Contribution ID: 21

Cytoarchitectonic mapping, 3D-reconstruction, and texture analysis of the human bed nucleus of the stria terminalis

Wednesday 21 September 2022 11:30 (20 minutes)

The bed nucleus of the stria terminalis (BST) is a basal forebrain structure mainly involved in anxiety disorders and stress response. Its small size and having cell densities similar to its surrounding structures lead to difficulties in precise delineations using common MRI techniques. Histology-based maps help to overcome these challenges and can serve as a spatial and structural reference.

This talk gives an overview about the neuroanatomy and microstructure of the BST and its subdivisions. Cytoarchitectonic mapping and textural analysis as a quantitative validation method will be explained. Finally, two sets of maps will be presented: First, probabilistic maps, showing the localization and interindividual variability in MNI standard reference spaces. And second, a surface-based high-resolution 3D-reconstruction of the BST in the BigBrain will be shown to visualize the complex shape of the BST and its subdivisions in high anatomical detail.

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Session Classification: Young Researchers Session