

Narrative

This project will improve scientists' ability to use very high resolution imaging to quantitatively assess the structure and function of the rodent brain in health and disease. Scientific interest in rodent brain imaging has continued to rise in recent years because of the importance of the mouse and rat models in neuroscience research, but the computational tools that are currently available lack the basic ability needed by scientists to precisely determine the anatomical locations of brain effects of interest or to compare and integrate different measurements of these effects that have been acquired, for example, from different animals or with different imaging modalities. By providing open source, user-friendly, widely interoperable, and extensively validated tools for brain imaging analysis and mapping, the project will enable a broad field of scientists to leverage modern imaging technologies more effectively in answering basic science questions about the rodent brain, and this in turn will speed neuroscience discovery as a whole.