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# MIZZOU

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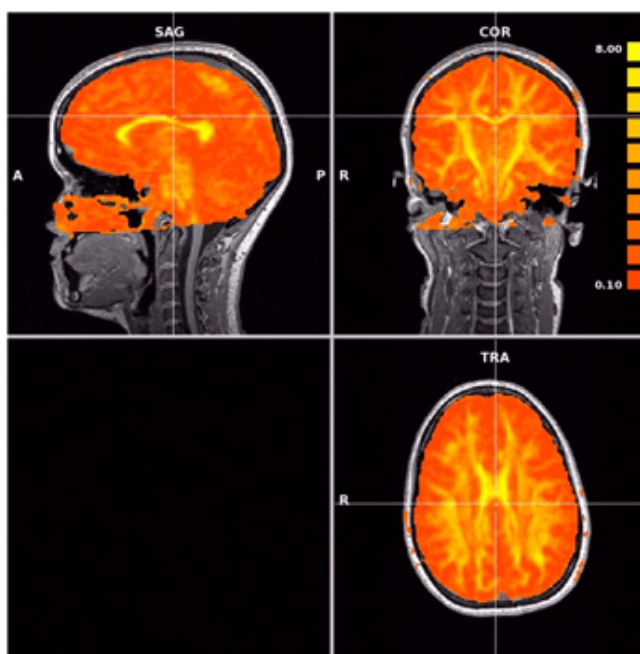
## Around the Columns

### Looking inside the brain

It used to be that psychological researchers had to observe behavior and then work backward to figure out what was happening in the brain. They learned a lot, but during the past decade new imaging technology has helped them move more quickly. Researchers can now pose problems for people and actually see which parts of their brains get involved and when. Being able to visualize brains in action not only may help diagnose problems such as autism but also can map uncharted regions of the brain and explore the organ's various capacities, such as memory.

The university's new functional magnetic resonance imaging machine (fMRI) is just such an imaging tool, says Nelson Cowan, a psychology professor and senior researcher at the Brain Imaging Center. The facility houses the fMRI in the university's research park southwest of Memorial Stadium.

The lowercase "f" in fMRI stands for functional, Cowan says. That's because the new machine creates images of structures (common for MRI) as well as functions, which is more advanced. "For instance, we can ask someone to look at a word and either do nothing with it or remember another word it is paired with. Each task elicits different types of brain activity. By comparing them, it shows the activity of remembering."






The new functional magnetic resonance imaging machine, located in MU's research park, allows for 3-D images of the brain.

The 3-D images fMRI provides may unexpectedly link ideas in the brains of the researchers themselves, Cowan says. For instance, research on an intellectual task may turn up brain patterns similar to studies of people with emotional problems. “That gives clues to different behavior patterns,” he says, “and these researchers may think about integrating their areas of work.”

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