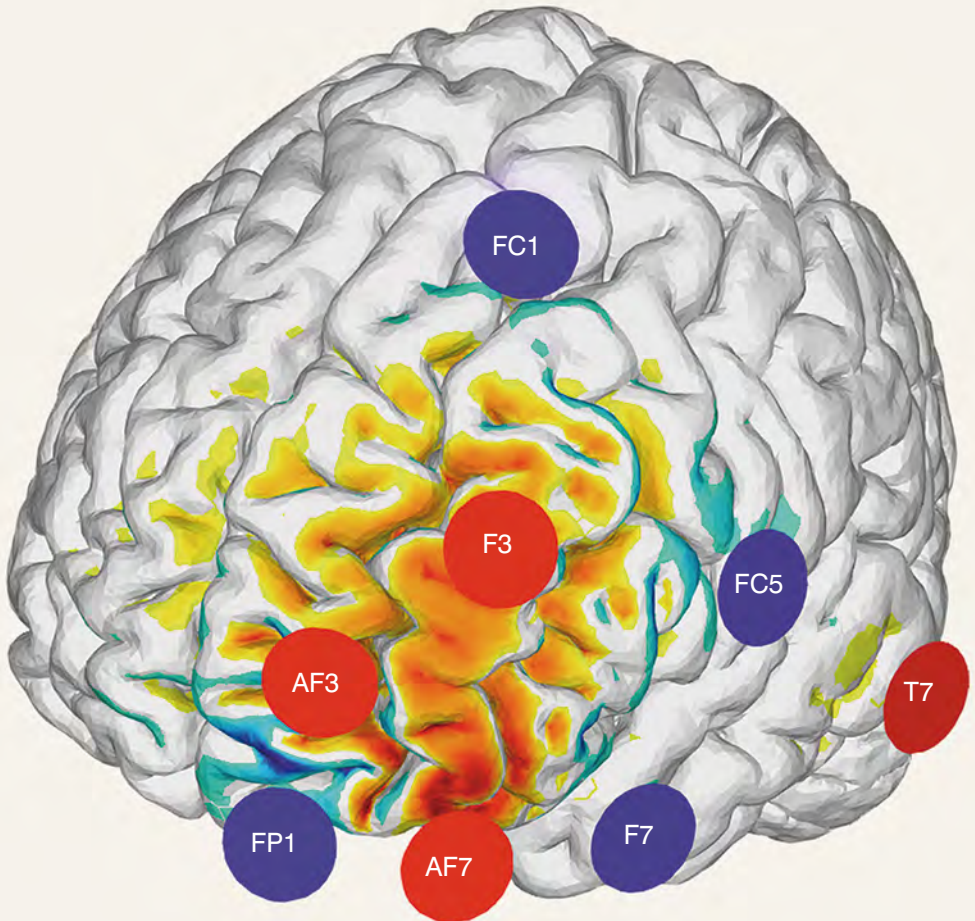


stim weaver-P^{NE}®

NE
neuroelectronics®

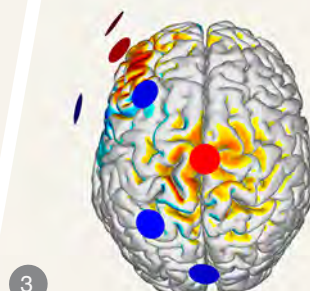
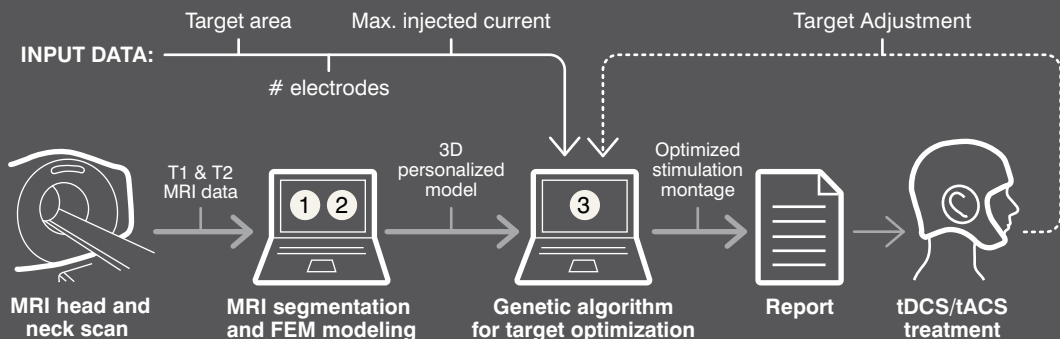
TARGET OPTIMIZATION FOR
TDCS/TACS WITH PERSONALIZED
MRI-BASED HEAD MODEL



Optimized and personalized
multi-electrode montages from
individual head models.

From individual MRI data and
target requirements, to optimal
stimulation parameters.

Target Optimization for tDCS/tACS with Personalized MRI-based Head Model



The computational model is created based on individual T1- and T2-weighted MRI data

The multi-layered isotropic Finite Element Method (FEM) model includes five biological tissues and air cavities. Both head and neck are represented, and brainstem and upper spinal cord are included.

Electrode Placement

The electrodes are added to the model on the outer scalp surface. The size of the electrodes is defined according to the type of electrodes used for stimulation. The conductivity depends on the material of the electrode and on the conductive liquid used.

Target Optimization

The target Automatic Anatomical Labelling (AAL) region previously identified is localized in the customized brain. Multi-focal regions can be simultaneously targeted.

A genetic algorithm computes the optimal stimulation parameters to target the AAL area. Montage constrains such as the number of electrodes, or the maximum injected current per electrode, can be added to the algorithm.

For more info contact: **Europe Office.** Av. Tibidabo 47 bis.
08035, Barcelona, Spain. Tel. +34 93 254 03 66
US Offices. 210 Broadway, Suite 20. Cambridge, MA 02139, USA
+1 617 390 6447 www.neuroelectrics.com

NE
neuroelectrics®