

EUROPEAN BRAIN AND BEHAVIOUR SOCIETY

39th Annual General Meeting
Trieste, September 15-19, 2007



Programme

hosted by



and



at Miramar

Saturday 15 September

9.00 – 10.30 *Registration* (in the ICTP Entrance Hall)

ICTP Main Lecture Hall – *Satellite Meeting*

Stress, Brain and Behaviour:

Recent developments

Organizers: Peter Dayan (Univ College London, UK), Eberhard Fuchs (German Primate Centre, Göttingen, Germany), Melly Oitzl (Univ of Leiden, Netherlands) & Carmen Sandi (EPFL, Switzerland)

10.30 – 10.40 Welcome & Introduction

10.40 – 12.20 I Translational Issues
Chair: Gernot Riedel (Univ of Aberdeen, UK)

C Pryce (Novartis, Switzerland) Neuropsychological assessment in non-human primates: contribution to understanding the physiological and pathological effects of stress in humans

L Nadel (Univ of Arizona, Tucson, USA) Stress and human explicit memory: effects on encoding, consolidation and retrieval

WF Deakin (Univ of Manchester, UK) Serotonin modulation of motivation, emotion and memory in humans: how, when and why?

Discussant: E Fuchs (Göttingen, Germany) The neurobiological consequences of stress – a translational approach

12.20 – 12.45 II Behaviour and Modelling
Chair: Bruno Poucet (Marseille, France)

P Dayan (Univ College London, UK) Computational models of aversive processing: serotonin, dopamine and stress

12.45 – 14.00 *Lunch break*

14.00 – 15.15 II Behaviour and Modelling

JJ Kim (Univ of Washington, Seattle, USA) A systems-level model of stress effects on cognition

G Luksys & C Sandi (Ecole Polytech Fed de Lausanne, Switzerland) The interaction between affective traits and stress in learning: Experiments and modelling

Discussant: R Dolan (Univ College London, UK)

15.15 – 15.40 *Coffee break*

ICTP Lecture Room C – *Technical workshops*

10.45 – 12.45

Neurochemistry of learning and behaviour "live" measurements by in vivo microdialysis

Organizers and Chairs: Michael Gruss (Univ of Magdeburg, Germany) and Inga Neumann (Univ of Regensburg, Germany)

A Veenema (Univ of Regensburg, Germany) Monitoring of neuropeptide release during social behaviours within distinct brain regions using microdialysis and behavioural manipulations using retrodialysis

G Pepeu (Univ of Florence, Italy) Acetylcholine release from the cerebral cortex and hippocampus during attention-requiring tasks

A Young (School of Psychology, Univ of Leicester) Dopamine release in nucleus accumbens during conditioning and latent inhibition

M Feenstra (Netherlands Inst for Neuroscience) Dopamine release in classical and instrumental conditioning.

12.45 – 14.30 *Lunch break*

Novel approaches to mouse behavioral phenotyping

Organisers: Sylvie Granon (CNRS, Inst Pasteur, Paris, France), Hans-Peter Lipp (Univ of Zurich, Switzerland), Enrico Alleva (Ist Superiore di Sanità, Rome, Italy)

Chair: Richard Morris (Univ of Edinburgh, UK).

14.30 – 15.30 Novel approaches I

E Dere (Heinrich-Heine-University, Düsseldorf, Germany) Measuring episodic-like memory in mice and rats

L Rondi-Reig (CNRS, College de France, Paris, France) The starmaze: a new paradigm to characterize multiple spatial navigation strategies

S Granon (CNRS, Inst Pasteur, Paris, France) Measuring behavioral flexibility in mice: evidence for prefrontal processes

15.30 – 16.00 *Coffee break*

ICTP Main Lecture Hall – *Satellite Meeting*

15.40 – 18.00 **III Pharmacology**

Chair: Gal Richter-Levin (Univ of Haifa, Israel)

G Flügge (German Primate Center, Göttingen, Germany) Impact of stress on gene expression related to serotonergic neurotransmission: regulation by the antidepressant citalopram

MS Oitzl (Univ of Leiden, Netherlands) Cognition and emotion: Antagonizing stress system activity in a mouse model of stress related disorders

F Thomson (Organon Pharmaceuticals, Switzerland and Netherlands) Innovative approaches for the treatment of depression: Targeting stress and the HPA axis

Discussant: T Steckler (Johnson & Johnson Pharmaceuticals, Belgium) Stress in depression – primary cause or epiphenomenon?

ICTP Lecture Room C – *Technical workshops*

16.00 – 17.00 **Novel approaches II**

HP Lipp (Univ of Zurich, Switzerland) Novel automated approaches to behavioural analysis of mice living in social home cage settings

W Crusio (CNRS, Talence, France) High throughput phenotyping of mouse behaviour: what are we measuring?

I Branchi (Ist Superiore di Sanità, Rome, Italy) Refining strategies to assess social behaviour in mice

17.00 – 17.30 **Round table discussion**

E Alleva (Istituto Superiore di Sanità, Rome, Italy)

RGM Morris (Univ of Edinburgh, UK)

F Schenk (Univ de Lausanne, Switzerland)

M Ammassari-Teule (CNR, S Lucia, Rome, ITALY)

(15.30 – 17.30 ongoing *Registration* in the ICTP Entrance Hall)

Tip of the day: a train leaves Grignano train station (5 min walking distance from the SISSA Aula Magna) at 18.25, to reach Trieste Centrale at 18.35. The ticket is cheap, but you have to remember to buy it at Trieste Centrale in the morning – no ticketing facility at Grignano, unfortunately. Some people board the train without tickets, but we should rather not mention such an option.

Stazione Marittima – Sala Saturnia

19.00 – 19.30 *Welcome*

19.30 – 20.30 *Plenary Lecture*

S Tonegawa (Massachusetts Institute of Technology, Boston, USA)

Molecular and circuit mechanisms for hippocampal memory



Sunday 16 September

8.00 – 9.00 *Registration* (in the ICTP Entrance Hall)

SISSA Aula Magna

9.00 – 11.00 *Symposium*
The retrosplenial cortex: revealing its role in memory and limbic system function
Organizers: John Aggleton (Cardiff Univ, UK) & Thomas van Groen (Univ of Alabama at Birmingham, USA)

T van Groen (Univ of Alabama at Birmingham)
Anatomy of the anterior thalamus – retrosplenial system and its role in memory

S Vann (Cardiff Univ, UK) Functional subdivisions within the rodent retrosplenial cortex

J Aggleton (Cardiff Univ, UK) Evidence for cryptic pathology in the retrosplenial cortex and its potential contribution to memory disorders

E Maguire (Univ College London, UK) What can functional neuroimaging studies in humans tell us about the functions of retrosplenial cortex?

ICTP Main Lecture Hall

9.00 – 11.00 *Symposium*
Cannabinoids: what in vitro studies have not told us
Organizers: Gernot Riedel (Univ of Aberdeen, UK) & Robert Hampson (Wake Forest Univ School of Medicine, Winston-Salem, USA.)

L Fattore (CNR Inst of Neuroscience, Cagliari, Italy) Endocannabinoids and addiction: a chance for some treat

A Horti (Johns Hopkins Univ, USA)
[¹¹C]JHU75528, a PET radioligand for imaging of cerebral cannabinoid CB1 receptors

R Hampson (Wake Forest Univ School of Medicine, Winston-Salem, USA) The role of cannabinoids in neural ensemble responses to behavioral conditions

G Riedel (Univ of Aberdeen, Aberdeen, UK)
Endocannabinoid function in cognition

11.00 – 11.30 *Coffee break*

11.00 – 11.30 *Coffee break*

11.30 – 12.30 *Plenary Lecture*
M Abeles (Bar Ilan University, Ramat Gan, Israel)
Space and time of cortical activity

ICTP Cafeteria and adjoining poster spaces

12.30 – 15.00 *Poster & Lunch session*

A1. Sensory & motor systems
B1. Learning & memory (animal)
C1. Cognition (human)
D1. Disorders of the nervous system
E1. Emotion, stress
F1. Pharmacology & behaviour
G1. Development



SISSA Aula Magna

15.00 – 17.00 *Symposium*

Automatic processing of emotion: role in higher cognitive processes

Organizer: Pascale Gisquet-Verrier (Univ Paris Sud, Orsay, France)

P Gisquet-Verrier (Univ Paris Sud, Orsay, France)
Neural basis of emotional cue-induced memory retrieval facilitative effect in rats.

M Seassau (Univ Paris Sud, Orsay, France)
Emotion can modulate memory retrieval in humans

R Dolan (Univ College London, UK) Emotional influences on decision making

A Anderson (Univ of Toronto, Canada) Emotion, attention and episodic memory

ICTP Main Lecture Hall

15.00 – 17.00 *Symposium*

Avian brain and cognition

Organizers: Toshiya Matsushima (Hokkaido Univ, Sapporo, Japan) & Onur Güntürkün (Ruhr-Univ Bochum, Germany)

O Güntürkün (Ruhr-Univ Bochum, Germany)
The convergent evolution of prefrontal 'cortices' in birds and mammals

L Lefebvre (McGill Univ, Montréal, Canada)
Behavioural flexibility and selection for enlarged brains

T Matsushima (Hokkaido Univ, Sapporo, Japan)
Economical decision making in chicks: brain mechanisms meet foraging ecology

G Vallortigara (Univ of Trieste, Italy) Space and number sense in newborn chicks

17.30 – 18.30 *Evens Challenge Lecture*

Evens Scientific Challenge winner(s)

Title to be revealed



Free evening

Tip of the day: trekking excursions up the ridge ending in *osmizzas* (very inexpensive, offering cheese, ham and wine; some olives) will be organized in case of fine weather – with return downtown by bus, if we manage to arrange that.

Monday 17 September

SISSA Aula Magna

9.00 – 11.00 *Symposium*

Of rodents, monkeys and men: how experience shapes brain and behavior

Organizer: Katharina Braun (Otto von Guericke Univ Magdeburg, Germany)

Chair: Francesca Cirulli (Ist Superiore di Sanità, Rome, Italy)

F Stylianopoulou (Univ of Athens, Greece) Effects of early manipulations on brain plasticity in rodents

J Bock (Otto von Guericke Univ Magdeburg, Germany) Impact of pre- and postnatal stress on the establishment of limbic synaptic circuits

S Suomi (NICHD, Poolesville, USA) How gene and environment interactions shape biological and behavioral development in rhesus monkeys and other primates

P Hueppi (Hôpital des Enfants, Genève, Switzerland) Endocrine disruptors in brain development

11.00 – 11.30 *Coffee break*

11.30 – 12.30 *Elsevier Behavioral Brain Research Lecture*

B Everitt (Univ of Cambridge, UK)

The neural basis of learning and memory mechanisms underlying drug addiction

ICTP Main Lecture Hall

9.00 – 11.00 *Symposium*

Neural representation of objects in the Inferior Temporal cortex

Organizers: Pietro Berkes (Gatsby Computational Neuroscience Unit, London, UK) & Yasser Roudi (Gatsby Computational Neuroscience Unit, London, UK)

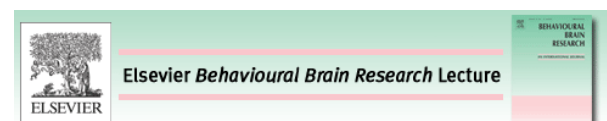
R Vogels (Laboratorium voor Neuro- en Psychofysiologie) Representation of perceived shape similarity in macaque inferior temporal cortex

J Di Carlo (MIT, Boston, USA) The role of visual experience in supporting invariant visual object representation in primate Inferior Temporal cortex

ET Rolls (Univ of Oxford, UK) Invariant object recognition in the ventral visual system

L Wiskott (Humboldt Univ Berlin, Germany) Is slowness a learning principle of the visual system?

11.00 – 11.30 *Coffee break*



ICTP Cafeteria and adjoining poster spaces

12.30 – 15.00 *Poster & Lunch session*

- A2. Sensory & motor systems
- B2. Learning & memory (animal)
- C2. Cognition (human)
- D2. Disorders of the nervous system
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- G2. Development

SISSA Aula Magna

15.00 – 17.00 *Symposium*

Episodic-like memory in animals

Organizer: Alexander Easton (Univ of Durham, UK)

E Dere (Heinrich-Heine-Univ, Düsseldorf, Germany) NMDA receptors and episodic-like memory in the rodent.

M Good (Cardiff Univ, UK) Context-dependent object recognition memory: assessment of age-related memory impairments in rats and mice

E Wood (Univ of Edinburgh, UK) What, where and which: the role of the hippocampus in context specific episodic-like memory

M Eacott (University of Durham, UK) Familiarity and recall in rats: memory for objects and events

17.00 – 17.30 *Coffee break*

17.30 – 18.30 *Plenary Lecture*

F Vargha-Khadem (Univ College London, UK)
From speech to gene: FOXP2 and the KE family
or (to be decided by a Gallup poll)
Developmental amnesia: Dissociations in long term memory

ICTP Main Lecture Hall

15.00 – 17.00 *Symposium*

The role of orbitofrontal cortex in adaptive behaviour

Organisers: Giorgio Coricelli (Inst des Sciences Cognitives, Bron, France) & Francesco Battaglia (Free Univ of Amsterdam, Netherlands)

A Bechara (Univ of Southern California, USA)
Decision-making after frontal lobe injuries

J O'Doherty (California Inst of Technology, USA)
fMRI studies on the role of the orbitofrontal cortex in decision making

M Roesch (Univ of Maryland, Baltimore, USA) The impact of time-discounted reward on neural activity in orbitofrontal cortex and ventral tegmental area

C Padoa-Schioppa (Harvard Univ, Cambridge, USA) Economic choice and the orbitofrontal cortex

17.00 – 17.30 *Coffee break*

Tip of the day: a perverse way to get back to downtown Trieste, for those who dislike the sea, is to walk up to Contovello, then take the 'Napoleonica' path (Strada Vicentina) to the Obelisk, ~5 km, and there catch the last tramway to Trieste, at 20.00 when functioning

Tuesday 18 September

SISSA Aula Magna

9.00 – 11.00 *Symposium*

Hippocampal/cortical interactions in spatial behaviors

Organizer: Etienne Save (CNRS, Univ de Provence, Marseille, France)

M Fyhn (Centre for the Biology of Memory, NTNU, Trondheim, Norway) Spatial representation in the entorhinal cortex

T Hafting (Centre for the Biology of Memory, NTNU, Trondheim, Norway) Interactions between entorhinal grid cells and hippocampal place cells

E Save (CNRS, Univ de Provence, Marseille, France) Goal encoding in prefrontal cells and hippocampal place cells

B Bontempi (CNRS, Univ Bordeaux 1, Talence, France) Hippocampal-cortical interactions during spatial memory processing

11.00 – 11.30 *Coffee break*

11.30 – 12.30 *Plenary Lecture*

J Bachevalier (Emory Univ, Atlanta, USA)

Early damage to the orbital frontal cortex in monkeys alters emotional reactivity, choices guided by reward value, and social behavior



ICTP Main Lecture Hall

9.00 – 11.00 *Symposium*

Attention-deficit/hyperactivity disorder in childhood: the behaviour and the neurobiology

Organizers: Terje Sagvolden (Univ of Oslo, Norway) & Bob Oades (Univ Clinic, Essen, Germany.)

H Aase (Norwegian Institute of Public Health) From model to practice - experimental studies of basic characteristics of the behaviour of animal models and of children with ADHD

T Sagvolden (Univ of Oslo, Norway) Animal models of ADHD – aspects of their behavior, genetics and neurobiology

K Rubia (King's College London, UK) Functional imaging abnormalities in ADHD and effects of Methylphenidate

R Oades (Univ Clinic, Essen, Germany) Glia energy supply: a neuro-physiological explanation for intra-individual variability and maturation delays in ADHD.

11.00 – 11.30 *Coffee break*

ICTP Cafeteria and adjoining poster spaces

12.30 – 15.00 *Poster & Lunch session*

A3. Sensory & motor systems

B3. Learning & memory (animal)

C3. Cognition (human)

D3. Disorders of the nervous system

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F3. Pharmacology & behaviour

G3. Development

SISSA Aula Magna

15.00 – 17.00 *Symposium*

GABA, the amygdala, and mood and anxiety disorders

Organizers: Gal Richter-Levin (Univ of Haifa, Israel) & Oliver Stork (Otto-von-Guericke Univ, Magdeburg, Germany)

M Braga (Uniformed Services Univ of the Health Sciences, Bethesda, USA) Stress-induced alterations in GABAergic transmission in the amygdala: implications for the etiology and treatment of depression

G Pinna (Univ Illinois, Chicago, USA) Fluoxetine (FLX) and norfluoxetine (NFLX) regulate contextual fear responses and aggression via activation of neurosteroidogenesis

O Stork (Otto-von-Guericke Univ, Magdeburg, Germany) Molecular view on GABAergic function in the amygdala – relevance to anxiety and mood disorders

G Richter-Levin (Univ of Haifa) Alteration of amygdalar GABAA Receptor α -subunit maturation in a rat model of mood and anxiety disorders

ICTP Main Lecture Hall

15.00 – 17.00 *Symposium*

New insights in the development of cortical networks

Organizers: Alessandro Vercelli (Univ of Turin, Italy) & Ferdinando Rossi (Univ of Turin, Italy)

A Vercelli (Univ of Turin, Italy) Development and plasticity of cortical pyramidal neurons

Z Molnar (Univ of Oxford, UK) Towards the classification of projection neurons in layer 5 and subplate

M Wassef (CNRS/ENS, Paris, France) Cell interactions involved in the development of functional modules in the cerebellar cortex.

F Rossi (Univ of Turin, Italy) Specification and integration of inhibitory interneurons in the cerebellar cortex

Tip of the day: a boat leaves Grignano harbour at 18:25, landing you in Trieste at 19.20, for 3.20 Euro, payable on board

Caffé degli Specchi – Piazza Unità d'Italia

20.00 – 22.30? *EBBS Social Dinner*



Wednesday 19 September

SISSA Aula Magna

9.00 – 11.00 *Symposium*

**Is the neocortex fundamentally multisensory?
A look at the evidence**

Organizers: Christoph Kayser (Max Planck Inst for Biological Cybernetics, Tübingen, Germany) & Asif Ghazanfar (Princeton Univ, USA)

M Murray (Univ of Lausanne, Switzerland)
Multisensory interactions redefine functional cortical organization in humans

N Holmes (INSERM Unite 864, Bron, France)
Body, brain & space: multisensory perception by eyes, hands and tools

U Noppeney (Max Planck Inst for Biological Cybernetics, Tübingen, Germany) Audio-visual interactions within the cortical hierarchy

C Kayser (Max Planck Inst for Biological Cybernetics, Tübingen, Germany) Multisensory integration in early auditory cortex

11.00 – 11.30 *Coffee break*

11.30 – 12.00 *Best poster awards*

12.00 – 13.00 *Plenary Lecture*

P Maquet (Univ of Liège, Belgium)
Off-line memory processing, as assessed by functional neuroimaging

13.00 – 13.15 *EBBS 2009 and closing*

ICTP Main Lecture Hall

9.00 – 11.00 *Symposium*

Novel vistas on brain dopamine

Organizer: Carmen Cavada (Univ Autónoma de Madrid, Spain)

M García-Cabezas (Univ Autónoma de Madrid, Spain) Dopamine reaches further brain domains: the innervation of the monkey and human thalamus

A Grace (Univ of Pittsburgh, USA) Tonic and phasic dopamine system regulation of information flow

J Obeso (Univ of Navarra, Spain)
Motor and behavioral consequences of abnormal dopaminergic stimulation in humans

O Hornykiewicz (Medical Univ of Vienna, Austria)
The discovery of brain dopamine deficit in Parkinson's disease: the story of an eyewitness

11.00 – 11.30 *Coffee break*

