New Project: Early “Brain Signature” of ASD

Dr. Inna Fishman, a Research Professor at BDIL, whom many of you have met during the assessment interview, has recently received a large, ~$2.5M grant from the National Institutes of Health to study the early “brain signature” of ASD. Dr. Fishman’s team will apply the most advanced and novel neuroimaging techniques to track brain network development and organization in children diagnosed with autism as their symptoms first appear, around age 18-24 months, through full manifestation of the disorder, when ASD symptoms reach their peak at the age of 4-5 years. Click here for media coverage of this project. If you know a family with a toddler (with, or without ASD) please tell them about this study!

Research Update

The motor system is different in ASD. Many previous studies have observed that children (and adults) with ASD move in slightly unusual ways. For example, infants that are later diagnosed with autism often show delayed motor milestones. However, our understanding of the brain bases of these motor abnormalities is still limited. In a recent study led by Dr. Ruth Carper (a Research Assistant Professor at BDIL), we found that the cortico-spinal tract, a bundle of nerve fibers connecting motor cortex and spinal cord (see Figure on the right), was bigger in the left brain hemisphere than in the right hemisphere in typically developing children. That makes sense because all of these children were right-handed, and it is the left half of the brain that controls the right side of the body. In children with ASD this difference between left and right brain was completely absent, which is surprising because these children were also right-handed. There are two important messages in this study: First, it shows that even a very basic motor system (the one that allows us to voluntarily move our arms, hands, or feet etc.) is differently organized in ASD. And second, the study underscores earlier findings from our lab (described in our 2014 New Year’s Newsletter) indicating that the typical left hemisphere dominance seen in almost all right-handed people is reduced or reversed in ASD – not just for language, but also for other functions, such as motor control. The study, which was recently published in the Journal of the American Academy of Child & Adolescent Psychiatry, can be found here.
Help spread the word!

We are always looking for families who are willing to take part in our ongoing studies. Please be our Ambassadors and assist us with finding more families – whether they have a child with autism spectrum disorder or not – involved in our studies, and in advancing science towards a better understanding and better treatments of ASD.

If you and your child (or your friends, neighbors, relatives) are interested in learning more, or getting involved in our research, please call us at (619) 594-0176 or email BDIL@sdsu.edu.