FOR IMMEDIATE RELEASE

Plexon Inc Congratulates its First *JoVE* Publication Grant Contest Winner Jonathan Ho

DALLAS, TX -- (April 2, 2013) - Plexon Inc, the leader in advanced hardware and software solutions for neuroscience and behavioral research, congratulates Jonathan W. Ho from Rebecca D. Burwell's Behavioral Neuroscience of Memory and Attention Lab at Brown University as the winner of Plexon's first *Journal of Visual Experimentation (JoVE)* Publication Grant Contest.

Plexon and the *Journal of Visualized Experiments (JoVE)* partnered to sponsor this first publication grant contest - valued at $4,200. Researchers from around the world were invited to submit abstracts for unpublished, original work in which the OmniPlex[®] Neural Data Acquisition System was used.

Mr. Ho and his team including Tara K. Jacobson, Clayton P. Aldern, Amanda L. Liu and Rebecca D. Burwell submitted the winning abstract titled "Getting the most out of your rats: fully automated cognitive tasks for recording neural activity using a floor projection maze" featuring their research utilizing both the OmniPlex Neural Data Acquisition System and Plexon's CinePlex[®] Behavioral Research System.

On behalf of Jonathan Ho and his team, Plexon will compensate *JoVE* to perform the standard activities to publish the article in a text format accompanied by a professionally developed video - filmed onsite - detailing the methods and analysis with a voice-over in English. Furthermore, Mr. Ho will have the option to star in the video itself. *JoVE* will host the article online granting unlimited "Free Access", and ensure indexing in PubMed, MEDLINE, SciFinder and PubGet. Lastly, the article will be featured on the Plexon website and promoted to the several thousand newsletter recipients.

Historically, *JoVE* publications referencing Plexon products have enticed more than 10,000 views in the first year alone. Having such relevance to both the neural recording and behavioral research communities, Plexon expects this new publication to surpass that benchmark. If the schedule proceeds according to plan, the article should be published by the Fall of this year.

Plexon thanks all of the researchers who participated in the first publication contest. The winning abstract is provided below.

Getting the most out of your rats: fully automated cognitive tasks for recording neural activity using a floor projection maze

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Visual tasks are commonly used in human and monkey studies to examine mechanisms underlying learning and memory processes. Rodent models, however, are more readily accessible to researchers for larger scale studies and have the added advantage of employing combinations of approaches, such as genetic and electrophysiolgcal techniques. Whereas primate tasks typically require the subject to direct their gaze to visual stimuli on a monitor, rat tasks require the subjects to interact with an environment. Available evidence indicates that visual stimuli do guide behavior in rats. Anatomical and behavioral evidence suggest that rats process visual information in the lower visual hemifield more effectively for guiding behavior. Our lab has developed the Floor Projection Maze in which visual stimuli are back projected onto the floor of the test arena. This behavioral paradigm is optimized for visual abilities

of rats and permits stronger comparisons with visual tasks in other species.

In addition to more relevant cognitive tasks, we can also employ techniques using a rodent model to maximize trial output and increase the amount of data collected, resulting in a more reliable sample of task-related behavior. Typically, food and drink rewards can lead to satiation, even in food-deprived rats, limiting the number of trials an animal will perform. Satiation can be overcome using electrical or optogenetic stimulation to provide immediate feedback on task performance without producing satiation or interfering with extracellular recordings.

We have integrated electrophysiological recordings into fully automated cognitive tasks on the Floor Projection Maze. Behavioral software interfaced with CinePlex Behavioral Research System (Plexon Inc.) allows monitoring of the animal's behavior with precise control of image presentation, and associating the appropriate behavior with reward for better trained animals. Integration with OmniPlex® D Neural Data Acquisition System (Plexon Inc.) enables activity of neural ensembles to be recorded at single sites and multiple sites to examine coordinated neural activity between related brain regions necessary for successful task performance.

Using a visually guided cognitive task, we describe protocols for a model system that combines automated visual presentation of information to rodents, intracranial reward at any location, with electrophysiological approaches. We envisage our model system offers a more sophisticated set of tools as a framework for other cognitive tasks to better isolate and identify specific mechanisms that contribute to a particular cognitive process.

About Plexon Inc
Plexon is a pioneer and leading innovator of custom, high performance data acquisition, behavior and analysis solutions specifically designed for scientific research. We collaborate with and supply thousands of customers including the most prestigious neuroscience laboratories around the globe driving new frontiers in areas including basic science, brain-machine interfaces (BMI), neurodegenerative diseases, addictive behaviors and neuroprosthetics. Plexon offers integrated solutions for *in vivo* neurophysiology, optogenetics, and behavioral research -- backed by its industry-leading commitment to quality and customer support. www.plexon.com.