

Report by:

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The rapid sharing of findings and novel ideas is important for the advancement of science. Scientific conferences are an unequalled opportunity to discuss new findings and ideas and to share information that may not be available in published literature for months. Attendees at the International Meeting for Autism Research (IMFAR) are among the most important and successful researchers in the field of autism; these meetings are therefore a great platform for interacting and sharing scientific knowledge with other researchers in the field.

This year's IMFAR was very informative, with topics ranging from epidemiology, to brain imaging, to animal models. I will summarize two of the presentations I thought were very exciting and informative in the field of genetics:

Synaptic and clock genes

Dr Thomas Bourgeron, from the Pasteur Institute in France, described genetic alterations, identified in individuals with autism and associated with one specific signaling pathway. The mutations were found in several interacting genes, including cell adhesion molecules and scaffolding proteins, involved in a signaling pathway crucial for the formation and maintenance of the connection between neurons (synapses). This signaling pathway ensures the correct neural transmission in the brain that is critical for learning and memory.

In addition to this synaptic pathway, he also reported genetic mutations altering the synthesis of melatonin, a key regulator of sleep-wake cycles and memory formation, in some individuals with an autism spectrum disorder (ASD).

The findings presented by Dr Bourgeron may help to better understand a group of atypical features, such as sleep problems and altered memory, observed in some individuals with an ASD.

Mouse model

Dr Craig Powell's team at The University of Texas Southwestern Medical Center developed a mouse model of autism. They introduced a mutation in the neuroligin-3 gene, altered in a small proportion of individuals with ASD, into the animals.

The mice exhibited abnormal social interactions with other mice but did not present with anxiety, coordination impairments, or elevated pain sensitivity. They suggested that the animals may serve as an accurate animal model of autism not associated with a broader neuropsychiatric syndrome.

I was impressed by the diversity and quality of the research presented at this year's meeting. It is, however, not only the information obtained at the meeting or the various new contacts I have made that make

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attending IMFAR so worthwhile but also the fact that it allows one to witness how many talented people are collaborating to, one day, solve the puzzle of autism. This gives you the strength to work even harder on novel ideas even when the conference has ended and you are back to your everyday life. I wish to thank Autism Ontario for supporting me and several other trainees to attend this year's conference.