

**In This Issue**

Main Events	1
Research Highlights	2
Publications	
Books	3
Grants, Awards, & Recognition	
Invited Talks	4
Conference Activity	
External Examining	
Media	5
Upcoming Talks	

**Main Events**

**Professor Martin Eimer elected to German National Academy of Science**



*Professor Martin Eimer*

**Professor Martin Eimer** has been elected a member of the Leopoldina, the German National Academy of Science. The Leopoldina is the German equivalent of the Royal Society and has been in continuous existence since its foundation in the then Imperial Free City of Schweinfurt in 1652. It is now the oldest continuously existing academy of medicine and the natural sciences in the world, and its ethos is reflected in its motto: *Nunquam otiosus* ('never idle').

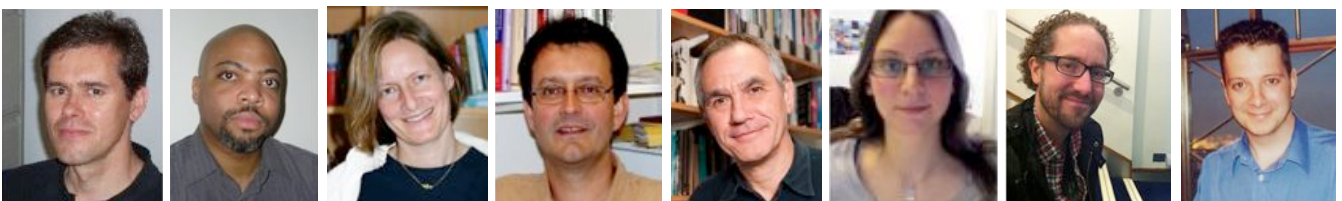
Honorary membership is the Leopoldina's highest accolade, and the highest academic honour awarded by a German institution.

*Many congratulations to Martin for this outstanding achievement.*

**Psychological Sciences launches new Centre for Cognition, Computation and Modelling**

Birkbeck's Centre for Cognition, Computation and Modelling (CCCM) launched on 22 March with a one-day workshop on 'Computational Models of Cognition' in which the centre's staff and affiliates presented their research for discussion. According to the centre's Director, **Professor Ulrike Hahn**, over 70 researchers from across the UK attended the event.

The CCCM draws on the Department of Psychological Science's long-standing track record in producing leading modelling research. Its members are actively engaged in top-tier international research in connectionist modelling, symbolic modelling and cognitive architectures, mathematical modelling and Bayesian models of cognition, with ongoing projects drawing on sophisticated computational methods for artificial agents. Main areas of research are: connectionist modeling and development (**Professor Michael Thomas; Professor Denis Mareschal**); reasoning and argumentation, with an emphasis on Bayesian models (**Professor Mike Oaksford; Professor Hahn**) and cognitive architectures (**Dr Eddy Davelaar; Dr Rick Cooper**); and perception and attention (**Dr Marie Smith; Dr Tim J Smith**). For more information, please visit the [CCCM website](#).



*Core staff of Birkbeck's Centre for Cognition, Computation and Modelling (l-r): Dr Rick Cooper; Dr Eddy Davelaar; Professor Ulrike Hahn (Director); Professor Denis Mareschal; Professor Mike Oaksford; Dr Marie Smith; Dr Tim J Smith; and Professor Michael Thomas.*

## Decoding the Genetics of Intelligence

Twin studies consistently show that general cognitive abilities are substantially heritable, yet genomewide association studies focused on the identification of specific genetic variants have largely come up empty-handed. A study by Dr Oliver Davis at UCL Genetics Institute in collaboration with **Dr Emma Meaburn** and colleagues at King's College London sheds some light as to possible reasons for this issue of 'missing heritability' in genetic studies of cognition and other complex traits. The study, which appeared in the journal *Psychological Science* (see *Publications*, below) used a new approach called genomewide complex-trait analysis (GCTA) to estimate heritability based on the known genetic similarity of unrelated individuals and compared it to heritability estimates obtained with the classical twin design. Their results reaffirmed that cognitive abilities are heritable, and suggest that the missing heritability gap will be closed with the use of larger sample sizes and the study of rare DNA variants.



## Publications

### Articles

- Barnes, J. (2012) The impact on child developmental status at 12 months of volunteer home-visiting support. *Child Development Research*. doi:10.1155/2012/728104
- Benyamin, B., Pourcain, B. St., Davis, O. S. P., Davies, G., Hansell, N. K., Brion, M. J. A., Kirkpatrick, R. M., Cents, R. A. M., Franic, S., Miller, M. B., Haworth, C. M. A., Meaburn, E. L., Price, T. S., Evans, D. M., Timpson, N., Kemp, J., Ring, S., McArdle, W., Medland, S. E., Yang, Y., Harris, S. E., Liewald, D. C., Cheet, P., Xiao, X., Hudziak, J. J., De Geus, E. J. C., Wellcome Trust Case Control Consortium 2, Jaddoe, V. W. V., Starr, J. M., Verhulst, F. C., Pennell, C., Tiemeier, H., Iacono, W. G., Palmer, L. J., Montgomery, G. W., Martin, N. G., Boomsma, D. I., Posthuma, D., McGue, M., Wright, M. J., Davey Smith, G., Deary, I. J., Plomin, R., & Visscher, P. M. (2013). Childhood intelligence is heritable, highly polygenic and associated with FBNP1L. *Molecular Psychiatry*. doi: 10.1038/mp.2012.184
- Cornish, K., Cole, V., Longhi, E., Karmiloff-Smith, A., & Scerif, G. (2013). Mapping developmental trajectories of attention and working memory in fragile X syndrome: Developmental freeze or developmental change? *Development and Psychopathology*, 25, 365–376.
- Davelaar, E. J. (2013). Short-term memory as a working memory control process. *Frontiers in Psychology*, 4:13. doi: 10.3389/fpsyg.2013.00013
- Davelaar, E. J. (2013). When the ignored gets bound: Sequential effects in the flanker task. *Frontiers in Psychology*, 3:552. doi: 10.3389/fpsyg.2012.00552.
- Elsabbagh, M., Hohenberger, A., Campos, R., Van Herwegen, J., Serres, J., de Schonen, S., Aschersleben, G., & Karmiloff-Smith, A. (2013). Narrowing perceptual sensitivity to the native language in infancy: Exogenous influences on developmental timing. *Behaviour Sciences*, 3, 1–13.
- Eryigit-Madswamuse, S., & Barnes, J. (2013). Is early center-based child care associated with tantrums and unmanageable behavior over time up to school entry?. *Child and Youth Care Forum*, 42(2), 101–117. doi: 10.1007/s10566-012-9193-7
- Fox, J., Cooper, R. P., & Glasspool, D. W. (2013). A canonical theory of dynamic decision-making. *Frontiers in Psychology*, 4:150. doi: 10.3389/fpsyg.2013.00150
- Fuentes, C. T., Pazzaglia, M., Longo, M. R., Scivoletto, G., & Haggard, P. (2013). Body image distortions following spinal cord injury. *Journal of Neurology, Neurosurgery, and Psychiatry*, 84, 201–207.
- Haggard, P., Iannetti, G. D., & Longo, M. R. (2013). Spatial sensory organization and body representation in pain perception. *Current Biology*, 23, R164–R176.
- Hall, J., Sylva, K., Sammons, P., Melhuish, E., Siraj-Blatchford, I., & Taggart, B. (2012). Can preschool protect young children's cognitive and social development? Variation by center quality and duration of attendance. *School Effectiveness and School Improvement: An International Journal of Research, Policy and Practice*. doi: 10.1080/09243453.2012.749793
- Krishnan, S., Leech, R., Aydelott, J., & Dick, F. (2013). School-age children's and adults' identification of environmental sound objects in natural auditory scenes. *Hearing Research*. doi: 10.1016/j.heares.2013.03.003
- Lange, N. D., Thomas, R. P., Buttaccio, D. R., & Davelaar, E. J. (2012). Catching a glimpse of working memory: Top-down capture as a tool for measuring the content of the mind. *Attention, Perception & Psychophysics*, 74, 1562–1567.
- Lange, N. D., Thomas, R. P., Buttaccio, D. R., Illingworth, D. A., & Davelaar, E. J. (2013). Working memory dynamics bias the generation of beliefs: The influence of data presentation rate on hypothesis generation. *Psychonomic Bulletin & Review*, 20, 171–176.

# Publications *cont'd*

## Articles *cont'd*

- Longo, M. R., & Sadibolova, R. (2013). Seeing the body distorts tactile size perception. *Cognition*, 126, 475–481.
- Mancini, F., Longo, M. R., Canzoneri, E., Vallar, G., & Haggard, P. (2013). Changes in cortical oscillations linked to multisensory modulation of nociception. *European Journal of Neuroscience*, 37, 768–776.
- Melhuish, E., Quinn, L., Sylva, K., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2012). Preschool affects longer term literacy and numeracy: Results from a general population longitudinal study in Northern Ireland. *School Effectiveness and School Improvement: An International Journal of Research, Policy and Practice*. doi: 10.1080/09243453.2012.749796
- Plomin, R., Haworth, C. M. A., Meaburn, E. L., Price, T. S., Wellcome Trust Case Control Consortium, & Davis, S. P. (2012). Common DNA markers can account for more than half of the genetic influence on cognitive abilities. *Psychological Science*. doi: 10.1177/0956797612457952
- Robinson, E. B., Lichtenstein, P., Anckarsater, H., Happe, F., & Ronald, A. (2013). The female protective effect against autistic behavior: Evidence from two nationally-representative samples. *Proceedings of the National Academy of Sciences*. doi: 10.1073/pnas.1211070110
- Sammons, P., Hall, J., Sylva, K., Melhuish, E., Siraj-Blatchford, I., & Taggart, B. (2012). Protecting the development of 5–11-year-olds from the impacts of early disadvantage: The role of primary school academic effectiveness. *School Effectiveness and School Improvement: An International Journal of Research, Policy and Practice*. doi: 10.1080/09243453.2012.749797
- Sutcliffe, A., Barnes, J., Belsky, J., Gardiner, J., & Melhuish, E. (2012). Health of children born to older mothers in the UK. *Archives of Disease in Childhood*, 97(S1), A98–A99. doi:10.1136/archdischild-2012-301885.233
- Taylor, M. J., Charman, T., Robinson, E. B., Plomin, R., Happe, F., Asherson, P., & Ronald, A. (2013). Developmental associations between traits of autism spectrum disorder and attention-deficit/hyperactivity disorder: A genetically-informative, longitudinal twin study. *Psychological Medicine*. doi: 10.1017/S003329171200253X
- Trzaskowski, M., Eley, T. C., Davis, O. S. P., Doherty, S. J., Hanscombe, K. B., Meaburn, E. L., Haworth, C. M. A., Price, T., & Plomin, R. (2013). First genome-wide association study on anxiety-related behaviours in childhood. *PLoS ONE*, 8(4), e58676.

## Book Chapters

- Cooper, R. P. (2013). Action slips. In H. Pashler (Ed.), *Encyclopedia of the mind* (pp. 1758–1760). Sage.
- Davelaar, E. J. (2013). Sequential memory, computational perspectives. In H. Pashler (Ed.), *Encyclopedia of the mind*. Sage.
- Melhuish, E. C. (2013). Research on Early Childhood Education in the UK. In M. Stamm & D. Edelman (Eds.), *Handbuch Frühkindliche Bildungsforschung* (pp. 213–223). Wiesbaden: VS/Springer.

## Books

- Belsky, J., Barnes, J., & Melhuish E. (2013). *The National Evaluation of Sure Start: Does area-based early intervention work? (Japanese Edition)*. Tokyo: Tuttle-Mori Agency.
- Currie, C., Dyson, A., Eisenstadt, N., Jensen, B. B., & Melhuish, E. (2013). *A good start for every child: Final report of the Early Years, Family and Education Task Group for the WHO European review of social determinants of health and the health divide*. Copenhagen: WHO Europe.

## Grants, Awards, & Recognition

**Professor Ted Melhuish** received grants from the Department for Education: ‘Effective pre-school primary and secondary education 3–14 continuation to age 16’ (£112,000) and Cancer Research UK (£25,000).

**Dr Marie Smith** and **Professor Annette Karmiloff-Smith** received a grant from Leverhulme Trust: ‘Exploration of typical and atypical development of flexible face processing strategies’ (£112,203), with Dr Emily Farran (Institute of Education). Professor Karmiloff-Smith was also elected the first non-US-based board member of the Association for Psychological Science.



Department  
for Education



The Leverhulme Trust



## Invited Talks

**Professor Jacqueline Barnes** gave an invited talk entitled 'Implementing evidence-based practice: The formative evaluation of introducing the Nurse Family Partnership programme in England' at the Department of Health & Social Care, University of Greenwich, on 23 January.

**Dr Belinda Brooks-Gordon** was an invited speaker at the Edinburgh Festival's Skeptics on the Fringe event on 13 August 2012.

**Professor Annette Karmiloff-Smith** gave the following invited talks: a presentation entitled 'How can studying infants with Down syndrome inform Alzheimer's disease in adults' at the LonDownS Consortium Wellcome Trust Strategic Grant Launch Conference on 29 January; a presentation on work/life balance to the SWAN-Athena group at Birkbeck on 25 February; a colloquium entitled 'Why adult neuropsychology cannot explain neurodevelopmental disorders' at Staffordshire University on 14 March; a Skype talk on 'Babies in

museums' for [Kids in Museums](#) on 18 March; and an invited talk at the Eisai Conference on Down syndrome on 28 March.

**Dr Matthew Longo** gave an invited lecture entitled 'Body representations underlying somatosensory information processing' at Johannes Gutenberg University, Mainz, Germany, on 29 January.

**Professor Ted Melhuish** gave a keynote address entitled 'Early years research and implications for policy-making: The UK experience' at a conference of the Research Council of Norway. For details please see the [council's website](#).

**Dr Angelica Ronald** gave her Spearman Medal award lecture entitled 'Seventy years since Kanner's account, what do we think causes autism in 2013?' at the British Psychological Society in Harrogate in April, and a departmental seminar on her research at the Anglia Ruskin University, Cambridge.



## Conference Activity

Davelaar, E. J., Lange, N. D., Thomas, R. P., & Buttaccio, D. R. (2012). A novel methodology to measure the content of the mind: Using top-down capture to investigate the dynamics of hypothesis generation. Paper presented at the 24th British Oculomotor Group Meeting, Kingston upon Thames, England.

## External Examining

**Professor Jacqueline Barnes** was an external examiner for the PhD of [Ratib Lekhal](#) entitled *The relationship between children's attendance in Norwegian childcare centers and language and behavioral development during early childhood* at the University of Oslo, Norway.

**Dr Belinda Brooks-Gordon** was an external examiner for the PhD of Jay Levy at the University of Cambridge.

**Professor Ted Melhuish** was an external examiner for a PhD on early interventions for institutionalised children at the Institute of Education.

# Media

**Dr Belinda Brooks-Gordon** was interviewed on Sky News about the scientific data on sexual offending. Dr Brooks-Gordon also took part in a debate on on Radio Cardiff with feminist author/comedian Kate Smurthwaite about research on lapdancing and Dissociative Identity Disorder.

**Professor Annette Karmiloff-Smith** was [interviewed by Jim Al-Khalili for BBC Radio 4's The Life Scientific](#) on 22 January.

**Dr Natasha Kirkham** was featured in [an article in the Birmingham Press](#) about the Silent Witnesses project, a collaboration with Theatre Centre led by **Dr Edward Barker** and Dr Kirkham which 'aims to help children deal with violence they may have witnessed in their community, on television or in computer games'.

**Dr Angelica Ronald** published an article entitled 'Comorbidity in autism spectrum disorder and ADHD' in the January/February 2013 edition of the *Carlat Report*, an American monthly newsletter that provides clinically relevant, unbiased information on psychiatric practice.



*Dr Belinda Brooks-Gordon in an interview on Sky News*



## Upcoming Talks

### Centre for Brain and Cognitive Development Seminar Series

1:00 PM on Tuesdays, Malet Street Building

30 April, Room B36

**Dr Naomi Dale** (Great Ormond Street Hospital)

'Social communication and autism vulnerability and visual impairment'

7 May, Room 534

**Dr Cat Sebastian** (Royal Holloway)

'Neural bases of emotion processing in typical and atypical adolescence'

18 June

**Professor Scott Johnson** (University of California, Los Angeles)

*Title and venue TBA*

25 May, Room B35

**Professor Jean Mandler** (University of California, San Diego)

'On defining image schemas'