

12/4/2008

For immediate release.

## **Largest Gathering of Neuromodulation Experts Explores Breaking Developments in Neurodevice Technologies at 12<sup>th</sup> North American Neuromodulation Society Meeting**

December 4, 2008, LAS VEGAS, NV \_ Leading researchers and clinicians from the field of neuromodulation assembled today at the 12<sup>th</sup> annual meeting of the North American Neuromodulation Society (NANS), continuing until December 7 in Las Vegas, NV. Through scientific oral and poster presentations, as well as tradeshow exhibits, participants in the NANS Conference will explore the latest research in new, reversible technologies that modulate brain and nerve cell activity to treat diseases and medical conditions including chronic pain, Alzheimer's disease, depression, obesity, epilepsy and Parkinson's disease.

"Neuromodulation has made impressive advances in the last year, including new medical technologies serving an increasing number of patients and scientific understanding to help unlock the secrets of the brain," noted Dr Jaimie Henderson, NANS President and Stanford Medical School neurosurgeon. "This conference is a unique opportunity to bring together experts in the state-of-the-art practice and emerging applications of neuromodulation."

Highlights from the conference include:

**Major Depressive Disorder.** This year's meeting focuses special emphasis on the use of neuromodulation for the treatment of depression. Only two months ago, the FDA approved the first use of transcranial magnetic stimulation (TMS) for a central brain disorder – depression. For the many sufferers of intractable depression who have exhausted other treatment avenues, deep brain stimulation (DBS) holds similar hope.

In separate presentations, Dr. Clement Hamani of the Toronto Western Hospital will report promising results from a multicenter study of 20 patients treated with DBS for major depressive order, and Helen Mayberg, Professor of Psychiatry and Neurology Emory University Atlanta, will describe recent advances in our understanding of the brain circuits involved in depression and which areas should be targeted for neuromodulation therapies.

**Pain.** Several presentations at this year's conference describe advances in the use of neuromodulation to treat debilitating pain, ranging from lower back pain to migraines and cluster headaches. In addition, Dr. Lisa Stearns of the Center for Pain & Supportive Care in Scottsdale, AZ, will report a new cost analysis of the use of intrathecal drug delivery (sending drugs directly into the cerebral spinal fluid to reach pain-sensitive neurons) which supports its use in the treatment of pain associated with cancer. And Stanford

University anesthesiologist Dr Sean Mackey will provide an overview of recent work imaging the neural circuits involved in the perception of pain.

**Stroke Rehabilitation.** The idea that the adult brain can reorganize to restore normal function after sustaining trauma is well accepted, but the means to achieving such rehabilitation is still a work-in-progress. A recent clinical trial – EVEREST – tested the idea that directly stimulating the brain with electrical signals coupled with classical rehabilitation techniques may speed the recovery of movement. Dr. Robert Levy, a neurosurgeon at Northwestern University in Chicago, will report new analyses of the trial data which suggest that this approach may be successful in some, but not all, stroke victims.

**New Technologies.** A special session on novel neuromodulation therapies will explore the cutting edge of electrical and optical technologies for studying and altering pathological brain activity. These include advances in the use of light as a tool to alter neural activity, new uses of transcranial magnetic stimulation and the use of oscillating electric fields to regrow spinal nerves after injury. Dr Karl Deisseroth, a neuroscientist at Stanford University, will deliver the keynote address, reporting on his work to engineer light-reactive molecules into neural circuits to manipulate and study patterns of activity in model organisms.

### **About Neuromodulation**

Neuromodulation employs advanced medical device technologies to enhance or suppress activity of the nervous system for the treatment of disease. These technologies include implantable as well as non-implantable devices that deliver electrical, chemical or other agents to reversibly modify brain and nerve cell activity.

Neuromodulation therapies are:

- Highly targeted to specific areas of the brain or spinal cord, rather than systemic throughout the body such as pharmaceutical treatments
- Highly reversible, allowing physicians to immediately cease treatment with the removal of the device
- Continuous, improving therapeutic compliance over techniques that rely on fixed intermittent dosing

The most common neuromodulation therapy is spinal cord stimulation to treat chronic neuropathic pain. In addition to chronic pain relief, some examples of neuromodulation therapies employed around the world include deep brain stimulation for the treatment of numerous disorders including essential tremor, Parkinson's Disease, dystonia, epilepsy and psychiatric disorders such as depression, obsessive compulsive disorder and Tourette's Syndrome; sacral nerve stimulation for pelvic disorders and incontinence; gastric and colonic stimulation for gastrointestinal disorders such as dysmotility or obesity; vagal nerve stimulation for epilepsy, obesity or depression; and spinal cord stimulation for ischemic disorders such as angina and peripheral vascular disease.

**About the North American Neuromodulation Society**

The North American Neuromodulation Society (NANS) is the largest chapter of the International Neuromodulation Society (INS). These non-profit organizations connect researchers, clinicians, companies and institutions worldwide that are focused on research, development and implementation of neuromodulation therapies.

INS and NANS provide a forum for communication and interaction among clinicians, basic scientists and bioengineers engaged in neuromodulation research and therapeutic development through a combination of scientific meetings, scientific publications and an interactive website.

Contact:

Ross Gillfillan

Feinstein Kean Healthcare

415-677-2720

[ross.gillfillan@fkhealth.com](mailto:ross.gillfillan@fkhealth.com)