Department für Neurowissenschaften

INSTITUT FÜR BIOLOGIE
UND UMWELTWISSENSCHAFTEN

Invitation to a Guest Lecture
at the joint colloquium of the Institute of Biology and Environmental Sciences and the Department of Neuroscience

Prof. Dr. Yong Lu

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UH-NEOMED Faculty Scholar
Northeast Ohio Medical University (NEOMED)

mGluR Neuromodulation in Auditory Circuits for Sound Localization

The functional development of central auditory circuits relies on temporally patterned spontaneous activity that originates in the cochlea. Disruption of this activity leads to abnormal development of auditory circuits and impairs auditory processing and behavior. Our pilot studies revealed that activation of metabotropic glutamate receptor 5 (mGluR5), a member of group I mGluRs, triggers temporally patterned spontaneous activity in auditory brainstem neurons. This finding suggests a potential central mechanism for maintaining and modulating the spontaneous activity necessary for auditory circuit development and maturation. Loss-of-function (knockout) of mGluR5 disrupts neuronal properties essential for temporal processing in brainstem auditory neurons and impairs hearing ability. Notably, mGluR5 may exert its modulatory effects through a recently recognized corticofugal descending pathway.

13.05.2025, 16:15 Uhr, W04 1-162

Hybrid:

Host: Prof. Dr. Ivan Milenkovic (Section of Physiology, Department of Human Medicine)

Members of all institutes are cordially invited to join the lecture.