

New brain scanner detects neural magnetic field

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Measuring the activity of the brain can tell researchers a lot about how a healthy brain functions, as well as when the functioning is disrupted, whether by psychiatric disorders like depression or schizophrenia, or neurodegenerative diseases like Alzheimer's or Parkinson's. The tools that scientists use to measure and track that brain activity, such as fMRI and EEG, are already quite sophisticated. But more precise tools that take different kinds of measurements could help researchers learn new information about the brain.

Now scientists at Royal Holloway, a research university in the United Kingdom, have developed a sophisticated machine called the [HyQuid](#) that can detect the tiny magnetic fields that the brain emits. Now the technology company York Instruments will be developing the research to make these detectors more available to researchers and for lower cost.

HyQuid is a type of magnetoencephalography (MEG) brain scanner. Electrically charged atoms called constantly flow through neurons in the brain, changing from negative to positive after a neuron fires. When several thousand of these neurons fire together, they create a distinct and measurable magnetic field, each with one-billionth of the power of Earth's magnetic field, according to the [Institute for Learning and Brain Sciences](#) at the University of Washington.

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