Welcome to our biennial progress report for the period October 2016–2018. The report illustrates some of the major projects, themes and achievements of members of the Centre for Brain and Cognitive Development (CBCD) and builds on our previous reports.

The CBCD has seen steady growth since it was founded in 1998 by Mark Johnson, Gergely Csibra, Denis Mareschal and Leslie Tucker. The Centre has steadily grown in strength and depth with the addition of faculty members Michael Thomas (from University College London in 2002), Fred Dick (from UC San Diego in 2004), Annette Karmiloff-Smith (from University College London in 2006), Natasha Kirkham (from Stanford in 2007), Angelica Ronald (from the Institute of Psychiatry in 2007), Emma Mearns (from the Institute of Psychiatry in 2009), Matthew Longo (from University College London in 2010), Tim Smith (from the University of Edinburgh in 2011) Clare Press (from the University of Reading in 2012) and Adam Tierney (from Northwestern University in 2015). Most recently, Dr Gillian Forrester has joined us (from the Universities of Oxford and Westminster 2016). In line with the Centre’s increasing impact, Professors Tony Charman (Institute of Psychiatry, Psychology & Neuroscience) and Clare Elwell (University College London) have remained visiting Professors.

This has been an important transition period for the CBCD. Professor Mark Johnson (previously Director of the Centre) has moved to the University of Cambridge as the 1931 Chair and Head of the Department of Psychology. Although Mark has moved to Cambridge, he continues to hold a part-time position here at the CBCD. Professor Denis Mareschal, who originally joined the centre as a founder member in 1998 has taken on the role of new Director. Sadly, in December 2016 our dear colleague Professor Annette Karmiloff-Smith passed away. Annette had a huge influence on all members of the CBCD. A testimonial written by one of our members and colleague Professor Annette Karmiloff-Smith passed

The work of CBCD members continues to be characterised by its use of converging methods (behavioural testing, eye tracking, ERP, EEG, optical imaging, computer modelling, functional and structural MRI) and by its theory-driven programmes of empirical research on visual, cognitive and language development in human infants, children and adults.

While the CBCD shares common infrastructure, it is further organised into several constituent labs, each with its own particular focus. Some members of the CBCD are also members of associated centres, such as the Centre for Educational Neuroscience (http://www.educationalneuroscience.org.uk/), Birckbeck UCL Centre for Neuroimaging (BUCNI), http://bucni.psychol.ucl.ac.uk/), the Birckbeck Psychology Genetics Grouping (www.bbk.ac.uk/psych/research/primary_research/geneticgrouping), and the BRIDGE Lab (www.bridgelab.bbk.ac.uk).

We are delighted to have received funding from the Maurice Wohl Charitable Foundation, the Wolfson Foundation, Daniel and Elizabeth Poltz and the Wellcome Trust for a state-of-the-art, new ToddlerLab facility, which we will open in Summer 2020. Using the latest wireless technologies, the ToddlerLab will enable the advanced scientific study of the brain development of children aged 18 months to four years in an environment simulating familiar surroundings for toddlers. It will enable us to understand development in more real-world contexts in which the children interact with each other and are free to roam about.

In addition to many individual collaborations, the CBCD also maintains strong collaborative partnerships with the Institute of Psychiatry, Psychology & Neuroscience (King’s College London), the Institute for Research in Child Development (UEL), UCL Medical Physics and Developmental Neurocognition Lab

The CBCD is a dynamic and continually changing entity refreshed by new post docs and research fellows annually from across the world. Consequently, it has become a major centre for postgraduate training (see CBCD Scientists). Some have retained membership of the CBCD as Affiliated Scientists. We are particularly pleased that many former members have gone on to establish their own labs and research centres elsewhere in Europe, North America and Australia.

The CBCD is also a place of training for the future generation of international researchers. We are very proud of our doctoral (PhD) students who have completed their degrees over the last few years. The calibre of their success is evidenced by the international prizes that they have received for their doctoral research from such organisations as the American Psychological Association and the Society for Research in Child Development (USA).
**Awards**

Angela Ronald has taken up an editor role at the Journal of Child Psychology and Psychiatry. This is the top-ranked journal in developmental psychology and the sixth ranked journal in general psychology (ISI 2017 rankings).

Iroise Dumontheil’s and Tim Smith’s projects were highly commended in the College’s Public Engagement Awards. Iroise Dumontheil for the 15th Elizabeth Warrington Prize from the British Neuropsychological Society for distinguished early stage career work in Neuropsychology. She gave her Prize Lecture at the BNS conference on Social cognition and cognitive control during adolescence on 2nd November in London.

Michael Thomas was among only 45 academics from across the globe to have been elected a Fellow of the US Association for Psychological Sciences (APS) in August 2016.

Dr Sarah Lloyd-Fox was shortlisted for the Functional Near-Infrared Spectroscopy (fNIRS) Early Investigator Prize from the British Neuropsychological Society for her article with Bedford, R., Charman, T., Johnson, M. & the BASIS Team (2015). Enhanced visual search in infants was shortlisted for the Functional Near-Infrared Spectroscopy (fNIRS) Early Investigator Prize from the British Neuropsychological Society for her article with Bedford, R., Charman, T., Johnson, M. & the BASIS Team (2015). Enhanced visual search in infancy predicts emerging autism symptoms. Current Biology, 25(13), 1727-1730.

Teodora Gliga also received a British Academy Rising Star Engagement Award for Neuroscience in the playground: Bringing together psychology, education and technology to investigate human curiosity.

Denis Mareschal was elected to the Executive Committee of the International Congress on Infant Studies for a six-year term.

Studies carried out at the CBCD are frequently recognised in the national and international media, including:

- **BBC One**
- **BBC Two**
- **BBC Education**
- **Radio Five Live**
- **The Daily Telegraph**
- **The Daily Mail**
- **The Evening Standard**
- **The Guardian**
- **New York Times**
- **The Health Medicine Network**
- **Nature Communications**
- **The Belfast Telegraph**

**Media Highlights**

- **The Secret World of Babies**
  - BBC Future interviewed PhD student Maheen Siddiqui, Reader Natasha Kirkham and Research Fellow Sarah Lloyd-Fox during a visit to the Babylab. Research using fNIRS to study babies’ brains could help provide earlier support for infants showing atypical development.
  - www.bbc.co.uk/future/story/20180327-the-secret-world-of-babies

- **Touchscreen Toddlers**
  - Several media outlets, including the BBC, the Evening Standard, the Daily Telegraph and the Hindu highlighted Dr Tim Smith’s research investigating links between touchscreen use in toddlers and sleep.
  - www.bbc.co.uk/news/health-39588453

- **Autism Screening System Could Benefit Millions of Indian Children**
  - The Health Medicine Network reported on the start of a collaborative project involving our researchers that aims to introduce new, low-cost ways of detecting autism in children in India.

- **No Evidence to Back Idea of Learning Styles**
  - The Guardian published a letter signed by Professor Michael Thomas about the lack of evidence for learning styles and their use in educational techniques.
  - www.theguardian.com/education/2017/mar/12/no-evidence-to-back-idea-of-learning-styles

- **Sense of Self in Toddlers**
  - BBC Education documented Chiara Bulgarelli’s PhD research investigating the development of the sense of self. When do infants develop a sense of self? Does self-recognition in a mirror underlie the moment when a sense of self emerges in toddlers? What are the neural underpinnings of self-recognition? This video reported how research at the Babylab is trying to answer these fundamental questions regarding infants’ development.
  - www.bbc.co.uk/news/sv/education/42967788/what-s-going-on-in-a-toddler-s-brain

- **Autism Diagnosis Linked to Light Response in Babies**
  - Over 140 media outlets across the world picked up on research published in the journal *Nature Communications* by Babylab researchers Teodora Gliga and Mark Johnson and colleagues identifying early predictors of later autism diagnoses.
  - www.nature.com/articles/s41467-018-03985-4

- **Do Theatre Visits Make Your Kids Happier?**
  - Dr Natasha Kirkham explained to The Belfast Telegraph how going to see live theatre productions can help aid children’s understanding of emotions.

- **The Big Baby Experiment**
  - The prestigious journal *Nature* featured the Babylab in a news editorial. Read more about how the Babylab uses a wide range of techniques to study the development of the infant mind.
  - www.nature.com/news/the-big-baby-experiment-1.18701

- **A Touch Source Disconnect for Babies**
  - Babylab postdoctoral researcher Dr Jannath Begum Ali was featured in the New York Times, where she discussed her findings that “babies do not link the sensation of touch with the object or person touching them until they are about 6 months old”.
  - www.nytimes.com/2015/10/20/science/babies-take-months-to-link-touches-to-what-touches-them.html?_r=0

- **Babylab uses Pioneering Technology to Help Children Suffering from ADHD**
  - The Evening Standard published an article on children who have a greater chance of developing ADHD because they have an older brother or sister with the condition. These infants are taking part in a Babylab study that aims to detect the condition years earlier than is currently possible.

- **Do Theatre Visits Make Your Kids Happier?**
  - Dr Natasha Kirkham explained to The Belfast Telegraph how going to see live theatre productions can help aid children’s understanding of emotions.
Professor Mareschal continues to investigate the mechanisms of perceptual and cognitive development across infancy and childhood. He has recently developed a computational neural network model of how infants learn to associate visual-sensory streams across time from an auditory or visual sensory stream. Cutting this visual stream into constant units is the very first step in how infants make sense of the world. He has also explored changes in children’s perceptual biases regarding where a face is looking and whether it is trying to engage with the child or not. In a further line of research, he has continued to explore how our sense of time and duration emerges from early repetitive motor activity during infancy. Finally, Professor Mareschal continues to lead the large scale UniLocke project. This project explores the efficacy of an inhibitory control educational intervention designed to enhance primary school children’s uptake of difficult counterintuitive concepts in maths and science. It is a concrete example of how results from basic developmental cognitive neuroscience can be translated into real-world educational practice.


Professor Angela Ronald
Professor of Psychology and Genetics
Professor Ronald conducts behaviour genetic and molecular genetic research on psychopathology from infancy to adolescence. Her research has particularly focused on the genetic and environmental causes of autism spectrum conditions, ADHD, psychiatric experiences and the causes of co-occurring psychopathology in children and adolescence. Professor Ronald is a Professor of Psychology and Genetics at the CBCD and the Director of the Genes Environment Lifespan laboratory, a lab group within the CBCD that was established in 2011 (www.gel.bbk.ac.uk).

She is a leading collaborator in the ABCD (All of Us) project, a national project that now involves multiple sites across Europe (EU-Aims, Euroshis). These studies attempt to elucidate mechanisms of typical and atypical cognitive development through analyses that include genetics, various measures of brain structure and function, cognitive studies, parent-child interaction and family context. To investigate the typical and atypical postnatal functional development of the

Dr Atsushi Senju
Reader in Social Neuroscience
Dr Senju has been studying how people effortlessly and spontaneously understand signals of social communication, and how such skills develop. His recent work has greatly contributed to our understanding of how brains process social communication, how infants and young children develop such a skill, how the social experience changes the way these skills develop and why such a spontaneous processing of social information is difficult in individuals with autism spectrum disorders (ASD). This is a further line of research that demonstrates that infants learn to mimic others’ facial actions by being imitated by their caregivers and that similar to adults, mimicry is modulated by a range of social signals such as eye contact and group status in infancy and toddlerhood. Since finishing the project, Senju has been studying the foundations of the speech-to-song illusion.


Dr Adam Tierney
Senior Lecturer
Dr Tierney is interested in how auditory perception lays the foundation for language learning. Linguistic structure in speech is communicated via complex acoustic patterns, including changes in pitch, duration, and sound quality. Not everyone is equally able to perceive these acoustic dimensions, however, which may have consequences for the ease with which individuals learn languages. Dr Tierney has been studying whether auditory perception explains individual differences in adult second language learning, whether people with severe perceptual deficits have special strategies for perceiving speech and whether children with ADHD can be trained to direct attention to a stream of sounds in the presence of a distraction.

Omote, A., Jasmin, K., & Tierney, A. (2017). Successful non-native speech perception is linked to frequency following response phase consistency. Cortex, 93, 146-154. 10.1016/j.cortex.2017.05.005


Dr Carina de Klerk
Postdoctoral Researcher
Dr de Klerk is interested in the development and modulation of imitative behaviours in infancy and toddlerhood. Over the past 3.5 years, together with Prof. Southgate (Copenhagen University) and Professor Hamilton (UCL) and PhD student Chiara Bulgarelli, she has been responsible for running a longitudinal study investigating the development of mimicry from infancy to toddlerhood. Using a range of methods (NIRS, EMG and behavioural studies), this project demonstrated that infants learn to mimic others’ facial actions by being imitated by their caregivers and that similar to adults, mimicry is modulated by a range of social signals such as eye contact and group status in infancy and toddlerhood. Since finishing the project, Carina has taken up a position as a lecturer at the University of Essex.
Dr Clare Press
Senior Lecturer
Dr Press has been studying the mechanisms that underlie our ability to map between action and perception, as needed for action control, imitation and other social abilities. Action control and sensory processing impairments are widely reported in individuals with autism alongside their more widely publicised social problems, but it is unclear what features these difficulties or the relationship between them. Her recent work has demonstrated that atypicalities in the way those with autism move can explain their problems understanding the subtleties of others’ facial expressions and body movements.


Professor Emma Meaburn
Senior Lecturer
Dr Meaburn leads the Birkbeck Research Into Developmental Genomics (BRIDGE; www.birkelab. bbk.ac.uk) Lab. Her research is centred on understanding how genes influence early brain development and cognitive functioning, with a focus on educational outcomes and neurodevelopmental disorders. Specifically, her group uses statistical and molecular genetic approaches to query the developmental relationship between genetic variation (the differences in DNA sequences that exist between individuals) to individual differences in brain and cognitive function and atypical development. Mapping causal paths between genes, brain and behaviour will ultimately require the integration of non-genetic (e.g. environmental) information and her current funded research includes examining how non-genetic factors might moderate genetic risk. Dr Meaburn is also a member of the Centre for Educational Neuroscience that aims to foster a dialogue between researchers and educators so that robust scientific findings can be effectively communicated and used to improve educational experiences.


Professor Frederic Dick
Auditory Cognitive Neuroscience and Director of Birkbeck/UCL Centre for Neuroimaging
Professor Dick’s work focuses on the acquisition, development and elaboration of expert skills in higher-level audition and spoken language. This research uses experimental models of short- and long-term auditory learning to understand the cognitive, perceptual and neural mechanisms underlying complex skills, such as spoken language comprehension and auditory scene analysis. To constrain and ground these experimental models in basic anatomical and physiological research on auditory learning in non-human mammals, he and his collaborators have developed non-invasive MRI methods of delineating auditory areas in humans.


Professor Csibra
Cognitive Development Centre, Central European University, Hungary
Professor Csibra has continued his work on receptive communication in infants, and especially how infant-directed communication is exploited for learning about the world. He is also involved in studies on infants’ understanding of social relations and social interactions.


Professor Csibra has been studying the mechanisms that underlie our ability to map between action and perception, as needed for action control, imitation and other social abilities. Action control and sensory processing impairments are widely reported in individuals with autism alongside their more widely publicised social problems, but it is unclear what features these difficulties or the relationship between them. Her recent work has demonstrated that atypicalities in the way that those with autism move can explain their problems understanding the subtleties of others’ facial expressions and body movements.

Dr Forrester is a Reader in Psychology and the Director of the Comparative Cognition Group. Her research investigates the evolution and development of cognitive abilities. She is particularly interested in the relationships between behavioural biases (e.g. handedness and visual side preferences), brain organisation and cognitive abilities. Dr Forrester’s research involves multidisciplinary approaches (e.g. behavioural, fNIRS, eye-tracking) and considers great ape species (chimpanzees, gorillas) and humans (with children and without neurodevelopmental disorders).


Dr Hannah Wilkinson
Postdoctoral Researcher

Dr Wilkinson (Smith) investigates the neuropsychological profiles of primary school pupils, especially those disadvantaged by social, emotional and behavioural difficulties; low socioeconomic status; or extreme poverty to inform the development and evaluation of interventions that aim to improve behaviour and learning. This has involved taking an educational neuroscience approach to examine the association between executive functions, classroom behaviour and academic achievement. She is currently working on a large-scale project (UnLocke) exploring the impact of using a computerised learning activity to teach pupils to inhibit their immediate response on their ability to learn counterintuitive concepts in maths and science.

Smith, H. R., Erygiol-Madzwamuse, S., & Barnes, J. (2013). Paternal Postnatal and Subsequent Mental Health Difficulties of Children Involved in Direct and Indirect Executive Functions; and the Effects of Mobile Phone Use on Adolescent Cognition in Collaboration with Researchers at Imperial College. Over the last two years, she has worked on the UnLocke project, investigating the potential benefits of an intervention focusing on the inhibition of misconceptions for science and maths success in primary school. As a member of the Centre for Educational Neuroscience, Dr Dumontheil is interested in the potential implications of neuroscience research for education.

Brookman-Byrne, A., Mareschal, D., Tolmie, A. K., & Dumontheil, I. (2018). Inhibitory control and counterintuitive science and maths reasoning in adolescence. PLOS ONE, 13(9), e020973. 10.1371/journal.pone.020973


Dr Iroise Dumontheil
Reader in Cognitive Neuroscience

Dr Dumontheil examines social and executive functions in adulthood and their development during adolescence. In particular, she studies the interaction between social cognition and cognitive control processes. Her research combines behavioural, structural and functional neuroimaging methods, as well as the study of the effect of genetic polymorphisms on cognition. She has been researching how the influence of genetic polymorphisms on the dopamine system affect the development of relational reasoning, emotional regulation and both social and standard working memory measures; the effect of mindfulness meditation training in healthy adults and adolescents on self-regulation and other executive functions; and the effects of mobile phone use on adolescent cognition in collaboration with researchers at Imperial College. Over the last two years, she has worked on the UnLocke project, investigating the potential benefits of an intervention focusing on the inhibition of misconceptions for science and maths success in primary school. As a member of the Centre for Educational Neuroscience, Dr Dumontheil is interested in the potential implications of neuroscience research for education.

Brookman-Byrne, A., Mareschal, D., Tolmie, A. K., & Dumontheil, I. (2018). Inhibitory control and counterintuitive science and maths reasoning in adolescence. PLOS ONE, 13(9), e020973. 10.1371/journal.pone.020973


Dr Luke Mason
Postdoctoral Researcher

Dr Mason joined the CBRC in 2013 having completed his PhD on motor preparation and attention in 2012. He uses EEG and eye tracking to investigate attention, visual processing and multisensory integration from infancy to adulthood in disorders such as ASD and ADHD. He specialises in large multimodal datasets, such as the BASIS, EU-AIMS and BRIGHT studies.


Dr Iroise Dumontheil
Reader in Cognitive Neuroscience

Dr Dumontheil examines social and executive functions in adulthood and their development during adolescence. In particular, she studies the interaction between social cognition and cognitive control processes. Her research combines behavioural, structural and functional neuroimaging methods, as well as the study of the effect of genetic polymorphisms on cognition. She has been researching how the influence of genetic polymorphisms on the dopamine system affect the development of relational reasoning, emotional regulation and both social and standard working memory measures; the effect of mindfulness meditation training in healthy adults and adolescents on self-regulation and other executive functions; and the effects of mobile phone use on adolescent cognition in collaboration with researchers at Imperial College. Over the last two years, she has worked on the UnLocke project, investigating the potential benefits of an intervention focusing on the inhibition of misconceptions for science and maths success in primary school. As a member of the Centre for Educational Neuroscience, Dr Dumontheil is interested in the potential implications of neuroscience research for education.

Brookman-Byrne, A., Mareschal, D., Tolmie, A. K., & Dumontheil, I. (2018). Inhibitory control and counterintuitive science and maths reasoning in adolescence. PLOS ONE, 13(9), e020973. 10.1371/journal.pone.020973


Dr Luke Mason
Postdoctoral Researcher

Dr Mason joined the CBRC in 2013 having completed his PhD on motor preparation and attention in 2012. He uses EEG and eye tracking to investigate attention, visual processing and multisensory integration from infancy to adulthood in disorders such as ASD and ADHD. He specialises in large multimodal datasets, such as the BASIS, EU-AIMS and BRIGHT studies.


Dr Smith’s research primarily focuses on the perception and categorisation of faces and facial expressions of emotion. He is now better understood how information is processed during the perception of faces and how this processing is affected by emotional context, task demands, expectations and level of awareness. Recent projects seek to explore the development of specialised face-processing abilities in young children (funded by the Wellcome institutional fund), the factors and mechanisms underlying typical variation in face-processing ability (funded by the British Academy), face processing in clinical groups (including Williams syndrome and Down syndrome, funded by the Leverhulme Trust), and face and emotion processing in healthy ageing across the adult lifespan (ESRC).


**Professor Michael Longo**

**Professor of Cognitive Neuroscience**

Matthew Longo is a Professor of Cognitive Neuroscience and Director of the Body Representation Laboratory. His research investigates the cognitive and neural bases of our own body and how this influences our perception of touch, pain and space. His research uses a broad range of methods, including perceptual psychophysics, EEG and MRI.


**Professor Christopher D. Smith**

Christopher D. Smith is a Reader in Psychology at the Department of Experimental Psychology. His research focuses on the development of visual-spatial skills and educational achievement in young children and adults. He is currently investigating the role of attention and memory in young children. In a current ESRC-funded project (with Professor Denis Mareschal), Dr Smith is investigating how multisensory information supports (or inhibits) learning across primary-school-age children. Dr Smith employs several different methodologies in his research projects, such as corneal reflection eye tracking and habituation/dishabituation with infants and executive function tasks with preschoolers/aids.


**Dr Natasha Kirkham**

**Reader in Psychology**

Dr Kirkham is interested in the development of visual-spatial understanding, cognition and attention in infants and preschool age children. She is involved in two streams of research: one that addresses the question of how infants learn about their visuospatial environment with regard to the statistical regularities inherent in their perceptual world and one that investigates the roles of attention and memory in young children. In a current ESRC-funded project (with Professor Denis Mareschal), Dr Kirkham is investigating how multisensory information supports (or inhibits) learning across primary-school-age children. Dr Kirkham employs several different methodologies in her research projects, such as corneal reflection eye tracking and habituation/dishabituation with infants and executive function tasks with preschoolers/aids.

**Dr Sarah Lloyd-Fox**

**Postdoctoral Researcher**

Dr Lloyd-Fox’s research interests focus on the development and application of fNIRS for studying the mechanisms of cognitive development. She is an Honorary Research Fellow at the University of Cambridge. She also lectures at UCL, KCL and LSHMT and supervises several PhD, MSc and BSc research students. The goals of her research programme are two-fold: First, to provide insights into the development of the cognitive and neural mechanisms that contribute to individual differences in developmental trajectories. Second, to understand how those processes may be compromised in early development by factors such as increased familial likelihood for developmental disorders (autism) and social disadvantages, such as poverty and poor nutrition. She also runs the fNIRS Lab at the CRICD, a Member of the Society for fNIRS (currently serving on the Education Committee) and has spent the last 13 years developing this technique for use with infants. Recently, she has been involved in promoting its use in low-income and/or field-based settings in Africa and Asia, such as on the BRIGHT project (www.globalfniirs.org). Dr Lloyd-Fox has broad interests in uncovering the cognitive and neural mechanisms of learning in typical and atypical development. She is particularly intrigued by how infants and their caregivers can learn, e.g. how conceptual development, social cues (e.g. touch), and intrinsic motivation affect how information is sampled, learned and remembered.


**Dr Teodora Gliga**

**Programme Leader, Infant Siblings Studies**

Dr Gliga has broad interests in uncovering the cognitive and neural mechanisms of learning in typical and atypical development. She is particularly intrigued by how infants and their caregivers can learn, e.g. how conceptual development, social cues (e.g. touch), and intrinsic motivation affect how information is sampled, learned and remembered.
Dr Tim J. Smith
Reader in Cognitive Psychology

Dr Smith's research focuses on how we actively attend to and perceive dynamic visual displays, such as real-world scenes, cinema and interactive technologies (e.g. tablets and VR). He uses advanced computational and behavioural methods, including eye tracking, psychophysiology and EEG to understand the factors that influence visual attention; how these factors can be shaped by designers of audiovisual experiences, such as filmmakers and creators of virtual environments; and how these technologies shape us. These questions are applied to infants during their first years of life, to atypical groups (autism and ADHD), and to typical adults. Recently, Dr Smith's research team has been focused on studying the impact of touchscreen use on cognitive, behavioural and neural development during the first few years of life. His research has received exposure in the press (Wired magazine, NY Times, Guardian, BBC) and has been presented at Dreamworks Animation, the British Film Institute and the Academy of Motion Picture Arts and Sciences.


Professor Tony Charman
Visiting Professor

Professor Charman holds the Chair in Clinical Child Psychology at the Institute of Psychiatry, Psychology & Neuroscience, King's College London. His main research interest is the investigation of social cognitive development in children with autism and the clinical application of this work via screening, diagnostic, epidemiological, intervention and ‘at risk’ studies. He is a Chartered Clinical Psychologist and works in a specialist service for children with autism and complex neurodevelopmental conditions at the South London and Maudsley NHS Foundation Trust. He has published more than 300 peer-reviewed papers and over 50 book chapters. He has served on a number of expert panels for the Medical Research Council and NICE in the UK, NIH in the USA and the WHO. He has also worked closely with Ambitious about Autism, the National Autistic Society, Research Autism and Autistica to advocate for services and positive policy development for individuals with ASD and their families.


Affiliated Scientists

Prof Andy Bremner, University of Birmingham
Dr Caspar Addyman, Goldsmiths, University of London
Dr Elena Kushnirenko, University of East London
Dr Evelyne Mercure, Goldsmiths, University College London
Prof Gaia Scerif, University of Oxford
Dr Greg Pasco, King's College London
Dr Karla Holmboe, University of Oxford
Dr Mayada Elsabbagh, McGill University
Dr Przemek Tomalski, University of Warsaw
Dr Rachael Bedford, King's College London
Dr Roberto Filippi, Anglia Ruskin University
Dr Sam Wass, University of East London
Dr Teresa Farroni, University of Padova
Scientific Support Staff

Annabel Page
CBCD Administrator
and Unlock Project Administrator

Ellie Braithwaite
Research Assistant

Laurel Fish
Research Assistant

Sarah Kalwarowsky
Research Assistant

Berta Hortigüela
Fernández
Administration Team Leader

Isabel Quiroz
Research Assistant, CBCD Administrator and Interlearn Project Administrator

Marian Greensmith
Administrator

Tamsin Osborne
Research Assistant

Chloe Taylor
Research Assistant

Mandy Lathan
Administrator

Leslie Tucker
Research Support Leader and Centre Coordinator

Claire Smid
Research Assistant

Roshni Modhvadia
Research Assistant

Jonathan Batten
Audio-visual influences on attention and perception in dynamic scenes (2018).

Annie Brookman

Chiara Bulgarelli
The role of functional and effective connectivity in the development of social cognitive skills. An investigation on fNIRS and EEG data in a longitudinal sample exploring mimicry and self-other differentiation processes (2018).

Georgina Donati
Emotion regulation in adolescence: Genetic effects and academic outcomes (2018).

Rosanna Edey
The relationship between individual action kinematics and perception of others’ actions (2017).

Amy Goodwin

Rianne Haartsen

Oliver Pain

Laura Pirazzoli
An investigation into the mechanisms and role of social touch in early development (2018).

Sinead Rocha
Do we dance because we walk? Studying the development of sensorimotor synchronisation (2017).

Maheen Faisal Siddiqui

Angelina Vernetti
Social attention and reward processing in typical development and autism (2017).

Daniel Yon
What’s special about motor contributions to perception? (2017)

Anna Peng

Rachel Davis
Computational modelling to investigate developmental trajectories of autism (2016).

Kate Hughes
Studying risk and protective factors in 4- to 16-year-olds to identify early genetic behavioural, neural and/or cognitive relations between Down syndrome and subsequent Alzheimer’s disease (2017).
Current PhD Students

Francesco Caprini
Testing models of auditory learning in expert listeners. Acoustical and perceptual processing in designers of novel sounds.

Viktoria Csink
Surprised-based learning in infancy.

Jennifer Glennon
Neurodevelopmental disorders in infancy.

Anna Gui
Understanding the role of inhibition/excitation balance in the early development of ASD.

Jen Haensel
Cross-cultural development research on face processing.

Anna Kolesnik
Inhibition/excitation balance and social brain development in human infants.

Suzanne Pahlman
Modelling atypical development.

Elena Serena Piccardi
The role of early mechanisms of information sampling in driving variability in brain developmental trajectories.

Ana Maria Da Silva
Early visual experience and the relationship between visual and attention measures in infancy.

Elizabeth Booth
Executive functions in adolescence: Influence of technology use – SCAMP study.

Alicja Brzozowska
How touch mediates infant happiness and learning.

Susanne de Mooij
Tailoring the individual learning experience.

Cécile Gal
The neural dynamics of motivated learning.

Louisa Gossé
The role of sleep in early cognitive development.

Giada Guerra
Representational change in individualised and intensive language intervention.

Laura Havers
Population-reported negative symptoms across the lifespan.

Jessica Massonnié
The effect of ambient noise on early learning.

Janet Parsons
The development of visual attention in infants under 18 months old who are at risk for later learning difficulties because they are either at familial risk for autism or have been born pre-term.

Sam Blakeman
A developmental account of transfer to novel perceptual states.

Aude Carteron
Development of goal-directed sequential action selection.

Lisanne Schroer
Development of embodied planning of action sequences in pre-schoolers.

Brittney Chere
Early development of attention and learning in noisy environments.

Emily Thomas
The optimisation of perception during action.

Wikus Barkhuizen
Environmental risk factors involved in psychotic experiences during adolescence.

Claire Essex
The dynamics of attention in response to media presented on touchscreen devices.

Cathy Rogers
How executive control processes affect creativity in children of primary school age.