

THE BRAIN PRIZE  
RECOGNIZES AND  
REWARDS  
OUTSTANDING  
CONTRIBUTIONS TO  
EUROPEAN  
NEUROSCIENCE,  
FROM BASIC TO  
CLINICAL.

[WWW.THEBRAINPRIZE.ORG](http://WWW.THEBRAINPRIZE.ORG)

PROGRAMME

*The Brain Prize Meeting 2014*

*'Brain and Cognition – function and dysfunction'*

*Sunday 2 November 2014 until Tuesday 4 November 2014  
Hindsgavl Castle, Middelfart, Denmark*

*In collaboration with The Danish Neuroscience Schools  
and Danish Society for Neuroscience*

GRETE LUNDBECK  
EUROPEAN  
BRAIN RESEARCH  
FOUNDATION

THE  
BRAIN  
PRIZE

# THE BRAIN PRIZE WINNERS 2014



GIACOMO RIZZOLATTI

STANISLAS DEHAENE

TREVOR W. ROBBINS

**STANISLAS DEHAENE** I study how the human brain acquires and implements the symbolic processes that underlie language and mathematics. My laboratory clarified the role of two brain regions: the intraparietal sulcus for number sense and the left occipito-temporal cortex for word reading. We investigate how these regions change as a function of education, and how they interconnect to language areas, particularly during the processing of nested expressions, a function that may be unique to humans. We also attempt to clarify the mechanisms of consciousness by studying whether these cognitive processes can unfold with subliminal stimuli, and which brain events characterize conscious processing.

**GIACOMO RIZZOLATTI** I have at present three main lines of research. The first, carried out with a new type of multielectrode linear probes, concerns the laminar organization of the premotor cortex of the monkey and the characterization of the types of neurons that this area houses. The second line, run with Prof Guy Orban and the surgeons of the Epilepsy Center of the Niguarda Hospital in Milan, aims to study the organization of the premotor and parietal cortex in humans, and to describe the functional properties of human mirror neurons. This study is carried out using a new type of depth electrodes that allow the intracranial recording of single neurons from the parietal and frontal lobe. The third line of research concerns the study of action perception in typically developing children and children with autism. Behavioral tests and multichannel high density EEG are the techniques employed.

**TREVOR W. ROBBINS** My work focuses on functions of the frontal lobes of the brain and their regulation by the chemical monoamine neurotransmitter systems in humans and other animals. This work is relevant to neuropsychiatric disorders including schizophrenia, depression, drug addiction, obsessive-compulsive disorder (OCD), attention deficit/hyperactivity disorder (ADHD), as well as Parkinson's and Alzheimer's diseases. I devise and employ psychological paradigms for investigating cognitive functions including planning, decision-making, learning, attention and self-control, often with brain imaging. I am especially interested in mechanisms underlying possible cognitive enhancing effects of drugs and in understanding the causation and neural basis of drug addiction and impulsive-compulsive behaviour.

## BRAIN AND COGNITION - FUNCTION AND DYSFUNCTION

### SPEAKERS

#### Prize winners

**Stanislas Dehaene**, College de France, Paris, France, **Giacomo Rizzolatti**, University of Parma, Italy  
**Trevor W. Robbins**, Cambridge University, UK

#### Invited speakers

**Katie Overy**, University of Edinburgh, Edinburgh College of Art, UK, **Rainer Spanagel**, Heidelberg University, Germany, **Axel Cleeremans**, the Université libre de Bruxelles, Belgium, **Beatrice de Gelder**, Maastricht University, The Netherlands, **Karl Friston**, The Wellcome Trust Centre for Neuroimaging at UCL, UK, **George Koob**, NIH, USA, **Pierre Jacob**, Ecole Normale Supérieure, France.

### ORGANIZERS

Grete Lundbeck European Brain Research Foundation in collaboration with University of Copenhagen, University of Southern Denmark, Aarhus University and Danish Society for Neuroscience.

### SPONSOR

Grete Lundbeck European Brain Research Foundation is the sole sponsor of this meeting.

### PROGRAMME COMMITTEE

**Maurice Ptito**, University of Copenhagen, **Christian Gerlach**, University of Southern Denmark, **Peter Vuust**, Aarhus University and **Ida Hageman**, Danish Society for Neuroscience and University of Copenhagen.

### JUNIOR BRAIN PRIZE

A prize of 2.500 Euros will be awarded for the best presentation.

### CERTIFICATION

The meeting is certified by the University of Copenhagen, Aarhus University and the University of Southern Denmark as an external Ph.D. course worth 1 (one) ECTS point.

### ABOUT

Once annually Grete Lundbeck European Brain Research Foundation awards The Brain Prize - a € 1 mio. personal prize. The prize is awarded as an important part of the aim of the Foundation: - 'to boost interest in brain research and its results, to stimulate and reward outstanding brain research and to stimulate Danish research through an expanded interplay with other European brain research, and thus to improve the scientific basis for progress in the prevention, diagnostics and treatment of diseases and disorders of the brain and nervous system'.

For further information, please contact Janne Axelsen: [info@thebrainprize.org](mailto:info@thebrainprize.org)

# PROGRAMME

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## SUNDAY 2 NOVEMBER

09.00 – 10.00	Arrival at Hindsgavl Castle
	<b>Session 1 – Chaired by Peter Vuust</b>
10.00 – 10.05	Opening remarks by the vice-chair of the Foundation
10.05 – 10.50	Keynote Lecture by Giacomo Rizzolatti: ‘The emphatic brain’
10.50 – 11.15	Short invited lecture by Katie Overy: ‘The musical brain’
11.15 – 11.30	Coffee break
	<b>Session 2 – Chaired by Ida Hageman</b>
11.30 – 12.15	Keynote lecture by Trevor Robbins: ‘From impulsivity to compulsivity: Neural models of substance and behavioural addictions’
12.15 – 12.40	Short invited Lecture by Rainer Spanagel: ‘A clock gene based theory of addiction’
12.40 – 13.30	Lunch
	<b>Session 3 – Organized by Janne Axelsen and Kim Krogsgaard</b>
13.30 – 15.30	Science dating: Parallel sessions. In each session, eight participants will have a series of 10 minute’s ‘one on one conversations’.
15.30 – 15.45	Coffee break
	<b>Session 4 – Chaired by Maurice Ptito</b>
15.45 – 16.30	Keynote lecture by Stanislas Dehaene: ‘Mechanisms of consciousness: Decoding conscious codes and conscious states’
16.30 – 16.55	Short invited lecture by Axel Cleeremans: ‘Is consciousness something that the brain learns to do?’
16.55 – 17.15	Break
17.15 – 18.45	Poster session and refreshments
19.00	Dinner

## MONDAY 3 NOVEMBER

	<b>Session 5 – Chaired by Christian Gerlach</b>
09.00 – 09.45	Invited keynote lecture by Karl Friston: ‘Free energy and active inference’
09.45 – 10.00	Abstract no 1 – ‘The Effect of Oxytocin on Interpersonal Synchronization’
10.00 – 10.15	Abstract no 2 – ‘Broca’s region and visual word form area activation during a predictive stroop task’
10.15 – 10.30	Abstract no 3 – ‘Salience and Reward Prediction Error Abnormalities In People With First Episode of Psychosis and At Risk Mental States’
10.30 – 10.45	Coffee break
	<b>Session 6 – Chaired by Maurice Ptito</b>
10.45 – 11.30	Invited keynote lecture by Beatrice de Gelder: ‘Actions with conscious and unconscious intentions’
11.30 – 11.45	Abstract no 4 – ‘Dopamine signaling at the verge of breakdown: Computational insights in the cause of Parkinson’s disease’
11.45 – 12.00	Abstract no 5 – ‘Functional responses of the human brain to syllables prior to complete formation of cortical layers’
12.00 – 12.15	Abstract no 6 – ‘Brain metabolism and awareness in the minimally conscious and vegetative states’
12.15 – 13.00	Lunch
	<b>Session 7 – Chaired by Ida Hageman</b>
13.00 – 13.45	Keynote lecture by George Koob: ‘Neurocircuitry of addiction: A stress surfeit disorder’
13.45 – 14.00	Abstract no 7 – ‘Are reading and face processing related? A study of word processing in developmental prosopagnosia’
14.00 – 14.15	Abstract no 8 – ‘Structural brain connectivity fingerprinting as a new pre-surgical tool for deep brain stimulation target discovery’
14.15 – 14.30	Abstract no 9 – ‘Blind tasting: Cross-modal plasticity of the chemical senses’
14.30 – 15.00	Coffee break
	<b>Session 8 – Chaired by Peter Vuust</b>
15.00 – 15.45	Special Lecture by Pierre Jacob: ‘What is so special about human social cognition?’
16.00 – 18.00	Poster session and refreshments
19.30	Galla dinner
	<b>TUESDAY 4 NOVEMBER</b>
09.00 – 10.00	Departure Hindsgavl Castle

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## ABOUT HINDSGAVL CASTLE

The history of Hindsgavl Castle dates back to the 12th century, and the castle was mentioned for the first time in the Danish register of manors and estates by King Valdemar II in 1231 AD. At the time, the peninsular was royal hunting country, referred to as “Hegnet” (“The Enclosure”). Later, the king built a castle on a hill: “Hegnets gavl” (“The Enclosure’s Gable”). You can still see the spot where the original ruins are buried. A total of 550,000 m2 of gardens, park, meadow and forest surround Hindsgavl Castle.

Its surroundings are unique, and the park, forest and beach add a very special dimension to any event. The experience can only be put into words by a poet but can be appreciated and enjoyed by all. After a stay at Hindsgavl Castle in 1843, Danish author Hans Christian Andersen gushingly wrote in a letter to his friend, Henriette Wulff (here, loosely translated from the Danish):

*“Just behind Middelfart, and from a spot in the grounds, you have Funen’s - and perhaps Denmark’s - most beautiful view. You must see it. This place is as beautiful as a spot at Lake Melaren, the place of which it reminds me most. I will be frightfully upset if you do not see this adorable view!”*



## WHAT’S UP

**2-4 NOVEMBER**  
THE BRAIN PRIZE MEETING  
HINDSGAVL CASTLE

**17 NOVEMBER**  
SFN ANNUAL MEETING  
THE BRAIN PRIZE DINNER  
WASHINGTON DC, USA

**9 MARCH**  
ANNOUNCEMENT OF THE BRAIN PRIZE 2015  
AT 3PM CET  
LIVE STREAMED VIA THEBRAINPRIZE.ORG

**10 MARCH**  
PUBLIC LECTURE BY GIACOMO RIZZOLATTI

**19-22 APRIL**  
BRAIN CONFERENCE  
BRIDGING NEURAL MECHANISMS AND COGNITION  
RUNGSTEDGAARD, DENMARK

**6 MAY**  
PRIZE LECTURES BY WINNER(S)  
OF THE BRAIN PRIZE 2015  
THE ROYAL DANISH ACADEMY FOR SCIENCES AND LETTERS  
COPENHAGEN, DENMARK

**7 MAY**  
PRIZE AWARD CEREMONY  
THE BLACK DIAMOND  
COPENHAGEN, DENMARK

## TRAVEL GRANTS

To current and previous winners of The Brain Prize and to Danish neuroscientists

We are pleased to announce that Lundbeck Foundation welcomes applications for research grants from researchers from Danish biomedical research groups who have agreed with Brain Prize winners to conduct Ph.D. projects or postdoc projects at the laboratories of the Brain Prize winners.

Furthermore, Lundbeck Foundation welcomes applications for research grants from researchers from Brain Prize winners’ labs, who have agreed with Danish Research groups to conduct Ph.D. projects or postdoc projects in Danish research labs.

The call for applications applies to research collaborations agreed upon with current as well as previous Brain Prize winners.

*You may apply for the following types of support:*

- Lundbeck Foundation Ph.D.-scholarships - projects in prize winners’ labs or projects in Danish labs - the application must be submitted by the supervisor

- Lundbeck Foundation Postdoc abroad – projects in prize winners’ labs
- Lundbeck Foundation Postdoc – visiting postdocs from prize winners’ labs who wish to conduct research in Danish labs

*Please note that:*

- Applications for Ph.D. scholarships and postdocs abroad must include written and signed agreement/invitation from the Brain Prize winner in question.
- The projects must have a clear biomedical angle and a clear research plan.
- The projects must be eligible for support from Lundbeck Foundation

All applications are evaluated by Lundbeck Foundation’s Biomedical Science Committee in competition with applications from other national or international groups.

All applications must be submitted via Lundbeck Foundation’s electronic application system.

Deadlines for applications can be found at [www.lundbeckfonden.com](http://www.lundbeckfonden.com)