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Contact: **Wendy Lawton**
(401) 863-2476

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K.J. Zülch Prize**Brown Scientist John P. Donoghue Wins Major Neuroscience Award**

John P. Donoghue, director of the Brain Science Program at Brown University, will receive the 2007 K.J. Zülch Prize for pioneering BrainGate, the mind-to-movement device that allows people with paralysis to control assistive devices using thoughts alone. The Gertrud Reemtsma Foundation – a science foundation administered by the Max Planck Society – bestows the Zülch Prize, Germany's highest honor for basic neurological research.

PROVIDENCE, R.I. [Brown University] — The K.J. Zülch Prize, Germany's highest honor for basic neurological research, will be awarded to Brown University brain scientist John P. Donoghue at an Aug. 31, 2007 ceremony in Cologne, Germany.

The Zülch Prize recognizes outstanding achievements in basic neurological research. Donoghue was recognized for his research on how the brain translates thought into action. His work has resulted in a new brain implant that has allowed people with paralysis to move a computer cursor, control a wheelchair or operate a robotic arm – using thoughts alone.

Bestowed by the Gertrud Reemtsma Foundation through the Max Planck Society, a leader in science and technology research, the prize has been awarded to neuroscience innovators since 1990.

Past Zülch Prize winners include Nobel Laureate Stanley Prusiner, M.D., who discovered the infectious proteins known as prions; Nikos Logothetis, who pioneered functional magnetic resonance imaging in vision research; Sam Berkovic, who determined the genetic basis of epilepsy; and Fred Gage, who helped discover that the adult brain is capable of producing new cells.

Each year, two scientists receive the Zülch Prize. Donoghue shares the 2007 award with another neurotechnology leader, cochlear implant inventor Graeme Clark. As is customary, Donoghue and Clark will share the prize of 50,000 euros, about \$68,300.

"John Donoghue's work offers important insights into the human brain and how to tap its power to improve the lives of people with spinal cord injury and other severe motor impairments," said Konstantin Hossmann, director of the Max Planck Institute for Neurological Research in Cologne. "This is exceptional research that has the real power to change lives."

John P. Donoghue

Donoghue, the Henry Merritt Wriston Professor and director of the Brain Science Program at Brown University, is a leader in neuroprosthesis research and development.

Donoghue's laboratory work centers on understanding how networks of neurons represent and process complex information used in making skilled voluntary movement. Donoghue combined knowledge from his experiments with technical advances in brain recording developed in his lab to create a neurotechnology with a stunning promise – restoring movement to the paralyzed.

The system, called BrainGate, is being developed by Cyberkinetics Neurotechnology Systems Inc., a company Donoghue co-founded and which he currently serves as chief scientific officer.

BrainGate consists of an implantable sensor and external processors that record and decode brain signals from the motor cortex, turning these signals into movement commands that can control assistive devices. The system is being tested in a clinical trial that has enrolled four patients with paralysis – two with quadriplegia, one with brain stem stroke and the other with ALS, or Lou Gehrig's disease.

Results show that patients can use the system to read e-mail, control a television, play video games, operate a robotic arm and control a wheelchair. Results from the first clinical trial patient were featured

as the cover story for the journal *Nature* in July 2006.

The founding chair of the Department of Neuroscience at Brown, Donoghue has served on review boards for the National Institutes of Health, the National Science Foundation, and NASA. In 2002, he received a Javits Neuroscience Investigator Award from the National Institutes of Health. In 2006, he was inducted a fellow in the American Institute for Medical and Biomedical Engineering and named a runner-up for Scientist of the Year by *Discover* magazine.

The Gertrud Reemtsma Foundation

Gertrud Reemtsma set up the foundation in 1989 in honor of her late brother, the neurologist Klaus Joachim Zülch, former director of the Cologne-based General Neurology Department of the Max Planck Institute for Brain Research in Frankfurt. It was her aim to keep alive the memory of her late brother's work and to promote and give recognition to extraordinary achievements in basic neurological research.

Gertrud Reemtsma was a major patron of the Max Planck Society. She died in Hamburg in 1996 at the age of 80. Today, the Max Planck Society administers the foundation as a trust.

Editors: Brown University has a fiber link television studio available for domestic and international live and taped interviews and maintains an ISDN line for radio interviews. For more information, call the Office of Media Relations at (401) 863-2476.

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