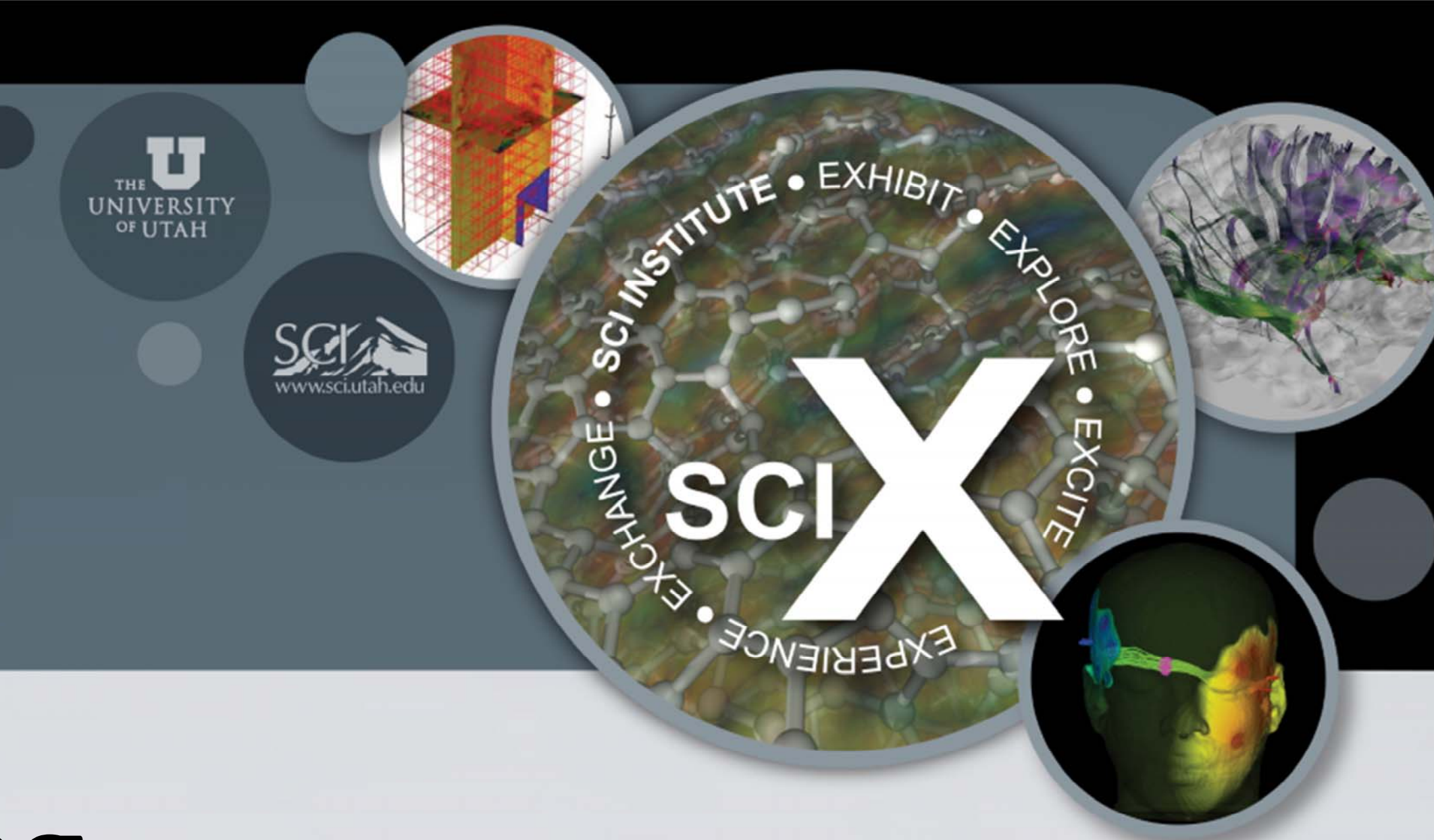


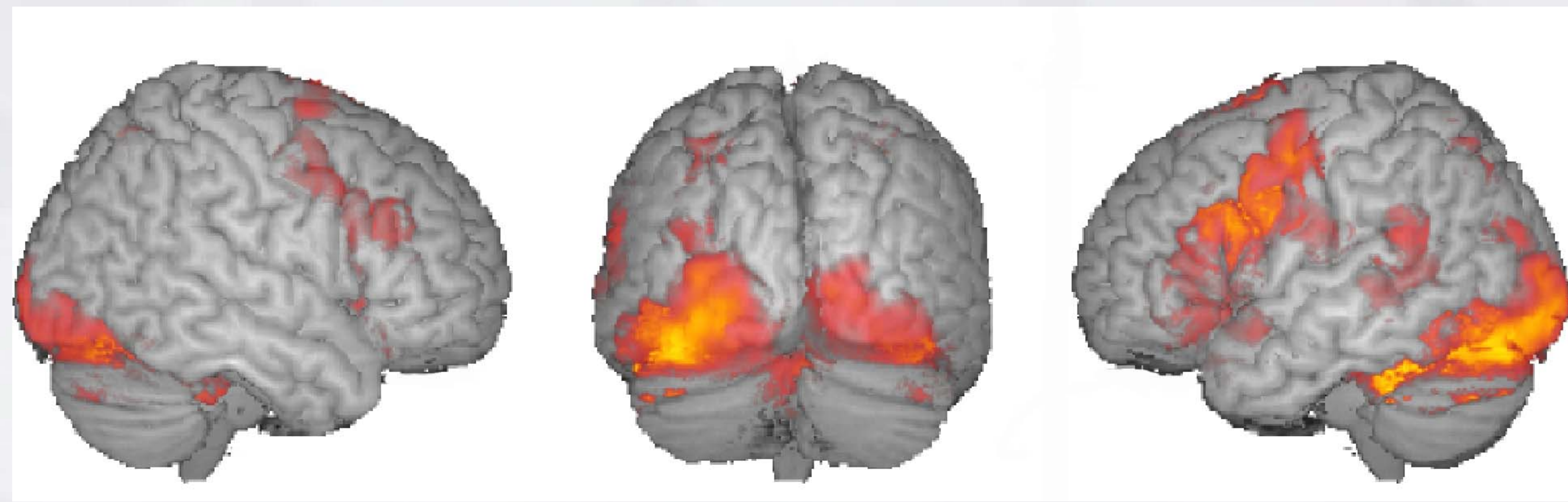
Magnetic Resonance Imaging Uses

Eleanor Wong and Blake Zimmerman

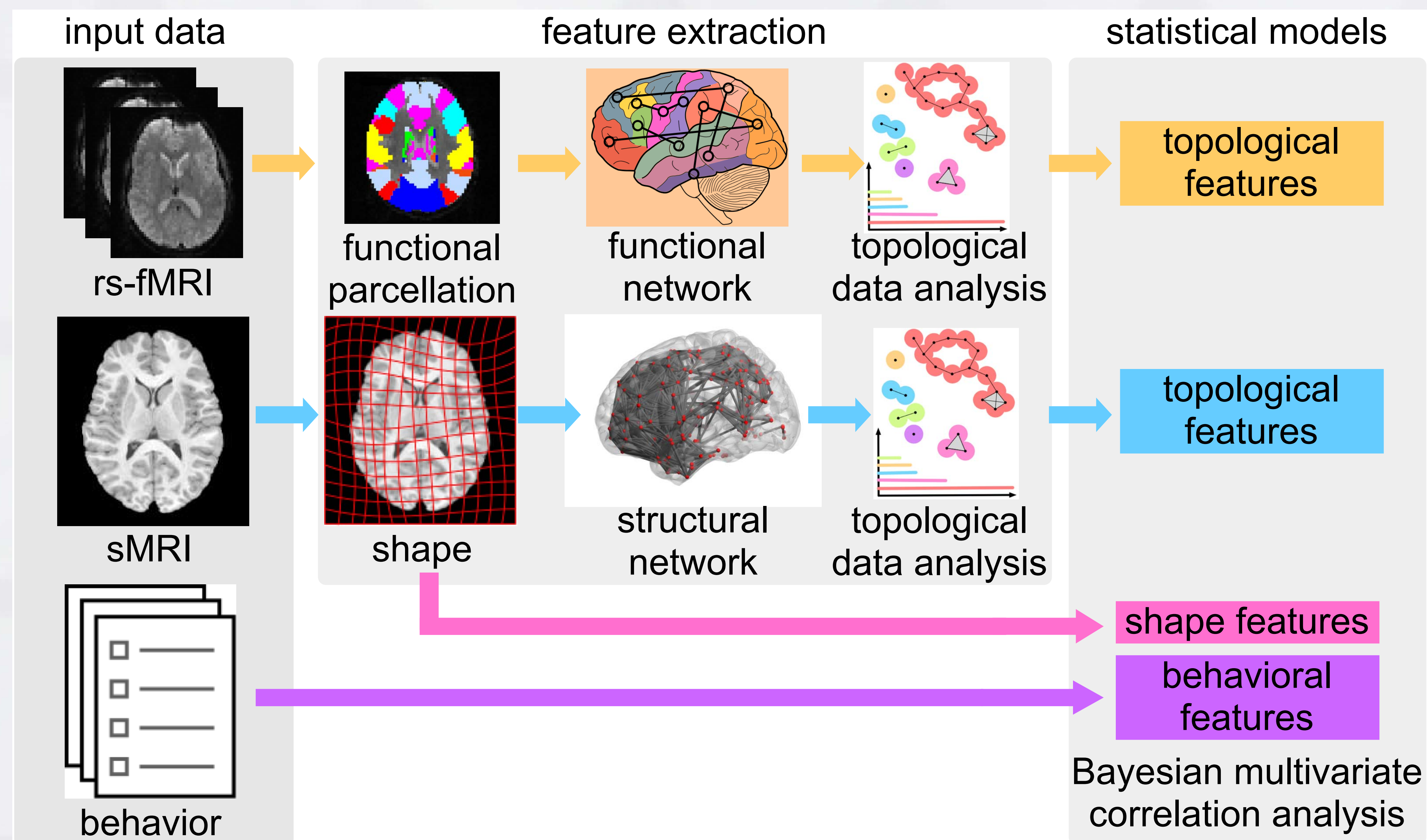


Functional MRI

Functional MRI images the blood oxygen level dependent (BOLD) contrast over a time period to measure brain activity. Activity has also been observed when the brain is in the resting state, forming networks between spatially distinct regions. Research has shown that many neurodevelopmental and -degenerative diseases can be characterized as altered connectivity in resting-state functional networks.



We are studying the relationship between brain structure, functional connectivity, and observed behavioral scores in a population, using the following pipeline:



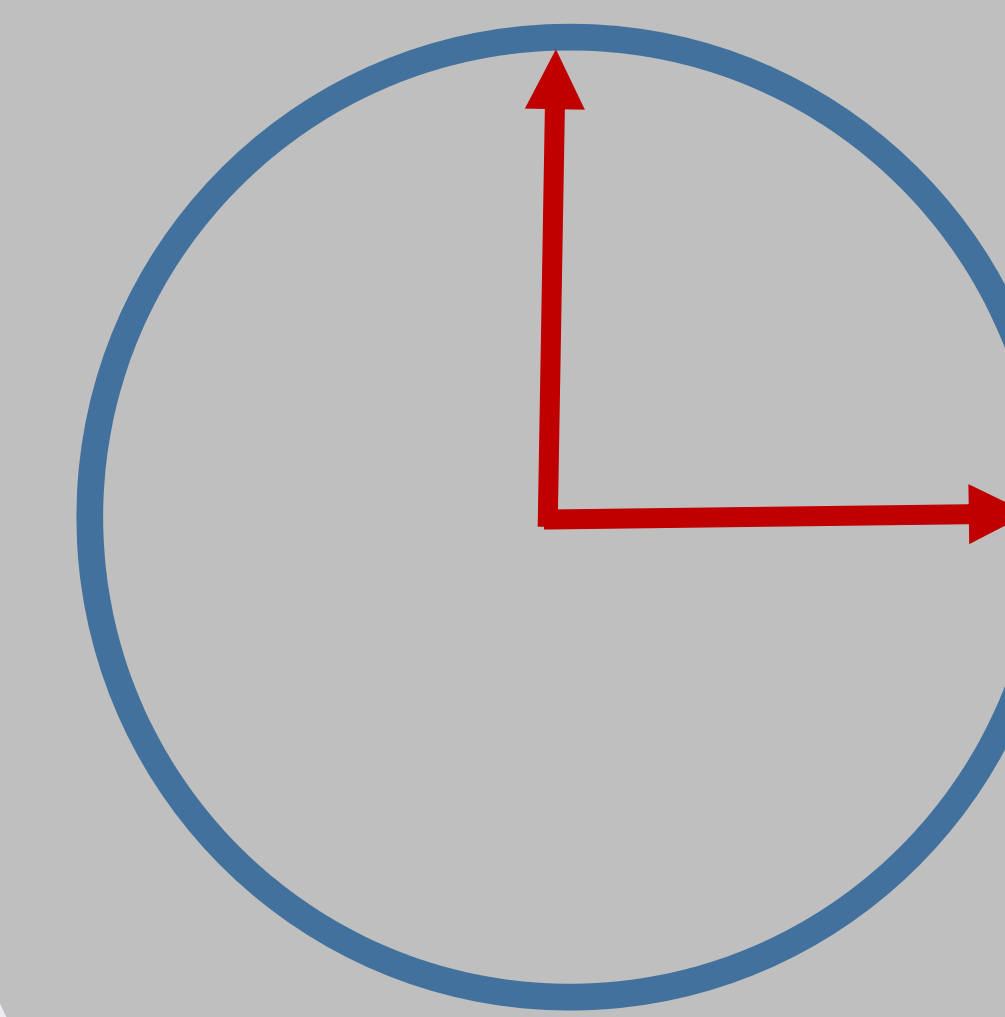
Diffusion Weighted Imaging

Taking MRI images that are sensitive to the direction of water diffusion allows us to determine underlying structure of different parts of the body. This can be used to define how different tissues are connected.

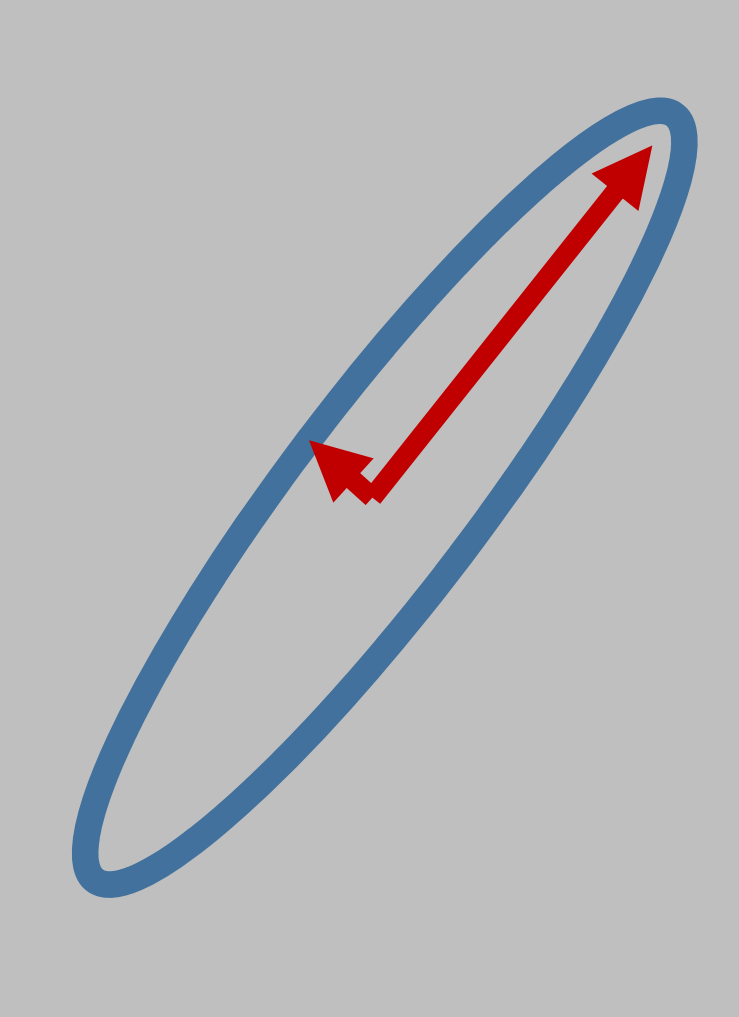
Diffusion Weighted Image



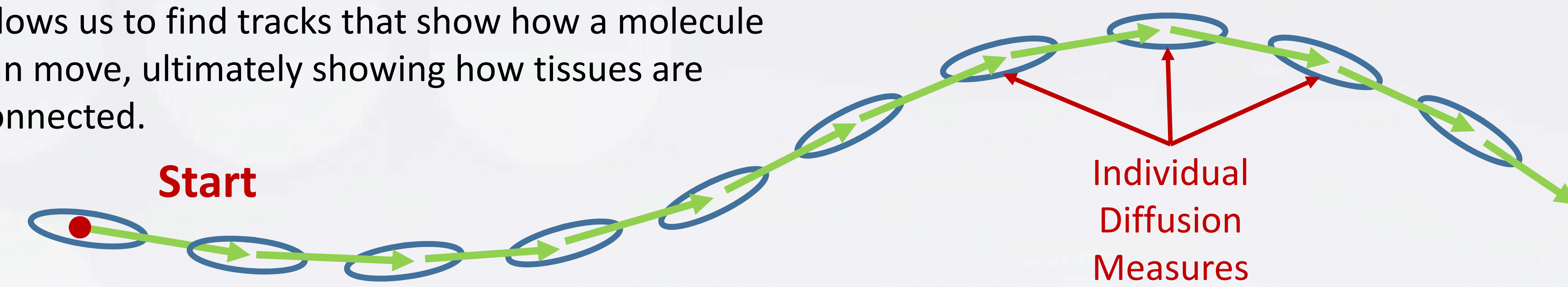
Uniform Flow



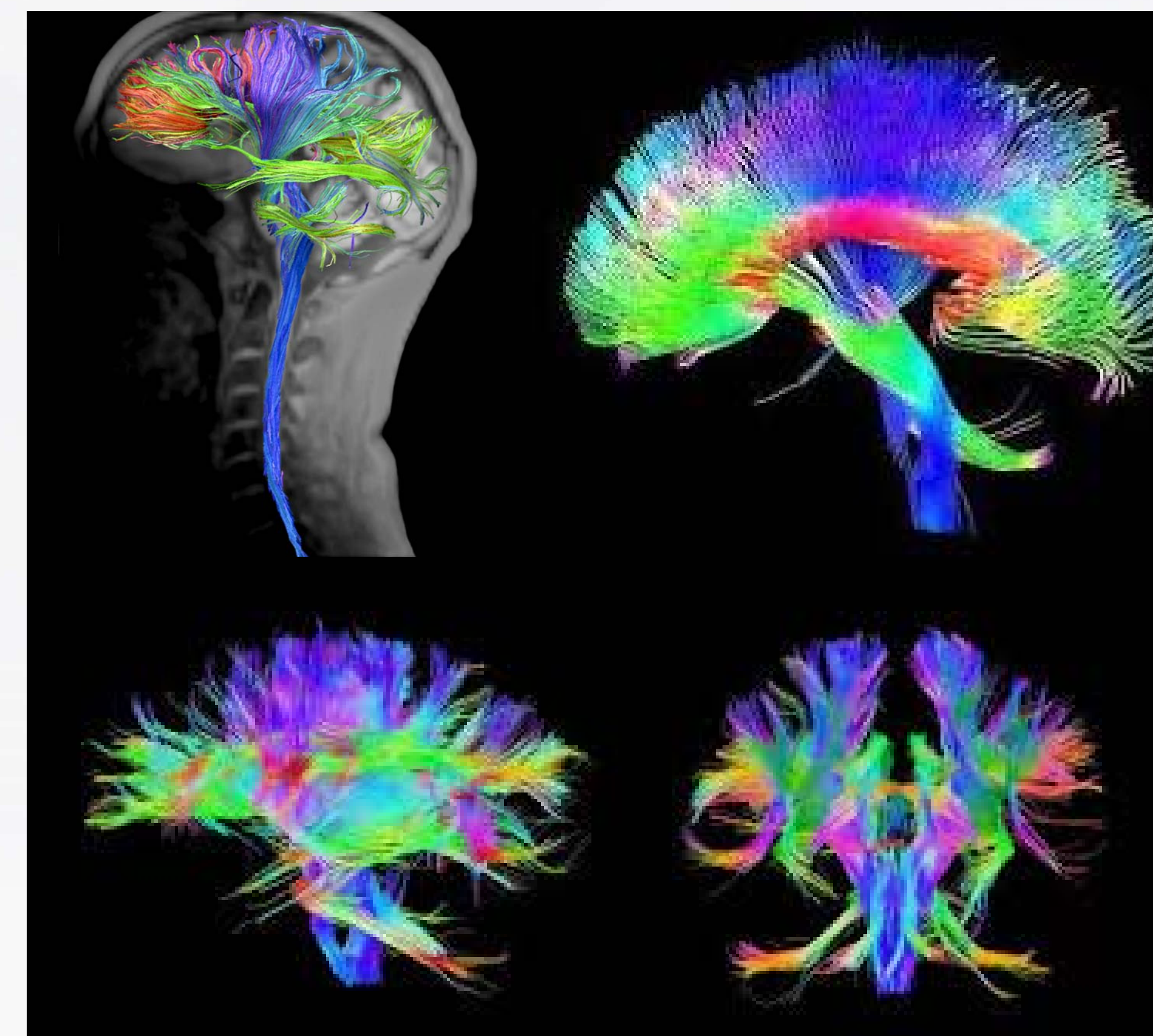
Unidirectional Flow



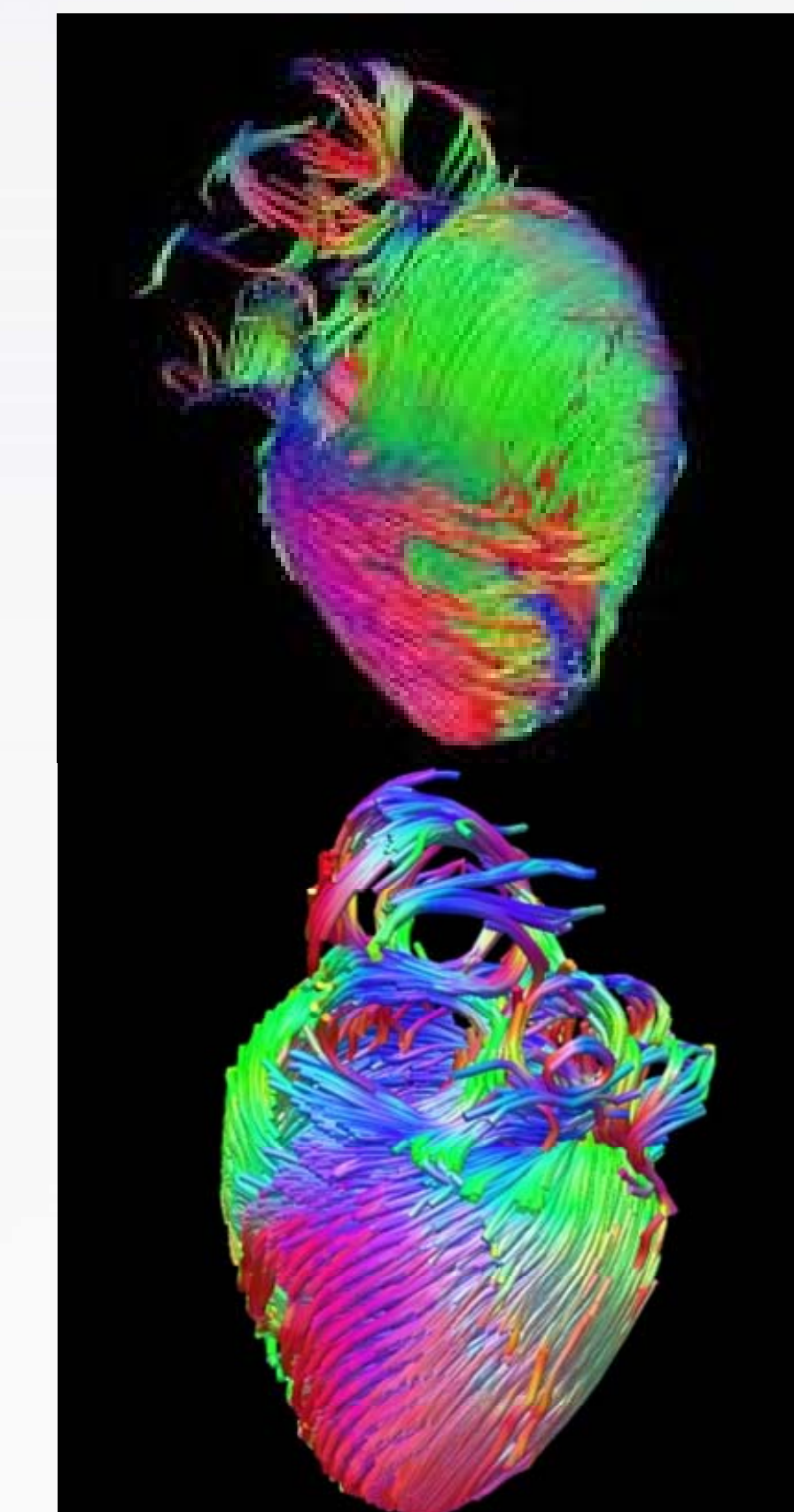
Knowing how a molecule flows at every point allows us to find tracks that show how a molecule can move, ultimately showing how tissues are connected.



Human Brain



Human Heart



Mouse Brain

