) and to micro and macroeconomics more generally.

10:45-11:00 - Morning break

11:00-11:40 - Keynote

Anatomy of a Market Failure: The Cognitive Basis of Ineffective Altruism

Sam Johnson, University of Bath

Abstract:

People are surprisingly generous: Globally, we donate many hundreds of billions of dollars to charity each year. But at the same time, the performance of many charities is unimpressive and the global effectiveness of the charity sector does not live up to its potential. In this talk, I take a cognitive science approach toward dissecting the anatomy of market failures in charity. The root cause of this problem, I argue, is that charity markets are not markets in doing good, but markets in looking good. This is innocuous enough when these goals align, but they often do not, leading to tremendous inefficiencies in donor behavior. Experiments demonstrate that donors' reputation is linked strongly to the amount of personal sacrifice but minimally if at all to the amount of good achieved by a donation; that donations of time are seen as more praiseworthy – but as less effective – than donations of money; and that products (like carbon credits) that aim to offset a harmful behavior with a prosocial behavior are seen as insufficient to undo the associated harms. I use this evidence to suggest possible ways forward for improving the effectiveness of the charity sector.

Biography:

Sam Johnson is a Lecturer in Marketing at the University of Bath. Sam is a cognitive scientist of markets, sitting at the intersection of behavioral economics and cognitive psychology, with his research looking at how improved theories of individual mental activities can lead to a better understanding of emergent market outcomes. Sam completed his PhD in Psychology from Yale University and a post-doc at University College London in Behavioral Economics, and has published articles in journals across cognitive, social, developmental, and applied psychology. He was honored to have received the Glushko Dissertation Prize from the Cognitive Science Society for his basic research on how people make sense of information. Sam's

research has been covered by media outlets including BBC and NPR radio and Scientific American magazine.

11:45-12:45 - Paper presentations: beliefs II

Self-esteem and discrimination

Steven Bosworth, University of Reading

Abstract:

We develop a model of workplace discrimination based on belief-based psychological utility. Like in the traditional explanations of taste-based discrimination, maintaining a non-diverse workforce provides an identity-based utility to the privileged group and efforts to promote diversity where it is absent constitute an identity-based threat to self esteem. In our model however, tastes for discrimination arise endogenously based on the resulting inferences that privileged workers are able to make regarding their own ability.

The core of the model is built on workers who derive non-instrumental utility from beliefs about their own ability. Managers responding to such workers may prefer to implement discriminatory workplaces. Workers with one of two observable identities (we focus on gender) apply for jobs at a firm. Every worker has an idiosyncratic ability drawn from a known common density. Crucially, workers cannot directly observe their ability even though it is relevant to their self-esteem, and must infer it. The firm hires workers if they meet a minimum ability threshold, which it chooses, and which may vary by identity group. Employees naively think that hiring is identity-blind. The posterior density of an advantaged type worker regarding his own ability is therefore biased and depends on the firm's actual hiring policy.

If the firm decides to hire more low-ability workers of the advantaged type, it faces two offsetting considerations: 1) most obviously, its productivity goes down, but 2) it is able to provide a greater identity-affirmation utility to its advantaged workers, since this depends positively on the share of them hired. Within this framework backlash is most intense where the firm's existing hiring policy is moderately discriminatory, and policies are most effective in dissipating taste for discrimination when they enforce transparency about hiring practices in addition to diversity."

Biography:

Steven's research uses microeconomic theory and controlled laboratory experiments to investigate how context, motivation and the social environment influence human cooperation. His published work has specifically examined how uncertainty about intentions can frustrate coordinated shifts to better practices, how the distribution of prosocial dispositions in society hinges on the prevalence of environments in which people are forced to compete, and how to think about the consequences of social fragmentation on wellbeing. Before joining the University of Reading in 2017, Steven was previously a postdoctoral researcher at the Institute for the World Economy in Kiel, Germany and earned his PhD from the University of Pittsburgh in 2013.

Social Effects of the Vote of the Majority: An Experiment on the Brexit-Vote

Fernanda de Leon, University of Kent

Abstract:

The 2016 EU referendum results, and the Brexit vote, were widely perceived as a statement against immigration. We conducted a field-experiment in England to test whether the Brexit vote had triggered anti-social attitudes towards immigrants. In a computerized quiz, our (non-deceptive) intervention randomized the information of whether the local majority voted to Leave the European Union or to Remain, shifting individuals' perceptions about the support for Brexit, in a significant manner. Overall, our results indicate mild impacts of the Brexit vote in causing negative attitudes on immigrants living in the UK. We detected impacts on extrinsic attitudes (i.e. giving in a dictator game and self-reported policy preferences), but with no effects on intrinsic views. The results point to the effect of election outcomes in changing citizens' attitudes.

Biography:

My research is on applied economics, behavioural and development economics, focusing on identifying and explaining causal effects in societal outcomes. In my work, I use micro-econometrics, experimental methods and self-collected surveys. I am a Senior Lecturer at University of Kent. Before I was Lecturer at University of Kent (2014-2018) and Lecturer at University of East Anglia (2010-2014). I concluded my PhD degree in Economics at Cornell University in 2010, and master and undergraduate degree in Economics at Universidade de Sao Paulo. Since I finished my PhD, I led several project, and recently I was involved in interdisciplinary work with Psychology. I was Principal Investigator in projects funded by the British Academy (2017-18), the Leverhulme Trust (2014-16) and Inesper Institute in Brazil (2010-12). My current and recent research has been published in leading journals in the field of economics, such as The Economic Journal, Journal of Human Resources, American Economic Journal: Economic Policy and Oxford Economics Papers, and has been featured in the media in the UK.

Self-Persuasion: Evidence from Field Experiments at Two International Debating Competitions

Egon Tripodi, European University Institute (Chair)

Abstract:

Does the wish to convince others lead people to self-persuade about the moral and factual superiority of their position? We investigate this question in the context of international debating competitions, where persuasion goals (pro or contra a motion) are randomly assigned to debaters shortly before the debate. Using incentives for truthful reporting, we find evidence of self-persuasion in the form of (i) shifts in factual beliefs that become more conveniently aligned with the debater's side of the motion, (ii) shifts in attitudes, reflected in an increased willingness to donate to goal-aligned charities, and (iii) overconfident beliefs about the strength of one's position in the debate. Our results suggest that the desire to persuade is an important driver of opinion formation and political partisanship.

Biography:

Egon Tripodi is a PhD candidate at the European University Institute and visiting research fellow at the University of Bonn. He is an applied micro-economist focusing on Behavioral Economics, Public Economics and Political Economy. His PhD thesis combines theory and experimental methods to investigate how social interactions affect belief formation and prosocial behavior in various settings, including blood donations, charitable giving, and political debates.

12:45-13:35 - Poster session & lunch

During lunch, please have a look at our posters and chat with the presenters. Poster presenter biographies can be found towards the end of the programme.

13:35-14:15 -Marketing & finance applications: a panel discussion

In recent years behavioural economics has become a popular topic in industry: marketing research and communications agencies are using it, while banks and hedge funds have behavioural finance teams. But how can cognitive economics do the same? Can this new discipline build on the momentum created by behavioural economics, with new commercial applications, and where and when?

Our panellists:

Koen Smets, Saint Louis University, (Chair)

Koen trained as an engineer, but has been working as an organization development specialist for over twenty years. Inspiration for understanding why people behave the way they do (and how to change that) came from microeconomics at first. Soon behavioural economics turned out to be the missing piece in the picture, and he has been now been applying behavioural insights to make organizations work better for well over a decade. He is also an adjunct assistant professor at the School for Professional Studies at Saint Louis University, teaching Ethical and Evidence-based Decision Making. Koen's fascination with human behaviour shows no signs of waning, and he frequently blogs about the topic.

Philip Corr, City, University of London

Philip J. Corr is Professor of Psychology and Behavioural Economics at City, University of London, where he set-up the MSc in Behavioural Economics. Philip has published close to 200 academic papers and a number of authored and edited books in the fields of personality, individual differences, behavioural economics, and military role transition. Philip is the co-founding President of the Society for the Psychology of Individual Differences (BSPID; 2009-) and has been elected President (2015-17) of the International Society for the Study of Individual Differences (ISSID). He is also The Founding Editor-in-Chief of Personality Neuroscience, a journal published by Cambridge University Press. More recently, Philip established Behavioural Fusion - behavioural economics/science consultancy.

Oliver Payne, The Hunting Dynasty

Oliver works with communication and behavioural science to understand perception, acquisition, conversion and retention for clients around the world. He is an author and speaker, and wrote 'Inspiring Sustainable Behaviour: 19 Ways To Ask For Change' (Routledge) which wrangles together psychology, behavioural economics, and decision theory in a potent handbook for businesses and governments, and speaks around the world on behavior change, including to serving soldiers at NATO in Latvia, keynote at the Institute of International and European Affairs on energy consumption, and on BBC Radio 4's Thought Cages series in 2018. Oliver is the founder of a behavioural insight & communication agency The Hunting Dynasty, and co-Founder of the marketing agency The Other Half, both working with government, business, and third sector.

14:20-15:00 - Keynote

The Ascent of Procedural Rationality

Shabnam Mousavi, Max Planck Institute

Abstract:

Economics deals with allocation of scarce resources. Economic choice theories about the ways in which efficient allocations can be achieved produce models based on optimal characteristics of the outcome and specification of the agent's rationality criteria. Psychology, on the other hand, is about the cognitive processes that take agents to outcomes. When cognitive science provided an accessible platform for exploration of the many processes involved in gathering, storing, and interpreting information for solving present or future problems, (some) economists seized the opportunity. Economists have a tradition of drawing on and absorbing instruments from other disciplines to expand their formalisms—physics is the primary instance. Their “accommodation” of others’ concepts and notions have created branches such as evolutionary economics, bioeconomics, economic psychology, behavioral economics, neuroeconomics, and cognitive economics. I discuss the ongoing prominence of the rational choice theory in operationalization of various notions that have been integrated in the practice of economic sciences. This progression of absorbing concepts and recasting them in compatible formulations to the central maxim of economics is gradually filling the chasm of treating the processes (from agent to outcome) as a black box. This progress is what I refer to as the rise of procedural rationality, as it flexes the initially formidable notion of substantive rationality to incorporate the bounded nature of actualities. Extension of these advancements to public and private operation and administration is changing our way of life from personal interactions to corporate and national governance; redefining rationality is reforming morality, ethics and good.

Biography:

Shabnam Mousavi was once an electrical engineer, then obtained a PhD in Economics and one in Statistics from Virginia Tech. She is a nondisciplinary scientist exploring the many aspects of human action. She has held university faculty positions in finance at Johns Hopkins and Georgia State and in statistics at Penn State. She has been a fellow of the Max Planck Institute for Human Development in Berlin since 2007, and a network member of the University of Chicago Wisdom Project since 2008 (grant recipient 2008-11). She is president of the Society for the Advancement of Behavioral Economics (2018-20). Shabnam is editor-in-chief for Mind and Society, and serves on journal editorial boards of Behavioral Economics for Public Policy, and Behavioral and Experimental Economics; the steering committee of the Bank of Italy BEFAIRLY initiative; and the advisory boards of Economics and the Ethics Labs of the Technical University of Munich. Her work emanates from interdisciplinary collaboration with scholars of psychology, economics, philosophy, statistics, and education; appeared in academic journals across disciplines, including Brain and Behavioral Science, Business Research, Economic Methodology, Quality Technology, Risk Management in Financial Institutions; and featured internationally in Changing Business, Die Zeit, Johns Hopkins Health Review, Johns Hopkins Magazine, Neue Zürcher Zeitung, Science News, CBC's The Current, and Conversation. She is co-author/co-editor of Handbook of Behavioral Economics(2017), Behavioral Finance Revolution (2018), and A Fast and Frugal Finance (forthcoming). She is recipient of a Think Forward Initiative grant from the ING Bank (2019-20). Recently, she received a Volkswagen “Original --isn't it?” Award to expand on her ideas for connecting humanities to social sciences through formal and historical treatments of emotions. Currently, she is writing her book entitled Fast and Frugal Decision Making on the implications of the cognitive sciences for policymaking and the study of individual behavior and organizations.

15:00-15:10 - Afternoon break

15:10-16:10 - Paper presentations: information narratives

Attention markets on social media

Marina Della Giusta, University of Reading & Danica Vukadinovic-Greetham, Open University

Abstract:

Social media platforms (incl. Twitter) have seemingly created new opportunities to trade in attention for ordinary people willing to invest time on them (Wu, 2016). Given that we all have a limited attention span (Herbert Simon's concept of attention rather than information scarcity, a cornerstone of bounded rationality, is a useful way to think about this) and that the content on our (multiple) screens is decided by non-transparent algorithms of large corporate entities (Harari, 2018), there is an urgent need to identify mechanisms and laws that rule attention markets online and devise a model of it in order to test different hypotheses related to online behaviour ('giving voice to the silent', echo-chambers of self-confirming beliefs), and misbehaviour (trolling, abusive messages, sock puppets, etc).

Interpreting online interactions as transactions in attention and modelling supply and demand dynamics, is the first step toward a robust model of attention markets. Our objective is to identify the main factors that determine the value of online interactions, playing particular attention to the creation and propagation of beliefs through interactions between users. Our research hypothesis is that the mood, timing and frequency of a conversation and a structure of a social network are significant factors in determining its transactional value. We explored if there is a genuine difference in floor time online depending on gender, and relatedly the type of attention that women and men attract, and how these can influence their respective beliefs formation.

A challenge is to capture burstiness (Barabasi, 2005) and dynamics of observed conversations, simultaneously with their network structure. Burstiness is indicated by irregularity of inter-event times between exchanges, e.g. the inter-event times might follow a power-law distribution (Goh et al., 2008, Jiang et al., 2013). This can be caused by memory effect - an event occurring at a given time is dependent on previous events (Colman et al. 2015). This is a quite reasonable assumption but adds to the complexity and sometimes intractability of analytical results.

An ideal model would interrelate bursty dynamics, ego characteristics, emotion flow and network structure simultaneously. Finally, focusing on online misbehaviour, we would like to apply our attention market models to some historical instances of trolling and online abuse that were recorded before being dealt with.

Biographies:

Marina is Professor of Economics at the University of Reading. Her publications are in the area of behavioural and labour economics, with particular focus on gender, stigma and social norms. She has published extensively in the economics of sex work. Recent work focusses on teacher interventions to redress disadvantage in education, the evolution of gender preferences and their role in individual and collective outcomes, and the use of both big social data and board games to understand economic behaviour.

Dr Danica Vukadinović Greetham is Senior Research Fellow at the Knowledge Media Institute, The Open University with industrial and academic expertise in network analysis and data analytics. Her research interest is in modelling and prediction of human behaviour based on large data sets such as club cards, smart meters, and social media, working both on methodological advances and applications, especially in smart grids, and social media analytics. She is Associate Editor of Royal Society Open Science Mathematics, full member of EPSRC peer college and STEM Ambassador.

Explaining Why: The Cognitive Science Behind the Adaptation of Narratives in Causal Reasoning

Dunya Baradari, University College London

Abstract:

Economists such as Robert Shiller have highlighted the essential role of narratives in shaping decisions made and thereby influencing economic fluctuations. When trying to answer the question "Why?", people employ one of two explanatory styles to transmit the information, adapted to the social setting they are currently in. Whereas the sciences clearly favour abstractive explanations, which are applicable to general relationships and lack detail, a common way of explanation between humans takes the form of experiences; stories, narratives. The latter are characterised by temporal structures and personal details. In real life, explanations often contain a mixture of both abstractive and the experimental types. The presentation outlines the social neuroscience behind the preferential adaptation of narratives to explain causal structures. It is suggested that the sender of the message adopts their structure and level of abstraction to the epistemic ambition of the receiver. When imagining ourselves in a certain setting or location, specific neurons in the hippocampus and further parts of the forebrain activate to link spatial memory to episodic memory. This, in turn, helps to learn. Such a mechanism may have proved to be useful for re-living each other's experiences and increasing social cohesion. Additionally, causal narratives can also be used for lying to oneself, often driven by emotions such as fear or euphoria. Overall, understanding the respective advantages and employed settings of abstract and experimental explanations can be of benefit in various processes, from the development of new nudging techniques or the combat against fake news to examining the sciences themselves when explaining results.

Biography:

I am in my final year of undergraduate studies in Biomedical Sciences at University College London, where I specialise in Neuroscience. In my thesis project, I examine the interaction between memory inference and economic valuation with Dr Benedetto De Martino, UCL Institute of Cognitive Neuroscience. In addition, I started parallelly studying Economic Sciences at the University of Hagen, Germany. Visiting research seminars and attending Masters classes on judgement and decision-making in my second year, I learnt about the potential of applying such insights on policy. I believe that man-made systems, including societal structures, often fail since they were not appropriately designed to human natural behaviour. Finding out where and how to improve these systems is necessary at times when our unique human decision-making abilities become more demanded and we increasingly question our economic objectives. Starting with work in youth policy organisations, such as transatlantic European Horizons, I aim to develop behaviour-based strategies to global challenges. Hence, I plan to continue with graduate studies further abroad to expand both my international and economic foundations. Originally, I come from Germany and am 20 years old.

Fake news, confirmation bias and cognitive dissonance

Prabirendra Chatterjee, Cardiff University Business School (Chair)

Abstract:

In this paper we present an analytical model that studies the strategic role of fake media content in a media market. We first find the conditions under which a monopoly media platform would publish fake media content. Then we show that certain opposite patterns exist in a competitive environment. Our results suggest that existence of cognitive disorder such as confirmation bias may substantially polarize the news market. We also find that media platforms may find optimal profitability in publishing apparently less credible fake media content if the fake content can reduce consumers' cognitive dissonance. In a duopoly setting we show that even when fake news cannot reduce cognitive dissonance, sufficiently differentiated media platforms may still not publish authentic news at the equilibrium. Additionally, we show that under specific conditions both platforms publishing fake media content can turn out to be a Prisoner's dilemma equilibrium.

Lastly, we show experimental validations of some of the key theoretical assumptions such as cognitive dissonance reduction and existence of confirmation bias).

Biography:

Dr. Prabirendra Chatterjee is an assistant professor at the Marketing & Strategy department in Cardiff University (Cardiff Business School). Previously he was an assistant professor at Sabanci University in Istanbul. He received his PhD in Marketing, MS in Business administration and MA in Economics degrees from University of Washington (Foster school of business). Prabirendra's research expertise lies in the fields of behavioral economics and game theoretic modeling.

16:10-16:50 - Keynote

Willpower with and without effort

George Ainslie, Veterans Affairs Medical Center

Abstract:

The recognition that people's choices deviate radically from rational choice theory has led to a focus on willpower in behavioral economics. However, various authors conceive it differently. The phenomena commonly discussed as willpower or internal self-control should be recognized as comprising two distinct kinds, which can be called resolve and suppression. Both may function to compensate for the temporary overvaluation of smaller, sooner (SS) rewards relative to larger, later (LL) rewards. Resolve is based on estimation of how a current choice will affect long term outcomes, and is enforced by the threat of losing more than is literally at stake in the current choice. Suppression is based on the capacity of a current preference to both devalue ("modulate") and keep attention from ("filter") immediate alternatives. Suppression often occurs in the service of resolve, and thus may be subjectively hard to distinguish from it. Suppression ties up attention and thus costs opportunity for reward, an experience often described as effort. Perception of current choices as test cases for larger outcomes may result in regular, predictable preference for the LL alternatives, which is experienced as an effortless habit. Effortless habit should be seen as a successful outcome of resolve, not an alternative method of self-control. Failing such an outcome, perception of test cases may elicit extensive revaluations of intertemporal bargains, in which SS rewards are weighed against the risk of enlarged LL losses, an experience that may also be felt as effortful. Suppression ties up attention and thus costs opportunity for reward, an experience often described as effort. Perception of current choices as test cases for larger outcomes may result in regular, predictable preference for the LL alternatives, which is experienced as an effortless habit. Effortless habit should be seen as a successful outcome of resolve, not an alternative method of self-control. Failing such an outcome, perception of test cases may elicit extensive revaluations of intertemporal bargains, in which SS rewards are weighed against the risk of enlarged LL losses, an experience that may also be felt as effortful. Some few brain imaging experiments suggest that at least one region, the dorsolateral prefrontal cortex (dlPFC) governs suppression and may also have a role in formulating resolve, while less defined regions including the frontal poles and parts of the default network may have roles just in resolve.

Biography:

George Ainslie received an MD at (1969), followed by training in Freudian psychiatry with Leston Havens at Massachusetts Mental Health Center and in behavioral psychology with Richard Herrnstein at the Harvard Laboratories of Experimental Psychology, just as both approaches were becoming deeply unfashionable in academic science. But having discovered hyperbolic delay discounting at the Labs, he has pursued its implications ever since, with extensive support from the Coatesville (PA) Veterans Affairs Medical Center.

He has proposed that internal motivational conflict is best pursued with a marketplace model—micro-micro-, or pico-economics. He has published *Picoeconomics and Breakdown of Will* and many articles, the most current of which is "De gustibus disputare: Hyperbolic delay discounting integrates five approaches to choice", *Journal of Economic Methodology* 24(2), 166-189, 2017.

16:55-17:55 - The future of cognitive economics: a panel discussion

The discipline of cognitive economics has a 25-year history among economists, cognitive scientists, psychologists and information theorists. In the future, how can we stimulate and support further research and in which disciplines might this take place? How should we reach out to neuroscientists, the decision making community, related branches of economics research, marketing theorists and others?

Our panellists:

Leigh Caldwell, Cognitive Economics Society & Irrational Agency, (Chair)

17:55-18:00 - Closing remarks

Poster Session Presenters

Arash Laghaie, University of Frankfurt

Abstract & Biography

The hypothetical nature of choices collected in typical discrete choice experiments (DCEs) for market research has long been a source of concern for both researchers in academia and industry. Because choices in these experiments are more or less inconsequential for respondents, inferences gleaned from this data may lack external validity. Recent research in marketing indeed demonstrates increased predictive validity of models calibrated based on choices by properly incentivized respondents. However, conducting so called incentive-aligned (ICA) DCEs is more costly compared to the standard hypothetical (HYP) setting. The goal of this project therefore is to develop a model based framework that parsimoniously bridges between data from HYP-DCEs and data from ICA-DCEs for the purpose of conserving on data collection effort and cost, however, in keeping with the goal of predicting to incentivized choices. The framework leverages certain invariance assumptions to fuse a large amount of data from HYP-DCE and a relatively much smaller amount of data from ICA-DCE collected in independent experiments, but in the same population, for the purpose of simulating incentivized choices in this population. The framework assumes, in line with economic theory, a common set of invariant ('deep') preference parameters, but explicitly accounts for differential decision effort between the HYP and the ICA setting. Thus, the basic structural assumption we make in our model is that only the information set, i.e., what attributes are used at all, and the level of processing of attributes and alternatives change across the HYP and the ICA choice setting. As a consequence, the amount of decision effort may materially change choice probabilities and outcomes, even if underlying, deep preference parameters are invariant. Operationally, we build on process-based choice models developed in mathematical psychology and specially the recently proposed dependent Poisson race model (DPRM).

My research is in the intersection of economics, psychology, and statistics. Particularly, I am working on explaining and capturing behavioural biases in discrete choice experiments using choice models in psychology that account for decision effort. This entails developing estimation methods to adapt these cognitive models to discrete choice experiments. In my main dissertation project "Bridging between

Hypothetical and Incentivized Choice”, I investigate the sources of decision bias in experimental settings. I test the hypothesis that differences in choice in hypothetical (experimental) settings, compared to real world settings, are not due to differential preferences, but due to differential decision effort and attention levels. To do that, I develop a cognitive choice model derived from psychology theory, which accounts for the differential attention level and thereby corrects for the hypothetical choice bias. Parallel to this project I have co-organized a workshop with my supervisor Prof. Otter, and Professors Bartels and Urminsky from Chicago Booth. The workshop was called “Integrating Cognitive and Economic Decision Models”, and was organized as a part of the 11th triennial invitational choice symposium.

Amira El-Shal, Senior Consultant, African Development Bank

Abstract & Biography

Women in Africa are disproportionately disadvantaged in terms of access to finance. Little is understood about demand-side factors' contribution to the gender gap in access to finance. This paper provides the first empirical evidence on how women managers' perception about their creditworthiness contributes to the large gender gap in Africa, particularly in the North. It introduces a theoretical model using the credit market framework with imperfect and asymmetric information to explain what may drive loan applicants to self-select. We use firm-level data for 47 African countries. We find that women entrepreneurs in both Africa and North Africa are more likely to self-select themselves out of the credit market due to low perceived creditworthiness compared with male counterparts. The results also suggest that the observed self-selection is not a response to discriminatory lending practices by the banks. The findings will inform policies supporting greater financial inclusion of women in the region."

I am a Senior Consultant at the Macroeconomic Policy, Forecasting & Research Department of the African Development Bank. I am also an Assistant Professor of Economics at Cairo University. My recent research has focused on how behavioral differences between men and women based on perceptions trigger gender gaps in various domains of economic and entrepreneurial activities, such as access to finance, firm performance, and innovation and technology adoption, to name a few.

Marco Benedettelli, Co-founder & IB/PE Editor, The Extract

Abstract & Biography

The 2008 Financial Crisis has had a tremendous impact on a global scale, with losses amounting to trillions dollars, with millions of citizens falling below the poverty line and thousands of businesses going bankrupt. Thousands of journalists, researchers and political activists tried to research and understand the causes that led to this unfortunate series of events. Several key players were heavily blamed for different reasons: investment banks, the Federal Reserve and the US congress. Most of those who investigated the matter agreed on how irrational exuberance, greed and herding helped to promote the boom and bust. In spite of this agreement, there has been little or no attempt in trying to dissect the 2008 financial crisis using only empirical research from the field of Psychology. In fact, beyond stating potential psychological factors playing a role, most of the analyses have focused on numbers, models and trends. It is therefore needed to bring some clarity to the matter, highlighting how a psychological approach towards investigating the crisis can bring about interesting findings to make sense of the unfolding of events occurred in 2008.

The review considers and analyses a plethora of studies from both Applied Social Psychology and Neurofinance in the attempt to unveil both behavioural and neurological mechanisms in relation to the development of financial crises such as the one in 2008. The analysis is split between a more group-based approach and an individual one. This division is supported by the assumption that the genesis of the crisis

can only be analysed by looking at the co-existence and interplay between individual and group factors. Through the analysis of herding behaviour and neuroscientific research in the realm of the financial decisional neuroscience, the review aims at creating a coherent and logical breakdown of the causes of the 2008 financial crisis.

Marco Benedettelli is the co-founder and editor at the Extract, a project aiming at tackling students' lack of commercial awareness in the Finance sector. He recently graduated from Royal Holloway, University of London in Applied Psychology. He previously interned at BABB, a Fintech startup, on the Business and Strategic development side. He also worked on the research side of a hedge fund, researching the relationship between myopic loss aversion and price fluctuations in commodities. His curiosity and multidisciplinary approach towards solving issues led to his nomination as top 10 of the Undergraduate of the Year for innovation as well as the first place in the Kelly OCG STEM Future Leader competition. His interests range from Behavioural Finance, to Blockchain and Venture Capital.

Denise Hawkes, University of Greenwich & Gabriella Cagliesi, University of Sussex

Abstract & Biographies:

Understanding the Gender Gap to Worklessness: A matter of opportunities, social factors and individual's idiosyncrasies. The purpose of this study is to adopt the principles of labour economics, behavioural economics (BE) and social economics (SE) to explain an agent's functioning over employment, non-employment and across various inactivity categories in the labour market. An empirical methodological approach has been adopted, where data from the British Household Panel Survey (2009) and Understanding Society (2018) has been collected to formulate a models explaining non-employment and employment between genders and exploring the different subset of non-employed people and different categories of non-employment (unemployment, students, disabled, early retired and carers), differentiating for gender and age characteristics. We found that labour market opportunities, choices and achievements are all affected by the interrelations and interactions of individual's demographic and psychological characteristics (such as age, gender, heuristic, perceptions, beliefs, attitude, goals and ambitions) with external factors (such as geographical, socio- cultural and economic conditions). This study makes a unique contribution to labour economics as we abandon the traditional welfare approach and use a more general framework of capabilities and refined functioning (proposed by Amartya Sen) to interpret how different types of constraints - ranging from socioeconomic conditions and environmental background to specific features of individual processes of choices and decision making- affect preferences and functionings. The influences of "under-employment" and "career markers" will also be evaluated in the context of this study.

Denise Hawkes is a professor of education economics and Head of the Department of Economics and International Business at the University of Greenwich. She research research is broadly applied education economics and truly multi-disciplinary applying econometric techniques to topics from education economics, education transitions and education practice. Her current research focus is on transitions into and out of higher education, with a special interest in doctoral transitions, and a growing research agenda around the value of doctoral education.

Dr Gabriella Cagliesi is a Professor of Economics at the Business School of the University of Sussex. Before joining the University of Sussex, she was a Principal Lecturer at the University of Greenwich and an assistant professor at the University of Rutgers in New Jersey (USA). Gabriella has a collection of reputable publications and she has collaborated with the UK Behavioural Team of the Cabinet Office, the Greenwich Council and Job Centre in Woolwich in London in a study on youth unemployment. Her research interests

and publications span the fields of applied international macro-finance, applied behavioural economics, labour and educational choices and policies. She was the principal investigator of the research strand of a project, funded by the Higher Education Funding Council for England (HEFCE), to investigate participation into postgraduate studies. Gabriella holds a PhD in Economics from the University of Pennsylvania and she is a member of the International Association for Research in economics Psychology (IAREP) and of the British Educational Research association (BERA).

Julia Brettschneider, University of Warwick

Abstract & Biography

Complex social situations require stochastic and evolving concepts for modeling influence on decision processes beyond what traditional tree models can represent. At the same time, a broad understanding of the term decision maker is needed, so human agents with subjective perspectives, non-human agents and an overall source of uncertainty (often referred to as nature) are included. The need for generalization of existing shared decision making concepts is particularly relevant for AI and social media network applications.

We introduce the perspectives-on-a-tree model, a mathematical framework for multi-stage decision processes incorporating subjective perspectives of several jointly operating decision makers. Each individual is equipped with evolving knowledge, subjective utility, outcome distributions and awareness windows. The latter capture the depth of memory and the degree of foresight employed in that individual's decision making. Our key concept, stochastically modeled influence, can represent simultaneous activity of several decision makers. It assigns a probability distribution of ownership to each decision node, allowing a broad class of social choice rules, ranging from weighted contributions (such as in compromises) to probabilistic selections of one dominant opinion. The latter is applicable even when the choice set lacks algebraic structure, as in some categorical examples, or when choices are incommensurable. Our perspectives-on-a-tree model subsumes a broad range of decision rules, including EUT, prospect theory, regret theory and worst case analysis. We understand deviations from rationality w.r.t. a subjective utility and perceived outcome distribution, and introduce a quantitative score in place of the standard binary score.

As an applied statistician with initial training in probability theory, Dr Brettschneider works on feature extraction and inference from new types of high-dimensional data produced by novel technologies or complex designs. This includes modeling data collection processes, data quality assessment, preprocessing, bias detection, variable selection and decision theory. For her, data quality assessment and optimal decision making go hand in hand. A core area of her theoretical work is on probabilistically shared multi-step influence. On the practical front, she works on data-intensive decision model applications for undergraduate admissions to UK universities, forestry and agriculture, evolution of dysfunctional pixels on X-ray detectors, joint decision making about adjuvant treatment, biases in cancer screening, alarm systems for detecting patients' deterioration during chemotherapy, and individual fertility pathways. She is fellow of the Alan Turing Institute and has released an R-package and an interactive webtool about damage on X-ray detectors with their research software engineer group in March 2019. She has contributed a REF2014 impact case highlighting decision optimization in thyroid cancer treatment as a result of her genomics data quality assessment methodology.

Mikaella Yiatrou, European University Institute

Abstract & Biography

Investor protection regulation has been predicated upon the implicit rationale that more effective, and credible, investor protection regulation, means more trust in the financial system - and hence more investment. However, as it currently stands, investor protection regulation, which is still largely informed by the neoclassical economic ideals of the efficient market hypothesis and the homo economicus, falls short in this regard. Its inefficiency in promoting deeper retail investor markets is predicated upon its failure to account for the investor's "regulatable" limitations, such as bounded-rationality, heuristics, beliefs and biases, that systematically cause investors to commit mistakes in investing, or lead them not to invest at all. The paper argues that retail investor protection/empowerment regulation should be informed as much as possible by the actual behaviour of individuals despite the complexity and heterogeneity of human behaviour. The absence of a general theory of behaviour has been thought prohibitive in this regard. However, it is exactly this absence of a general theory that highlights the need for a multifaceted, multidiscipline approach in regulating investors rather than insisting on designing regulatory interventions based solely on inapplicable neoclassical economic theory. The thesis thus advocates for updating the theoretical underpinnings of investor protection regulation to account for the plurality in human behaviour. It does so by synthesizing an array of theoretical and experimental findings on the drivers and impediments of behaviour by reviewing the literature of various social sciences (cognitive psychology, behavioural finance, social psychology, motivational theory, ecological psychology etc.), to create a schema of heuristics, biases, framing effects, norms, and other insights that could be used in informing regulation.

Mikaella is a PhD Researcher in Law at the European University Institute. Her research synthesizes drivers and impediments of behaviour from cognitive psychology, behavioural finance, social psychology, motivational theory, and ecological psychology to create a schema of heuristics, biases, framing effects and norms that could be used in informing financial regulation directed to retail investors in light of the CMU. Mikaella holds an LLM in Comparative, European and International Laws from the European University Law, an LLM in International Banking Law and Finance from the University of Edinburgh and an LLB in Law from the University of Southampton. Her general research interests mainly include behaviourally-informed regulation, securities regulation, and banking regulation.

Sara Gong, University of Southern California

Abstract & Biography

In contrast to the traditional model of the firm, a startup is fundamentally inseparable from its founder. This paper demonstrates that the strategic decisions of startups are determined by a tradeoff between the conflicting professional and personal motivations of their founders. Drawing from identity salience theory, we model the utility function of entrepreneurs and derive theoretical insights into empirically-observed patterns of behavior. Our work shows that entrepreneurs will not necessarily make the optimal decisions for their startups, especially when they face significant personal costs.

Sara Gong is a junior at the University of Southern California with majors in economics, math, and philosophy. Her academic interests lie at the intersection of decision-making, rationality, and uncertainty. She has conducted research at USC and Columbia University, and coauthored two papers on entrepreneurship policy and the role of identity in strategic decision-making. She also interned with the House Appropriations Committee in 2018, and she was an organizing fellow with the Hillary Clinton campaign in 2016. After graduation, she intends to pursue a law degree or a Ph.D. in economics, particularly in development or behavioral economics. Sara is a native of Las Vegas, Nevada.