

## ***SFB 35 Colloquia in Membrane Transport***

16.12.2011, 14.00: Leseraum Pharmakologie

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#### **"Dopamine Transporter Mutant Mice in Experimental Neuropharmacology"**

The dopamine transporter tightly regulates the extracellular dynamics of dopamine by recapturing released neurotransmitter into the presynaptic terminals, and genetic deletion of this protein results in profound alterations in both the presynaptic homeostasis and the extracellular dynamics of dopamine. By using this model of severe dopaminergic dysregulation, significant progress has been made in defining the major target of psychotropic drugs, understanding the mechanisms of their action, unraveling novel signaling events relevant for dopaminergic transmission, and mapping neuronal pathways involved in dopamine-related behaviors. Furthermore, DAT mutant mice provided an opportunity to model in vivo conditions of extreme dopaminergic dysfunction that could be relevant for human disorders such as ADHD, schizophrenia, and Parkinson's disease and, thus, could serve as test systems for developing novel treatments for these and related disorders.