Psychological Sciences Newsletter



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News

New Head of Department confirmed

<u>Professor Rick Cooper</u> has been confirmed as the new Head of Department and will take over from our outgoing Head, <u>Professor Mike Oaksford</u>, at the beginning of April 2021.



Image: Professor Rick Cooper, incoming Head of Department

Rick was born in Sydney, Australia where he began his academic career with a degree in mathematics with computer science at the University of Newcastle, NSW, Australia. He moved to the Centre for Cognitive Science at the University of Edinburgh to complete his PhD in computational linguistics, with a grounding in formal linguistic theory. At this time, he met Mike Oaksford, who was also completing his PhD at the Centre. He followed his PhD with postdoctoral role at UCL, working on computational models of cognitive processes. Rick began working at Birkbeck as a lecturer in 1995, becoming Professor of Cognitive Science in 2014. His recent accolades include being awarded the British Psychological Society Cognitive Psychology Section award for 'outstanding published contributions to research in the area of Cognitive Psychology' in November 2020, and the same month being made a Fellow of the Association for Psychological Science.

About his new post Rick said:

"As Mike notes (below), it is a privilege to lead this department. While I confess to a slight sense of trepidation over the next phase of the department's development, this sense is dampened by the fact that Mike's leadership, coupled with everyone's contributions over the past couple of decades, has left us in a good place to face the immediate challenges. These include filling staff vacancies, BPS reaccreditation,

delivering our various programmes at a time of greater flux than any other in recent history, and continuing to nurture the department's research profile to ensure a successful REF return in 2028 (or whenever that happens). Ensuring that we maintain our unique strengths in both teaching and research will be a balancing act, I'm sure, but I look forward to being at the helm as we navigate these and subsequent challenges."

<u>Professor Rick Cooper</u> will follow <u>Professor Mike Oaksford</u> who has led the department since 2005 when he joined Birkbeck as Professor of Psychology and Head of Department. Mike has led the department through many successes, including the 4* rating scored in the 2014 REF which saw Birkbeck ranked fifth in the UK for psychology. His time has overseen a world-leading research culture that works in synergy with committed and energetic teaching, awarded a silver award in the 2017 TEF. Mike will continue to work in the department as Professor of Psychology until his retirement in 2022.

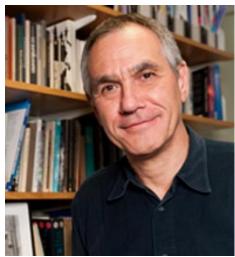


Image: Professor Mike Oaksford, outgoing Head of Department

Mike commented:

"It has been a pleasure and a privilege to lead this Department for the last almost 16 years. Together we have created one of the best psychology Departments in the world, and everyone should be immensely proud of this achievement, academic, admin and support staff alike. The Department is in excellent hands with Rick in charge, and I am sure you will all have continued success in REF2021 and beyond. I look forward to monitoring that success after I retire next year. Cheers, Mike."

Congratulations to Professor Clare Press!

Our colleague **Clare Press** has recently been promoted to **Professor**, congratulations Clare! Clare joined Birkbeck in 2012 and leads the <u>Action Lab</u>.

Clare has also recently been made a Principal Investigator at the <u>Wellcome Centre for Human</u>

<u>Neuroimaging, UCL</u>. She has been an active member of the community since she was based there a decade ago as a fellow, including running studies there. This status makes her a more integral part of the centre - including attending faculty meetings and gaining working space for her <u>Action and Perception</u> research group.

New Open Access Covid-19 Vaccine Handbook

Professor Ulrike Hahn is one of the project coordinators of <u>SciBeh</u>, which has recently launched the COVID-19 Vaccine Communication Handbook and Wiki, which are publically available <u>online</u>.

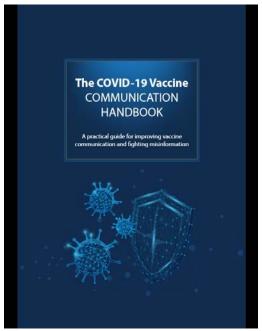


Image: the cover of The Covid-19 Vaccine Communication Handbook

Hahn has worked with a global team of scientific experts who have collaborated to help prevent the spread of misinformation about Covid-19 vaccines, through ensuring credible information is available to the public. Both the handbook and the wiki are freely available and provide up-to-date information about the development of Covid-19 vaccines, testing, roll-out as well as public attitudes and behaviour.

The handbook and wiki are aimed at everyone, from health and educational professionals to members of the public, enabling users to access clearly presented scientific evidence about the vaccines which is particularly important at a time where misinformation could affect uptake.

Professor Hahn commented: 'We needed to meet the huge challenge of the pandemic with all the resources the behavioural science community can make available, particularly because human behaviour has been, and will remain, centre-stage in our efforts to combat the disease.'

A full story about the handbook and wiki is available on the Birkbeck News pages.

Departmental funding success

Colleagues across the department have had incredible success with research funding, collectively being awarded over £3million at the end of 2020.

Professor Clare Press was awarded €2million from the European Research Council (ERC) for the project 'Resolving the Perceptual Prediction Paradox – Conflicted Prediction'. The project will take place over five years and will fund several PhD students and postdoctoral researchers.

Professor Fred Dick received two awards, one from the National Institute on Deafness and Other Communication Disorders (NIDCD) for £336K and one from the National Science Foundation (NSF) Science of Learning Programme, for \$186K. The projects are respectively titled 'Dimension-based auditory selective attention' and 'Incidental learning across statistically-structured input in active tasks' and will take place over five and three years.

Professor Martin Eimer was awarded £679K by the Economic and Social Research Council (ESRC) for the project 'Uncovering mechanisms of attentional control by tracking preparatory states in real time'. The project is funded for three years and contribute to the lab's research on selective attention.

Professor Ulrike Hahn was awarded £290K for the project 'Normative vs. Descriptive Accounts in the Philosophy and Psychology of Reasoning and Argumentation: Tension or Productive Interplay?' with a grant from the Arts and Humanities Research Council (AHRC) and the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation). The project will take place over two years.

A full story about the awards with comments from the grant-holders is available via Birkbeck News.

Welcome!

Welcome to **Kirsten Rittershofer** who has started as a GTA funded PhD student in the Action Lab. Kirsten is working with Clare Press and Peter Kok, having previously completed her MSc in Cognitive Neuroscience at Radboud University, Nijmegen.



Image: Kirsten Rittershofer

Top Media Mentions

Our staff have been attracting high profile media attention

In December, **Dr. Daniel Yon,** an Associate Research Fellow in the Action Lab, wrote a piece for <u>Psyche</u> on the lab's recent research about illusions of control.

Research led by **Dr. Gillian Forrester** as part of the *Me, Human* project was picked up in a number of press outlets including <u>The Independent</u> and the <u>Evening Express</u>. The research showed a significant difference between typically developing children and autistic children in the way their right-left brain functions operated. The original research paper was published in <u>Cortex</u> and a full write up appears on the <u>Birkbeck News</u> pages.



Toddler with screen: image by R. Nial Bradshaw, published with a CC BY 2.0 license.

The TABLET project, led by **Professor Tim Smith**, received attention in January where its findings about screen time and toddler development gained traction particularly in the context of lockdown and the associated rise in screen use in children and toddlers. The project found that toddlers with high daily touchscreen use are quicker to look at objects when they appear and are less able to resist distraction compared to toddlers with no or low touchscreen use. Publications referring to the research include articles in <u>La Recherche</u> and <u>The IET's news pages</u>. The original scientific article which was referenced in the press was published in <u>Nature</u> in January. A full write up also appears on the <u>Birkbeck News</u> pages.

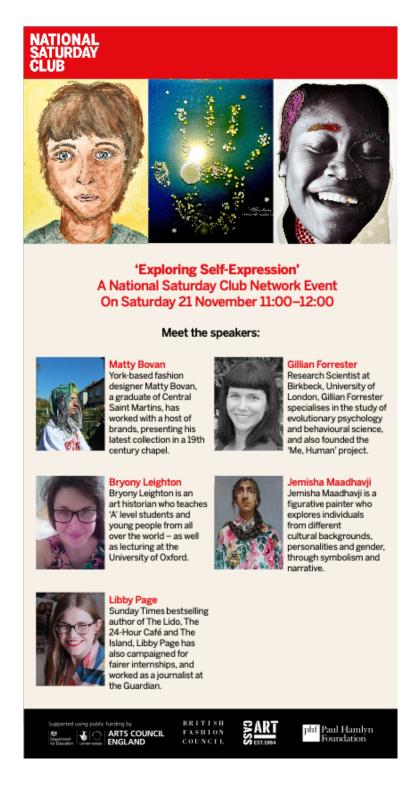
In February, the **BabyLab** was featured in the award-winning children's television programme Operation Ouch! Dr Xand van Tulleken joined <u>Louisa Gossé</u>, a PhD student to understand more about the brain activity of babies while they sleep. The programme is accessible via CBBC on the <u>BBC iPlayer</u> (Wednesday 17 February). The BabyLab is included in the programme from 10:24 onwards.

The work of **Alexander McLean**, a MSc student working with **Professor Naz Derakhshan** in the Affective and Cognitive Neuroscience Lab has found that resilience training based on the principles of Stoic philosophy can reduce emotional vulnerability in those at risk of anxiety and depression. His work, due to be published in *Cognitive Research and Cognition* is the focus of a piece in <u>Birkbeck News</u>.

Public Engagement and Talks

National Saturday Club

In November, **Dr. Gillian Forrester** was part of a Network Event on 'Exploring Self-Expression' for the <u>National Saturday Club</u>, which provides free creative learning programmes for teenagers aged 13-16 from across the country. The Network Event in which Gilly participated was part of the Science and Engineering offer.



Psychology in the Classroom

In early February, **Professor Iroise Dumontheil** was interviewed by Lucinda Powell for her <u>Psychology in the Classroom</u> podcast. Iroise spoke about *How Teenagers Learn*.

Awards and recognition

Professor Clare Press has been made an Associate Editor at Cortex.

Professor Rick Cooper received a Governing Board Distinguished Service Award from the <u>Cognitive Science</u> <u>Society</u>, for "dedicated services as Executive Editor of *Cognitive Science* from 2015 to 2020".

Grants

Congratulations to all our staff receiving research grants

NAME	FUNDER	TITLE	AMOUNT £
Denis Mareschal	EPSRC	Generating Explicit Explanations from Deep Reinforcement Learning Systems Using Complementary Learning Systems Theory.	64,360
Ashley Symons	SEMPRE	Effect of musical training on dimensional salience	2,250
Angelica Ronald	Simon's Foundation	Discovery science to map the common genetic architecture of fine and gross infant motor development in the context of neurodevelopment and autism.	213,919
Ulrike Hahn	AHRC	Normative vs. Descriptive Accounts in the Philosophy and Psychology of Reasoning and Argumenta-tion: Tension or Productive Interplay?	290,655
Fred Dick	NSF	Incidental learning across statistically- structured input in active tasks.	1,100

Conference Activity

In October 2020, **Professor Clare Press** gave a keynote talk at the International Workshop on Expectations and Cognition, organised by the University of New South Wales. It was entitled *The influence of action expectations on perception*. In November 2020, Clare gave a seminar at Bar Ilan University, Israel entitled *The perceptual prediction paradox* and, in December 2020, delivered a departmental seminar at Humboldt Universitat Berlin entitled *The perceptual prediction paradox: how do we render our experiences both veridical and informative?*

In October 2020, **Professor Iroise Dumontheil** gave a presentation at the Cogni'Forum 2020, <u>Association Apprendre et Former avec les Sciences Cognitives</u> online workshop on the regulation of emotion and behaviour during adolescence. In January 2020 she was a discussant at the <u>LEARN!</u> (Vrije Universiteit, Amsterdam) online conference.

In November 2020, **Professor Ulrike Hahn** gave a keynote presentation at the Lorentz Institute Workshop on modelling social complexity in argumentation. Her presentation was entitled: *Understanding the accuracy of beliefs formed across social networks*. She also delivered the 2020 SciBeh Virtual Workshop: *Building an online information environment for policy relevant science*.

Doctoral Activity

Theses awarded

Congratulations to all those successfully defending their theses

Congratulations to **Dr. Elena Piccardi** who in October 2020 successfully defended her thesis entitled *Early development of sensory perception in Autism Spectrum Disorders and Attention Deficit Hyperactivity Disorder*. Her examiners were Dr. Lorenzo Fabrizi (UCL) and Professor Terje Falck-Ytter (Uppsala University) and she was supervised by Dr. Teodora Gliga and Professor Mark H. Johnson.

Congratulations to **Dr. Sam Blakeman** who in December 2020 successfully defended his thesis *Understanding efficient reinforcement learning in humans and machines*. His examiners were Professor Bradley Love (UCL) and Professor Chris Summerfield (University of Oxford). He was supervised in CBDC by Professor Denis Mareschal.

Finally, congratulations to **Dr. Marko Tesic** who successfully defended his thesis entitled *Explanation and Argument* in February 2021. Marko's thesis was examined by Professor Mike Oaksford (Birkbeck) and Dr. Kayta Tentori (University of Trento). He was supervised by Professor Ulrike Hahn at Birkbeck and Professor David Lagnado at UCL.

Theses Examined

Staff from the department are frequently invited to examine doctoral theses at institutions across the country and internationally

In November 2020, **Dr. Gillian Forrester** was the external examiner for Grégoire Boulinguez-Ambroise, Université de Paris, France. His thesis was entitled *Ontogenesis of the limb motor systems in the mouse lemur and the olive baboon: a comparative approach between two different prehensile strategies*. He was supervised by Emmanuelle Pouydebat and Adrien Meguerditchian.

In December 2020, **Professor Martin Eimer** was the external examiner for Dr. Christine Salahub, Brock University, Ontario, Canada, who successfully defended her thesis entitled *Electrophysiological measures of flexible attentional control and visual working memory maintenance*. Her supervisor was Dr. Stephen Emrich.

In December 2020, **Professor Clare Press** was the external examiner for Dr. Yuchunzi Wu, UCL who successfully defended her thesis entitled *Sensorimotor processing in speech examined in automatic imitation tasks*. She was supervised by Professor Patti Adank.

Publications

Accepted Manuscripts for the majority of these publications are available via Birkbeck's repository, BIROn.

Journal Articles

Bertelsen, N. and Isotta, L. and Jones, Emily J.H. and Lombardo, M. (2021) Differential neural circuitry behind autism subtypes with imbalanced social communicative and restricted repetitive behavior symptoms. *Communications Biology*, ISSN 2399-3642. https://doi.org/10.1101/2020.05.08.083758

Brooks-Gordon, Belinda and Ebbitt, E. (2021) The Chemsex 'Consent Ladder' in male sex work: perspectives of health providers on derailment and empowerment. *Social Sciences*, 10 (2), p. 69. ISSN 2076-0760. https://doi.org/10.3390/socsci10020069

Brzozowska, Alicja, Longo, Matthew R., Mareschal, Denis., Wiesemann, F. & Gliga, Teodora (2021) Capturing touch in parent-infant interaction: a comparison of methods. *Infancy*, ISSN 1525-0008. https://doi.org/10.1111/infa.12394

Collins, P.J., Krzyzanowska, K., Wheeler, G., Hartmann, S. & Hahn, U. (2020) Conditionals and Testimony. *Cognitive Psychology*, 122, 101329. https://doi.org/10.1016/j.cogpsych.2020.101329

Cooper, Richard P. (2021) Précis of Cooper, Byde, de Cecilio, Fulks and Morais (2018): Set-Shifting and Place-Keeping as Separable Control Processes. *The Cognitive Psychology Bulletin 6*, pp. 8-13. ISSN 2397-2661.

Donati, Georgina., Dumontheil, Iroise., Pain, O., Asbury, K., Meaburn, Emma. (2021) Evidence for specificity of polygenic contributions to attainment in English, maths and science during adolescence. *Scientific Reports* 11 (3851), ISSN 2045-2322. https://doi.org/10.1038/s41598-021-82877-y

Donati, G. & Forrester, Gillian. (2021) Hindsight 20/20: the future of laterality research. Laterality: Asymmetries of Body, *Brain and Cognition*, ISSN 1357-650X. https://doi.org/10.1080/1357650X.2021.1876720

Dumontheil I. (2021). <u>La régulation du comportement et des émotions pendant l'adolescence</u>. *Neuroéducation*, 7(1). Prépublication. https://doi.org/10.24046/neuroed.20210701.1

Fieldsend, Megumi. & Smith, Jonathan. (2021) Exploring the experiences of four men living with involuntary childlessness in midlife. *Journal of Loss and Trauma*, ISSN 1532-5024. https://doi.org/10.1080/15325024.2021.1892942

Gilligan-Lee, K.A., Hodgkiss, A., Thomas, Michael S.C., Patel, P.K. & Farran, E.K. (2021) Aged-based differences in spatial language skills from 6 to 10 years: relations with spatial and mathematics skills. *Learning and Instruction* 73, p. 101417. ISSN 0959-4752. https://doi.org/10.1016/j.learninstruc.2020.101417 Hidaka, S., Tamè, Luigi and Longo, Matthew R. (2021) Tactile interactions in the path of tactile apparent motion. *Cognition* 209 (104569), ISSN 0010-0277. 10.1016/j.cognition.2020.104569

Leal, D., Gato, J., Coimbra, S., Freitas, D., Tasker, Fiona. (2021) The role of social support in the transition to parenthood among Lesbian, Gay, and Bisexual persons: a systematic review. *Sexuality Research and Social Policy: Journal of NSRC*, ISSN 1553-6610. (In Press)

Maclellan, Alexander. & Derakhshan, Nazanin. (2021) The effects of Stoic training and Adaptive Cognitive Training on emotional vulnerability in high worriers. *Cognitive Therapy and Research*, ISSN 0147-5916. (In Press)

Makatsori, M. & Miles, Anne. (2021) The psychological impact of food allergy and undergoing a food challenge test in adult age. *European Annals of Allergy and Clinical Immunology*, ISSN 1764-1489. (In Press)

McConnachie, A.L., Ayed, N., Foley, S., Lamb, M.E., Jadva, V., Tasker, Fiona. & Golombok, S. (2021) Adoptive Gay Father Families: a longitudinal study of children's adjustment at early adolescence. *Child Development* 92(1), pp. 425-443. ISSN 0009-3920. https://doi.org/10.1111/cdev.13442

Morris, S., Dumontheil, Iroise. & Farran, E. (2021) Responses to Navon tasks differ across development and between tasks with differing attentional demands. *Vision Research*, ISSN 0042-6989. (In Press)

Myga, Kasia A., Ambroziak, K.B., Tame, Luigi., Farnè, A. & Longo, Matthew. (2021) Whole-hand perceptual maps of joint location. *Experimental Brain Research*, ISSN 0014-4819.(In Press) 10.1007/s00221-021-06043-6

Pilditch, T., Hahn, U., Fenton, N. E., & Lagnado, D. A. (2020). Dependencies in evidential reports: The case for informational advantages. *Cognition*, 204, 104343. <u>10.1016/j.cognition.2020.104343</u>

Pijl, M., Bontinck, C., Rommelse, N., Begum Ali, Jannath., Cauvet, E., Niedzwiecka, A., Falck-Ytter, T., Jones, Emily J.H. & The Eurosibs team. (2021) Parent-child interaction during the first year of life in infants at elevated likelihood of autism spectrum disorder. *Infant Behavior and Development* 62, ISSN 0163-6383. (In Press)

Pinti, Paola., Siddiqui, Maheen, Jones, Emily J.H., Tachtsidis, I. & Levy, A.D. (2021) An analysis framework for the integration of broadband NIRS and EEG to assess neurovascular and neurometabolic coupling. *Scientific Reports*, ISSN 2045-2322. (In Press)

Portugal, Anna Maria., Bedford, Rachael., Cheung, Celeste., Mason, Luke. & Smith, Tim J. (2021) Longitudinal touchscreen use across early development is associated with faster exogenous and reduced endogenous attention control. *Scientific Reports* 11 (2205), ISSN 2045-2322. https://www.nature.com/articles/s41598-021-81775-7

Press, C., Thomas, E., Gilbert, S., de Lange, F.P., Kok, P., & Yon, D. (2020). Neuro-computational mechanisms of action-outcome prediction in V1. *Journal of Vision*, 20, 712. https://doi.org/10.1167/jov.20.11.712

Yon, D., Heyes, C., & Press, C. (2020). Beliefs and desires in the predictive brain. *Nature Communications*, 11, 1-4. https://www.nature.com/articles/s41467-020-18332-9

Shakoor, S., Zavos, H.M.S., Gregory, A.M. & Ronald, Angelica. (2021) The association between bullying-victimisation and sleep disturbances in adolescence: evidence from a twin study. *Journal of Sleep Research*, ISSN 0962-1105. (In Press)

Tamè, Luigi., Tucciarelli, Raffaele., Sadibolova, Renata., Sereno, Martin. & Longo, Matthew R. (2021) Reconstructing neural representations of tactile space. *NeuroImage*, ISSN 1053-8119. 10.1016/j.neuroimage.2021.117730

Taylor, M.J., Ronald, Angelica., Martin, J., Lundström, S., Hosang, G.M., Lichtenstein, P (2021) Examining the association between childhood autistic traits and adolescent hypomania: a longitudinal twin study. *Psychological Medicine*, ISSN 0033-2917. (In Press) 10.1017/s0033291721000374

Vance, James. & Oaksford, Mike. (2021) Explaining the implicit negations effect in conditional inference: experience, probabilities and contrast Sets. *Journal of Experimental Psychology: General* 150 (2), pp. 354-384. ISSN 0096-3445 10.1037/xge0000954

Whiting, S.B., Wass, S.V., Green, Simon., Thomas, Michael S.C. (2021) Stress and learning in pupils: neuroscience evidence and its relevance for teachers. *Mind, Brain, and Education*, ISSN 1751-2271. https://doi.org/10.1111/mbe.12282

Zivony, A., & Eimer, M. (2020). Perceptual competition between targets and distractors determines working memory access and produces intrusion errors in RSVP tasks. *Journal of Experimental Psychology: Human Perception and Performance, 46,* 1490-1510. https://doi.org/10.1037/xhp0000871

Zivony, Alon. & Eimer, Martin. (2021) Distractor intrusions are the result of delayed attentional engagement: a new temporal variability account of attentional selectivity in dynamic visual tasks. *Journal of Experimental Psychology: General* 150 (1), pp. 23-41. ISSN 0096-3445. https://doi.org/10.1037/xge0000789

Book chapters

Chater, N. & Oaksford, Mike (2021) Bayesian rationality in the psychology of reasoning. In Knauff, M. and Spohn, W. (eds.) *Handbook of Rationality*. Cambridge, U.S.: MIT Press. ISBN 9780262045070. (In Press)

Miles, Anne. & Redeker, Claudia. (2021) Colorectal cancer. In Breitbart, W., Butow, P., Jacobsen, P., Lam, W., Lazenby, M. & Loscalzo, M. (eds.) *Psycho-Oncology 4th Edition*. Oxford University Press. ISBN 9780190097653.

Miscioscia, M., De Carli, P., Sacchi, C. Tasker, Fiona. & Simonelli, A. (2021) Attachment matching and coparental interactions in same-sex and different-sex couples planning parenthood. In Kuersten-Hogan, R. and McHale, J.P. (eds.) *Prenatal Family Dynamics - Couple and Coparenting Relationships During and Postpregnancy*. New York, U.S.:Springer, pp. 153-179. ISBN 9783030519872. https://link.springer.com/chapter/10.1007%2F978-3-030-51988-9 8