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## **Neurotechnology Industry Organization Unveils Top 10 Neuroscience Trends of 2007**

*Ten emerging areas of neuroscience that will impact the future of treatments for brain  
and nervous system*

San Francisco, CA – November 2, 2007 – The Neurotechnology Industry Organization (NIO) today announced the top ten emerging areas of neuroscience that will impact the future of treatments for brain and nervous system. According to NIO, the trade association that represents the 500 companies worldwide developing treatments for the brain and nervous system, the U.S. economic burden of brain-related disorders has reached more than \$1 trillion, highlighting the acute need for continued neuroscience research and therapeutic development.

“Advances across a wide spectrum of neuroscience research are making possible the development of more effective treatments for the nearly 100 million Americans and 2 billion people worldwide that currently suffer from brain-related illnesses,” said Zack Lynch, Executive Director of NIO.

### **Top 10 Trends of 2007:**

1. **Advancing discovery tools underpin innovation:** Beyond biochips and brain imaging, recent advances in neuroinformatics, image-based neural circuit analysis, and neural computation are accelerating the pace of neuroscientific discovery beyond what was imagined a decade ago.
2. **Neuroimmunology leading to new treatment targets:** The discovery that immune molecules play a crucial role in shaping neuronal connections opens up new treatment targets for Alzheimer’s, autism, ALS, Parkinson’s, schizophrenia, and nerve injury.
3. **National Neurotechnology Initiative:** Momentum for the new \$200M/year federal R&D initiative aimed at accelerating translational neurotech innovation and improving the effectiveness of FDA review process for neuroscience drugs, devices and diagnostics grows.
4. **Neurodevice interfaces improve prosthetics and treatments:** Advanced brain-machine interfaces (BMI) enable the severely handicapped to

independently compose e-mails and operate a TV in their homes. Other neurodevices provide functional stimulation for the treatment of pain, Parkinson's, obesity, and psychiatric disorders.

5. **Addiction advances:** New research clarifies the role of drugs on sleep, cocaine's potency, and the brain changes that occur due to abuse leading to new treatment strategies for this epidemic impacting over 1.1 billion worldwide.
6. **Normal aging brain gets more attention:** More research and development is being focused on thinking impairments that only partially limit independence and quality of life for senior citizens, adults and school aged children. Neurosoftware will penetrate nursing homes and schools, as brain fitness software becomes new first-line treatment strategy.
7. **Regenerating the spinal cord:** New experimental therapies in development could open the doors for research to improve treatments for people with spinal cord injuries, brain injuries, stroke, and other severe movement disorders
8. **Prevention evidence grows:** You are what you eat; smoking is as bad as we thought; and new studies reveal the effects of environmental substances on Alzheimer's disease, Parkinson's disease and others.
9. **Emotional disorders research advances:** New research continues to link neurogenesis to treatment of depression. A better understanding of PTSD should lead to new treatment regimes.
10. **Neuroscience infiltrates society:** From neuroeconomics to neuroesthetics to neuroethics and neurolaw, the influence of neuroscience on society continues to grow.

NIO has developed this "top ten" list in anticipation of cutting edge research being presented at The Society for Neuroscience Conference being held in San Diego, California, November 3-7. NIO will be hosting a booth (#4311) and neurotech industry partnering social at the conference.

#### **About the Neurotechnology Industry Organization**

The Neurotechnology Industry Organization (NIO) is the trade association representing companies involved in neuroscience – drugs, devices and diagnostics, brain research centers, and advocacy groups across the world. More information can be found at [www.neurotechindustry.org](http://www.neurotechindustry.org)

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