December 2011: New funding for child research

Clinical Psychologists within the CBSU's Emotion group have recently been awarded a £250,000 grant from the National Institute of Health Research (NIHR) "Research for Patient Benefit" programme to look at the treatment of post-traumatic stress disorder (PTSD) within 3-8 year olds. Their previous studies have shown that young children – contrary to popular belief – are just as susceptible as older children, teenagers and adults to experiencing psychiatric problems following traumatic events such as assaults and road traffic accidents. These reactions can, in some instances, last for months or even years – with a potentially huge impact on that child's later social functioning, academic success and mental health.

The importance of treating this reaction is clear. But how? Building on previous work Tim Dalgleish, Richard Meiser-Stedman and Anna McKinnon will look at how a form of psychological treatment called cognitive behavioural therapy (or "CBT") can be tailored for this vulnerable age group. The Cognition & Brain Sciences Unit has a long history of conducting research into CBT (mainly with depressed adults). These studies show time and again that the devil is in the detail – by identifying the particular mechanisms that maintain a psychiatric disorder, more effective and efficient treatments can be developed.

This new trial – dubbed "PYCES" (Parents and Young Children after Extreme Stress) – will not only look at whether PTSD can be successfully treated using a developmentally-tailored CBT programme, but also identify much more accurately the cognitive, biological and familial factors that put a young child at risk of this kind of psychiatric disturbance.

November 2011: CBU scientists develop new methods for assessing consciousness

Researchers working at the CBU have discovered a practical and cost-effective method for assessing whether some patients who appear to be in a vegetative state may actually be conscious, but simply unable to respond. Despite rigorous clinical assessment, a significant proportion of vegetative state patients are misdiagnosed. Recent studies have proven that a significant minority of these patients are consciously aware and, in some cases, their awareness of the outside world can be detected by functional magnetic resonance imaging (fMRI). While this solution is revolutionary in terms of patient care and facilitation, expense and accessibility prevent the wider use of assessing the majority of vegetative patients in this way. The new research shows that 19% of a group of patients who were entirely unresponsive and presumed to be vegetative were actually aware – a figure that exceeds previous estimates of the number of people with undetected awareness in the group.

Dr Damian Cruse, the lead author of the study and now at the University of Western Ontario in Canada, says:

"Our new method uses electroencephalography (EEG) which is relatively cheap, portable and widely available. This means that we can now go out into the community and visit patients in their residential care homes or hospitals and provide a more accurate diagnosis than was previously possible."

Professor Susan Gathercole, Director of the CBU, added:

"An accurate diagnosis is vital to enable doctors to provide the best treatment and care options available. We are very pleased that the Medical Research Council has been involved in this fascinating study, which brings us one step closer towards improving

diagnostic tools for patients thought to be in a vegetative state and pinpointing levels of awareness that were not previously possible."

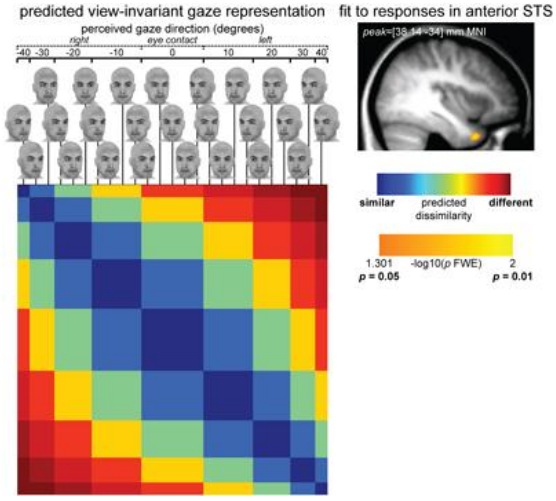
The researchers collaborated with colleagues from the Department of Clinical Neurosciences, University of Cambridge, and the Coma Science Group, University Hospital of Liège on this study. Their findings are published online in The Lancet.

November 2011: Closing date fast approaching for 2012 PhD positions

Applications are now being accepted for our three-year PhD positions, starting in October 2012. Full details on current research topics and potential supervisors are given on our website, and details on how to apply are given in our Postgraduate Study pages. We offer three fully funded MRC studentships for UK/EU candidates, and also welcome independently funded applicants. Students are registered with the University of Cambridge, and enjoy full college membership, as well as a wide range of university benefits. Here at the CBSU we offer in-house MEG, fMRI and EEG facilities, purpose-built behavioural testing laboratories, a broad panel of volunteers and superb computing, administrative and technical support, plus a lovely working environment. Online applications must be made by 1st December to be considered.

October 2011: To the brain, it doesn't matter how you look at it

To understand what other people are thinking and feeling it is often helpful to know where they are looking. Even though such gaze perception skills are important for social behaviour, it has been unclear how the brain codes the direction of another's gaze. In a new research study published in Current Biology, Johan Carlin and colleagues at the CBSU used functional magnetic resonance imaging to study how the brain responds when viewing gazing faces. Carlin used new analysis methods to show that a particular brain region in superior temporal sulcus responds to the direction of another person's gaze. This region responded to gaze regardless of how the person's head was turned, suggesting that this brain region could tell that the same gaze direction was being signalled by, for instance, a sideways glance and a turned head. This research provides important new insights into how the brain responds to where other people are looking. One day, such findings may prove useful in understanding the problems faced by people with clinical conditions such as autism.



October 2011: Barbara Wilson wins Ramon Y Cajal award

Barbara Wilson, long time member of staff at CBU and now a Visiting Scientist at the Unit has recently received the Ramon Y Cajal award from the International Neuropsychiatric Association for outstanding contributions to neuropsychiatry. Two previous winners were Vilayanur Ramachandran and Marsel Mesulam. Her award lecture was entitled "The past, present and future of

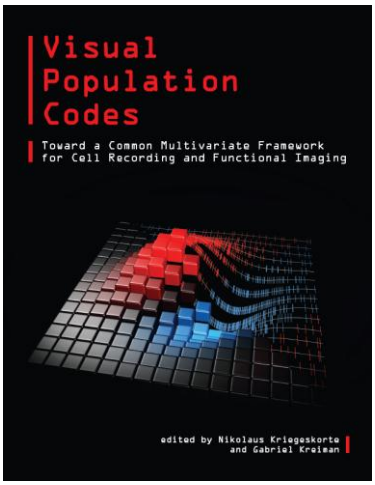
neuropsychological rehabilitation".

September 2011: CBU staff at British Science Festival

CBU scientists Tom Manly and Dean Mobbs got hip-hop as they joined a 'well cool crew' of artists and neuroscientists at a special event on 10th September at this year's British Science Festival in Bradford. Tom is the President of the British Science Association Psychology section and put together a discussion forum aimed at those with, and without, a specialized psychology/neuroscience background. Dean talked how fear occurs and develops in the brain whilst fiction author (and neuroscientist) Charles Fernyhough discussed tricks for a writer to develop suspense on the page and screen. Professor Sophie Scott of the Institute of Cognitive Neuroscience talked about speech production with illustrations of the amazing vocal dexterity of actor and impressionist Duncan Wisbey. Dr Zarinah Agnew (UCL) talked about motor skill learning, ably demonstrated by the current UK Beatboxing champion Patrick Hirst (aka Ball-Zee, pictured right), who gallantly stepped in a short notice for this well attended and received event. Watch his extraordinary skills here.

October 2011: CBU scientist authors new book on Multivariate Framework

The CBU's Nikolaus Kriegeskorte and Gabriel Kreiman of Harvard University edited the book "Visual Population Codes: Toward a Common Multivariate Framework for Cell Recording and Functional Imaging", which will appear in November with MIT Press.



The book is about the representation of visual information in populations of neurons. Although the concept of "population code" appeared decades ago in neurophysiological studies of brain function, the dominant approach to measurement and analysis has been to focus on one cell or imaging voxel at a time and characterise its selectivity. Over the past decade, researchers have begun to analyse the information in complex activity patterns across populations of neurons.

The book describes the advances brought on by this approach along with the methods that made them possible. It may serve as an introduction, overview, and reference for scientists and graduate students across disciplines who are interested in vision and, more generally, in understanding how the brain represents and processes information. The book is organised according to the flow of visual information from the retina to the highest stages of ventral-stream processing.

Contributors include Simon J. Thorpe, Sheila Nirenberg, Jasper Poort, Arezoo Pooresmaeili, Pieter R. Roelfsema, Yukiyasu Kamitani, Kendrick N. Kay, Jack L. Gallant, Shinji Nishimoto, Thomas Naselaris, Michael C. K. Wu, Anitha Pasupathy, Scott L. Brincat, Conor Houghton, Jonathan Victor, Hans P. Op de Beeck, Chou Hung, James DiCarlo, Nikolaus Kriegeskorte, Marieke Mur, Andrew C. Connolly, M. Ida Gobbini and James V. Haxby, Dwight J. Kravitz, Annie W.-Y. Chan, Chris I. Baker, Dirk B. Walther, Diane M. Beck, Li Fei-Fei, John-Dylan Haynes, Karl Friston, Kendra Burbank and Gabriel

Kreiman, Jed Singer, Gabriel Kreiman, Ethan Meyers, Stefano Panzeri, Robin A. A. Ince, Philipp Berens, Nikos K. Logothetis, and Andreas S. Tolias.

July 2011: The importance of wearing a cycle helmet, as told by a 6 year old

During Action for Brain Injury Week, CBU Scientist Fionnuala Murphy visited a local Cambridge primary to speak to 5- and 6-year olds about their brains. The children now know what their brains look like, that the wrinkly surface is called the cerebral cortex and that they are born with nearly 100 billion tiny brain cells, or neurons. They generated ideas about what their brains are for and learned that scientists describe the brain as 'plastic', meaning that it learns and changes with experience. For this reason, they agreed that it was a good idea not only to work hard at their maths and literacy but also to spend plenty of time running, playing, and creating things.

The children had fun drawing pictures to illustrate how they could protect their brains while cycling and scooting around Cambridge. Notice the helmets … as one child said succinctly, 'helmets protect your skin; your skin protects your skull; your skull protects your brain; and your brain is for clever thinking'.

July 2011: €1.5 million ERC grant for visual perception study

Nikolaus Kriegeskorte has been awarded a Starting Grant from the European Research Council for investigating our visual perception and recognition of real-world objects. Object recognition is a still poorly understood key problem of systems neuroscience and artificial intelligence. Whereas high-level cognitive abilities like proving mathematical theorems and playing chess can be replicated in computers at a level matching or exceeding humans, the simple act of naming the objects in a visual scene turns out to be a very hard engineering challenge.

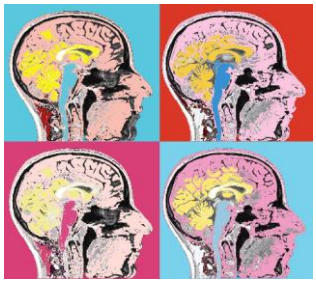
The €1.5 million grant includes funding for staff members in Cambridge and Oxford to investigate the sequence of representational stages underlying object recognition and what computational algorithms best explain the brain data. The central idea is to present the same real-world object images to human subjects and computer algorithms, have them perform closely matched recognition tasks on the images, and compare their internal representations, as measured with functional magnetic resonance imaging (fMRI).

At each stage of processing, a given image is thought to be represented by the pattern of activity across a population of millions of neurons. When one image, say a face, is replaced by another, say a different face or a car, the neuronal activity pattern changes. How much it changes reveals the "representational dissimilarity" of the two objects in a given brain region. In each region in the human brain, the investigators will measure the representational dissimilarity for each pair of object images presented. The pattern of these dissimilarities can then be compared between stages of processing, so as to understand the transformation of the representation as the visual information ascends the hierarchy of visual cortical areas. The pattern of representational dissimilarities can

also be compared between a given brain region and computational models as they process the same images, thus allowing the researchers to test the computational models. Finally, the representational dissimilarity pattern can be compared between corresponding functional regions in different subjects. This promises to elucidate what makes each of us unique in the way we perceive the world around us and has great long-term translational potential. One day we might understand how psychological and neurological disorders affect the way particular objects are represented in individual brains and apply this understanding in diagnosis and treatment.

The project's primary aim of elucidating the computational mechanism of object recognition has broad implications for how we perceive the world in health and disease. As a methodological spin-off, the project will further develop and translate into research practice the novel technique of representational similarity analysis, which bridges major divides in systems neuroscience, including that between the experimental field of brain-activity measurement and the theoretical field of computational modelling.

July 2011: Brain art from the CBU



Charlotte Rae, a first year PhD student at the CBU recently submitted the image seen here to a "Brain Art" competition at the Human Brain Mapping conference she attended in Canada earlier this year. Charlotte created the image of her own brain in the style of Andy Warhol's Marilyn, and the image has been picked by Scientific American as one of their favourite entries.

Congratulations to Charlotte on combining art and science with such style.

July 2011: The Oxford Handbook of Face Perception launched

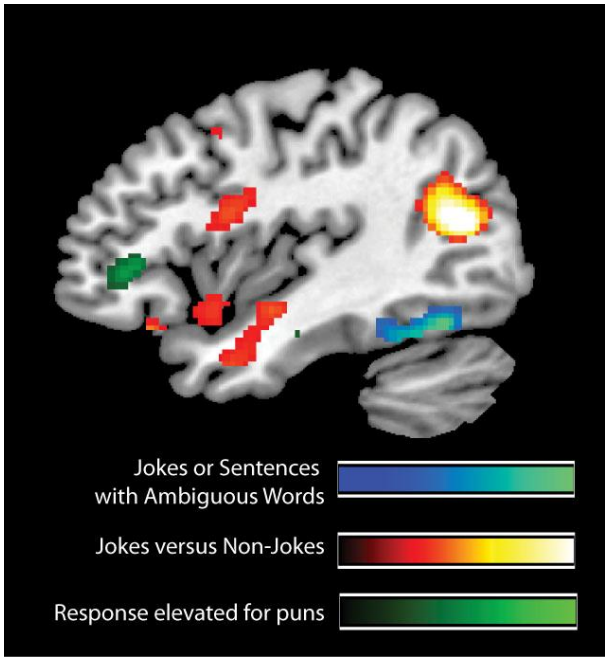
One of the CBU's Programme Leaders, Andy Calder, and other leading researchers in face processing research are proud to present The Oxford Handbook of Face Perception; an edited volume providing the most comprehensive and commanding review of this field ever published. The human face is unique among social stimuli in conveying such a variety of different characteristics. A person's identity, sex, race, age, emotional state, focus of attention, facial speech patterns, and attractiveness are all detected and interpreted with relative ease from the face. Humans also display a surprising degree of consistency in the extent to which personality traits, such as trustworthiness and likeability, are attributed to faces. In the past thirty years, face perception has become an area of major interest within psychology, with a rapidly expanding research base. Yet until now, there has been no comprehensive reference work bringing together this ever-growing body of research.

The Oxford Handbook of Face Perception looks at the functional and neural mechanisms underlying the perception, representation, and interpretation of facial characteristics, such as identity, expression, eye gaze, attractiveness, personality, and race. It examines the development of these processes, their neural correlates, congenital and acquired disorders resulting from their breakdown, and the theoretical and computational frameworks for their underlying mechanisms. With chapters by an international team of leading authorities from the brain sciences, the book is a landmark publication on face perception.

June 2011: Brain scan reveals how our brain processes jokes

A new study from CBSU Scientists Tristan Bekinschtein and Matt Davis and colleagues Jenni Rodd at University College London, and Adrian Owen at the University of Western Ontario has compared how the brain responds to ambiguous words in jokes and in sentences. Volunteers in the study activate reward areas in the mid-brain and striatum when hearing jokes but not when hearing normal sentences. This reward response increased with how funny the study participants found each of the jokes.

In addition to these reward areas the study also found a characteristic pattern of activity in language regions of the brain when the jokes used were puns. For example, 'Why don't cannibals eat clowns? Because they taste funny!' works because of the two meanings of the word 'funny'. Puns like this one activated the inferior frontal gyrus – an area involved in selecting between word meanings – more than jokes that didn't involve wordplay, or non-humorous sentences that contained words with more than one meaning. Brain areas involved in accessing word meaning, such as the inferior temporal gyrus, respond to ambiguous words both in jokes and sentences. This finding builds on previous fMRI work that used ambiguous words and sentences as a neural marker for comprehension in sedated individuals and vegetative patients. Here we show how brain processes involved in selecting the right meaning of spoken words contribute to the pleasure of getting a joke.



The research was funded by the MRC and the James S. McDonnell Foundation and is published today in the Journal of Neuroscience. 'Why clowns taste funny: the relationship between humour and semantic ambiguity' by T Bekinschtein, M Davis, J Rodd and A Owen will appear in the July 2011 issue of the Journal of Neuroscience.

May 2011: Ian Nimmo-Smith elected as Mayor of Cambridge

Long-serving and recently retired member of the CBU, Ian Nimmo-Smith has been honoured with the award of Mayor of Cambridge. Ian had long combined his work at the Unit with being a local councillor for over 20 years and was leader of Cambridge City Council for a record seven years. At the same time, Ian worked at the CBU for 40 years as Statistician and Methods expert and helped design many of the experiments we still use, ensuring both scientific rigour and statistical veracity. We are delighted Ian's long service to public life has been recognised with the mayorship and we wish him a happy reign. Local coverage here.

May 2011: Fellowship of the Royal Society for distinguished former member of staff - John Morton OBE FRS

John Morton worked at the Applied Psychology Unit (APU - previous name of the Cognition and Brain Sciences Unit) from 1960 to 1982. Throughout those twenty-two years he was at the forefront of the information processing revolution of psychology. This enormous intellectual shift moved experimental psychology out of behaviourism and into cognition. Morton is widely recognised as a pioneer of cognitive theories that explain and predict rather than describe and correlate behaviour. Whilst at the APU he provided an influential and lasting model of word recognition, the logogen model, which also served as inspiration for current models of face recognition. His other lasting contributions developed while at APU included the concept of Precategorical Acoustic Storage (PAS) in short term memory, the demonstration of so-called P-centres in spoken syllables as the critical psychological moment of speech perception, and the Headed Records theory of access to our longer term "episodic memory" system.

His applied work included advising the military and the Post Office on communications systems, researching speech therapy, pioneering very early work on human-computer interaction and researching the properties of recovered memories of trauma. Whilst here at Chaucer Road, he not only mentored numerous students and post-docs on theory development, but was the unit's leading fast bowler, and proved hard-to-beat at both croquet and bar-billiards.

Our bibliography contains one hundred and one of John's publications across a huge span of theoretical, empirical and applied issues. There are also several video-clips in our historical archive including talking about early work on human computer interaction in an APU film from 1972 "With People in Mind" as well as a more reflective talk on working at APU during our 2005 legacy conference.

On leaving the APU in 1982 he was appointed Director of The MRC Cognitive Development Unit in London where he carried out further ground-breaking work on cognitive development, and in particular infant face recognition. He is now retired but still actively contributes as a member of the Institute of Cognitive Neuroscience, University College London. He becomes the 9th member of our staff to become an FRS (http://www.mrc-cbu.cam.ac.uk/history/electronicarchive/fellowships.html). We all congratulate John on his election to this most prestigious fellowship.

April 2011: New findings on visual adaptation published

Visual adaptation is the change in the responsiveness of the visual system after prolonged viewing of a stimulus. For example, after a period of staring at motion in one direction, stationary objects appear to be moving in the opposite direction (see 'The Waterfall Illusion').

Adaptation is also found for more complex objects, such as images of faces or bodies. This type of adaptation can be measured using brain imaging, and appears as a reduction in brain activation to repetitions of the same stimulus. This can also occur even when the same stimulus is shown at different sizes or from different angles. However, the mechanisms that cause this reduced activation are not known.

One theory is that it reflects fatigue, resulting from the same population of brain cells being repeatedly activated. An alternative suggestion is that the brain works in a hierarchical manner, with higher-level regions continually making sense of input from lower-level regions. Thus, when input is more predictable, such as when it is repeated, the higher-level region causes activity in a lower-level region to become suppressed.

To investigate which explanation is correct, we used a technique known as Dynamic Causal Modelling. This allows us to examine how different brain regions interact or communicate during adaptation. When repeating images of the same stimulus (across changes in size or view), we found a higher-level region had an increased influence on activity in the lower-level region. These findings suggest that the reduced activation in a given brain region associated with adaptation does not necessarily mean the cells in that region are being fatigued, instead, top-down modulation may play a critical role. If this is correct, then it has major implications for the interpretation of numerous adaptation studies which have assumed that the fatigue explanation is correct.

Our study also found that changes in forward connectivity (i.e. lower-level region influencing higher-level region) only occurred when repeating a stimulus that did not vary in size or view, suggesting that different mechanisms may underlie different types of adaptation.

Ewbank, M.P., Lawson, R.P., Henson, R.N., Rowe, J.B., Passamonti, L. & Calder, A.J. (2011) Changes in 'top-down' connectivity underlie repetition suppression in the ventral visual pathway. Journal of Neuroscience, 31(15), 5635-5642.

April 2011: Successful Social Brain workshop held at Chaucer Road

On April 12 and 13th, the Cognition and Brain Sciences Unit hosted a successful two-day workshop on the Social Brain. Organized by Dean Mobbs of the CBU, with Trevor Robbins and Ian Goodyer, from the University of Cambridge, the MRC-funded workshop examined the evolutionary, developmental, theoretical and translational seminars in the field of social neuroscience. The workshop, which was heavily oversubscribed, included some of the most world's most distinguished researchers in the field of cognitive neuroscience. including speakers from UCL, Cambridge, Harvard, Stanford, Cal Tech, Oxford, UCLA, Zurich and the Max Planck Institute. Highlights included exciting research into the neural basis of out-of-body experiences, real moral decision making, empathy, social networks and included a final group discussion mediated by Prof. Nicholas Humphrey.

April 2011: Scans reveal differences in brain structure in teenagers with conduct disorder

Brain scans of aggressive and antisocial teenage boys with conduct disorder (CD) have revealed differences in the structure of the developing brain that could link to their behaviour problems.

The study, by scientists at the MRC Cognition and Brain Sciences Unit, and the Department of Psychiatry reveals that the brain differences were present regardless of

the age of onset of the disorder, challenging the view that adolescence-onset CD is merely a consequence of imitating badly behaved peers.

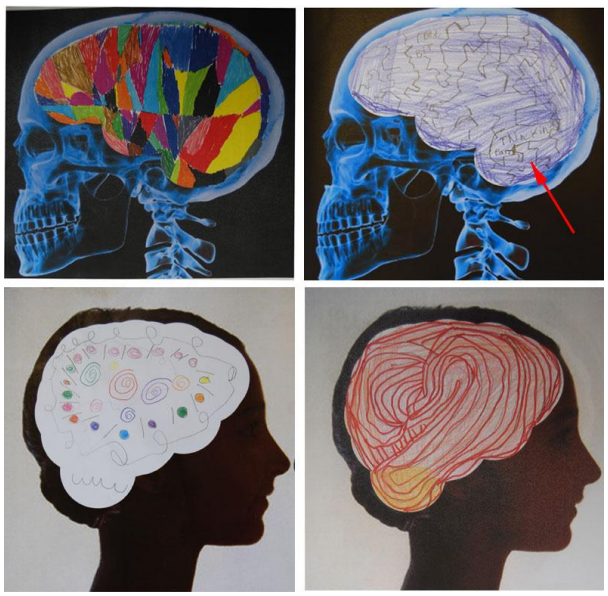
CD is a psychiatric condition characterised by increased aggressive and antisocial behaviour. It can develop in childhood or in adolescence and affects around five out of every 100 teenagers in the UK. Those affected are at greater risk of developing further mental and physical health problems in adulthood.

Dr Andy Calder from the MRC Cognition and Brain Sciences Unit, who co-led the research, commented: "Studies such as this are tremendously important in understanding the causes of conduct disorder. Only when we are confident that we understand why the disorder develops can we apply this knowledge to the further development and evaluation of treatments. The disorder has a devastating impact on families and communities, and at the moment, we have few effective treatments."

The group have previously shown that individuals with both forms of conduct disorder display abnormal patterns of brain activity, but this new work marks an important advance in understanding the biology of aggression and violence by showing that differences in brain structure are linked to the disorder.

The new research was funded jointly by the Wellcome Trust and the Medical Research Council. The study is published in the American Journal of Psychiatry.

March 2011: Youngsters get a feel for brains



James Rowe, CBU Program Leader and Wellcome Trust Senior Research Fellow, learned all about 'The Amazing Brain' with year 1,2 & 3 children at local primary school, Newnham Croft, during the recent Cambridge Science Festival. The children now know all about what our brains are for, and how we can look after them, and what our amazing brains might look like. They investigated the reflexes controlling our legs, and eyes, and all had fun with the Stroop test together. Thanks to a local butcher they were also able to see and feel some real brains - finding out how squashy and fragile the brain is, and seeing the shapes and swirly patterns. Alongside are some of the pictures they drew to show what their own brain might look like - James especially liked the localisation of the "thinking part" which is the subject of his research at the CBU!

March 2011: CBSU Science evening coming soon

An entertaining and educational evening of demonstrations and lectures at the CBSU is planned for Wednesday 23rd March. Our annual science open evening this year titled "A window on the brain" will be held as part of the Cambridge Science Festival and will feature lectures from three of our leading scientists highlighting our varied research, plus the chance to take part in some of our experiments exploring how the mind and brain work, with time to meet the scientists and students doing the research. Hands on activities will run for the first hour, followed by three short talks. See here for a full programme of our talks. For more on the Cambridge Science Festival and the numerous events happening in Cambridge over the fortnight visit the CSF website.

March 2011: Neuroscience insights improve neurorehabilitation of poststroke aphasia

Researchers at the MRC Cognition and Brain Sciences Unit (CBSU) have brought to fruit some of their more theory-guided research in the development of new methods for treating patients who have partly lost their language due to stroke. The condition, called *aphasia*, had once been believed to become stable and unimprovable one year after stroke. However, researchers at the CBSU have shown that, even several years after stroke, significant improvement of language performance emerged when a new type of intensive speech-language therapy, called "constraint-induced aphasia therapy" was applied for two weeks.

In a series of experimental studies, Professor Friedemann Pulvermuller, Programme Leader at the CBSU, and his team demonstrated that the language system of the human brain intensely interacts with the brain systems for motor and action control. Inspired by these Language-action links, they developed a new intensive method for language therapy, where language is embedded in and interwoven with overt bodily actions. The efficiency of the new method for intensive language action therapy has been demonstrated by randomised controlled trials. In a collaboration with Professor Marcelo Berthier at the University of Malaga, the method could recently be improved further by additional drug therapy with a glutamate inhibitor.

A recent publication in *Nature Reviews Neurology* summarised the state of the art in research on language therapy, especially highlighting the close link between theoretical and experimental work in the cognitive neuroscience of language and its translational implementation in intensive language action therapy of post-stroke aphasia.

Berthier, M. L., & Pulvermüller, F. (2011). Neuroscience insights improve neurorehabilitation of post-stroke aphasia. *Nature Reviews Neurology, 7*(2), 86-97.

March 2011: Tom Manly to perform stand-up comedy at Bright Club

CBSU scientist Tom Manly will perform stand-up comedy for the first time at the Bright Club "Big" event on the 15th March, 2011. Bright Club is a collaboration between comedy promoters One Green Firework, music promoters Duel in the Deep and University College London. It began as an experiment in combining comedians, musicians and scientists and has proved a huge success with events regularly outselling venue capacities.

The aim is for the scientists to put across their work or their field in an interesting, humorous and engaging way.

The Venue is the Wilmington Arms, Roesbery Avenue, Islington/Finsbury, London.

March 2011: The evolution of emotions

Phil Barnard, of the CBSU will give a talk exploring how memory, attention, language, body states and emotion work together in the normal healthy, human mind. This event is being held at local arts centre Wysing Arts on Thursday 17 March, 6-8pm, and is part of National Science & Engineering Week.

January 2011: Brain imaging reveals movement preparatory activity in vegetative state patients

Tristan Bekinschtein of the CBSU, together with colleagues from Argentina, has recently published the latest results for brain mapping of Vegetative State patients. A person in Vegetative State has no awareness of self or the environment but still seems to be awake, and the VS diagnosis relies on the absence of responses to simple commands. These patients usually show fragmented movement patterns and any voluntary actions may go unnoticed. In this study patients with a diagnosis of Vegetative State were asked to move their hands while scientists mapped their brain activity. Two patients of a sample of 24 showed brain activity in the hand premotor cortex, an area of the brain involved in the preparation and execution of voluntary movements. Despite the lack of overt muscle activity, movement preparation in response to a motor command is a sign of purposeful behaviour and these results are consistent with residual conscious awareness in these patients. Tristan says 'Identification of positive results using functional MRI scanning may complement the clinical assessment by helping attain a more precise diagnosis in patients with disorders of consciousness'.

Article published this week in Frontiers in Human Neuroscience journal - Functional imaging reveals movement preparatory activity in the vegetative state. Tristan A. Bekinschtein, Facundo F. Manes, Mirta Villarreal, Adrian M. Owen and Valeria Della Maggiore.

January 2011: Intuition – Should you trust your heart?

When faced with key decisions, we often follow our intuition—our self-described "gut feelings". Our ability to make hunch decisions varies considerably and intuition can either be a useful ally or it can lead to costly mistakes. A new study from Barney Dunn of the CBSU, recently published in *Psychological Science*, finds that the trustworthiness of our intuition is really influenced by what is happening physically in our bodies. "We often talk about intuition coming from the body - following our gut instincts and trusting our hearts. What happens in our bodies really does appear to influence what goes in our minds. We should be careful about following these gut instincts, however, as sometimes they help and sometimes they hinder our decision making," says Barney, first author of the new paper.

Read more here.