Thesis: Changes in structure and in inhibitory system of hippocampus and parahippocampal areas in young animals experienced status epilepticus

The experimental study focuses on the damage to areas providing declarative-episodic memory. The aim of the project is to study the changes in the parahippocampal cortical regions, namely the entorhinal region, subicular complex, perirhinal region and retrosplenial region, in immature rats surviving status epilepticus and in intact animals. The study will focus on laminar analysis of degenerative changes in these cortical regions following status epilepticus at various survival intervals in rats experienced lithium-pilocarpine induced status epilepticus in the postnatal period of P12-P25 days. Further analysis will be focused on changes in the inhibitory cortical system represented by neuronal populations that express calcium-binding proteins – parvalbumin and calretinin. The material will be processed by immunohistochemical methods to detect interneurons expressing these markers. After the analysis, it will be possible to localize the damage in the axosomatic, axodendritic and axo-axonal inhibitory interneurons and localize the damage of cortical areas participating on different memory mechanisms and the spatial orientation.