

*Monday, August 17, 2007*

## **Picking Artists Brains**

By Olivier Uyttebrouck

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Rex Jung spent 10 years using powerful imaging tools to find places where intelligence lives in the brain. Now he plans to study artists to find the home of creativity.

Jung, a University of New Mexico professor of neurology and psychology, said his study of intelligence convinced him that successful people need more than simple brain power.

Creativity and personality variables such as leadership skills are crucial, he said.

“I came to the conclusion that intelligence wasn’t enough to allow somebody to contribute something worthwhile to society,” said Jung, a researcher at the MIND Institute on the UNM campus.

Jung’s study, called “The Neuroscience of Creativity,” last month received a three-year \$600,000 grant from the John Templeton Foundation, which funds scientific research into phenomena such as emotion and creativity.

The study initially will compare 50 visual artists with a control group of 50 UNM students, ages 18 to 39. Researchers plan to use an arsenal of brain imaging machines at the MIND Institute to gather detailed information about the artistic brains.

The MIND Institute is a consortium that includes UNM, Harvard University, the University of Minnesota, the University of Iowa and Los Alamos National Laboratory. It performs basic research about the brain and mental illness using a variety of powerful imaging devices.

Jung has spent a decade modeling intelligence in the brain. Based on that work, he has some ideas about what he expects to find in his exploration of creativity.

Brain activity influences the size, shape and chemical composition of different areas of the brain, Jung said.

People who engage in intellectually demanding fields bulk up certain areas of their brain associated with intelligence. “They’re working parts of their brain like a muscle,” he said.

Such intellectual power-lifting appears in images produced by powerful machines housed at the MIND Institute. They include a MEG, or magnetoencephalography, machine, that “listens to the brain working” by sensing electromagnetic fields emitted by the brain.

“We’re casting our net really wide to capture the structural underpinnings of the creative process,” Jung said.