

Talk on Thursday, 7. Apr. 2022
in Präsenz (2,5G Regeln + FFP2) **in HS 424**
Start: 16:15 (till 17.30)
& Online: [Link zum online-Stream](#)
The talk will be presented in English

Sensory consequences of visual actions

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We use rapid eye, head, and body movements to change where we look. They shift the sensory surface (i.e., the retina) with respect to the external world to extract information from a new part of the visual scene. But the consequences of such visual actions go beyond their intended sensory outcomes. On the one hand, intrinsic consequences accompany movement preparation as covert internal processes (e.g., predictive changes in visual sensitivity). On the other hand, visual actions have incidental consequences, side effects of moving the sensory surface to its intended goal (e.g., global motion of the retinal image during saccades).

In this talk, I will present studies in which we investigated the functional value of intrinsic and incidental sensory consequences of visual actions. First, we show that intrinsic consequences of eye-movement preparation anticipate the retinal changes that are about to occur. This anticipation involves spatially specific, foveal predictions of soon-to-be fixated visual features of the movement target. Second, we discovered that incidental consequences of saccadic eye movements can be used by the visual system to establish object correspondence across glances, and jump-start gaze correction upon saccade landing. These results provide insights into continuously interacting top-down and bottom-up sensory processes. On a more global level, they reify the necessity to study perception in connection to motor behavior that shapes its fundamental processes.

About Martin Rolfs see: <https://rolfslab.org/>

<https://www.plus.ac.at/psychologie/fachbereich/sqp/vortragsreihe/>