Dr. Massimo Avoli uses electrophysiological and molecular techniques to examine the excitability of forebrain neurons in rats and mice. His work focuses on the interplay of inhibitory and excitatory influences, especially as they relate to the genesis of synchronicity in neuronal networks. These processes are fundamental for understanding the mechanisms underlying the generation of seizures in epileptic patients and for developing new anti-epileptic drugs. In his recent research, Dr. Avoli has worked with a mouse model of Fragile X syndrome to identify the alterations in inhibition that occur in a specific brain structure, the subiculum. This aspect might represent a fundamental mechanism in the pathophysiogenesis of this form of mental retardation.

Selected publications:


