



Institutskolloquium

Psychologisches Institut

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Technische Universität Dresden

**„The role of prefrontal cortex function
for learning and decision-making in
older adults”**

Mittwoch, 10.06.2015, 16.15 – 17.45 Uhr,
Raum 01-231 (Binger Str. 14-16)



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Abstract:

“The role of prefrontal cortex function for learning and decision-making in older adults”

In this talk I will present data from recent behavioral and neuroimaging studies in which we investigated the effects of aging on habitual (model-free) and goal-directed (model-based) learning and decision-making. Based on fMRI findings I will argue that age-related impairments in goal-directed learning are due to a deficient recruitment of the dorsolateral prefrontal cortex (dlPFC) during the extraction of sequential task structures. In support of this conclusion, I will show data from a recent TMS study, suggesting that disruption of dlPFC function in younger adults leads to similar learning deficits as observed in older adults. Finally, I will provide behavioral, computational and electrophysiological evidence for the idea that aging is associated with a shift from goal-directed to habitual choice behavior. This shift may reflect a more general problem of older adults in integrating (model-based) knowledge about task structures with model-free information about the expected utility of choice options.