

# 6<sup>th</sup> EUROPEAN CONFERENCE ON COMPARATIVE NEUROBIOLOGY (ECCN6)

22<sup>nd</sup> - 24<sup>th</sup> April, 2010 ■ Valencia, Spain

## Preliminary programme

This is the sixth conference in a series initiated by Hans J. ten Donkelaar that addresses comparative neurobiological issues. The first ECCN, “Sensorimotor Integration: Organization of Premotor Networks in “Lower” Vertebrates”, was held in Doorwerth, The Netherlands, in 1994. The second, “The Forebrain in Non-mammalian Vertebrates: Structure, Function, and Evolution”, was held in Cologne, Germany, in 1998, and the third, “Modern Views on Brain Homologies”, was held in Murcia, Spain, in 2001. The fourth conference, on “Evolution and Development of Nervous Systems” was held in Oxford, UK, in 2004. The ECCN5 “Evolution and the generation of novelties in the nervous system” was held in Paris, France, in 2007.

After these five editions, the ECCN has become one of the most reputed international conferences on comparative neuroscience. Thus, in the last editions the ECCN has convened some 150-200 specialists from Europe, USA, Japan and Latin-America to discuss about the design of the central nervous systems of vertebrates and invertebrates, the evolution of the brain and the need of understanding different brains to use animals as models of human brain function and dysfunction.

### Adaptive function and Brain Evolution

Comparative Neurobiology faces four Grand Questions. First, how are different brains built during ontogeny? Second, what is the anatomical organisation of mature brains and how can they be compared? Third, how do brains work to accomplish their function of ensuring survival and, ultimately, reproductive success? The latter function is the motor of evolution and, therefore, leads to the fourth grand question: how have brains evolved during phylogeny? All four questions will be treated in the ECCN6.

Communications to the meeting by regular attendees will be structured in sessions of oral presentations and poster sessions. The participation of young neuroscientists and predoctoral students is encouraged by the availability of an inexpensive student registration fee. If fundraising is successful enough, travel grants will be given to five students.

The program will also include:

- Five keynote lectures, given by authorities in the field of comparative neuroscience
- Five symposia on hot-spot topics

All the invited speakers have agreed to attend the meeting and most of them have proposed a title for their talk, as listed above.

### Keynote lectures



**Luis Puelles.** University of Murcia. Murcia, Spain.  
*On the genoarchitectonic approach to comparative neurobiology*

**Georg Striedter.** University of California Irvine. California, USA.  
*Developmental mechanisms for evolutionary changes in brain size and proportions*

**J. Martin Wild.** University of Auckland. Auckland, New Zealand.  
*Comparative neuroanatomy and neuroethology of birds: a personal account*

**Rudolf Nieuwenhuys.** Abcoude, The Netherlands.  
*The structural, functional and molecular organization of the brainstem*

**Andras Csillag.** Semmelweis University. Budapest, Hungary  
*The avian nucleus accumbens: a reappraisal based upon hodology and chemical neuroanatomy*

### **Symposium 1. Comparing vertebrate and invertebrate chemosensory systems or how nature has solved the same challenge twice**

**Iván Rodríguez.** University of Geneva. Geneva, Switzerland.  
*Species-specific vomeronasal chemosensors: from genes to behavior*

**Gordon M. Shepherd.** Yale Medical School. New Haven, CT, USA.  
*A central role for olfaction in human evolution*

**Alberto Ferrus.** Instituto Cajal-CSIC. Madrid, Spain.

**Bill Hansson.** Max Planck Institute for Chemical Ecology. Jena, Germany.

### **Symposium 2. Evolution of the “socio-sexual” brain**

**James L. Goodson.** Indiana University. Bloomington, IN, USA.  
*Nonapeptides and the evolution of social group sizes in Finches: touchstones for all vertebrates?*

**Jacques Balthazart.** University of Liège. Liège, Belgium.  
*The neural circuit mediating appetitive and consummatory male sexual behavior in quail*

**Constance Scharff.** Max Planck Institute for Molecular Genetics and Freie Universität Berlin. Berlin, Germany.

**Enrique Lanuza.** Universitat de València. Valencia, Spain.  
*Pheromones and the reward circuitry in mice*

### **Symposium 3. Origin of cortical interneurons in vertebrates**

**Oscar Marín.** Instituto de Neurociencias de Alicante; CSIC-Universidad Miguel Hernández. Alicante, Spain.  
*Rodents*

**Manuel A. Pombal.** University of Vigo. Vigo, Spain.  
*Agnathans*

**Zoltan Molnár.** University of Oxford, Oxford, UK.  
*Sauropsids*

**Monique Esclapez.** Institut National de la Santé et de la Recherche Médicale.  
Marseille, France.  
*Primates*

#### **Symposium 4. Diversity of brains in anamniotes**

**Sylvie Rétaux.** Institut Alfred Fessard. Gif sur Yvette, France.  
*Midline signaling and forebrain evolution in gnathostomes: insights from lampreys*

**R. Glenn Northcutt.** University of California. San Diego, CA, USA.  
*A new interpretation of the telencephalon of the Coelacanth Latimeria*

**Isabel Rodríguez-Moldes.** Universidad de Santiago de Compostela. A Coruña, Spain.  
*Diversity of brain in fish: specific features in the elasmobranch brain*

**Mario F. Wullimann.** Ludwig-Maximilians-University. Munich, Germany  
*The long adventurous journey of rhombic lip cells in the zebrafish brain*

**Nerea Moreno.** University Complutense of Madrid. Madrid, Spain.  
*Organization of the non-evaginated secondary prosencephalon: insights from amphibians*

#### **Symposium 5. Cognition and high mental functions in primates, rodents and nonmammals**

**Onur Güntürkün.** Ruhr-University Bochum. Bochum, Germany.  
*The evolution of associative forebrain areas in birds and mammals: convergent solutions to common cognitive problems*

**Angela Roberts.** University of Cambridge. Cambridge, UK.  
*Reversal learning as a behavioural model of flexible responding in rodents, monkeys and man and its relevance to our understanding of neuropsychiatric disorders*

**Nicola S. Clayton.** University of Cambridge. Cambridge, UK.  
*The development and evolution of mental time travel*

**Geoffrey Schoenbaum.** University of Maryland. Baltimore, MD, USA.  
*Learning from our mistakes – critical contributions of orbitofrontal signaling*

#### **Organising Committee**

**President: Fernando Martínez-García.** Universitat de València. Valencia, Spain.

**Oscar Marín.** Instituto de Neurociencias-CSIC. Alicante, Spain.

**Enrique Lanuza.** Universitat de València. Valencia, Spain.

**Francisco Olucha.** Universitat de València. Valencia, Spain.

**Alino Martínez-Marcos.** Universidad Castilla la Mancha. Albacete, Spain.

**Vicente Felipo.** Centro de Investigación Príncipe Felipe. Valencia, Spain.

**Loreta Medina.** Universitat de Lleida and Institut de Recerca Biomèdica de Lleida. Lleida, Spain.

## Scientific Committee

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**Hans tenDonkelaar.** Radboud University Nijmegen Medical Centre. Nijmegen, The Netherlands.

**Agustín González.** Universidad Complutense de Madrid. Madrid, Spain.

**Salvador Guirado.** Universidad de Málaga. Málaga, Spain.

**Ann B. Butler.** George Mason University. Fairfax, VA, USA.

**Ramón Anadón.** Universidad de Santiago de Compostela. A Coruña, Spain.

## Conference secretariat

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## Venue

The meeting will be held in the Santiago Grisolí Auditorium in the Science Museum Príncipe Felipe of Valencia (Spain). The museum, designed by Valencian architect Santiago Calatrava, with an auditorium of 2.800 square metres, provides an excellent venue for this meeting.

Valencia, has a cultural heritage of over two thousand years in history, and has turned into a very modern city, proud of hosting emblematic scientific projects. The city is easily accessible by road, rail, sea and air. Its culture, cuisine and academic tradition, along with its location at the Mediterranean coast and its pleasant climate, make the city an ideal meeting point in April.

Santiago Grisolí Auditorium  
Science Museum Príncipe Felipe  
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