CONVERTING FUNCTIONAL COORDINATES INTO MNI SPACE

AAN Annual Meeting 2017 | Boston | 4/23/2017

Andreas Horn

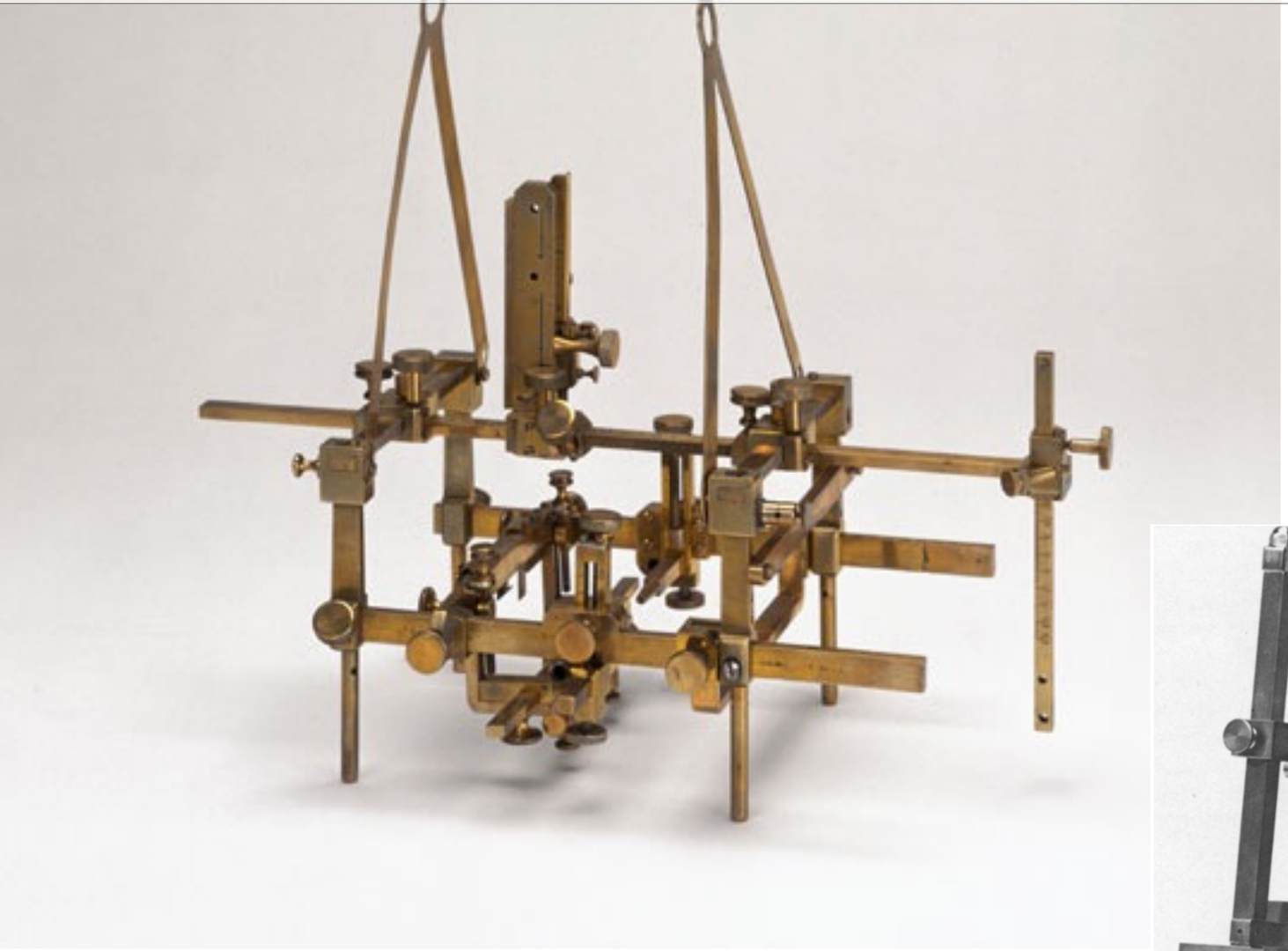
Horn, A., Kühn, A. A., Merkl, A., Shih, L., Alterman, R., & Fox, M. (2017). AC/PC to MNI conversions. NeuroImage, 150, 395–404.

Berenson-Allen Center for Noninvasive Brain Stimulation

CHARITÉ

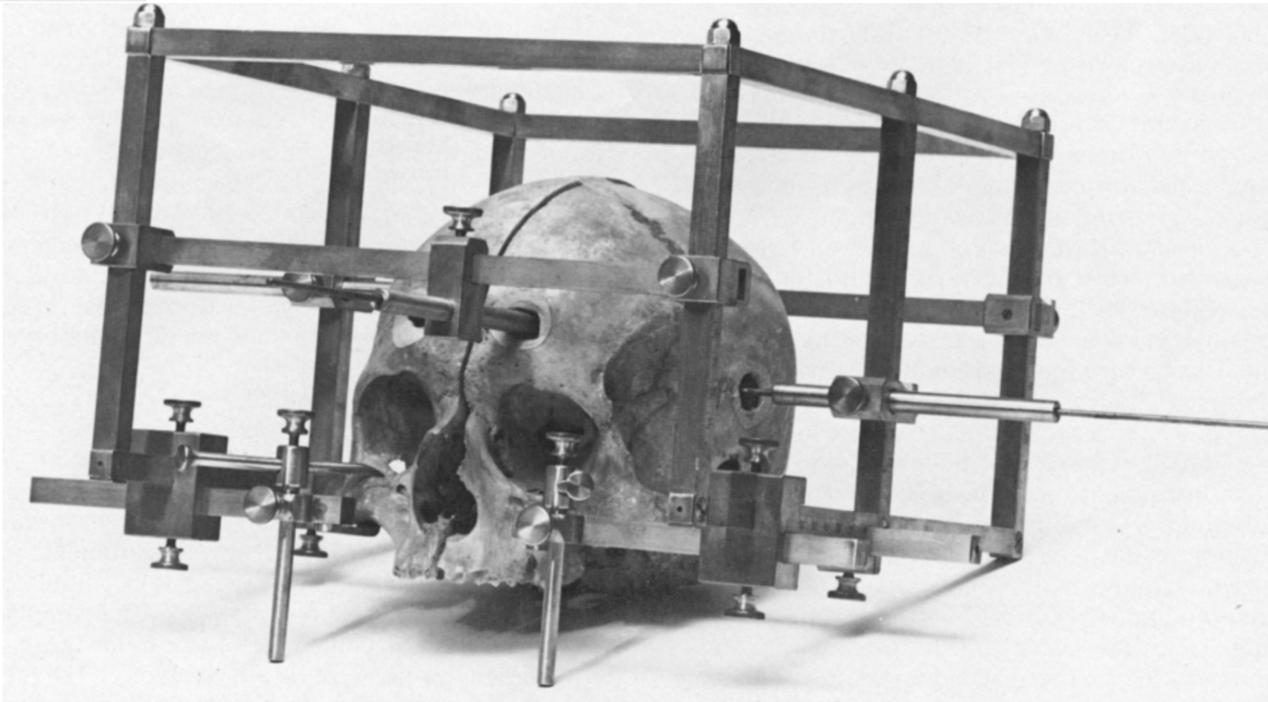
KFO 247

Laboratory for Brain Network Imaging and Modulation



Horsley-Clarke Apparatus
(applied in cats and monkeys, 1906)

Aubrey Mussen: First in man (1918)



cf Picard 1983 J Neurosurg

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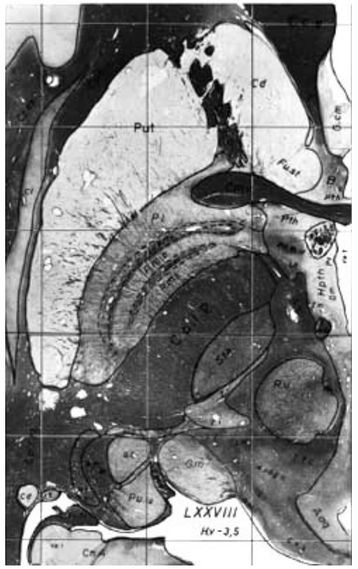
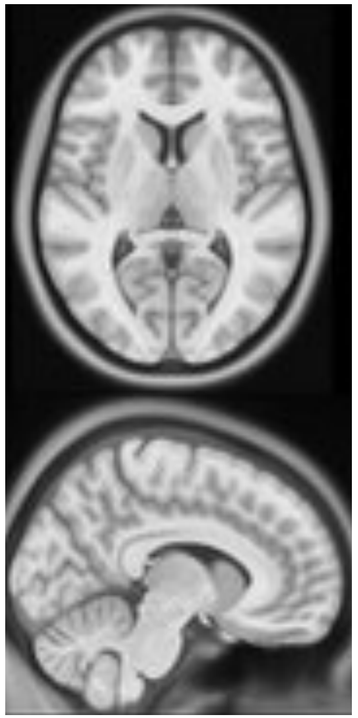


NEUROSURGICAL LITERATURE:
AC/PC SPACE



NEUROIMAGING LITERATURE:
MNI SPACE

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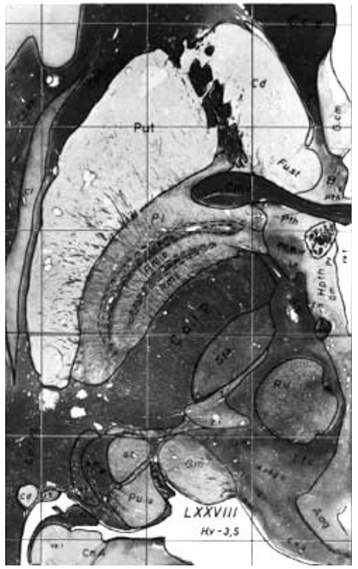

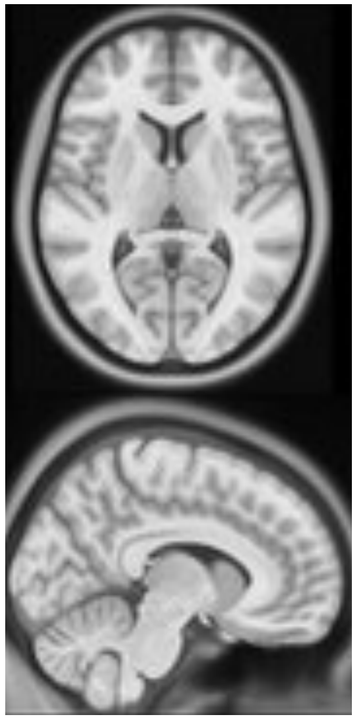

NEUROSURGICAL LITERATURE:
AC/PC SPACE

no conversion tool

NEUROIMAGING LITERATURE:
MNI SPACE

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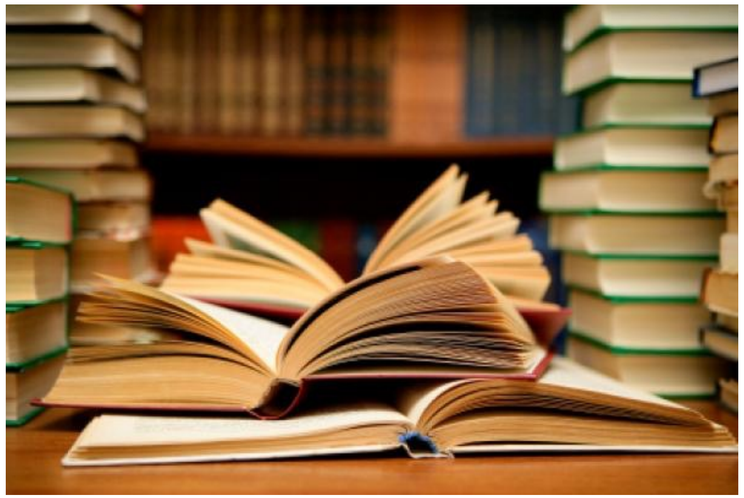
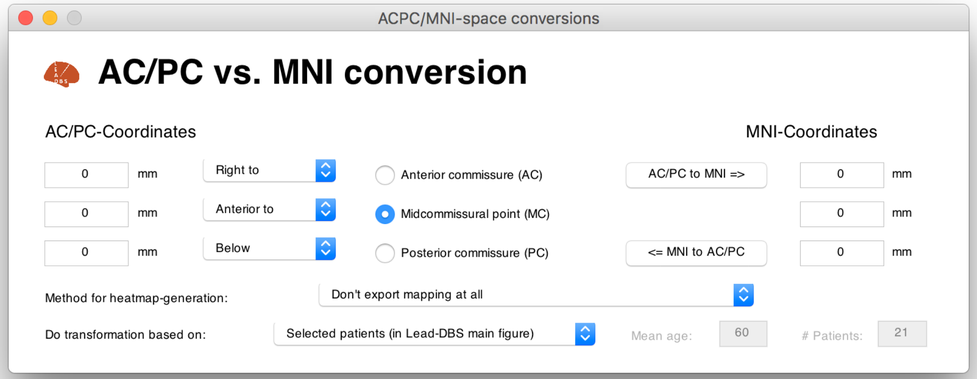
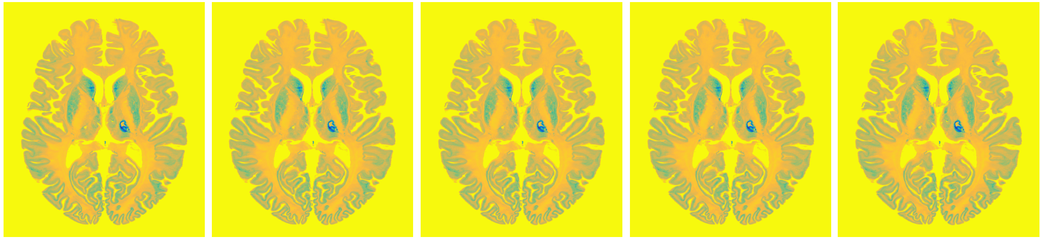
Literature finding: AC/PC coordinate



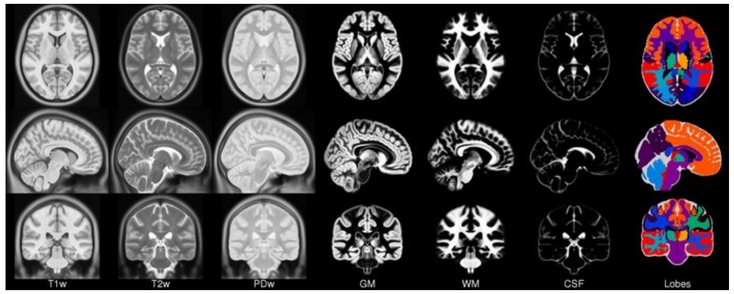


www.lead-dbs.org

Project to individual brains, relative to their AC/PC



Nonlinearly warp coordinates into MNI space



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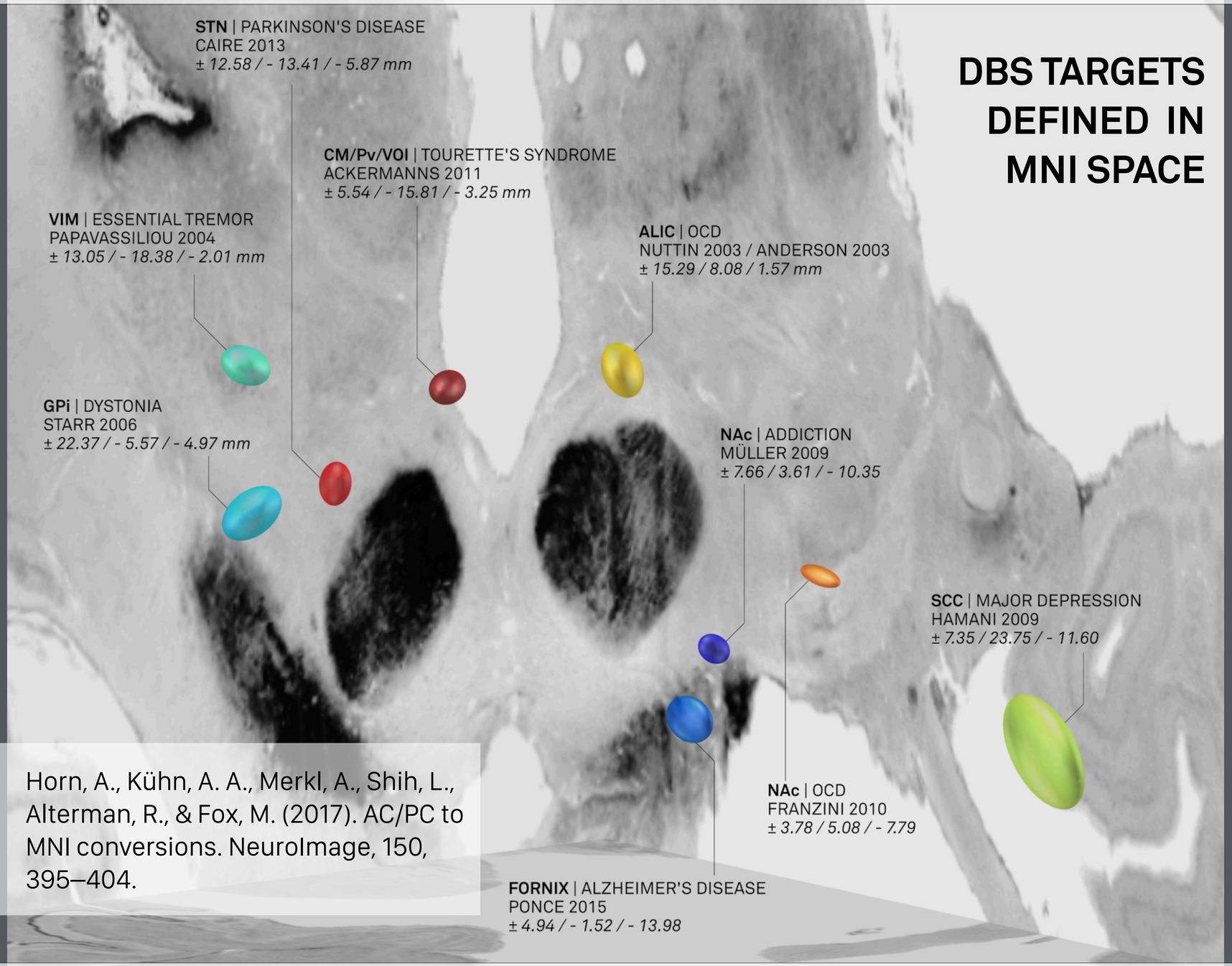
DBS TARGETS DEFINED IN MNI SPACE



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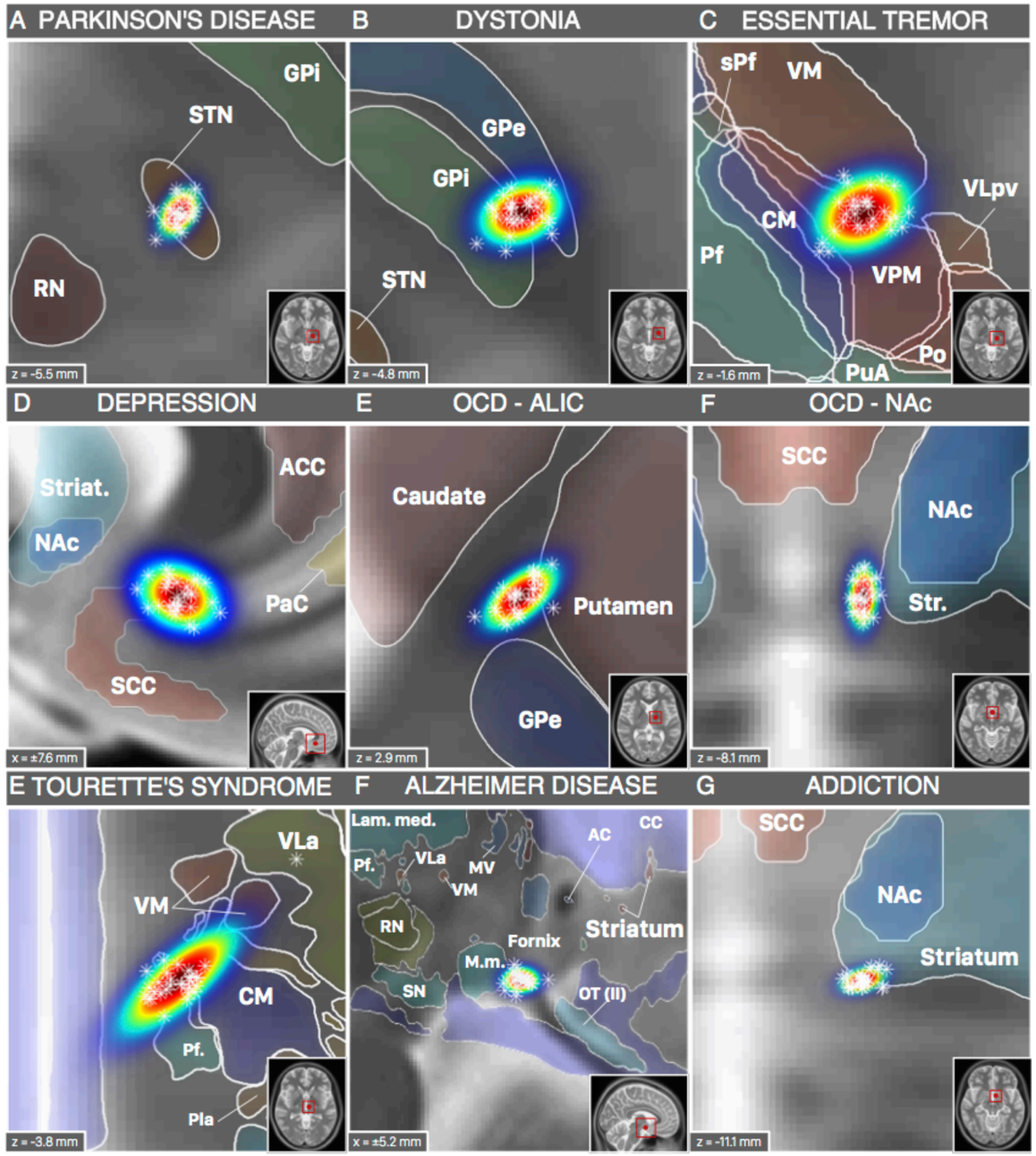
RESULTS



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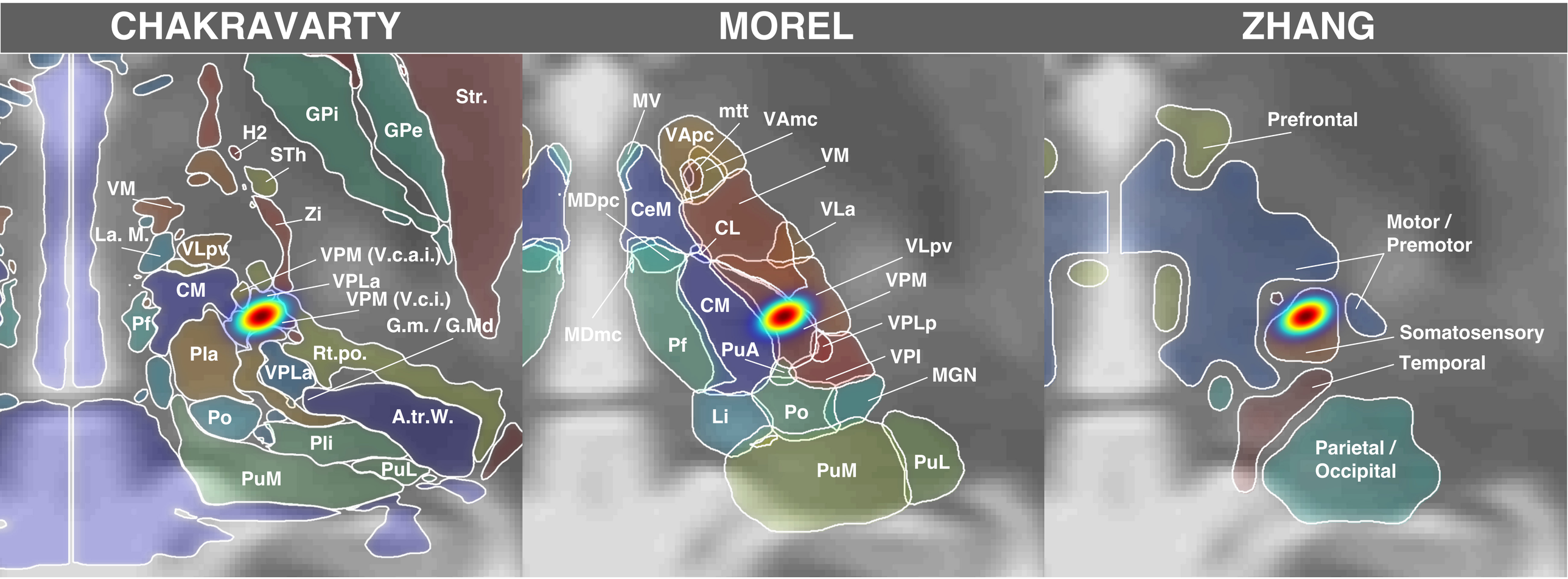

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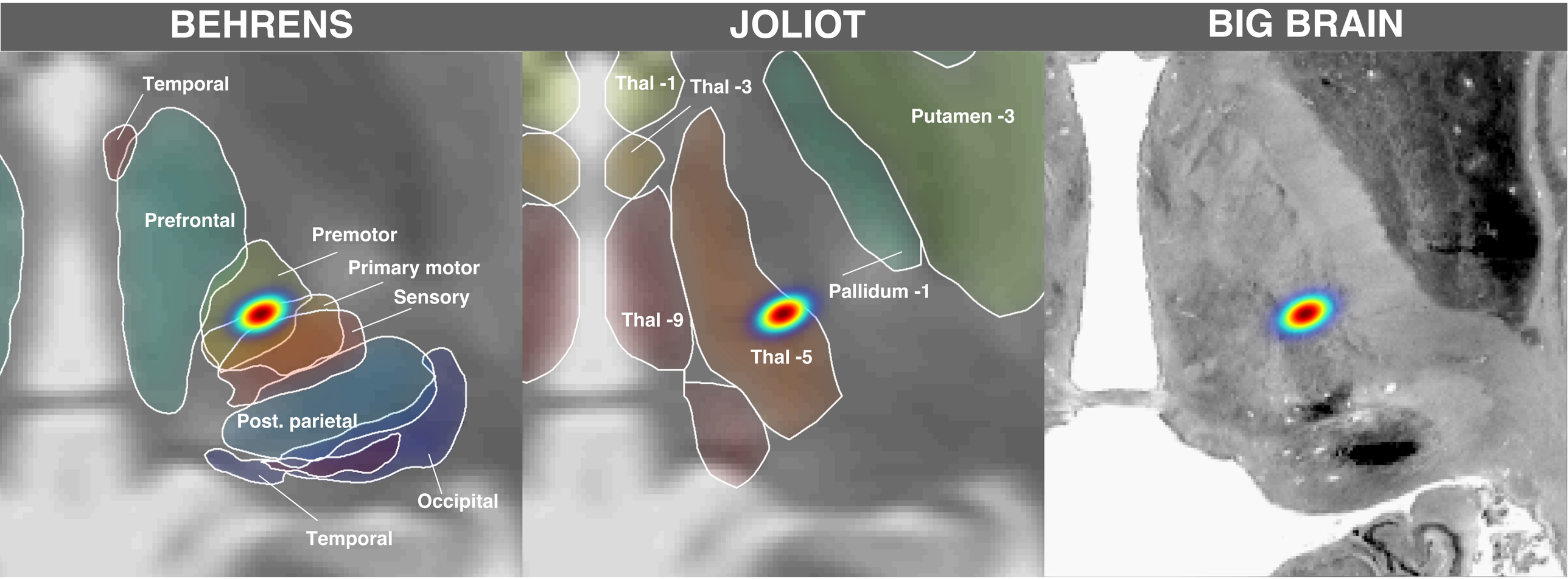

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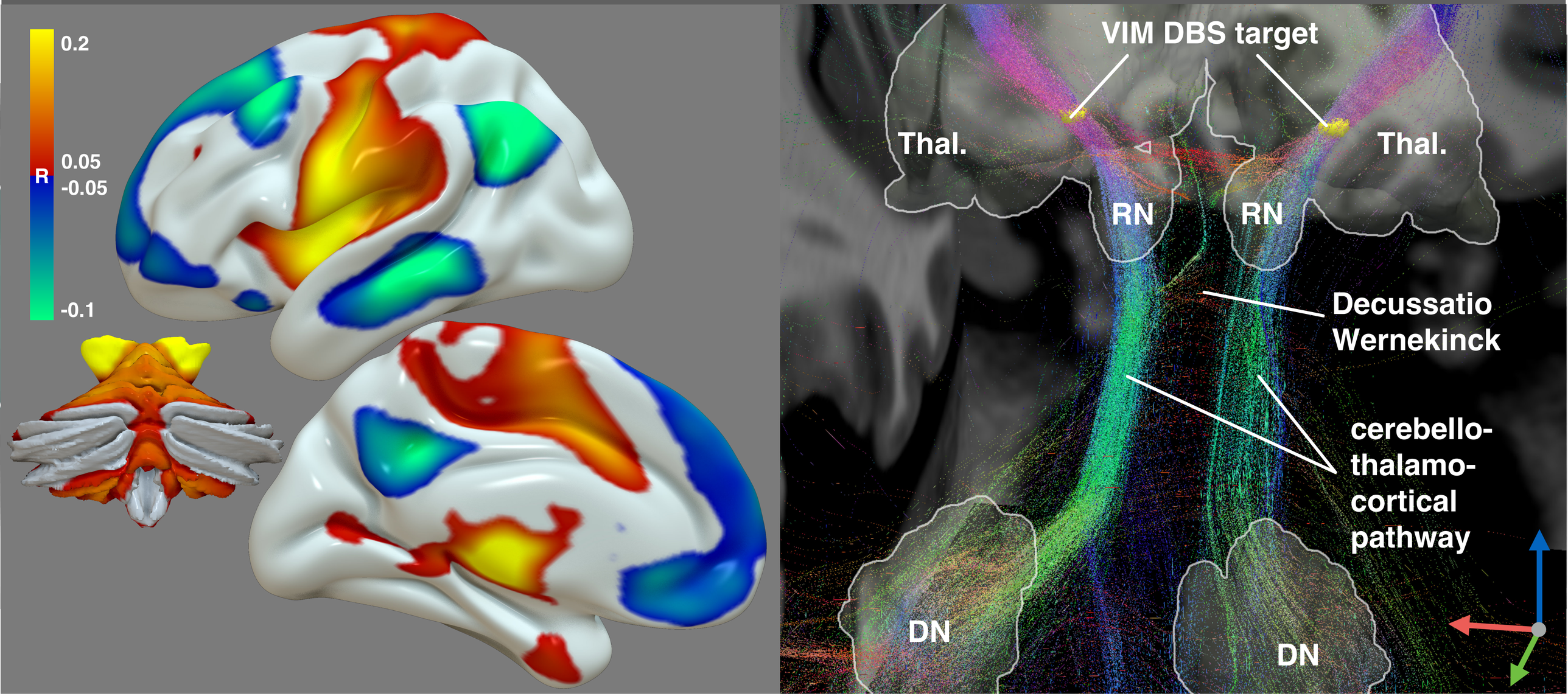
B CONNECTIVITY ANALYSIS USING GROUP CONNECTOMES



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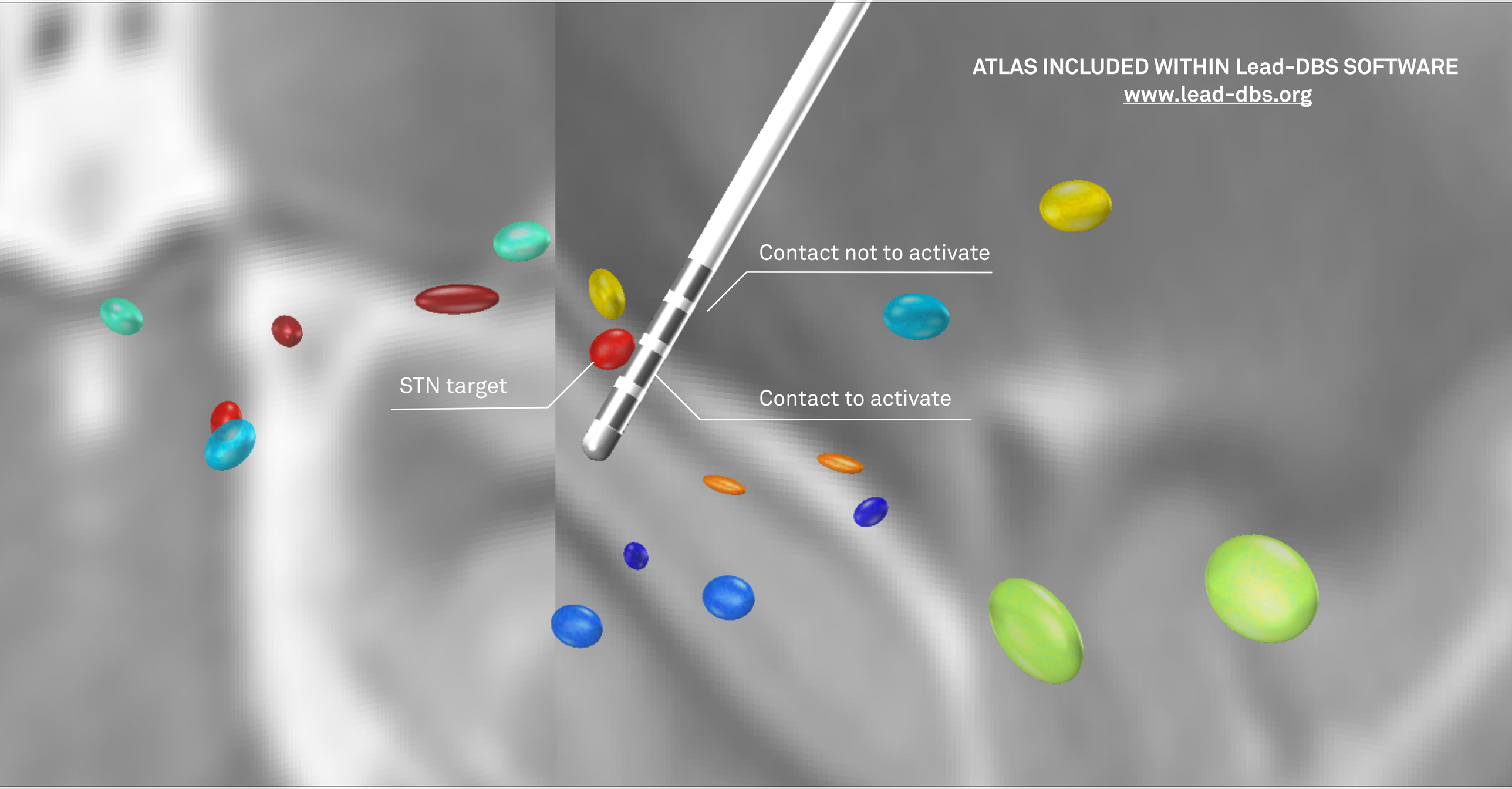
PROSPECTIVE USE



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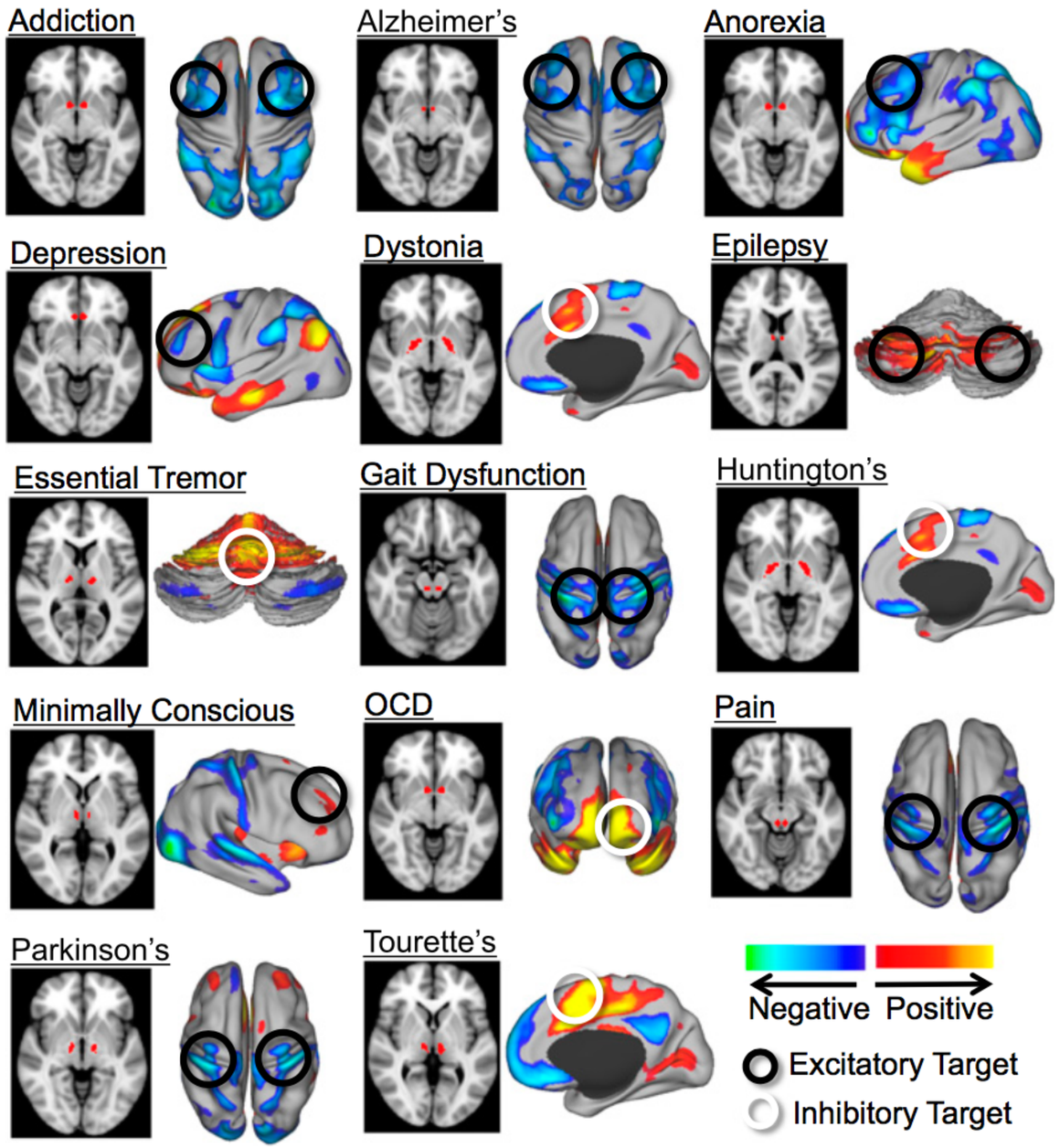
PROSPECTIVE USE



Fox 2014 PNAS

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THANK YOU VERY MUCH FOR YOUR ATTENTION

Michael Fox

Andrea Kühn

Ludy Shih

Angela Merkl

Ron Alterman

FULL STUDY IN NEUROIMAGE:

Horn, A., Kühn, A. A., Merkl, A., Shih, L., Alterman, R., & Fox, M. (2017). AC/PC to MNI conversions. NeuroImage, 150, 395–404.

POSTER HERE AT AAN:

#103, today | 4:00 p.m. to 5:30 p.m.

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