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# China's Peking University is Site of 100th Elekta Magnetoencephalography (MEG) System Installed Worldwide

Center to use ultra-sensitive functional brain mapping system to study sleep, language processing and to further develop MEG technology

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BEIJING, April 23, 2016 /PRNewswire/ --

Cognitive neuroscience researchers at renowned Peking University (Beijing, China) will soon begin using their Elekta Neuromag® TRIUX™ MEG system in a variety of brain research studies. Peking University's Elekta Neuromag TRIUX - Elekta's latest generation MEG system - is the 100th Elekta MEG unit installed globally since 1989. Elekta MEG systems are operating at centers in 23 countries.

MEG is a fully non-invasive technique for measuring the brain's neuronal activity. Electrical currents flowing through neurons generate weak magnetic fields that can be recorded at the head's surface using the system's ultra-sensitive measurement devices. MEG can be used to measure the rapid signals of neuronal communication between different brain regions. MEG complements other brain imaging modalities, such as functional MRI and positron emission tomography (PET), which - while providing high spatial resolution of brain anatomy - have vastly lower temporal (i.e., time) resolution than MEG. Functional mapping with the system has proven clinically useful to evaluate epilepsy and to perform pre-surgical mapping of visual, auditory, somatosensory, motor cortex and language functional areas.

"Peking University harnesses several technologies for brain research, including four MRI scanners, EEG, a navigated transcranial magnetic stimulation [TMS] system and a transcranial alternating current stimulation [tACS] system," says Jia-Hong Gao, PhD, who serves as director for both the Center for MRI Research and Beijing City Key Laboratory for Medical Physics and Engineering. "We

acquired Elekta Neuromag TRIUX to add the dimension of time to our investigations. Compared with fMRI, MEG has superior temporal resolution - the MEG signals directly reflect neuronal activity. fMRI signals reflect cerebral blood flow and volume and blood oxygen changes over a relatively longer time period after a neuron fires. Moreover, MEG provides cleaner spatial resolution than EEG."

Dr. Gao adds that his center selected Elekta's MEG system, in particular, due to the greater number (306) and sophistication of the machine's measurement channels in comparison to other MEG units.

In research studies, Dr. Gao and his colleagues will use MEG to advance their fMRI and EEG work on source localization - pinpointing the origin of certain brain activity. Another project seeks to use MEG to investigate how the brain processes different languages.

"We also will conduct MEG research on sleep using MEG to record spontaneous brain activity," he adds. "We are using fMRI and EEG to study sleep as well, and adding MEG in this multi-modality neuroimaging strategy will shed further light on the nature of sleep stages."

Peking University's Elekta Neuromag TRIUX system is available for use by researchers in the school's other departments, in addition to investigators from other academic centers.

"My colleagues and I are very excited to have Elekta's 100<sup>th</sup> MEG installed here," he says. "We hope the most exciting research projects can be conducted with this system, and that our lab can become a platform to demonstrate the most advanced functions and applications of Elekta Neuromag TRIUX."

Peking University will host a ceremony inaugurating its new Elekta MEG system on April 25 at the institution's Century Forum. More than 300 cognitive neuroscience researchers are registered to attend the event, at which several internationally prominent scientists in fMRI and MEG will give presentations.

To learn more about Elekta Neuromag, visit <http://www.elekta.com/TRIUX>.

## About Elekta

Elekta is a human care company pioneering significant innovations and clinical solutions for treating cancer and brain disorders. The company develops sophisticated, state-of-the-art tools and treatment planning systems for radiation therapy, radiosurgery and brachytherapy, as well as workflow enhancing software systems across the spectrum of cancer care. Stretching the boundaries of science and technology, providing intelligent and resource-efficient solutions that offer confidence to both health care providers and patients, Elekta aims to improve, prolong and even save patient lives.

Today, Elekta solutions in oncology and neurosurgery are used in over 6,000 hospitals worldwide. Elekta employs around 3,800 employees globally. The corporate headquarters is located in Stockholm, Sweden, and the company is listed on the Nordic Exchange under the ticker STO:EKTAB. Website: <http://www.elekta.com>.

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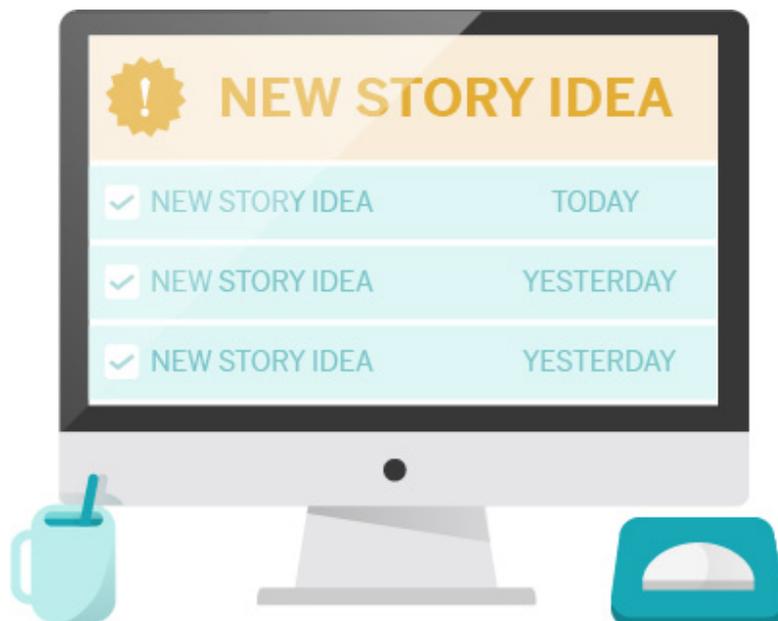
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