Gilles de la Tourette syndrome (GTS) is a severe neuropsychiatric disorder of children and adults. Main GTS symptoms include tics and mental disorders. Causes of the disease are unknown. However, there is mounting evidence that genetic mutations are an important cause. The aim of our research project is to elucidate if the genetic causes are important in the Polish population.

In the study we plan to use a novel and very effective method to detect all changes of the patients' genetic material (DNA). Then advanced analyses using informatic programs and algorithms will be performed to identify mutations causing the disease.

Our project is the first study aimed at comprehensive analysis of genetic background of GTS in the Polish population and the identification of causative mutations. The project is unique as it involves a novel method to detect all the changes in the patient’s genetic material. Subsequent advanced informatic analyses are very potent to detect the real basis of the disease. We expect that completion of the project will result in identification of novel genes and causative mutations causing GTS, and other GTS-associated psychiatric disorders. The results could be important for basic research, aimed at deciphering a cause of the disease, as well as for clinical practice, as development of novel markers of GTS could lead to make diagnosis more reliable and develop more effective treatment.