

Department of Neuroscientific Principles in Psychotherapy

Head of Department: Univ. Prof. Dr. Giselher Guttman

Responsibilities

The department is in charge of giving students an in-depth understanding of the biological principles underlying psychological processes by drawing on the latest findings of cognitive neuroscience. Modern brain imaging allows the empirical study of hitherto controversial and elusive phenomena such as the influence of affective changes on cognitive processing. These techniques not only enable mental health professionals to gain an "objective" insight into psychological processes but also to integrate psychophysiology (e.g. physiological indicators and biofeedback) into the therapeutic process.

Teaching

Students are provided with a comprehensive coverage of the neuroscientific foundations of experiencing and behaviour.

- The functional anatomy of the nervous system
- The mechanisms of conduction and transmission of neuronal excitation
- The mechanisms of neurotransmitters and the effects of psychopharmacology
- Biological principles of learning, memory and forgetting
- The neurobiological aspects of emotions, anxiety
- The neurohumoral dynamics of motivation and drive
- Circadian rhythms – sleep and dream research
- Brain imaging techniques – EEG, fMRI, PET
- Psycho-neuroimmunology

In continuation of the research activities carried out so far and with a view to students' Bachelor's and Master's theses, teaching will mainly focus on the following areas of research:

- Applied psychophysiology (physiological indicators, biofeedback)
- Altered states of awareness (neurobiological aspects of trance, hypnosis and meditation)
- Neuro-psychoanalysis (the application of brain imaging in sleep and dream research)

Co-operations

A number of research centres have already expressed their interest in co-operating with the Department of Neuroscientific Principles in Psychotherapy and their readiness to provide the facilities required to conduct the planned research activities.