

# OUR INSTITUTE



The Institute of Neurosciences is an intramural research institute of the University of Barcelona which gathers about 300 researchers located in four university campuses. Director: Carles Esceca

We aim to promote research in neurosciences from a global perspective, being the first Institute in the country integrating research lines in neurobiology, neuropharmacology, physiopathology, neurology, psychiatry, clinical psychology, neuropsychobiology and cognitive neurosciences. We study neurosciences including all its approaches and aim to share a unifying vision.

Launched officially in December 2015, the Opening Session of the Institute took place at the Medicine Campus, on the 20th of September, in order to strengthen the synergies between the groups that form the Institute, and to give internal visibility to our research and encourage the exchange of experiences between researchers.

We are especially concerned about training the new generation of neuroscientists. On the 15th of December we organized the first PhD Workshop of the Institute of Neurosciences at Mundet Campus, where master's degree students and early stage researchers could share their interests.

## Institut de Neurociències de la Universitat de Barcelona

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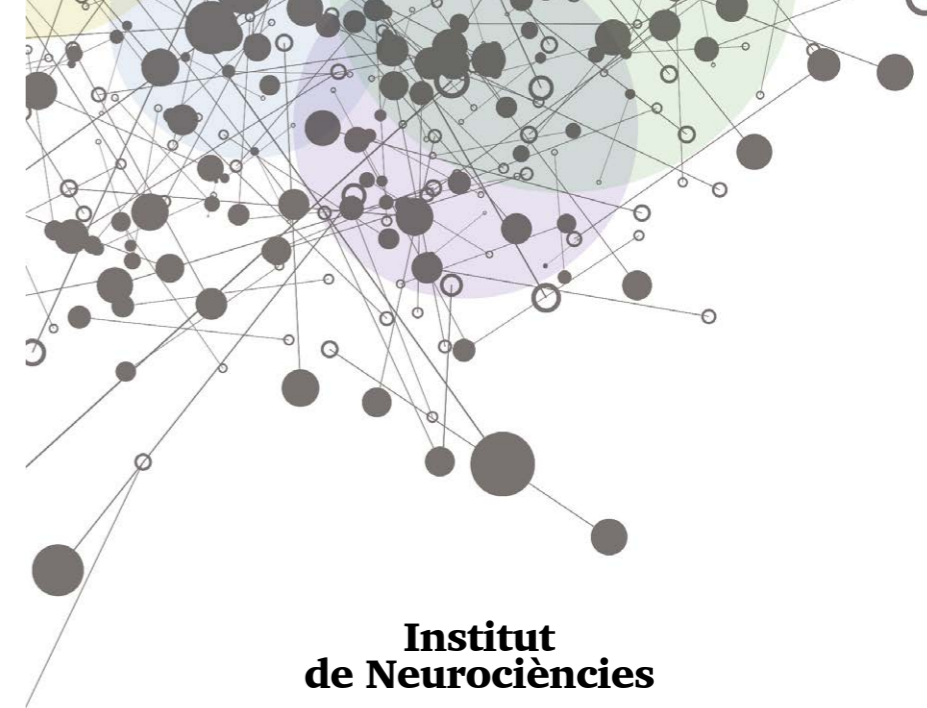
### Campuses

**Campus Mundet**  
Passeig de la Vall d'Hebron, 171  
08035 Barcelona

**Barcelona Knowledge Campus**  
Diagonal, 643  
08028 Barcelona

**Medicine Campus- Hospital Clínic August Pi i Sunyer**  
Casanova, 143  
08036 Barcelona

**Bellvitge Health Sciences Campus**  
Feixa Llarga, s/n  
08907 L'Hospitalet de Llobregat



# Institut de Neurociències ANNUAL REPORT 2016



350 Publications

61% 1st Quartile publications

1490 Impact Factor



4 Research professors

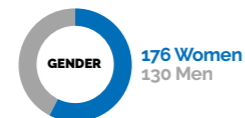
4 Academia professors



European Research Council

1 Starting grants

1 Proof of concept



Institut de Neurociències  
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Health Universitat de Barcelona Campus



Barcelona Knowledge Campus

## Research Areas

## Outstanding Publications in 2016

## Outstanding Projects Granted in 2016



### Neurobiology and Neuropharmacology

Studies on cells and neural circuits of the nervous system in normal and pathological situations. Research in identifying new therapeutic targets and drugs to treat neurological disorders.

Martinez-Mármol R, Comes N, Styrzewska K, et al. (2016) Unconventional EGF-induced ERK1/2-mediated Kv1.3 endocytosis. *Cellular and Molecular Life Sciences*: 73 (7) 1515-28.

Granados-Jaén A, Angulo-Ibáñez M, Rovira-Clavé X, et al. (2016) Absence of ERK5/MAPK7 delays tumorigenesis in *Atm*<sup>-/-</sup> mice. *Oncotarget*: 7 (46) 74435-47.

459.800€

### New insights for the understanding and therapeutics of Alzheimer's Disease.

Spanish Ministry of Economy, Industry and Competitiveness. [Eduardo Soriano](#).



### Physiopathology of Nervous system disease

Defining the physiopathological mechanisms involved in the loss of functionality, atrophy and neurodegeneration related to these diseases. A deeper understanding of these mechanisms will allow us to develop new therapeutic strategies to delay or prevent these neurological disorders.

Kovacs GG, Ferrer I, Grinberg LT, et al. (2016) Aging-related tau astroglial pathology (ARTAG): harmonized evaluation strategy. *Acta Neuropathologica*: 131 (1) 87-102.

Rué L, Bañez-Coronel M, Creus-Muncunill J, et al. (2016) Targeting CAG repeat RNAs reduces Huntington's disease phenotype independently of huntingtin levels. *Journal of Clinical Investigation*: 126 (11) 4319-30.

435.028€

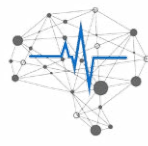
### Healthy minds from 0-100 years: Optimising the use of European brain imaging cohorts (Lifebrain).

European Union. [David Bartrés- Faz](#).

266.200€

### Molecular basis of chloride channels CLC and LRRC8 associated pathologies.

Spanish Ministry of Economy, Industry and Competitiveness. [Raúl Estévez-Povedano](#).



### Cognitive Neuroscience and Neuropsychology

Doing research on the neurobiological substrates underlying cognition aiming to unravel the neural circuits implied in mental processes. Neuropsychology groups focus on the clinical application of this knowledge using neuroimaging techniques, genetic studies and cognitive tests.

Selinger L, Zarnowiec K, Via M, et al. (2016) Involvement of the serotonin transporter gene in accurate subcortical speech encoding. *Journal of Neuroscience*: 36 (42) 10782-90.

Padilla N, Fransson P, Donaire A, et al. (2016) Intrinsic functional connectivity in preterm infants with fetal growth restriction evaluated at 12 months corrected age. *Cerebral Cortex*: 1-9.

247.872€

### European Training Network for Cell-based Regenerative Medicine (Training4CRM).

European Union. [Jordi Alberch Vie](#).

185.316€

### Executive function training in childhood obesity: food choice, quality of life and brain connectivity (TOUCH).

La Marató de TV3. [María Àngels Jurado](#).



### Cognition, Behaviour and Computation

Mechanisms of human and animal behaviour underlying different cognitive processes. Computational research and modelling analyses on studies of behavior, cognition and conservation, from an evolutionary and comparative perspective.

Martinez-Molina M, Mas-Herrero E, Rodriguez- Fornells A et al. (2016). Neural correlates of specific musical anhedonia. *Proceedings of the National Academy of Sciences*: 113 (46) E7337-E7345

Herweg NA, Apitz T, Leicht G, et al. (2016) Theta-alpha oscillations bind the hippocampus, prefrontal cortex, and striatum during recollection: Evidence from simultaneous EEG-fMRI. *Journal of Neuroscience*: 36 (12) 3579-87.

150.040€

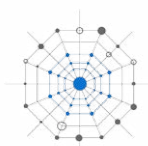
### Genetic dissection of mnemonic circuits: Erk1/2 kinase pathway case.

Spanish Ministry of Economy, Industry and Competitiveness. [Carles Sindreu](#).

149.250€

### Personified Self Interaction (PSI).

European Union / European Research Council [Melvyn Slater](#).



### Clinical and Applied psychology

Identification, analysis and intervention of human behaviour disorders, both at individual and at group levels. We are especially concerned with psychological problems which affect people's quality of life, as well as with the social repercussion of these disorders.

Bautista MA, Hernandez-Vela A, Escalera S, et al. (2016) A gesture recognition system for detecting behavioral patterns of ADHD. *IEEE Transactions on Cybernetics*: 46 (1) 136-47.

Turró-Garriga O, Garre-Olmo J, Reñé-Ramírez R, et al. (2016) Consequences of anosognosia on the cost of caregivers' care in Alzheimer's disease. *Journal of Alzheimer's Disease*: 54 (4) 1551-60.

104.060€

### Temporal organization in information's memory of episodic events.

Spanish Ministry of Economy, Industry and Competitiveness. [Lluís Fuentemilla](#).

84.700€

### Including persons with schizophrenia: a valid evaluation of functionality in different cultural contexts.

Spanish Ministry of Economy, Industry and Competitiveness. [Juana Gómez](#).



### Neurology and Psychiatry

Study of the nervous system in normal conditions and in presence of neurological or psychiatric disorders. The main goals of our research lines are the study of severe psychiatric disorders, the neurological disorders and their physiopathological basis, and the development and assessment of new therapies.

Hou L, Heilbronner U, Degenhardt F, et al. (2016) Genetic variants associated with response to lithium treatment in bipolar disorder: a genome-wide association study. *The Lancet*: 387 (10023) 1085-93.

Pina-Camacho L, Del Rey-Mejias A, Janssen J, et al. (2016) Age at first episode modulates diagnosis-related structural brain abnormalities in patients with first-episode psychosis. *Schizophrenia Bulletin*: 42 (2) 344-57.

64.630€

### 'ALCO-VR': Virtual Reality- based protocol for the treatment of severe alcohol use disorder patients.

Spanish Ministry of Economy, Industry and Competitiveness. [José Gutiérrez Maldonado](#).

