INSTITUTO CAJAL

SEMINARIO PRESENCIAL

Viernes, 12 de Enero de 2024
12:30 h. Instituto Cajal - CSIC

Dr. ARNAU BUSQUETS GARCÍA

Hospital del Mar Research Institute (Barcelona)

SUBCELLULAR, CELLULAR AND CIRCUIT MECHANISMS UNDERLYING MOUSE COGNITIVE BEHAVIOR.

Abstract

During his talk, Arnau Busquets Garcia will give an overview of different projects that are ongoing in his lab where they are trying to specifically dissect brain mechanisms underlying behavioral responses at multiple levels. First, he will show our unpublished and preliminary data regarding the involvement of subcellular and cellular mechanisms in the development of cognitive phenotypes and alterations associated with Alzheimer's disease. Second, he will highlight our findings regarding a project where we are studying the behavioural and neurobiological substrates that determine higher-order conditioning processes. In this project, we are interested in discovering which brain circuits regulate these memory processes in the normal brain and in different pathologies.

Affiliation and short bio

Arnau Busquets-García is a Ramon y Cajal researcher at the " Hospital del Mar Research Institute" of the Parc de Recerca Biomedica de Barcelona where he leads the group "Cellular mechanisms in physiological and pathological behavior"). His research lines focus on investigating the possible therapeutic effects of cannabinoid drugs in Alzheimer's disease and on deciphering how the brain forms associations that determine our daily decisions. Previously, Arnau was a predoctoral researcher in the Neuropharmacology group at Pompeu Fabra University (Barcelona, 2009-2013), where he obtained his PhD which received diferent awards from the Royal Academy of Doctors of Spain, Biogen-Idec or Fundació Esteve. During this period, he specialized in how cannabis and the endocannabinoid system modulate brain functions. After his PhD, Arnau spent 6 years in the laboratory of Dr. Giovanni Marsicano at the NeuroCentre Magendie (Bordeaux, France) where he continued to study the effects of cannabis in animal models. He is the author of more than 40 articles and has received a Starting Grant from the European Research Council (ERC), funding from the IBRO and also from the Spanish Research Agency. He has been actively involved in science outreach activities by participating in talks to schools or libraries in Barcelona.

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Related publications with the topic

1: Vidal-Palencia L, Ramon-Duaso C, González-Parra JA, Busquets-Garcia A. Gene Expression Analysis of the Endocannabinoid System in Presymptomatic APP/PS1 Mice. Front Pharmacol. 2022 Mar 18;13:864591. doi: 10.3389/fphar.2022.864591. PMID: 35370697; PMCID: PMC8971609.

2: Jimenez-Blasco D*, Busquets-Garcia A*, Hebert-Chatelain E*, Serrat R, Vicente- Gutierrez C, Ioannidou C, Gómez-Sotres P, Lopez-Fabuel I, Resch-Beusher M, Resel E, Arnouil D, Saraswat D, Varilh M, Cannich A, Julio-Kalajzic F, Bonilla-Del Río I, Almeida A, Puente N, Achicallende S, Lopez-Rodriguez ML, Jollé C, Déglon N, Pellerin L, Josephine C, Bonvento G, Panatier A, Lutz B, Piazza PV, Guzmán M, Bellocchio L, Bouzier-Sore AK, Grandes P, Bolaños JP, Marsicano G. Glucose metabolism links astroglial mitochondria to cannabinoid effects. Nature. 2020 Jul;583(7817):603-608. doi: 10.1038/s41586-020-2470-y. Epub 2020 Jul 8. PMID: 32641832.

3: Busquets-Garcia A, Oliveira da Cruz JF, Terral G, Pagano Zottola AC, Soria- Gómez E, Contini A, Martin H, Redon B, Varilh M, Ioannidou C, Drago F, Massa F, Fioramonti X, Trifilieff P, Ferreira G, Marsicano G. Hippocampal CB₁ Receptors Control Incidental Associations. Neuron. 2018 Sep 19;99(6):1247-1259.e7. doi: 10.1016/j.neuron.2018.08.014. Epub 2018 Aug 30. PMID: 30174119.

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