

**Laboratory:** Pain Research

**Speaker:** Jiří Paleček

**Topic:** Mechanisms and treatment of pain: Modulation of nociceptive signaling at spinal cord level

**Annotation:**

The main research interest of our department is to study **mechanisms of pain** and to explore new possibilities of **pain treatment**, especially in chronic states. Our experimental work is concentrated on the **modulation of nociceptive information at the spinal cord level** that is the relay center between the periphery and higher brain areas. Our goal is to study these modulatory mechanisms in order to improve therapy for pain conditions, such as allodynia, hyperalgesia, neuropathic and cancer related pain. This project will be focused on modulation of synaptic transmission at the spinal cord level. Lately we are interested in the role of TRPV1 receptors, cannabinoids, opioids and inflammatory cytokines in this process. In our research we use mainly electrophysiological, imaging, immunohistochemical and behavioral methods.

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