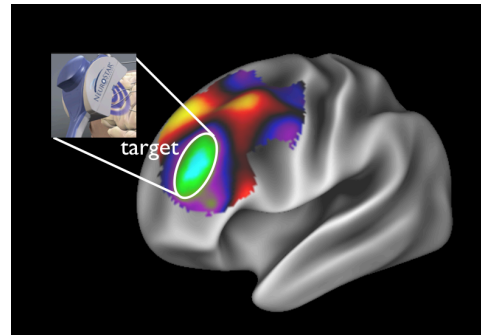# Brain Imaging Guided TMS

Description of the Study:
Physicians and scientists from Contemporary Care Clinic and Columbia University have joined forces to use functional magnetic resonance imaging (fMRI) - a technique for measuring brain activity levels - to find regions of abnormal brain functioning in patients with depression, as shown in this Figure.

fMRI-guided TMS allows for more precise targeting of brain circuits that may be contributing to depression. We will use this guided TMS specifically for individuals with treatment resistant depression (TRD).

The present project will collect pre- and post- treatment brain images of a group of patients who will receive independent clinical TMS for TRD. An individualized therapy will be designed for each TRD patient who does not respond to standard protocols and will be treated by this new TMS for 6 weeks free of charge to the patient.

Patients will be imaged by fMRI once more after finishing their course of treatment by the new TMS, and their brain responses will be analyzed and compared with clinical assessment results in order to probe overall improvement.

Advantages for patients:
1. Comprehensive psychiatric evaluation administered by top professionals in the field.
2. Patients who complete the study will have a radiologist reading the anatomical brain images, which can then be consulted as a reference image in the future. Also, a functional connectivity map of the brain network will be available along with an anatomical picture.
3. If patients do not respond to standard TMS procedures, a new cycle employing a novel TMS protocol, guided by a sophisticated brain mapping technique, will be offered free of charge for an additional 6 weeks.

Important: Patients need to commit to all scanning sessions in order to receive their images and free treatments.

Interested in participating?
Visit www.clinicaltrials.gov and search for NCT02974296
And call: Dr. Moreno: (914) 218-7311