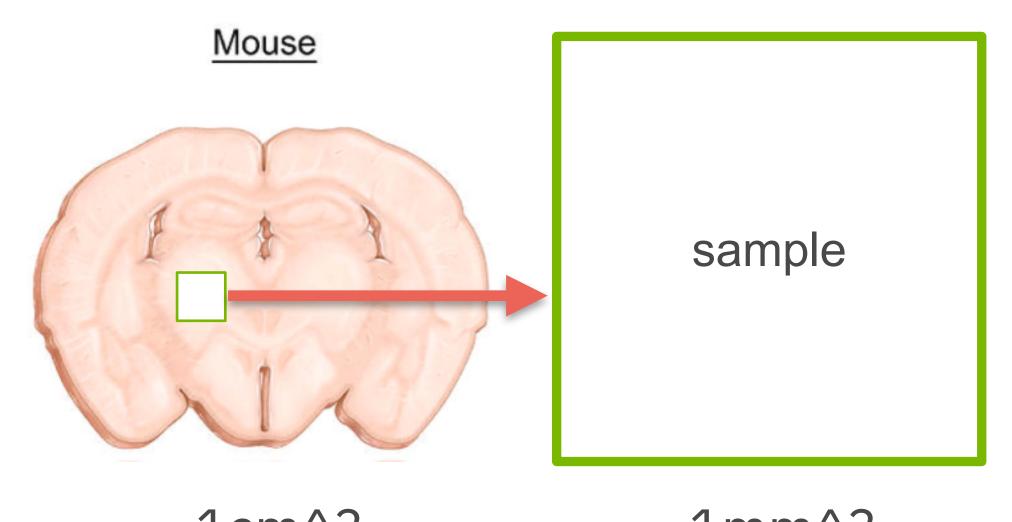
Connectomics Data-Driven Models



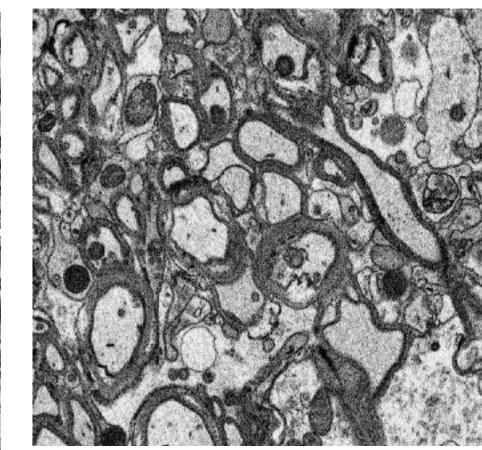


~1cm^3 ~1mm^3

25000 40nm sections 1mm x 1mm (6nm resolution)

section

Each section
imaged with EM as
N tiles (8 bit)
80K x 40K pixels



Sections stitched together

How much image data is 1mm³? 1×10¹⁵ voxels --> ~1 PB



Mouse brain: 70M neurons



Data Challenges in Connectomics



Mouse brain: 70M neurons

tiny brain

~1cm³

How much image data is 1cm³? ~1EB

Human brain: 80B neurons



~1000cm³

How much image data is 1000cm³? ~1000 EB (6nm x 6nm x 40nm)

Reconstructed data will be much larger:

- Segmentation labels for each voxel
 - 4x voxel data
- 3D Mesh
- Skeleton

The structures are expected to be used to seed simulations to study flow in neurotransmitters, in better modeling the brain, among others.



