INSTITUTO CAJAL

SEMINARIO PRESENCIAL

Viernes, 1 de Marzo de 2024
12:30 h. Instituto Cajal - CSIC

Dr. CLAUDIO TOMA
Centro de Biología Molecular Severo Ochoa - CBMSO

GENOMIC APPROACHES APPLIED FOR GENE DISCOVERY AND PERSONALIZED MEDICINE APPLIED TO PSYCHIATRIC CONDITIONS

Abstract

High throughput genomic arrays are crucial for unravelling the large number of genetic loci implicated in psychiatric phenotypes. Our group applies GWAS, next-generation sequencing and copy number variant arrays for the identification of novel genes for psychiatry. We aim to combine genomic approaches with monitoring devices to increase diagnostic precision, and pharmacogenomics to identify individual response to medication.

Affiliation and short bio

Dr Toma is group leader in psychiatric genetics at Severo Ochoa Centre for Molecular Biology (CBMSO) in Madrid (Spain), and holds an honorary appointment at Neuroscience Research Australia (NeuRA). He obtained his PhD in human genetics at the University of Bologna (Italy) investigating the genetics of autism. During his career he joined research laboratories in the UK (Wellcome Trust Centre for Human Genetics, University of Oxford, UK), Spain (Department of genetics, University of Barcelona), and Australia (NeuRA and UNSW). Dr Toma has extensive experience in association studies, linkage studies, copy number variant (CNV) analyses and whole exome/genome sequencing. He has identified novel candidate genes for autism spectrum disorder, bipolar disorder, and schizophrenia, suggesting novel genetic mechanisms.

Related publications with the topic

Toma Claudio, Shaw AD, Heath A, Pierce KD, Mitchell PB, Schofield PR, Fullerton JM. (2021) A linkage and exome study of multiplex families with bipolar disorder implicates rare coding variants of ANK3 and additional rare alleles at 10q11-q21. Journal of Psychiatry and Neuroscience; 46(2):E247-E257 doi:10.1503/jpn.200083.

Torrico B, Shaw AD, Mosca R, Vivo-Luque, Hervas A, Fernàndez-Castillo N, Aloy P, Monica B, Fullerton JM, Cormand B, Toma Claudio. (2019) Truncating Variant Burden in High Functioning Autism and Pleiotropic Effects of LRP1 Across Psychiatric Phenotypes. doi: 10.1503/jpn.180184 Journal of Psychiatry and Neuroscience 16; 44:1-10

Toma Claudio, Shaw AD, Allcock RJN, Heath A, Pierce KD, Mitchell PB, Schofield PR, Fullerton JM (2018) An Examination of Multiple Classes of Rare Variants in Extended Families with Bipolar Disorder. Translational Psychiatry. 13;8(1)65.

Torrico B, Chiocchetti AG, Bacchelli E, Trabetti E, Hervás A, Franke B, Buitelaar JK, Rommelse N, Yousaf A, Duketis E, Freitag CM, Caballero-Andaluz R, Martinez-Mir A, Scholl FG, Ribasés M; ITAN, Battaglia A, Malerba G, Delorme R, Benabou M, Maestrini E, Bourgeron T, Cormand B, Toma Claudio. (2017) Lack of replication of previous autism spectrum disorder GWAS hits in European populations. Autism Res. 10:202-211.

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