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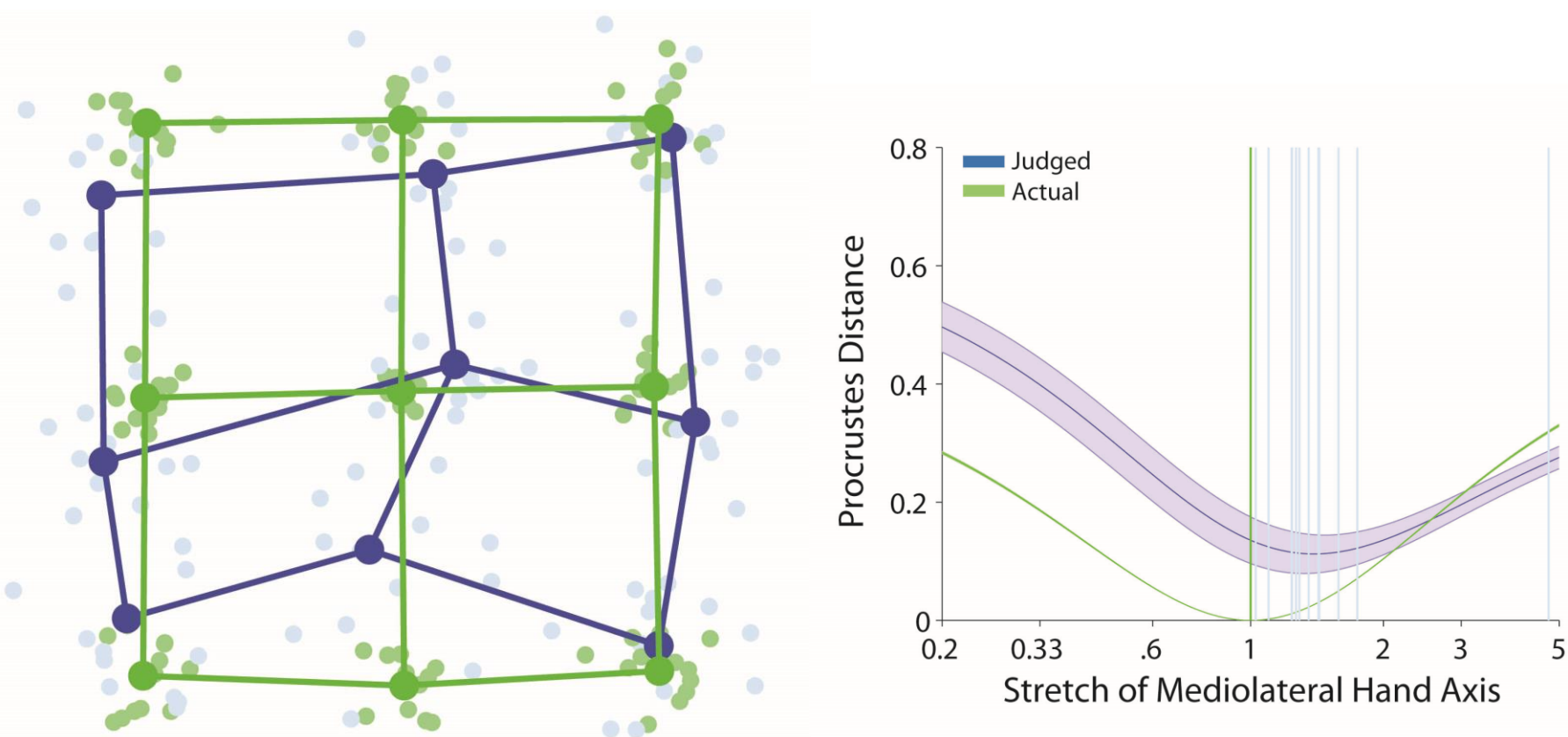
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Reconstructing neural representations of tactile space

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Introduction

Research has demonstrated large spatial anisotropies, with tactile distance oriented with the width of the limbs perceived as larger than those oriented along limb length (Longo, 2017).

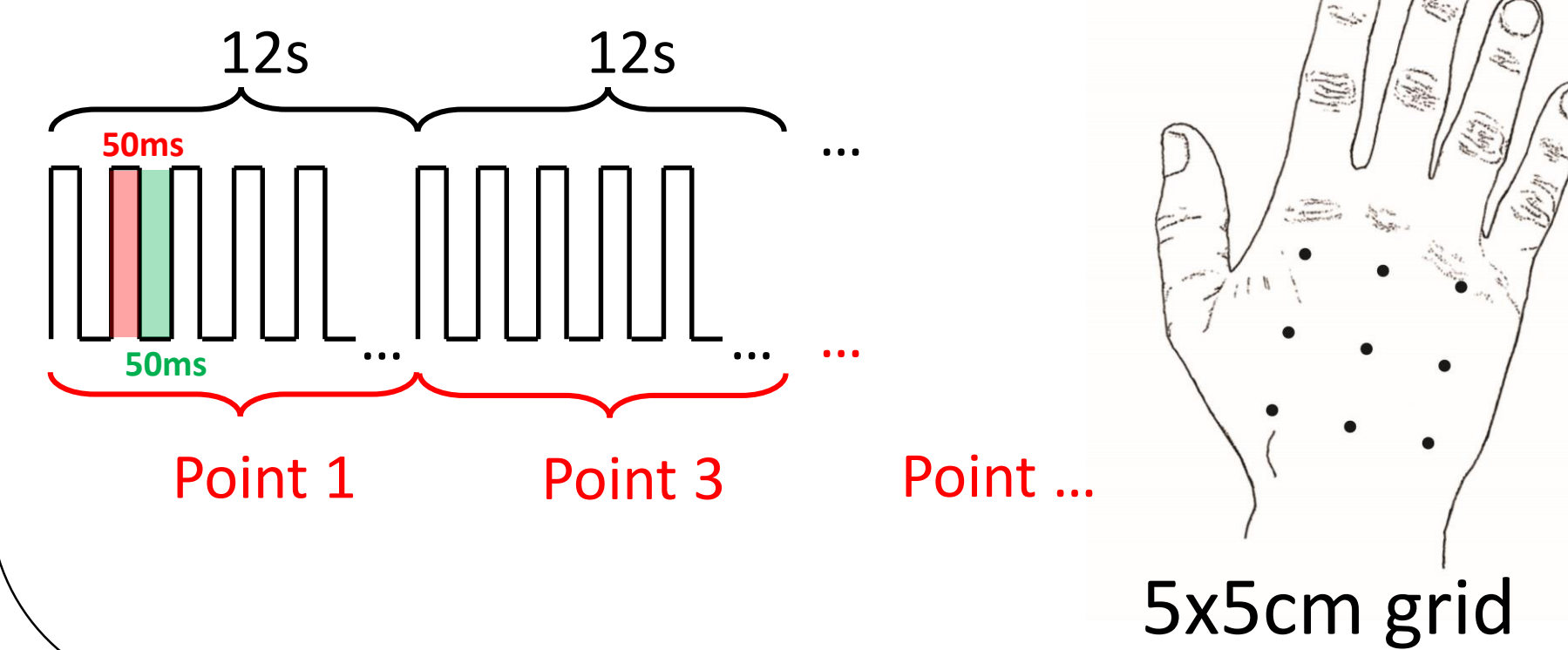
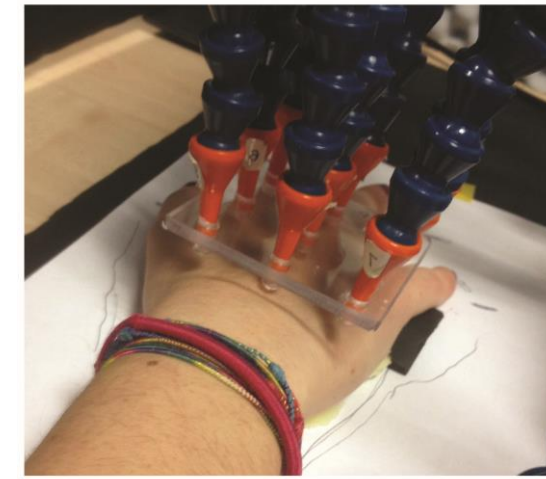


The aim of this project is to investigate the neural basis of these distortions

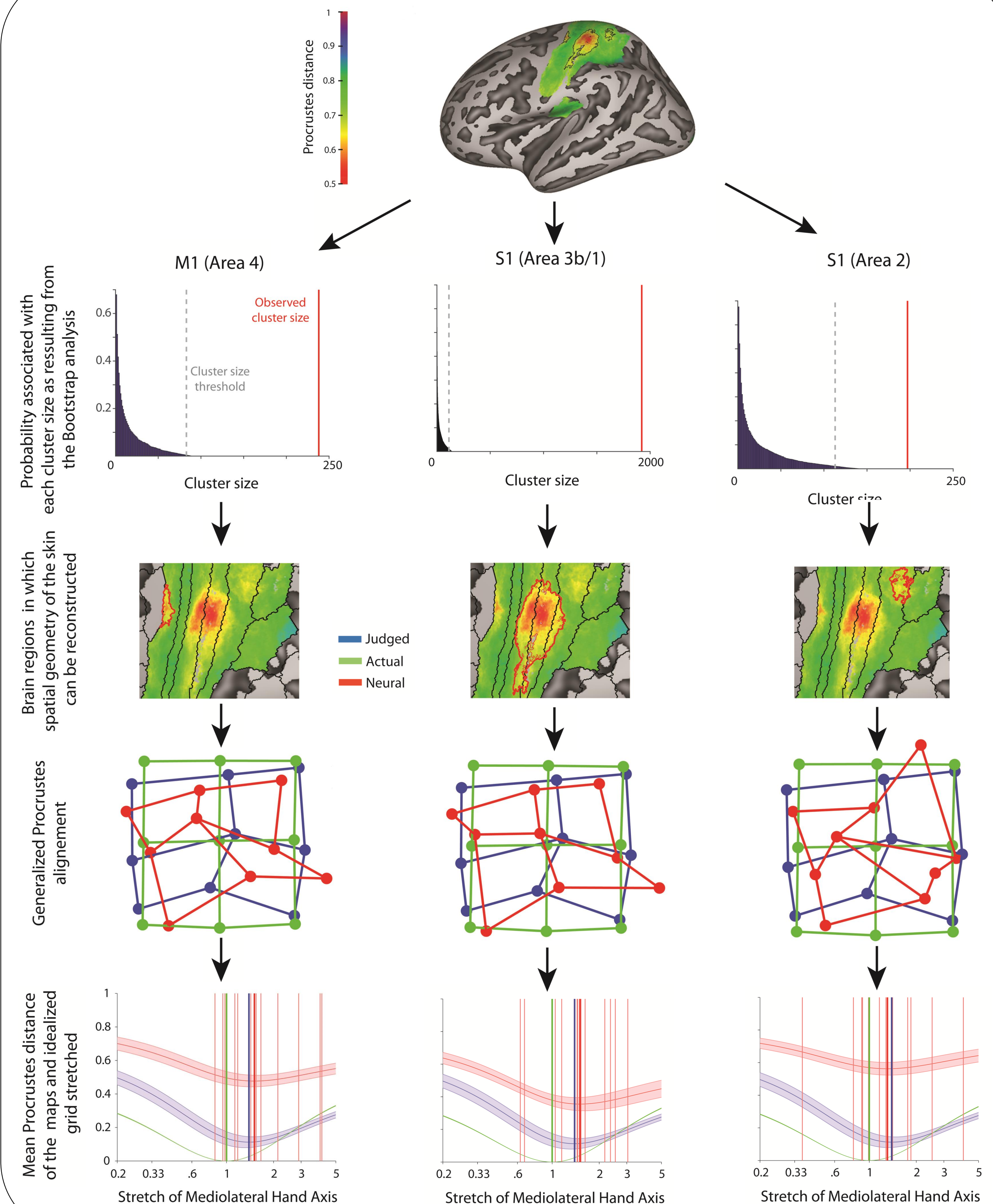
Design

Scan parameters

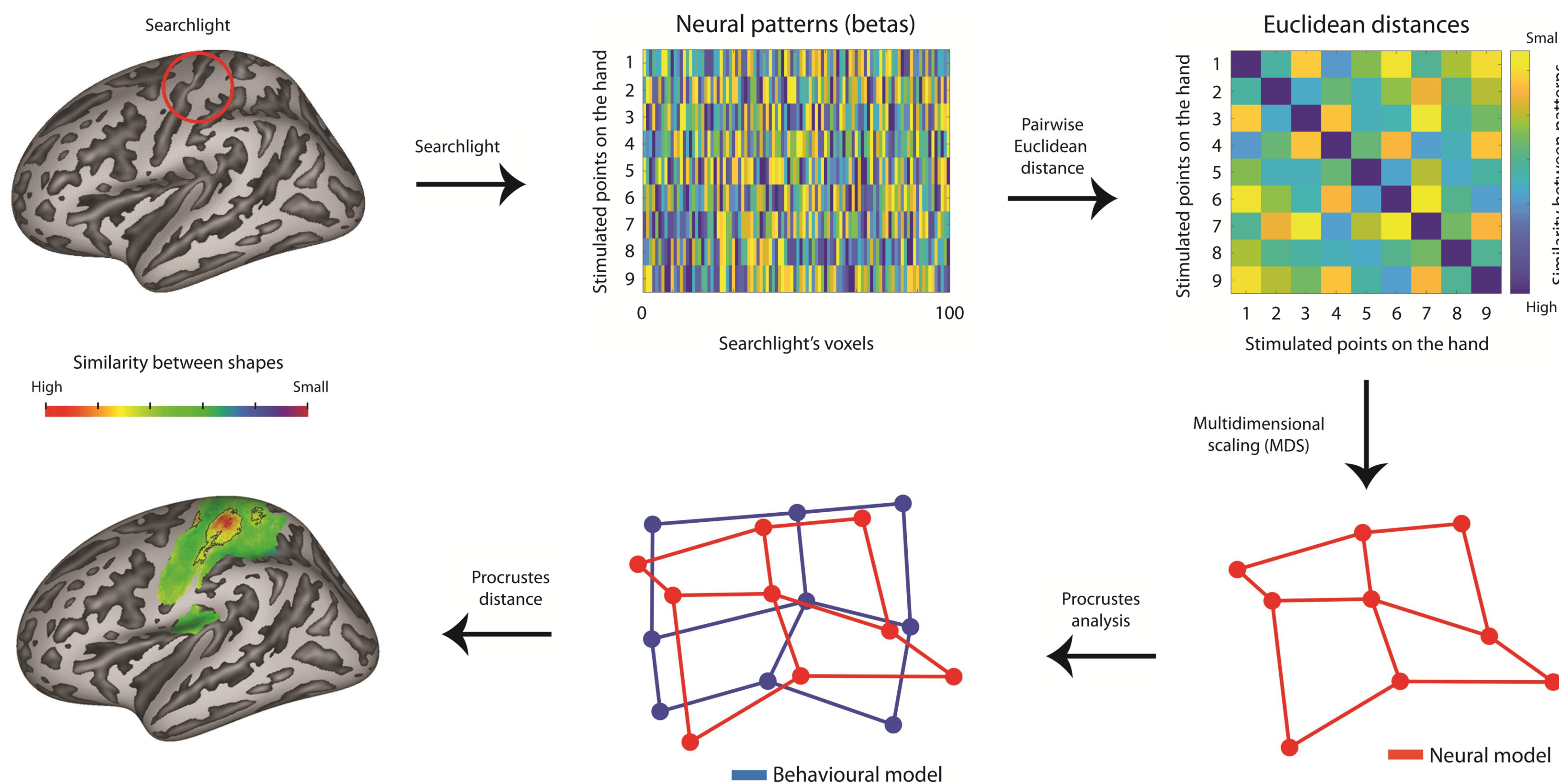
Each point stimulated 5 times + 10 times of no-stimulation
Random Block Design (4 Runs)
 TR=1s; voxel size=2.3mm³; Volumes=670
 4x multiband sequence
 Length: 11.7 minutes
 Participant task: count how many asynch stimulations?
 Eyes closed
 Stimulation: airpuff (Huang & Sereno, 2007)



Results



Analyses



Conclusion

We show that maps of the skin can be reconstructed from patterns of representational similarity in contralateral primary somatosensory (S1) and motor (M1) cortices. Further, we show that these maps are distorted in ways that mirror distortions of perceptual maps.