

Vortrag Oberstufe

Freitag 7.11.2025 15:00 – 16:30 Uhr

Technisches Gymnasium Waldshut, Raum 213



Neuroscience: reversible brain plasticity

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Some animals undergo dramatic seasonal changes in brain size: the common shrew, a small mammal native to Europe, experiences a reduction in brain volume of approximately 20% during winter, followed by regrowth in spring. Shrews possess exceptionally high metabolic rates and must consume nearly their body weight in food daily to survive. When winter arrives and food availability decreases, their bodies—including their brains—undergo substantial reduction, then recover the following spring.



This lecture examines how this adaptation functions, its significance for neuroscience, and what it reveals about evolutionary solutions to environmental stress. We will explore the methods used to study these changes through brain imaging, evaluate cognitive performance in shrews during winter months, and discuss potential implications of reversible brain plasticity for human neuroscience research.

An event for all participants of the upper school Hochrhein-Seminar.de.
(Guests are welcome: goldau@hochrhein-seminar.de)

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