

Lay Summary

BRAIN UK Ref: 19/017

Pilot study: Micro-Focused X-Ray Computed Tomography

Prof. Delphine Boche, University of Southampton

We wish to explore and validate the information that the use of non-invasive brain imaging can provide on the morphology and structure in association with the neuropathology. The development of a μ CT scanner capable of producing non-invasive 3D scans of soft tissue at microscopic resolutions will reveal features hundreds of times more detailed than conventional CT scans, comparable to 2D light microscopy images from conventional tissue section.

The high-resolution way of imaging soft tissue, such as the brain, represents the future as it will open a wealth of new information to biologists, biomedical scientists, medical researchers and clinicians enabling them to see and quantitatively analyse the microstructures of soft tissue in their 3D context which could inform future treatments.