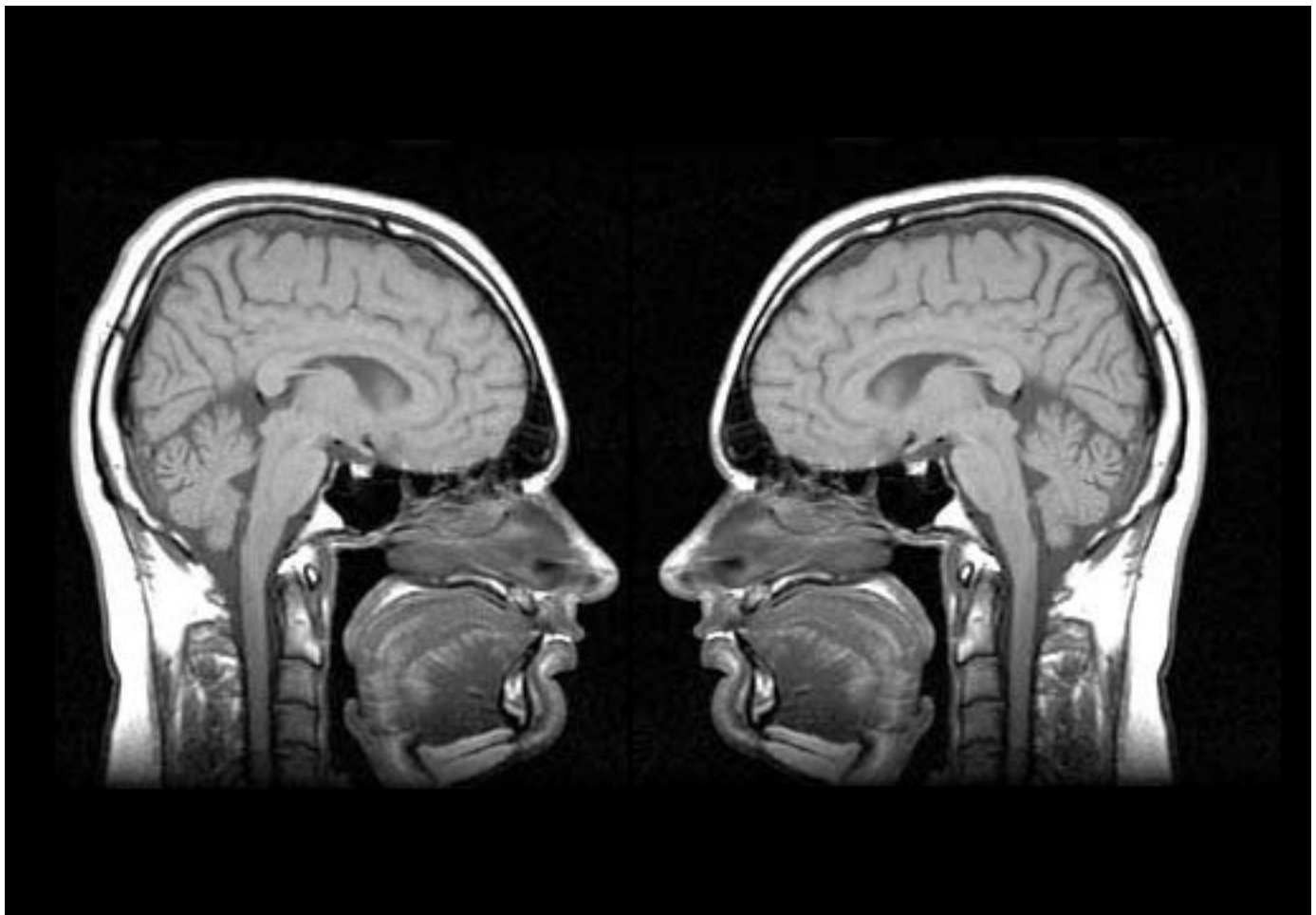


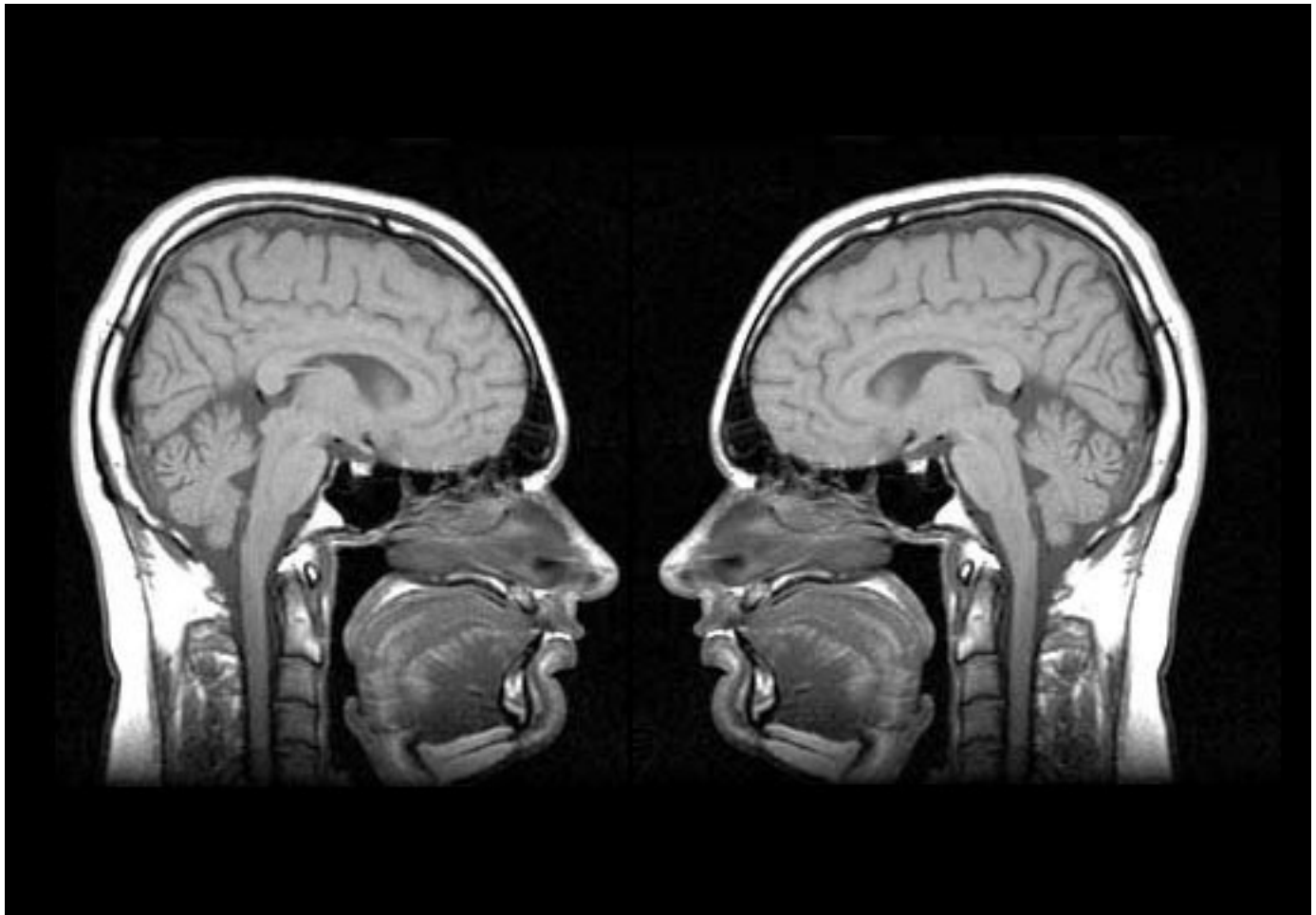
NEWS

New imaging method permits direct study of social interaction

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Power of two: A new form of magnetic resonance imaging captures face-to-face communication.

A new brain imaging technique may provide a powerful tool for understanding social interaction, and how it is disrupted in conditions such as autism, according to a poster presented Sunday at the **Society for Neuroscience annual meeting**.

In the past, researchers have used the Internet to connect two MRI scanners in adjacent rooms¹, or simulated social interactions with live and recorded video². The new technique enables simultaneously scanning two people who are in the same room, even touching.

"This really is face-to-face, two people communicating," says **Ray Lee**, technical director of neuroimaging at the Princeton Neuroscience Institute.

Developing the machine was an engineering challenge, because the two MRI coils have to be decoupled so that the magnetic fields don't interfere with one another. Some technical refinements are still necessary, Lee says. For example, disruptions at the edges of the magnetic fields mean that the machine has certain blind spots where brain activity can't yet be examined.

So far, Lee has studied four pairs of people inside the dual MRI machine. The study participants were told to open and close their eyes at specific times, and the machine recorded their brain activity as they concentrated together on the same task.

In the scanner, the right superior temporal sulcus (rSTS), a brain region involved in social gaze, lights up in both members of a pair at the same time. Lee also found a correlation between activity in the rSTS of one member of a pair and activity in two other brain regions in the other person: the fusiform face area (FFA) of the extrastriatal cortex, which is involved in face recognition, and a new area in the middle brain of unknown function.

As for studying disorders such as autism that involve impaired social functioning, Lee himself lights up. "That's exactly the point of this application, clinically," he says.

For example, the scanning technique could show whether social regions in the brains of people with autism are activated more slowly than normal when they are interacting with another person, or whether different regions of the brain are activated. Lee hopes to develop the machine further so that it can be used in such studies.

For more reports from the 2010 Society for Neuroscience meeting, please [click here](#).

References:

1.

Montague P. R. *et al. Neuroimage* **16**, 1159-1164 (2002) [PubMed](#)

2.

Redcay E. *et al. Neuroimage* **50**, 1639-1647 (2010) [PubMed](#)