Molecular mechanisms underlying autism spectrum disorders

Neurodevelopmental disorders such as autism, intellectual disability and epilepsy affect millions of people, and are often refractory to treatments. Not infrequently autism spectrum disorder phenotypes, intellectual disability and epilepsy are coexisting, suggesting the existence of common molecular mechanisms underlying these syndromes. The causes of epilepsy and autism remain unknown for the majority of cases. Of these, a significant number have a genetic basis and many causative genes remain to be identified. With DNA sequencing being more accessible, the genomes of many patients can be analyzed and more disease-causing genes will be recognized. Even though we predict that each identified gene may represent only a tiny fraction of the total genes involved in these disorders, studying the mechanisms underlying rare inherited forms of neurodevelopmental disorders can be extremely helpful. In my talk I will describe our recent work on chromatine modifier genes associated with autism and intellectual disability.