



News

Simon Callow Talks about CCACE and The Disconnected Mind



In the last e-bulletin we reported on The Disconnected Voices event in London organised by the actor Simon Callow. In a recent article in the Times Simon Callow described the disintegration of his mother's personality as a result of Alzheimer's Disease, and his hopes of new research carried out at CCACE.

"I was able to spend a day with Deary and his team of exceptional scientists. The enthusiasm was palpable... I can think of no more urgent and important project for every one of us." Simon Callow, The Times, 15 Feb 2010.

You can view the full article by following this link (<http://tinyurl.com/yegxr83>).

Transformations: Life Portraits

CCACE and artist Linda Kosciwicz-Fleming will be presenting a public exhibition Transformations: Life Portraits on **22nd April 2010, 12 – 8 pm at Inspace, 1 Crichton Street, Edinburgh**. Transformations: Life Portraits explores the differences between individuals throughout their lives and the effect that these differences have on longevity and cognitive and physical changes. Based on images from members of the Lothian Birth Cohort of 1936, Transformations: Life Portraits, is a unique collaboration between artist Linda Kosciwicz-Fleming and the Centre part-funded by the University of Edinburgh College of Humanities and Social Sciences Knowledge Transfer fund. Do come along on the 22nd and see Linda's work. The exhibition will be followed by an afternoon invitation only workshop on 23rd April.



Scientific Workshop on Working Memory and Ageing

CCACE is holding a two day scientific workshop entitled "Working memory in healthy and pathological ageing" which is to be held on **30-31 March 2010 at 7 George Square, Edinburgh**. This event will involve talks and discussion from distinguished international researchers examining working memory and ageing including Professors Fergus Craik, Nelson Cowan and Alan Baddeley. A full programme and registration form can be found on the CCACE website. Attendance at this event is free but numbers are limited so registration is essential. Please return completed registration forms to Anna Sim (anna.sim@ed.ac.uk) by 14th March 2010. Undergraduate and MSc students are not eligible to attend.

Psychology of Individual Differences Society Launched

Prof Philip Corr has co-founded the British Society for the Psychology of Individual Differences (BSPID) with Prof Eammon Ferguson from Nottingham University. CCACE Scientific Administrator, Beverly Roberts is also on the founding committee. The society will further scientific enquiry within the general field of individual differences, including personality and intelligence, in the UK. It also aims to facilitate theoretical, basic and applied fields, and will work to achieve an integration of the psychology of individual differences and experimental, cognitive, and social psychology. The society holds periodic meetings at which papers are read and discussions held, and also acts as a forum for the exchange of ideas and findings. The **BSPID inaugural conference** is being held in Edinburgh on the **28th April** where Ian Deary is giving the keynote lecture. A full programme, registration form and abstract submission form can be found at www.bspid.org.uk. Deadline for registrations and abstracts is 24th March.



I'm a Scientist, Get me out of Here!

CCACE Associate Member Dr Lorna Houlihan is taking part in a project that gets school students talking to real scientists online. According to their website, I'm a Scientist, Get me out of Here! is "like school science lessons meet the X Factor". Lorna will be answering questions online from 15th March until evicted, but if she is the last scientist she will win a prize of £500. This Wellcome Trust-funded project aims to break down barriers, have fun and learn. This is the only event in the world where school students choose which scientists win money. Last year the competition was won by CCACE Associate Member Dr Gillian Hamilton. We wish Lorna the best of luck.



Science Festival 2010

Ten things I hate about your personality... and mine. and vice versa

CCACE Director, Professor Ian Deary will present 'Ten things I hate about your personality... and mine. and vice versa' on **Saturday 10 April 2010 at 2pm at the Informatics Forum, Crichton Street**. Tickets are £7.00 and available at <http://tinyurl.com/yldzdu3>. The talk will explore what makes you the person that you are. What are the traits by which people differ, how do they come about, and why do they matter? Find out how your brain shaped your personality, what your parents did to it, if you are stuck with it, how it can go wonky, and whether it could kill you!! Professor Deary will tell you about modern discoveries in personality research. Attendees are encouraged to visit <https://www.ccace.ed.ac.uk/ipip50.dll> to fill in a short personality questionnaire prior to the talk.

Stay Sharp! @ Discover Science

CCACE will present Stay Sharp! at the National Museum of Scotland as part of the University's Discover Science programme. Stay Sharp will show families how our brains change as we get older; how we study this in the Lothian Birth Cohort and what they can do to Stay Sharp! Children will explore the brain in the brain scan experience, play block head memory game and even do some genotyping using no more than a clothes line and some clothes pegs! 'Meet the Medics and Vets' is a free, drop-in event for ages 5+ at the **National Museum of Scotland, Hawthornden Court** and will run **12-17 April 2010, from 10 am until 5 pm**.

What are Scientists Made of? The Same as You!

CCACE is also contributing to the Medical Research Council lab at the City Arts Centre. The CCACE activity here is designed to introduce children to mind-body associations while allowing them to explore a real experiment in a fun and engaging way. Building on previous work at the festival, children and adults will explore science through four linked activities: reaction time, body symmetry, grip strength and handedness. This is a real experiment, so it is furthering research at the same time. What are Scientists Made Of? The Same as You! at the **City Arts Centre** will run **3-17 April, except 11 April 2010 (9.30 am-4.30 pm)**.

New UK Brain Banks Network

As brain disorders such as Alzheimer's and Parkinson's diseases become more prevalent, the need for effective treatment also grows. Research in this area has previously been hampered by a lack of suitable brain tissue, but the Medical Research Council (MRC) has been working with brain banks across the UK to develop a new UK Brain Banks Network to share and supply good quality human brain tissue for research.

The tissue is of a very high quality, thanks to more efficient tissue handling and storage, ensuring that it is good enough for the latest research techniques. The Network is collecting healthy, as well as diseased, tissue from donors of all ages and some brains from outwardly healthy donors show very early signs of disease, allowing comparisons with tissue from end-stage disease sufferers. Brain banks can also now obtain general approval from the National Research Ethics Service, so individual studies don't necessarily need separate ethical approval.

To find out more about the UK Brain Banks Network and how to access good quality human brain tissue for your research, go to www.mrc.ac.uk/brainbanksnetwork.

CCACE Becomes a member of the PHSRN



CCACE is now a member of the MRC Population Health Sciences Research Network (PHSRN). The PHSRN is a network of Medical Research Council research units and centres which aims to bring together and add value to the MRC's existing investments in public health, health services and epidemiology research. The PHSRN currently has twelve members, whose Directors comprise the network's management Board. The PHSRN funds research workshops and projects with a focus on methodological knowledge transfer. To apply for PHSRN funding you must be employed in one of the member units or centres. For more information see www.populationhealthsciences.org/.

getBALANCED Workshops

CCACE and Edinburgh neuroscience have just completed 21 workshops to Secondary 3 and 4 students in 6 schools. Many thanks to all those who volunteered as demonstrators. In 3 months we took the Edinburgh University getBALANCED workshop to over 350 pupils across Edinburgh. Edinburgh Beltane Artist in Residence Fionna Carlisle captured the workshops in a series of sketches over 3 separate days. Fionna took on the challenge of capturing her constantly moving subjects in minutes rather than the hours and days she would normally devote to her subjects. Fionna said "This was a very interesting experience for me. The challenge was not only to draw very quickly, observe the workshop but also to listen to all the fascinating discussion about the brain and balance."



Professor John Starr talks about the brain



Callum Johnston demonstrating

Dr René Möttus

CCACE is pleased to announce its first external capacity-building postdoc Dr René Möttus, who will be joining the Centre in May for two years, based at 7 George Square. René has received a University of Tartu award given each year to a young researcher for continuing studies outside of Estonia. René has been working on personality-intelligence interface, person perception and personality stereotypes, cross-cultural personality research, the ability of personality traits and IQ in predicting maladaptive outcomes such as antisocial behavior or gambling. At CCACE, he hopes to contribute to research on causes, correlates and consequences of cognitive ageing. Some more information about René can be found at www.renemottus.edicypages.com.

Virtual 3D Brain Experience

CCACE core staff Jack Nissan and Dave Liewald are collaborating with Centre Member Professor Neil Roberts from the Clinical Research Imaging Centre (CRIC) in a pilot project to build a 3D brain as an interactive exhibit for science festivals, science centres, schools and other educational outlets. The viewer will put on 3D glasses and see a life size, 3D brain suspended in front of them, which they can rotate and manoeuvre in any way they like. They will be able to view the brain's cortex and internal structures from different angles and travel through the brain. Different structures could then be clicked on to highlight the structure and reveal a description of the structure's function. The 3D brain will be useful as an engaging and entertaining exhibit and as an educational tool in a variety of settings. In the future, it is hoped to use the 3D brain to model MRI scans of real brains, to provide an interactive illustration of the ageing brain and other research at CCACE. Pilot funding for the project has been provided by the Alzheimer's Research Trust Network.

Teaching/Training

An Introduction to Cognitive Genetics

CCACE has introduced a new short course designed and taught by the Centre's geneticist (Dr Sarah Harris) and other CCACE members. This half day course, "An Introduction to Cognitive Genetics", will provide an introduction to genetics when applied to cognition and ageing and will also cover topics such as behavioural genetics, linkage and association methodology and will provide examples of studies where this type of methodology is used. The first course will be held at the **Wellcome Trust Clinical Research Facility at the Western General Hospital** on the **18th March, 9am-1pm**. Please note this course is now full but a waiting list available for future courses, contact ccace@ed.ac.uk.

Dr Mike Allerhand's R Course

R is an open-source free computer programming language and a highly interactive environment for statistical computing and graphics. This course takes a tutorial and interactive approach that encourages attendees to write their own R programs and perform analyses. The course outcome will be a foundation for fluency in R programming, and an insight into the capabilities of the language as a productivity tool for data manipulation and statistical analyses. The next available course in March is fully booked. However, places are still available for the course scheduled for **3-5 May**. An application form can be found at www.ccace.ed.ac.uk.

Certificate in Ageing for Medical Scientists

From September 2010 the Centre is offering a 1 year Certificate in Ageing for Medical Scientists taught by distance learning. The course will be aimed at clinicians with an interest in ageing and will consist of three main aspects: i) four modules covering cognitive epidemiology, human cognitive ageing, neuroendocrine aspects of cognitive ageing and animal models of cognitive ageing and neural health; ii) three 2-day meetings covering research methodologies of genetics, statistics and brain imaging of ageing and practical skills such as research management, recruitment and statistical analysis, and iii) a small research project on a topic of choice. The course takes a study-centred approach with online learning points using published research articles. Assessment is through weekly assignments based on different published studies (MCQ-based) and a small final project. For further information please contact either John Starr, course organiser, or Beverly Roberts, course administrator.

PhD Studentships

Applications have now closed for the 2010 CCACE PhD studentships. There was a good response to the call for applications. Two PhD studentships are available to start in September 2010.

Talks & Meetings

The Good, the Bad and the Ugly of Neuroscience in Education, Sergio Della Sala at The Edinburgh Lectures

Sergio Della Sala, Professor of Human Cognitive Neuroscience and CCACE Research Member presented [The good, the bad and the ugly of neuroscience in education](#) on 23rd February 2010 at the Playfair Library as part of this year's Edinburgh Lectures programme. The Edinburgh Lectures aim to present thought-provoking, challenging and inspiring talks which focus on how the physical, political, commercial and cultural issues shape Scotland and its people.

Professor Della Sala suggests that "Some enthusiastic educationalists have over-simplified the findings from neuroscience... Science (Neuroscience) investigates, describes, interprets, but should never be prescriptive. Educationalists and pedagogues should evaluate the accruing results from neuroscience research with considerable caution and scepticism and perhaps develop an evidence based science of Education."

CogWorks, Queens University Belfast

Beverly Roberts represented the CCACE at the CogWorks conference at Queens University in Belfast on 25th February. CogWorks is an international network of researchers funded under the 2nd phase of the Lifelong Health and Wellbeing initiative. The cognitive health and wellbeing hub is a multidisciplinary network with the goal of identifying interventions that promote healthy cognitive ageing and independence in later life. The conference was attended by around 150 people including academics, policy makers and lay individuals and was a show case for the work achieved by CogWorks over the past year. Beverly was invited, on behalf of the CCACE, to attend the conference to showcase our new banners and set up a leaflet stand displaying the work we do in Edinburgh. It was an extremely fruitful meeting with many delegates showing a great interest in the CCACE.

The logo for CogWorks, featuring the word "CogWorks" in a green, sans-serif font. The letter "o" in "Cog" is replaced by a green gear icon. The logo is positioned between two horizontal green lines.

Exercise and stroke: a Systematic Review

CCACE-funded 4 Year PhD student Lesa Longley has had an abstract accepted for poster presentation at the upcoming European Stroke Conference in Barcelona. This resulted from Lesa's 1st year (MSc) mini-project. The title is "Exercise and stroke: a systematic review of studies using animal models", L A Longley, M R Macleod, E S Sena and G E Mead.

Neuroscience Day 2010 registration is open, details can be found at: www.edinburghneuroscience.ed.ac.uk/NeuroscienceDay/2010

ISMRRM – ESMRMB Joint Annual Meeting in Stockholm.

CCACE Members will have a strong representation at this year's International Society for Magnetic Resonance in Medicine and European Society for Magnetic Resonance in Medicine and Biology (ISMRRM – ESMRMB) Joint Annual Meeting in Stockholm. The posters are:

Muñoz Maniega S, Bridson JD, Ang J, Armitage PA, Murray C, Gow AJ, Bastin ME, Deary IJ, Wardlaw JM. 'Quantitative comparison of automatic and manual tract segmentation methods'

Muñoz Maniega S, Penke L, Valdés Hernández MC, Murray C, Royle NA, Gow AJ, Clayden JD, Starr JM, Bastin ME, Deary IJ, Wardlaw JM. 'Multiparametric study of white matter integrity and cognition in old age'

Bastin ME, Valdés Hernández M, Muñoz Maniega S, Murray C, Gow AJ, Armitage PA, Wardlaw JM, Deary IJ. 'Magnetization Transfer and Spin-Lattice Relaxation Time Measurements of White Matter Lesions in Normal Aging'

Valdés Hernández M, Penke L, Muñoz Maniega S, Murray C, Royle N, Gow AJ, Starr JM, Bastin ME, Deary IJ, Wardlaw JM. 'White matter lesion intensity and cognitive ability: relationships in youth and old age'

Publications & Press Coverage

Stress increases risk of memory impairment in older diabetics

Dr Rebecca Reynolds and colleagues in the Centre for Cardiovascular Sciences, working with Ian Deary, have published research that indicates that high levels of cortisol (a hormone produced by stress) can result in increased cognitive decline in older diabetics. See <http://tinyurl.com/yq59cl3>. The original paper appears in *Diabetes Care* (advanced online publication Jan 2010) and is part of the Edinburgh Type 2 Diabetes Study CCACE led by Jackie. The Edinburgh Type 2 Diabetes Study is going into the field again soon with CCACE Core Staff Member Jack Nissan doing the cognitive training.

Low IQ linked to heart disease risk

A CCACE study has shown that low IQ is one of the strongest predictors that someone will suffer with heart disease. The study was carried out on over 1,000 men and women in Scotland and was led by Dr David Batty, CCACE Group Leader. Dr Batty, based at the MRC research unit in Glasgow, said it may be that people with low IQ are less likely to follow a healthy lifestyle or that they had suffered problems early in life that affected both their intellect and their health. Other experts said the findings may mean that public health messages need to be simplified. This finding has been reported worldwide including [The Scotsman](#), the [Daily Telegraph](#), [ABC News](#), the [New York Times](#) and [Business Week](#).

Batty *et al.* (2010). Does IQ predict cardiovascular disease mortality as strongly as established risk factors? Comparison of effect estimates using the West of Scotland Twenty-07 cohort study. *Eur J Cardiovasc Prev Rehabil* [Epub ahead of print].

Review: The neuroscience of human intelligence differences. Deary, Penke & Johnson.

Neuroscience is contributing to an understanding of the biological bases of human intelligence differences. This work is principally being conducted along two empirical fronts: genetics - quantitative and molecular - and brain imaging. Quantitative genetic studies have established that there are additive genetic contributions to different aspects of cognitive ability - especially general intelligence - and how they change through the lifespan. Molecular genetic studies have yet to identify reliably reproducible contributions from individual genes. Structural and functional brain-imaging studies have identified differences in brain pathways, especially parieto-frontal pathways that contribute to intelligence differences. There is also evidence that brain efficiency correlates positively with intelligence.

Nature Reviews Neuroscience (Published online 10 Feb 2010).

Other Centre News

Congratulations to:

Professor Sergio Della Sala has been elected Fellow of the APS (Association for Psychological Science).

Dr Catharine Gale has been appointed Reader at University of Southampton.

Dr Lars Penke, CCACE research member, will take up a lectureship in Psychology in January 2011.

Professor Ian Deary has received an Alumni Achievement Award from Glasgow Caledonian University.

Dates for your diary

10th March 2010. CCACE Members Strategy Meeting. 2.00 – 5.00 pm. Room B21, 7 George Square. followed by a drinks reception. Designed to give CCACE members the opportunity for useful collaborations for future work but also to have general discussions on the coming year.

30th – 31st March 2010. CCACE Scientific Workshop. Room F21, 7 George Square, Edinburgh, EH8 9JZ

'Working memory in healthy and pathological ageing' Registration forms available at www.ccace.ed.ac.uk.

CCACE SEMINARS

7th April 2010. 'Causes and consequences of dementia and the contribution of neuroimaging' Professor John O'Brien, Institute for Ageing and Health, Newcastle University.
5pm (followed by wine reception). Open to all.
Room F21, 7 George Square, Edinburgh, EH8 9JZ

12th May 2010. 'Memory consolidation: Synaptic tagging and mental schemas' Professor Richard Morris, Centre for Cognitive and Neural Systems, University of Edinburgh
5 pm (followed by wine reception). Open to all.
Room F21, 7 George Square, Edinburgh, EH8 9JZ

7th September 2010. 3rd ANNUAL RESEARCH DAY

1.00 pm – 5.00 pm (followed by wine reception). Open to all
Room F21, 7 George Square, Edinburgh, EH8 9JZ

KEYNOTE LECTURE 1.30 pm 'The changing role of genes in cognitive ageing' Professor Nancy Pedersen, Department of Medical Epidemiology and Biostatistics, Karolinska Institutet.

30th November 2010. ST ANDREWS DAY LECTURE

'Cognition and the Genome'. Professor Seth Grant, Sanger Institute, University of Cambridge.

5pm (followed by wine reception). Open to all.
Room F21, 7 George Square, Edinburgh, EH8 9JZ

Contact and news

If you have any news, planned events, new research grants, new prominent research papers, or media coverage of your work — or anything you want to tell us about — then please send the details to Robin Morton (robin.morton@ed.ac.uk) and we will include it in future Centre Newsletters.

Using the CCACE Core Staff

If you have a project or grant application that would benefit from the skills offered by any of the CCACE core staff please contact them directly or e-mail ccace@ed.ac.uk.

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