



Societat Catalana
de **BIOLOGIA**



XIII SIMPOSI DE NEUROBIOLOGIA

Complexitat cel·lular en la funció i disfunció cerebral



28 i 29 de Maig de 2024

Institut d'Estudis Catalans, Barcelona

Programa i resums de les comunicacions

Amb el patrocini de:



Panlab



Institut de Neurociències
UNIVERSITAT DE BARCELONA



Amb la participació de:





COMITÈ ORGANITZADOR

Ariadna Laguna (Coordinadora), Institut de Recerca de l'Hospital Vall Hebrón (VHIR), CIBERNED

Xavier Altafaj, Institut de Neurociències, Universitat de Barcelona, IDIBAPS

Analía Bortolozzi, Institut d'Investigacions Biomèdiques de Barcelona (IIBB), CSIC-IDIBAPS, CIBERSAM

Arnau Busquets, Institut de Recerca Hospital del Mar

Francisco Ciruela, IDIBELL, Institut de Neurociències, Universitat de Barcelona

Joaquim Egea, Institut de Recerca Biomèdica de Lleida, Universitat de Lleida

Silvia Ginés, Institut de Neurociències, Universitat de Barcelona, IDIBAPS, CIBERNED

Carles A. Saura, Institut de Neurociències, Universitat Autònoma de Barcelona, CIBERNED

Josep Saura, Institut de Neurociències, Universitat de Barcelona, IDIBAPS

Montse Solé, Institut de Neurociències, Universitat Autònoma de Barcelona, CIBERNED

SECRETARIA TÈCNICA

Mariàngels Gallego i Ribó

Paqui Lorite Garcia

Societat Catalana de Biologia – Institut d'Estudis Catalans

C. del Carme 47

08001 Barcelona

Tel. +34 933 248 584

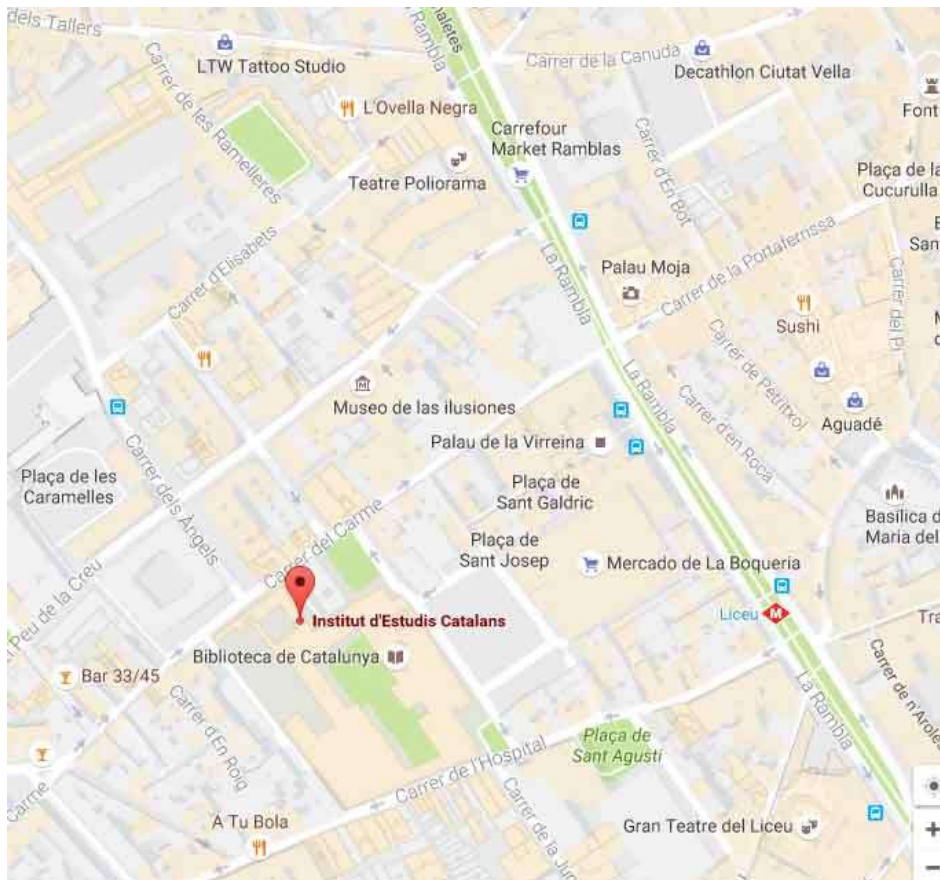
e-mail: scb@iec.cat

Web: scb.iec.cat

LOCALITZACIÓ



INSTITUT D'ESTUDIS CATALANS
Carrer del Carme, 47
Barcelona 08001





Dia 1: 28 Maig de 2024

Dia 2: 29 Maig de 2024

8.30-9 h	Registre i recollida de material		
9-9.15 h	Benvinguda i presentació Sala: Prat de la Riba		
9.15-11h	Sessió 1A Oral Cèl.lules glials i inflamació Sala: Prat de la Riba Sessió 1B Oral Neurodesenvolupament i malalties relacionades Sala: Pere i Joan Coromines	9-10.45 h	Sessió 3A Oral Circuits neuronals i plasticitat cerebral Sala: Prat de la Riba Sessió 3B Oral Sistemes motor i sensorial Sala: Pere i Joan Coromines
11-12 h	Cafè i sessió de Pòsters	10.45-12 h	Cafè i sessió de Pòsters
12-13 h	Conferència plenària 1 Sala: Prat de la Riba Prof. Isabel Fariñas, Universitat de València-CIBERNED «The impact of neural stem cell heterogeneity on niche dynamics»	12-13 h	Conferència plenària 3 Sala: Prat de la Riba Getrudis Perea, Instituto Cajal-CSIC «Neuron-astrocyte signaling in stress-induced depressive-like states»
13-15h	Dinar i sessió de pòsters	13-15 h	Dinar i sessió de pòsters
15-16.45 h	Sessió 2A Oral Malalties neurodegeneratives I Sala: Prat de la Riba Sessió 2B Oral Receptors de neurotransmissors i senyalització Sala: Pere i Joan Coromines	15-16.45 h	Sessió 4A Oral Malalties neurodegeneratives II Sala: Prat de la Riba Sessió 4B Oral Cognició i desordres mentals Sala: Pere i Joan Coromines
16.45-17.45 h	Conferència plenària 2 Dr. Laurent Groc, CNRS/Bordeaux Université Sala: Prat de la Riba «Exploring brain cell communication at the single molecule level in health and disease: learning from the NMDA receptor»	16.45-17.45 h	Conferència plenària 4 6th Ramón Turró Award Sala: Prat de la Riba Prof. Eduardo Soriano, Universitat de Barcelona, CIBERNED «The 1996/1998 breakthrough: from Reelin and Cajal-Retzius cells to adult plasticity and Alzheimer's disease»
17.45-19.30h	Refrigeri i sessió de pòsters	17.45-18 h	Premis i Clausura
		18-20h	FESTA DE CLAUSURA

Day 1: May 28th 2024Day 2: May 29th 2024

8.30-9 h	Registration		
9-9.15 h	Welcome presentation Room: Prat de la Riba		
9.15-11h	Session 1A Oral Glial cells and inflammation Room: Prat de la Riba Session 1B Oral Neurodevelopment and related diseases Room: Pere i Joan Coromines	9-10.45h	Session 3A Oral Neural circuits and brain plasticity Room: Prat de la Riba Session 3B Oral Motor and sensory systems Room: Pere i Joan Coromines
11-12 h	Coffee and Poster session	10.45-12h	Coffee and Poster session
12-13 h	Plenary Lecture 1 Room: Prat de la Riba Prof. Isabel Fariñas, Universitat de València-CIBERNED «The impact of neural stem cell heterogeneity on niche dynamics»	12-13h	Plenary Lecture 3 Room: Prat de la Riba Getrudis Perea, Instituto Cajal-CSIC «Neuron-astrocyte signaling in stress-induced depressive-like states »
13-15h	Lunch and poster session	13-15 h	Lunch and poster session
15.00-16.45 h	Session 2A Oral Neurodegenerative diseases I Room: Prat de la Riba Session 2B Oral Neurotransmitter receptors and signalling Room: Pere i Joan Coromines	15.00-16.45h	Session 4A Oral Neurodegenerative diseases II Room: Prat de la Riba Session 4B Oral Cognition and mental disorders Room: Pere i Joan Coromines
16.45-17.45 h	Plenary Lecture 2 Dr. Laurent Groc, CNRS/Bordeaux Université Room: Prat de la Riba «Exploring brain cell communication at the single molecule level in health and disease: learning from the NMDA receptor»	16.45-17.45h	Plenary Lecture 4 6th Ramón Turró Award Room: Prat de la Riba Prof. Eduardo Soriano, Universitat de Barcelona, CIBERNED «The 1996/1998 breakthrough: from Reelin and Cajal-Retzius cells to adult plasticity and Alzheimer's disease»
17.45-19.30h	Drinks and poster session	17.45-18h	Awards and Closing
		18-20h	CLOSING PARTY

DAY 1: Tuesday, May 28th 2024

8.30-9h	REGISTRATION
9-9.15h	WELCOME PRESENTATION <i>Prat de la Riba Room</i> <u>Organizing Committee</u>
9.15-11h	ORAL SESSIONS Session 1A. GLIAL CELLS AND INFLAMMATION <i>Room: Prat de la Riba</i> Chair: Mar Puigdellívol (Institut de Neurociències, Universitat de Barcelona; Institut de Neurociències-Universitat Autònoma de Barcelona) O.1. Cannabidiol breaks the chains placed by A2AR on cannabinoid receptor 1 in ischemic stroke Raïch I O.2. Phenotypic characterization of lipid droplet-accumulating microglia after cerebral ischemia Pedragosa J O.3. Intravenous gene therapy provides long-term correction of cerebral white matter swelling and locomotor deficiencies in a mouse model of megalencephalic leukoencephalopathy with subcortical cysts. Brao A O.4. Cannabidiol extends lifespan and improves clinical signs in a mouse model of leigh syndrome. De Donato MH O.5. Astrocytic RTP801 is involved in neurodegeneration and neuroinflammation in alzheimer disease. Chicote-Gozález A O.6. The gut-brain axis in a novel humanized transgenic mouse model for Parkinson's disease and brain aging. Lorente-Picón M O.7. Elucidating the role of ATF3 in the neuropathology of a mouse model of leigh syndrome. Blanco-Ramos M Session 1B. NEURODEVELOPMENT AND RELATED DISEASES <i>Room: Pere i Joan Corominas</i> Chair: Joaquim Egea (IRB Lleida, Universitat de Lleida) O.8. CXCL14 is a key chemokine involved in axon guidance of pioneer axons of the statoacoustic ganglion. Rumbo M O.9. Astrotactin 1 deficiency results in a novel neurodevelopmental disorder. Gatnau-Civardi O.10. 4D-study of neuronal cell lineages and the generation of neuronal diversity in the zebrafish hindbrain. Ortiz-Álvarez G O.11. The hidden side of NCAM family: NCAM2, a key cytoskeleton organization molecule regulating neuronal differentiation and synaptic formation in brain development. Parcerisas A O.12. The role of the RNA-binding protein staufen 2 during neurogenesis. Fernández Moya SM

	<p>O.13. Ketogenic diet as a potential treatment for SPATA5-related encephalopathy: the power of mitochondrial modulation in the treatment of neurodevelopmental diseases. Musokhranova U</p> <p>O.14. Novel strategies to decrypt the complexity of growth cone responses: from signal integration to motile responses. Ros O</p>
11.00-12.00	☕ COFFEE BREAK and POSTERS
12.00-13.00	<p>PLENARY LECTURE <i>Prat de la Riba Room</i> Presented by: S. Ginés</p> <p>«The impact of neural stem cell heterogeneity on niche dynamics» <u>Isabel Fariñas</u> (Universitat de València-CIBERNED)</p>
13.00-15.00	🍽️ LUNCH
15.00-16.45	<p>ORAL SESSIONS</p> <p>Session 2A. NEURODEGENERATIVE DISEASES I <i>Prat de la Riba room</i></p> <p>Chair: Gemma Navarro (Institut de Neurociències, Universitat de Barcelona)</p> <p>O.15. Role of NR2A and NR2B on the neuroprotective effects of CB1R in Alzheimer's disease. Rebassa JB</p> <p>O.16. Cell-type specific hippocampal alterations are associated with memory deficits in novel Alzheimer's disease transgenic mice. Deprada A</p> <p>O.17. Evaluation of the functional activity in synaptic genes related to polygenic risk for Alzheimer's disease using a massively parallel reporter assay. Perlaza D</p> <p>O.18. Single-cell transcriptomics analyses unveil post-transcriptional regulation alterations in iPSC-derived neuron and glia cells from Alzheimer's disease patients. Gutiérrez-Franco A</p> <p>O.19. Pathological interplay between alpha-synuclein and neuromelanin accelerates Parkinson's disease pathology in melanized rodents. Nicolau-Vera A</p> <p>O.20. Deciphering serotonergic synaptic alterations in synucleinopathy and depression comorbidity mouse model. Sarriés-Serrano U</p> <p>O.21. The uncharted non-coding layer of the human transcriptome reveals potential new players in brain (patho)physiology. Perteghella T</p> <p>Session 2B. NEUROTRANSMITTER RECEPTORS and SIGNALING <i>Pere i Joan Coromines Room</i></p>

	<p>Chair: Alex Bayés (Institut de Recerca, Hospital Santa Creu i Sant Pau)</p> <p>O.22. Synaptic proteome diversity is primarily driven by gene regulation of glutamate receptors and their regulatory proteins. Bayés À</p> <p>O.23. Mouse cortical astrocytes detect dopamine via non-cognate receptors. Pittolo S</p> <p>O.24. In vivo photocontrol of inhibitory brain receptors. Maleeva G</p> <p>O.25. Three-photon infrared stimulation of endogenous neuroreceptors in vivo. Sortino R</p> <p>O.26. Deep-phenotype characterization of GRIN1 zebrafish models, a new tool to study GRIN-related disorders. Locubiche-Serra S Llopart N</p> <p>O.27. Comprehensive delineation and precision medicine of GRIN-related neurodevelopmental disorders, a primary disturbance of the NMDA receptor. Altafaj X</p> <p>O.28. Metabolic characterization of neurodevelopmental disorders involving glutamatergic neurotransmission. Illescas S</p>
16.30-17.30	<p>PLENARY LECTURE <i>Prat de la Riba Room</i> Presented by: X. Altafaj</p> <p>« Exploring brain cell communication at the single molecule level in health and disease: learning from the NMDA receptor » <u>Laurent Groc</u> (CNRS/Bordeaux Université)</p>
17.45-19.30h	Drinks and poster session

DAY 2: Wednesday, May 29th 2024

9-10.45h	<p>ORAL SESSIONS</p> <p>Session 3A. NEURAL CIRCUITS AND BRAIN PLASTICITY <i>Prat de la Riba Room</i></p> <p>Chair: Jordi Bonaventura (Institut de Neurociències, Universitat de Barcelona)</p> <p>O.29. Epigallocatechin-3-gallate pretreatment as a new neuroprotective therapy against polymyxin induced neurotoxicity. Guzman L</p> <p>O.30. TRESK channel modulates CA3 pyramidal neurons' excitability and hippocampal synaptic plasticity. Lluís H</p> <p>O.31. Light-dependent cAMP modulation in astrocytes trigger synaptic potentiation, hemodynamic responses and behavioural changes in mice: role in huntington's disease. Sitjà-Roqueta L</p> <p>O.32. Exploring the dopaminergic effects of S-Ketamine. Rizzo A</p> <p>O.33. Decoding incidental associations: role of amygdala in sensory preconditioning. González-Parra JA</p> <p>O.34. Effects of the poly I:C model of schizophrenia on thalamic inhibitory circuits. Beltran M</p> <p>O.35. Structural plasticity of dendritic spines during long-term synaptic depression. Rojo-Francàs E</p> <p>Session 3B. SENSORY AND MOTOR SYSTEMS <i>Pere i Joan Coromines Room</i></p> <p>Chair: Xavier Gasull (Institut de Neurociències, Universitat de Barcelona, IDIBAPS)</p> <p>O.36. Not just a highway: the role of the spinal cord in rats' forelimb skilled function. López-Santos D</p> <p>O.37. 4-deep brain reconstruction: a 3D-printed mini-brain based on pluripotent stem cells differentiation. Louail A</p> <p>O.38. Dynamics of noise-induced neurodegeneration and neuroplasticity in the central nervous system. Giménez-Esbrí V</p> <p>O.39. Transcriptomics and proteomics unravel molecular safeguards of klotho in ALS. Verdés S</p> <p>O.40. Deciphering the role of extracellular matrix in ALS pathophysiology. Soares GP</p> <p>O.41. Central and peripheral delivery of ASO 10-27 increases lifespan, improves motor function and preserves excitatory synaptic integrity and neuromuscular junction morphology in a severe mouse model of SMA. Guillamón P</p>
----------	--

	<p>0.42. Superior colliculus as a key player in huntington's disease sensorimotor coordination deficits: from circuits to behaviour. Küükerden M</p>
10.45-12.00	☕ COFFEE BREAK and POSTERS
12.00-13.00	<p>PLENARY LECTURE <i>Prat de la Riba Room</i> Presented by: A.Busquets-Garcia</p> <p>«Neuron-astrocyte signaling in stress-induced depressive-like states» <u>Getrudis Perea</u> (Instituto Cajal-CSIC)</p>
13.00-15.00	🍽️ LUNCH and POSTERS
15.00-16.45	<p>ORAL SESSION Session 4A. NEURODEGENERATIVE DISEASES II <i>Prat de la Riba Room</i></p> <p>Chair: Mireya Plass (Institut d'Investigació Biomèdica de Bellvitge, CIBER-BBN)</p> <p>0.43. Regional and cell-type specific mechanisms of cannabidiol benefit in a model of mitochondrial neuropathy. Van der Walt G</p> <p>0.44. Alteration of hippocampal CB1R can drive gabaergic dysfunction leading to cognitive decline in Huntington's disease. Di Franco N</p> <p>0.45. CD200-based cell sorting generates homogeneous subpopulations of transplantable striatal neuroblasts. Gomis C</p> <p>0.46. Developing an induced pluripotent stem cell (iPSC)-based model to identify the molecular mechanisms governing the neurodegenerative disease Multiple System Atrophy. Aleman-Ribes M</p> <p>0.47. Increased neurogenesis and behavior performance by in vivo reprogramming. Zaballa S</p> <p>0.48. Study of cell trafficking for the description of personalized therapies in pediatric movement disorders. Díaz-Osorio Y</p> <p>0.49. AAV9-mediated expression of secreted klotho reduced several aging-associated phenotypes, improving cognitive capacities and increasing longevity. Roig-Soriano J</p> <p>Session 4B. COGNITION AND MENTAL DISORDERS <i>Pere i Joan Coromines Room</i></p> <p>Chair: Albert Giralt (Institut de Neurociències, Universitat de Barcelona)</p>

	<p>0.50. β-hydroxybutyrate counteracts the deleterious effects of a saturated high-fat diet on synaptic AMPA receptors and cognitive performance. Fadó R</p> <p>0.51. Sex differences in fear memory processing in mice and humans. Andero R</p> <p>0.52. Small RNAs are important contributors in the cognitive symptoms associated with schizophrenia. Galán-Ganga M</p> <p>0.53. Cell type-specific effects of chronic THC exposure on hippocampal plasticity revealed by RNAseq. Kouchaeknejad A</p> <p>0.54. Understanding the neuro-immune alterations in schizophrenia: the implication of the IKAROS family. Ballasch I</p> <p>0.55. Astrotactin 1 deficiency results in a novel neurodevelopmental disorder. Gatnau-Civardi C</p> <p>0.56. Sex-specific changes in miRNA profile in the prefrontal cortex of depressed suicidal subjects. Miquel-Rio L</p>
16.45-17.45	<p>6th RAMON TURRÓ AWARD honoring the most cited articles in Neurobiology performed in Catalunya published in 1996-98 <i>Prat de la Riba Room</i> Presented by: J. Saura</p> <p>ACCEPTANCE LECTURE « The 1996/1998 breakthrough: from Reelin and Cajal-Retzius cells to adult plasticity and Alzheimer´s disease»</p> <p><u>Prof. Eduardo Soriano</u> (Institut de Neurociències-Universitat de Barcelona, CIBERNED)</p>
17.45-18.00	<p>BEST POSTERS AWARDS at the XIII Symposium <i>Prat de la Riba room</i></p> <p>CLOSING SPEECH: <u>Organizing Committee</u></p>
18.00-20.00	CLOSING PARTY