Autism was described for the first time in 1943, by Dr. Leo Kanner who used the term to describe 11 children who seemed to prefer isolation to social interaction. Despite Dr. Kanner’s immediate suggestion that autism was an inborn disorder, it took almost 40 years until the first study proved a connection between genetics and autism spectrum disorders (ASDs). Due to the developmental character (and the late diagnosis), ASDs have been considered a group of non-curable disorders. However, recently a number of investigations encourage a revision of ASDs as paradigmatic developmental disorders and warrant studies headed toward a better understanding of the mechanisms underlying their possible reversibility. In my talk I will outline how combining human genetic information with studies of animal models we can study molecular mechanisms underlying ASD and attempt to determine to which extent ASD are potentially treatable.