

# Ex-vivo whole human brain high b-value diffusion MRI at 550 micron isotropic resolution using a 3T Connectom scanner

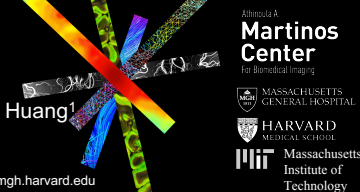
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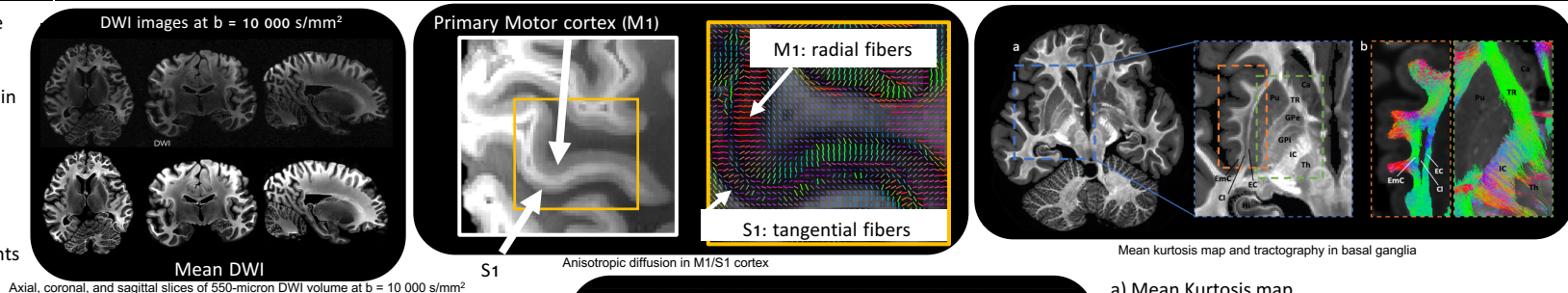
## Introduction

**Diffusion MRI (dMRI)** holds the most promise among noninvasive imaging methods for probing cellular structure in the human brain

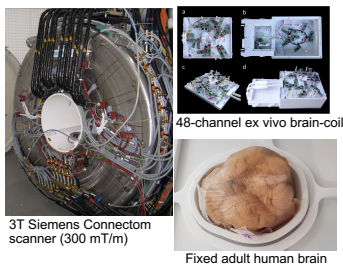
**Multi-scale validation is key**

Using in vivo and ex vivo diffusion MRI of human brain tissue and comparing against measurements at finer scales with micro CT and serial EM.

## Results

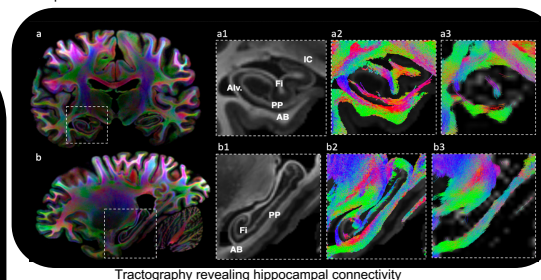
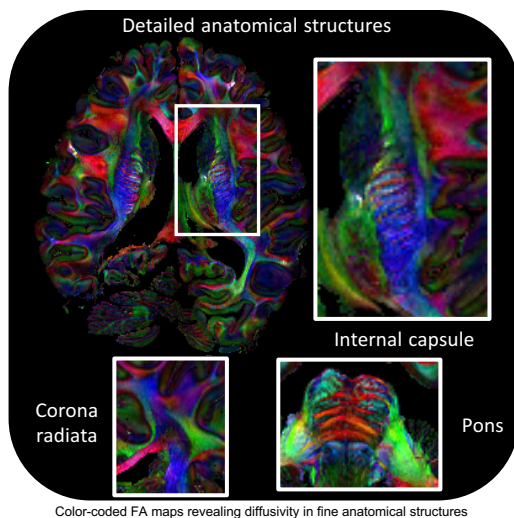


## Methods



**3T Connectom scanner**  
Ultra-high gradient strength

**3D segmented EPI DW-spin echo** sequence: High SNR, reduced geometric distortions



AB: angular bundle. Alv.: Alvear path. Fi: fimbria. IC: internal capsule. PP: perforant pathway.

## Conclusions

Future analysis with ex-vivo diffusion imaging will help bridge the gap between macroscale connectivity and human brain microstructure through comparison with micro-CT or electron microscopy.

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