# Effects of tDCS on Sound Duration in Patients with Apraxia of Speech in Primary Progressive Aphasia

- **Target:** Left Inferior Frontal Gyrus (Left IFG), a common target for Motor Speech Disorders.
- **Goal:** Improve fluency in patients with nfvPPA and Apraxia of Speech
- **How:** Speech therapy involved repeating words of increasing syllable-length modelled after Dabul's Apraxia of Speech Battery.
- Evaluations took place before, immediately after, and two months post-intervention.
- Words were segmented into vowels and consonants and the duration of each vowel and consonant was measured.

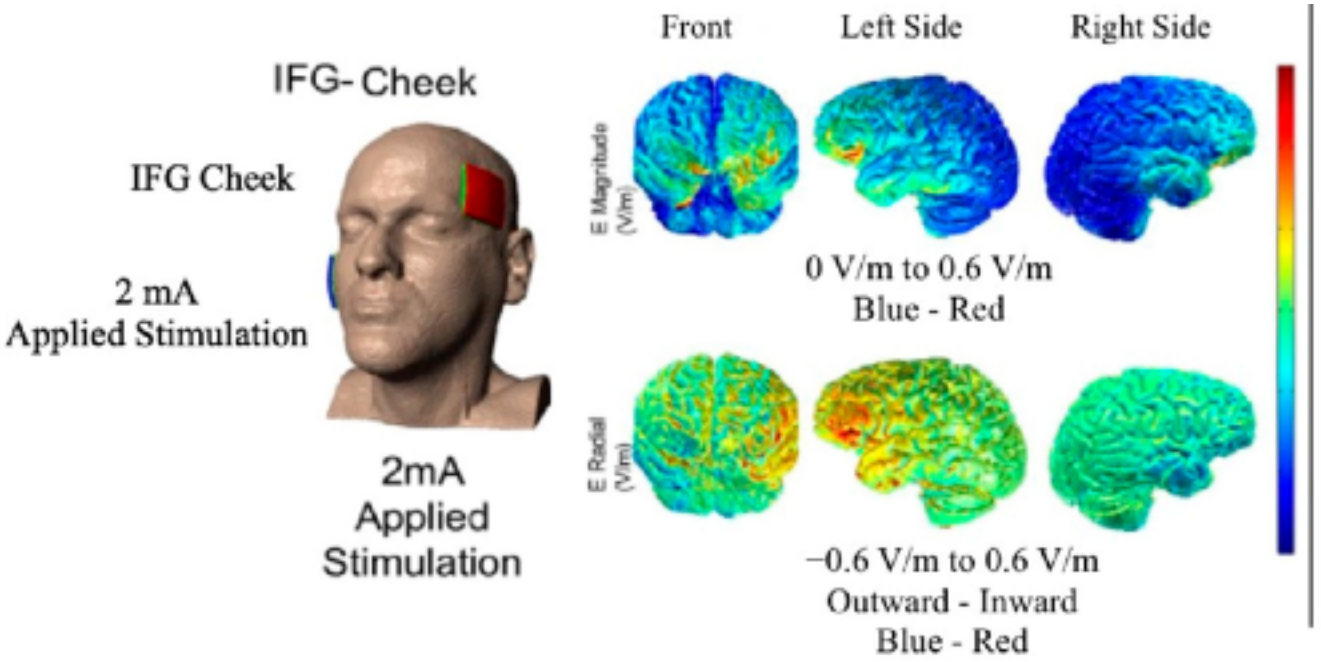


**Figure 1.** Model of current distribution for used stimulation montage, (Themistocleous et al. 2021).

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- Transcranial direct current stimulation (tDCS) is non-invasive brain stimulation.
- It improves functional connectivity by modulating neuronal excitability by hyperpolarizing or depolarizing the resting membrane potential of neural cells.
- In other words, neurostimulation modifies the functional connectivity and the gamma-aminobutyric acid (GABA) concentrations.


**Themistocleous Charalambos**, Webster Kimberly, Tsapkini, Kyrana (2021). Effects of tDCS on Sound Duration in Patients with Apraxia of Speech in Primary Progressive Aphasia. Brain Sciences, 11(3):335-553. https://www.mdpi.com/2076-3425/11/3/335