



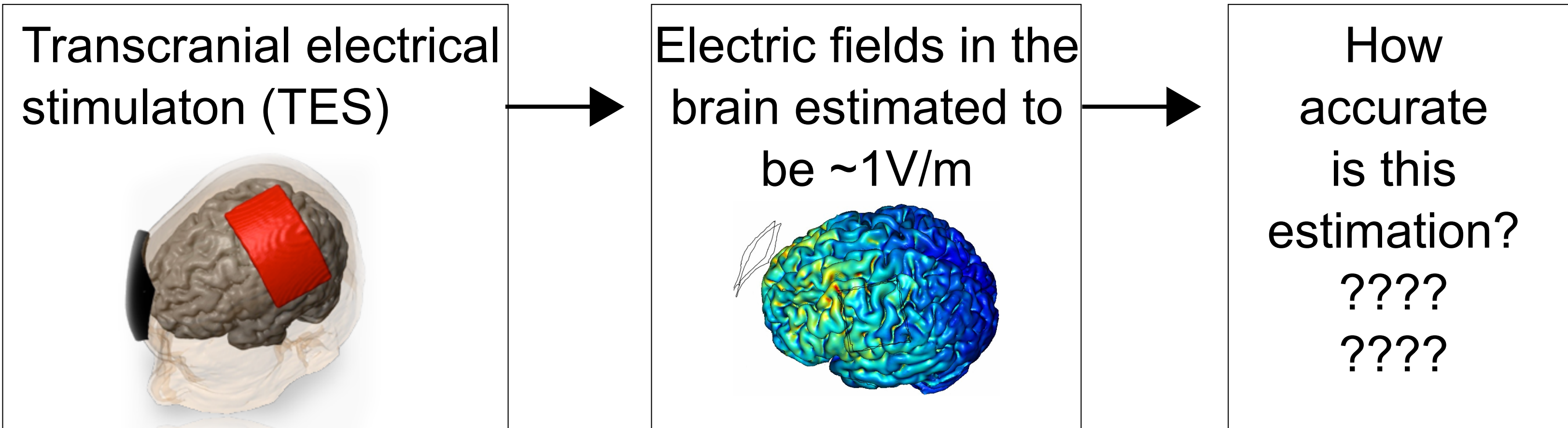
# Direct experimental validation of computational current flow models with intra-cranial recordings in human and non-human primates

Belen Lafon\*, Anli Liu\*, Yu Huang, Preet Minas, Kohitij Kar, Marom Bikson, Daniel Friedman, Bart Krekelberg, Lucas C. Parra

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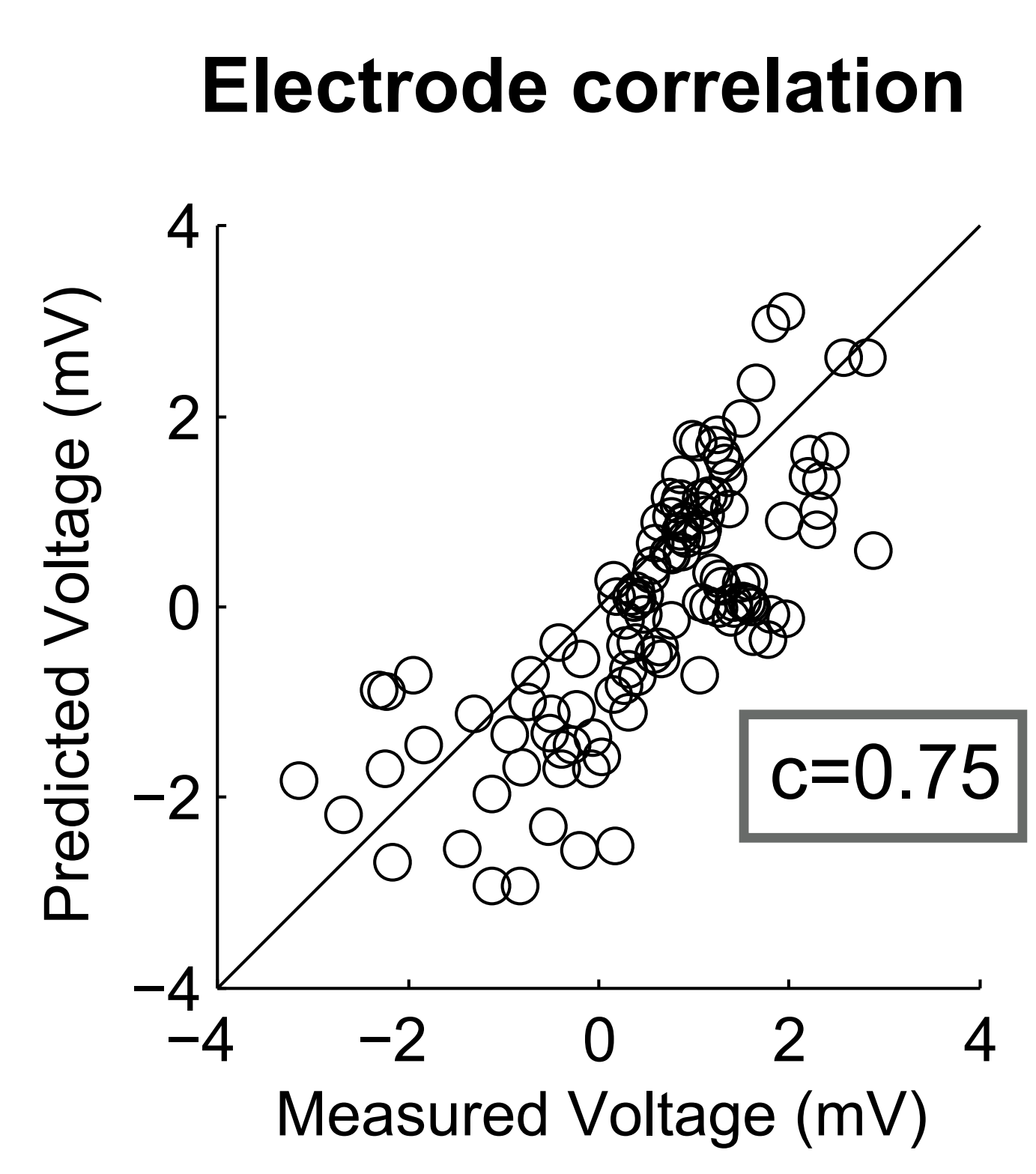
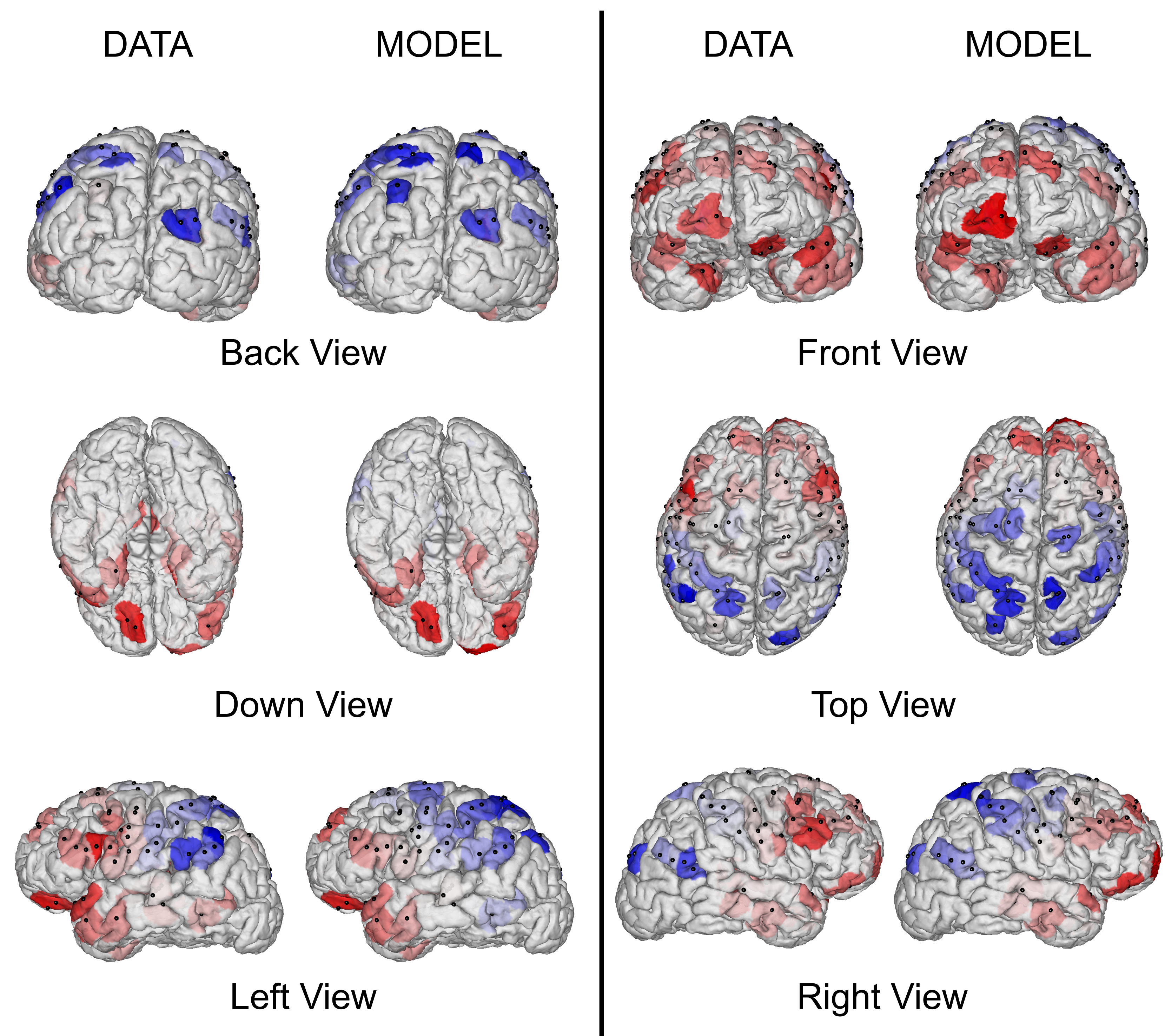
## TES: BACKGROUND & SIGNIFICANCE

Computational models of TES predict → Magnitude and distribution of current density in the brain (~1V/m max)  
→ Brain structures affected by different electrode configuration



How precise are the predictions? What is the current density generated in the brain?

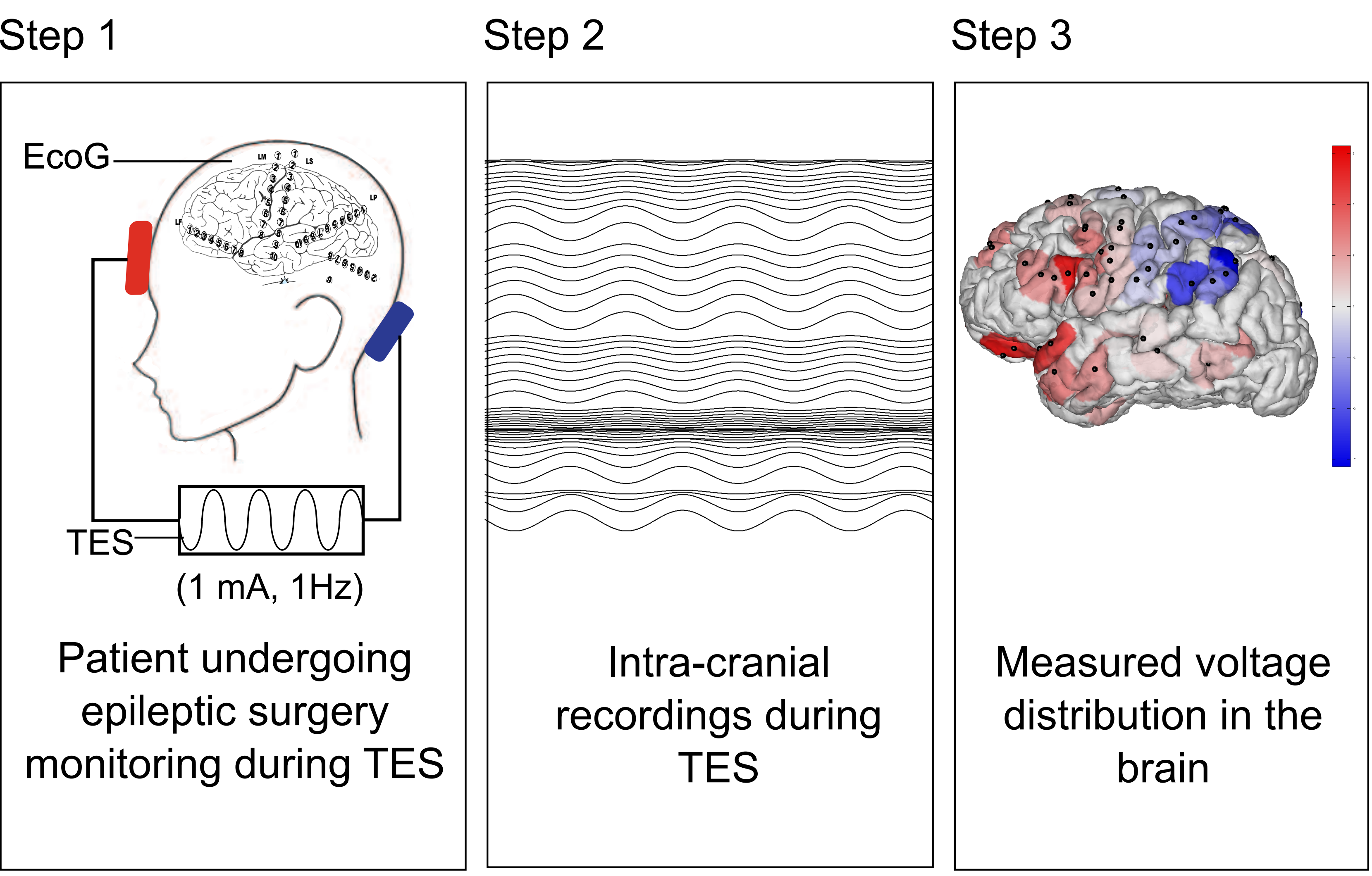
## MODEL AND DATA CORRELATION



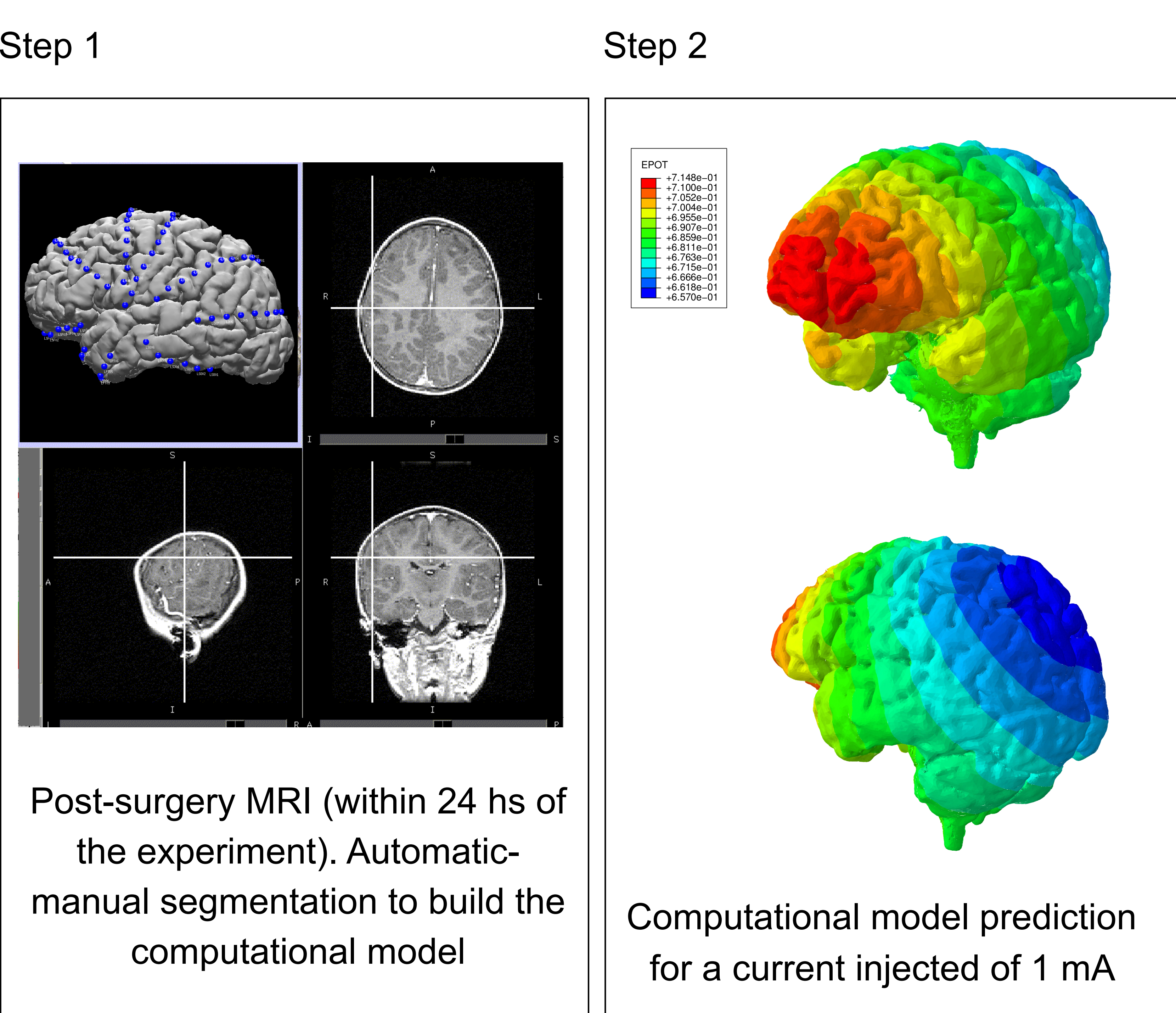
>> General correspondence of the model and the intra-cortical measures  
>> There is a correlation between the measured voltage distribution and the estimated by the model of 0.75.  
>> Patients are under medication which might be a cofounder  
↓  
Studies in non-human primates

## METHODS

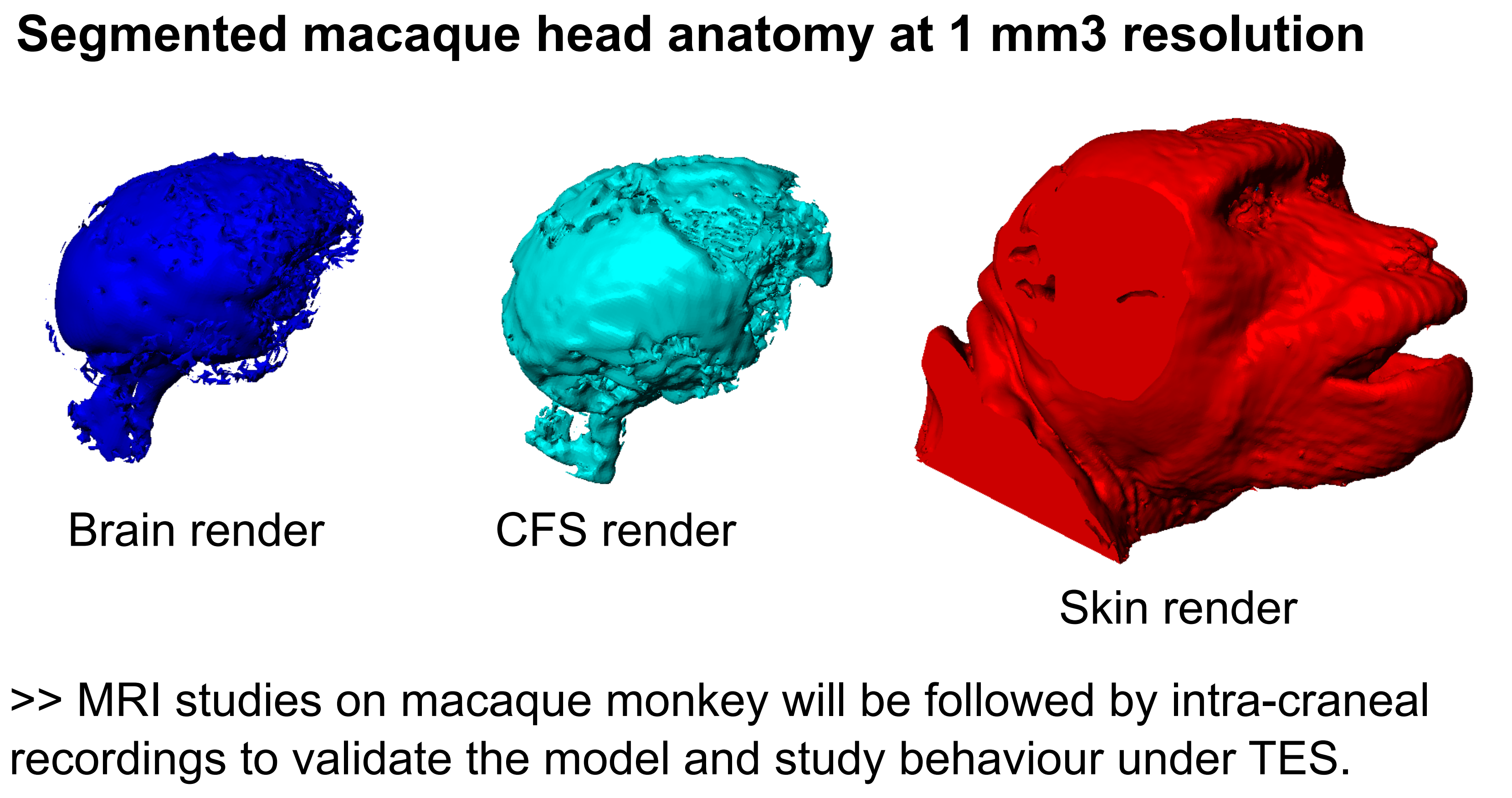
### MODEL VALIDATION



### MODEL PREDICTION



## NON-HUMAN PRIMATES VALIDATION



## CONCLUSIONS AND FUTURE WORK

>> Preliminary work to establish a firm empirical foundation for future clinical studies with TES that aim to target specific cortical and sub-cortical brain regions  
>> Work on non-primate humans will provide the opportunity to do study the interaction between areas targeted in the brain and behavioral changes