Plexon is pleased to announce the conclusion of another wildly successful, hands-on Annual Plexon Neurophysiology and Behavior Workshop. Attendees rated the overall performance of this year’s program a 9.5 out of a possible 10, beating the 9.4 and 8.9 of previous years.

The event started with a well-attended Welcome Reception on the evening of the 17th followed by three, nearly-exhausting, intense days of hands-on, fully exercise-based product training. This year’s outstanding panel of guest speakers included:

- Farran Briggs, PhD, Dartmouth Medical School, Department of Physiology
- Alex Huk, PhD, University of Texas at Austin, Center for Perceptual Systems, Institute for Neuroscience
- Philip Tovote, PhD, Friedrich Miescher Institute for Biomedical Research, and
- Huijing Xu, MS, University of Southern California, Center for Neural Engineering

Early in the program, the famed Upscale Bowling Social Event took place Tuesday evening with a good time had by all. Blue Team with Christian Bravo-Rivera, Kelvin Quiones-Laracuente, Daniel Chew, PhD and team captain Stacie Hyatt won the highest scoring team. Daniel Yu won the highest individual score. Christian Bravo-Rivera scored the most strikes including a Turkey (three strikes in a row), while Daniel Yu and Daniel Chew tied for the most spares. Congratulations bowlers!

Principle Investigator Gregory J. Quirk, PhD, Department of Psychiatry, University of Puerto Rico School of Medicine, provides a glimpse of his perspective on the workshop:

“Christian, Maria, and Kelvin returned totally energized from your Plexon Workshop! They have already been revamping their systems and analysis. I can’t thank you enough. Congrats on putting so much effort into a top-notch course that is helping the field.”

Plexon is extremely pleased to be a part of advancing science through innovative tools and exceptional training. We thank all of this year’s participants and guest speakers for making the event the successful learning experience it was intended to be. Watch for news regarding the 2015 Workshop!

INTEGRATED OMNIPLEX/OPERANT CHAMBER NOW AVAILABLE

On the heels of the partnership announcement last month, Plexon and Lafayette Instrument Company jointly announce the launch of the first integrated product combining the OmniPlex® D Neural Data Acquisition System and Bussey-Saksida Touch Screen Operant Chamber for freely behaving rodent experiments.

The sophisticated integration of equipment will offer a unique and unsurpassed environment in which scientists can run a variety of operant tasks while simultaneously recording high resolution neural data in the most seamless process experienced by the industry. Most appreciated will be the synchronized data output for much faster data analysis and far fewer opportunities for human error.

The OmniPlex D Neural Data Acquisition System is Plexon’s flagship electrophysiology research system. Researcher’s benefit from 16 to 256 channels simultaneously sampled at 40kHz per channel with 16-bit resolution, digital isolation, powerful online spike sorting, PL2 neural data file format for faster data loading and 32 channels each of auxiliary non-neural A/D inputs, digital inputs and digital outputs.
The Bussey-Saksida Touch Screen Chambers for Rats and Mice are exceptionally popular for the efficient and high-throughput cognitive evaluation of rodents including Paired Associate Learning (PAL), Visuomotor Conditional Learning (VMCL), Extinction (EXT), 5-Choice Serial Reaction Time (SCSRT), Trial-Unique Nonmatching-to-Location (TUNL), Autoshaping (AUTO), Location Discrimination (LD), 5-Choice Continuous Performance Test (SC-CPT) amongst others. The system offers many standard (and customizable) paradigms prewritten to include the entire battery of tasks necessary to habituate, shape, and bring the animal to criteria on that particular application, as well as collect and analyze data.

Interested parties should reach out to either company at info@plexon.com or info@lafayetteinstrument.com.

NEW PLEXBRIGHT PUBLICATION GRANT CONTEST!

Plexon formally announces the second Plexon/JoVE Publication Grant Contest valued at $4,200 – this one focuses on original, unpublished research performed using the PlexBright™ Optogenetic Stimulation System.

For this second contest and on behalf of the winner, Plexon will compensate the Journal of Visualized Experimentation (JoVE) to perform the standard activities to edit and publish the manuscript in a text format accompanied by a professionally developed video - filmed onsite - detailing the methods and analysis including scripting and a voice-over in English. Furthermore, the authors will have the option to be in the video itself. JoVE will host the article online granting unlimited “Free Access” and ensure indexing in PubMed, MEDLINE, SciFinder and PubGet.

The contest is now open and closes May 31, 2014 at 11:59 p.m., Central time. Entrants must submit a completed application form (coming soon) acknowledging acceptance of the terms and conditions as outlined in the official rules (also coming soon) along with an abstract 400 words or less to publications@plexon.com. The research on which the abstract is based must have been performed using at least one PlexBright controller (either the LD-1 LED Single Channel Driver or the 4 Channel Optogenetic Controller with Radiant™ software) and at least one PlexBright LED Module (compact or table top). The abstract and final manuscript must reference Plexon, the PlexBright System and the other Plexon products used. The winner will be determined by both Plexon and JoVE and will be announced approximately one month later. The winner will then have 30 days following notification to submit a completed manuscript to JoVE.

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, we expect this new publication to easily surpass that benchmark.

Good luck to all entrants!!

DID YOU KNOW . . . HOW BEST TO MEASURE LED LIGHT OUTPUT?

For most researchers, understanding the true light intensity exiting a stimulation system and entering the tissue is important - if not critical. Knowing the stated light output from the source is valuable, but not as valuable as knowing the output level after a connection to an optical patch cable, or after another to an implanted fiber stub. Even if you had a stated table of such values (you do if you’re using the PlexBright Optogenetic Stimulation System), each piece of equipment varies ever so slightly. Measured output is always more accurate than manufacturer reported average values no matter how tight the tolerance might be.

Accordingly, Plexon encourages the identification and validation of optogenetic stimulation as it enters the tissue. In most cases the conversation might end here; however, the PlexBright Optogenetic Stimulation System is an exceptionally high power, high performance LED system that requires special consideration when measuring output.

One way in which Plexon achieves the transmission of such high intensities throughout the light path relates to the custom drawn, exceptionally high numerical aperture (NA) optical fiber. The higher the numerical aperture, the wider the cone of light exiting the fiber. In accordance with standard light properties, it is important to capture the entire cone of light on the photo detection sensor to make an accurate reading. With most optogenetic research equipment, this is not an issue and standard sensors are adequate. With Plexon’s high NA fiber generating such a wide cone, it is very easy to clip some of the light resulting in a low, inaccurate reading.

Plexon teamed up with ThorLabs to generate a Light Measurement Kit with custom adaptors yielding an accurate reading every time. The kit includes a power meter, an integrating sphere photodetector and most importantly several tip-specific PlexBright Photodetector Adapters. The PlexBright Adapters enable the appropriate positioning of PlexBright equipment over the photodetector, eliminating light cone clipping, ensuring an accurate reading. For more information, read the newly posted PlexBright Light Measurement Kit Guide found on the Documentation webpage, under the PlexBright heading.
JOVE CONTEST PUBLICATION, 1,000 HITS IN 32 DAYS!
The winning scientific article from the first Publication Grant Contest featuring research conducted using the OmniPlex System reached 1,000 views originating from more than 134 universities/institutions across 28 countries just thirty two days after its posting online.

The article authored by Rebecca Burwell’s Behavioral Neuroscience of Memory and Attention Lab at Brown University titled “Automated Visual Cognitive Tasks for Recording Neural Activity Using a Floor Projection Maze” features an innovative new type of maze possibly more effective for many experiments involving freely behaving rats.

UPCOMING EVENTS
** Neural Control of Movement (NCM), April 21-26; Amsterdam, The Netherlands
** Canadian Neuroscience Meeting 2014, May 25-28; Montreal, Canada

RESEARCH SPOTLIGHT
Let us know about your 2014 publication citing Plexon and our equipment, and we will send you a thank you award with a mug and a T-shirt! Send notices, address and T-shirt size to publications@plexon.com.

All articles listed are alphabetical based on first author within two categories: articles published online in electronic-only journals or ahead of print, and articles published in full print.

Recent articles published online in electronic-only journals or ahead of print:
** Davis, Katherine E., Sarah Fox, and John Gigg. “Increased Hippocampal Excitability in the 3xTgAD Mouse Model for Alzheimer’s Disease In Vivo.” PLOS ONE 9, no. 3 (2014): e91203.
** Li, Yong-Hua, Jia-Jia Li, Qin-Chi Lu, Hai-Qing Gong, Pei-Ji Liang, and Pu-Ming Zhang. “Involvement of Thalamus in Initiation of Epileptic Seizures Induced by Pilocarpine in Mice.” Neural Plasticity 2014 (2014).

**Recent articles published in full print:**


