








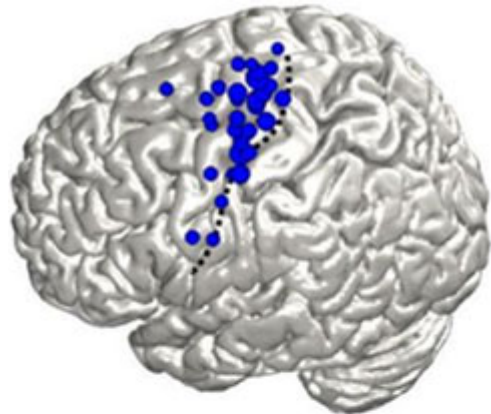
System Allows for Brain Activity Mapping Without Patient Cooperation

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In patients with drug-resistant epilepsy, surgical options such as resection or ablation offer the best way to treat the disease. The trick here is to resect the offending tissue while sparing what is healthy and necessary for normal function. Typically, surgeons spend a great deal of time electrically stimulating the brain while the patient reports any sensations, and the reverse, with the patient moving muscles and the doctor using electrodes to detect signals on the brain's surface. All this is done under highly controlled conditions, with the brain exposed, and the patient having the attention span and patience necessary for the procedure. Clearly this doesn't work very well with young children and people with mental disabilities.

Now researchers at University of Freiburg, Germany have reported the development of a new system that requires a lot less cooperation from the patient to map brain surface activity. Patients with implanted electrocorticography electrodes on the brain were filmed talking and performing everyday movements, while their brain activity was recorded and synchronized with the video. The team then reviewed the video and correlated recorded brain activity to specific actions and movements of the patients.



The results were compared to traditional mapping and showed that such an approach can be effective at using natural body movement to map brain activity.

Article in *NeuroImage*: [Somatotopic mapping of natural upper- and lower-extremity movements and speech production with high gamma electrocorticography...](#) [3]

Press release: [Freiburg Researchers Use Signals from Natural Movements to Identify Brain Regions](#) [4]

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