COLLOQUIA IN MEMBRANE TRANSPORT

Venue: Medical University Vienna, Center for Physiology and Pharmacology, Institute of Pharmacology, Waehringerstrasse 13a, 1090 Vienna, "**Leseraum**".

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"Dopamine $D_{2/3}$ receptor availability and function, addiction, and reward-related personality traits: neurobehavioural correlates in experimental animals"

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Abstract:
Addictive behavior is importantly mediated by mesolimbic dopamine (DA) signaling. One current hypothesis in the field is that compulsive drug use is due to drug-induced neuroadaptations within the mesolimbic DA system, which cause hypersensitivity to drug-associated cues and increased motivation for drugs (incentive sensitization theory). Here will be presented results from studies on the effect of chronic exposure to Δ^9-tetrahydrocannabinol (THC), the major psychoactive constituent of cannabis, on selected aspects of DA signaling, and DA-related behaviours. These include the availability and function of the DA D_2 and D_3 receptors, their gene expression, and other neurochemical measures of DA and endocannabinoid signaling, as well as tests measuring basal and drug-induced locomotor activity, conditioned place preference and sensorimotor gating. Moreover, recent evidence obtained in rodents and indicating that innate differences in DA $D_{2/3}$R function are associated with phenotypic divergence in novelty-seeking trait and vulnerability to addiction will be presented.