

# NYIRI GÁBOR



## Hungarian neuroscientist

Gábor Nyiri is head of the Neural Networks Laboratory at the Institute of Experimental Medicine, Budapest. Their research group investigates the sophisticated cognitive function of the human brain, which is based on the complex interconnections between cells of the central nervous system.

## CAREER

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The sophisticated cognitive functions of the human and mammalian brain are based on the complex interconnections of cells in the central nervous system. Understanding how neurons communicate with each other, what transmitters and receptors are used for neuronal communication, and how these receptors are distributed and function in neurons remains one of the major challenges of modern neuroscience. Their group's work focuses on the role of these connections in behavior and on deciphering which transmitters and receptors shape the communication between cells. They are also investigating how these receptors are located and function on neurons. Using selective viral pathway detection techniques and optogenetic behavior studies, as well as high-resolution light and electron microscopy, they focus on the role of connections targeting cortical, hippocampal and forebrain areas in both healthy and pathological brain.

In recent years, the laboratory has focused on the emergence of behavior-dependent population discharge patterns, in addition to describing novel signaling mechanisms at cortical synapses. Their research combines anatomical, *in vitro*, and *in vivo* electrophysiological, optogenetic, pharmacological, molecular and modelling techniques.