In patients with psychiatric disorders, we observe a significant heterogeneity of symptoms. Patients with the same diagnosis often present different symptoms of varying severity. So, to propose effective, brain mechanism-based therapies, we need to learn more about the location and function of the neural circuits responsible for specific symptoms. The central amygdala (CeA), a small structure deep inside the brain, is a vital motivational center. It controls both food and social motivation. Our previous research has shown that certain groups of neurons in this structure are involved in processing food reward information, not social reward. We used this knowledge to develop a targeted therapy for food reward-driven learning disorders. We successfully tested this therapy in mice modeling Fragile X Syndrome, a disease resulting in learning disabilities and social interaction impairments. In the proposed project, we plan to find neural circuits in the CeA related explicitly to social interaction disorders. We want to isolate neural circuits based on their connections to other brain structures and molecular markers that control social interactions and distinguish them from those that control food motivation. This will allow the identification of potential goals of therapy aimed at restoring normal social behavior. Separating the mechanisms underlying social and food rewards will allow for avoiding side effects in the form of increased motivation to eat. This is important because, in autistic disorders, problems with social interaction are usually not accompanied by difficulties with processing other, non-social rewards. In the final stage of the project, we plan to develop a therapy for social disorders in a mouse model of the Fragile X Syndrome, based on the modification of the activity of identified neural circuits. Considering the rapid development of methods for manipulating neural circuits, we can hope that discovering the mechanisms underlying social disorders will allow for the development of effective therapies supporting the treatment of autism in humans.