

## The tickling approach to the neuroscience of fun

Initiative: Freigeist-Fellowships

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Projekt-Website: <https://www.unimedizin-mainz.de/pathophysiologie/ag-neurogelotology.html?L=1>

There is no doubt that fun is one of the most important aspects of life. When it comes to neuroscience, however, it is rarely studied. Play fighting is a fun activity that is common among juvenile humans and juvenile animals. Play fighting is an inherently social behavior and is thought to contribute to the development of social and cognitive competence. Play fighting often involves tickling of playmates. Tickling is an interesting form of social touch that has intrigued great thinkers for more than two millennia. Despite the common appearance of tickling in human cultures, the function and neuronal mechanisms of ticklishness are unknown. This project will aim to understand how a tactile tickle stimulus is translated into a joyful emotion. To this end, the project will investigate cortical activity of rats, which emit 50 kHz vocalizations, indicating positive emotional valence, in response to tickling. In this project, the brain area called the insula, which assembles various experience-related signals, is hypothesized to also process positive emotion associated with the tickle perception. Furthermore, the project will investigate the effect of retention of playfulness and thus youthfulness by tickling in the molecular level. Addressing these questions will help us understand the biological basis and significance of fun.

### Projektbeteiligte

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### Open Access-Publikationen

**Protocol for precise signal synchronization of electrophysiology, videography, and audio recordings using a custom-made pulse generator**

