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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Friday 25.10.2013 14:00 s.t. **Mike Baumann** (host: H. Sitte)

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"The mighty methylenedioxy: a key structural feature for designer drugs of abuse"

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Abstract:

Amphetamine-related compounds are popular drugs of abuse. In particular, the ring-substituted compound 3,4-methylenedioxymethamphetamine (MDMA, or *Ecstasy*) displays unique pharmacological actions when compared to its parent compound methamphetamine. In this presentation, it will be shown that the presence of a methylenedioxy moiety has two important effects: 1) it governs the potency and selectivity of MDMA for interacting at monoamine transporter proteins in nervous tissue, and 2) it dramatically impacts the hepatic metabolism of MDMA after systemic administration. Recently, a host of novel synthetic cathinones (i.e., so-called "bath salts") have appeared in the recreational drug marketplace, including compounds that possess the methylenedioxy ring substitution. The pharmacological profile for two of these newer drugs, 3,4-methylenedioxymethcathinone (methylone) and 3,4-methylenedioxypyrovalerone (MDPV), will be compared to MDMA.