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JOVE WINNER, SMALLER HEADSTAGE, AND NEW REINFORCED OPTICAL PATCH CABLES

JOVE PUBLICATION GRANT CONTEST WINNER

Congratulations to Jonathan W. Ho from Rebecca D. Burwell's Behavioral Neuroscience of Memory and Attention Lab at Brown University and all of the other listed authors including Tara K. Jacobson, Clayton P. Aldern, and Amanda L. Liu! This team 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 the CinePlex® Behavioral Research System.

As the winner, Plexon will fund the publication of this research in JoVE's peer-reviewed format including text and video and available to everyone through the Open Access channel on the JoVE website. If the schedule holds, the article should be published by the Fall of this year. We will keep you posted.

Thank you to all of the researchers who participated in our first publication contest! We enjoyed reading the exciting discoveries that are happening in your labs. Watch for the next contest to be announced!

NEW SMALLER, LIGHTER 16 CHANNEL HEADSTAGE - THE HST/16O25 GEN II

Although our 16 channel, 0.025" pitch, unity gain headstage was already small and light, our engineering team was able to improve it even further. The HST/16o25 GEN II headstage is now 36% smaller, 17% lighter, 21% shorter and 19% less wide than its predecessor.

It is also more convenient. Previously, it was important to specify either the grounded reference or true reference version at the time of purchase; however, now the HST/16o25 GEN II incorporates both types of output. Lastly, the HST/16o25 GEN II offers more flexibility in input connectors. You now have a choice of an 18 data pin connector with either two or six guide pins.

If you are interested in how the new HST/16o25 GEN II compares with our 16 channel, 0.025" pitch headstage with a 20x gain (the HST/16V-G20), it gets even better! The new HST/16o25 GEN II is 44% smaller and 43% lighter.

NEW FLEXIBLE, ARMORED OPTICAL PATCH CABLES

Last month Plexon announced the launch of the PlexBright™ Dual LED Commutator supporting optogenetics research utilizing freely behaving animals. This month, we take it a step further!! Plexon is pleased to announce our flexible and protective jacketing for high performance PlexBright Optical Patch Cables. The new jacketing is made of stainless steel, has an outer diameter of 2.3mm and is designed to offer added protection from chewing (possibly caused by especially bored or agitated animals) and other animal inflicted damage. The jacketing provides excellent strength combined with unique flexibility not found with any other optical patch cables.

The benefits are not limited to protection from animals, but also extend to protecting the PlexBright Optical Patch Cables from possible damage inflicted by humans during standard/excessive use, such as over-bending.

ANNOUNCING NEW, THINNER FIBER STUB IMPLANTS

In keeping with our recent theme of advancing optogenetics research in freely behaving animals, we introduce the newest addition to the family of PlexBright Fiber Stub Implants offering 110/125µm fibers. These new fiber stubs are nearly 50% smaller than our initial family of fiber stubs that measure 200/230µm (representing a core fiber diameter of 200µm, and a total outer diameter including the cladding of 230µm). The smaller size may be more appropriate when minimal tissue disturbance is of special concern and/or for small animals such as mice.

Like our 200/230µm Fiber Stub Implants, the new 110/125µm Fiber Stub Implants are available in stocked lengths of 2, 4, 6, 8, 10 and 12mm. Both diameters are compatible with PlexBright Optical Patch Cables of any offered length, with or without the stainless steel jacketing.

WORKSHOP STARTS MONDAY

April 29 - May 2, 2013; Dallas, Texas, USA

The Annual Plexon Neurophysiology Workshop begins next week with an amazing group of researchers representing countries from five continents! We wish our attendees and speakers safe travels, and look forward to seeing them in a few days.

OFFLINE SORTER™ PROMOTION

Get in on our 30th Anniversary specials for Offline Sorter (OFS) version 3! When you purchase OFS v3, choose either a special pricing (~\$1,000 savings) or an extra license (\$2,000+ savings). Email info@plexon.com to request a quote or place an order.

UPCOMING EVENTS

- **4th Annual Plexon Neurophysiology Workshop**, April 29-May 2; Dallas, Texas, USA
- **11th Annual Neurosciences Congress**, May 21-24; Lyon, France
- **7th Annual Canadian Neuroscience Meeting**, May 21-24; Toronto, Canada
- **Hands-On Workshop on Neuronal Recordings and Stimulation**, May 28-29; Freiburg, Germany

INNOVATION FOR THE NEXT 30 YEARS



Plexon continues to celebrate its 30th year serving researchers around the globe!

RESEARCH SPOTLIGHT

Let us know about your 2013 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:

- Aggarwal, Vikram, Mohsen Mollazadeh, Adam G. Davidson, Marc H. Schieber, and Nitish V. Thakor. "State-Based Decoding of Hand and Finger Kinematics using Neuronal Ensemble and LFP Activity during Dexterous Reach-to-Grasp Movements." *Journal of Neurophysiology* (2013).
- Freeman, George Mark, Masato Nakajima, Hiroki R. Ueda, and Erik D. Herzog. "Picrotoxin dramatically speeds the mammalian circadian clock independent of Cys-loop receptors." *Journal of Neurophysiology* (2013).
- Klein, Jeffrey T., and Michael L. Platt. "Social Information Signaling by Neurons in Primate Striatum." *Current Biology* (2013).
- Merten, Katharina, and Andreas Nieder. "Comparison of abstract decision encoding in the monkey prefrontal cortex, the presupplementary and cingulate motor areas." *Journal of Neurophysiology* (2013).
- Parenti, Carmela, Rita Turnaturi, Giuseppina Aricò, Alexandra Gramowski-Voß, Olaf H-U. Schroeder, Agostino Marrazzo, Orazio Prezzavento et al. "The multitarget opioid ligand LP1's effects in persistent pain and in primary cell neuronal cultures." *Neuropharmacology* (2013).
- Plakke, Bethany, Chi-Wing Ng, and Amy Poremba. "Neural Correlates of Auditory Recognition Memory in Primate Lateral Prefrontal Cortex." *Neuroscience* (2013).
- Saxena, Tarun, Lohitash Karumbaiah, Eric A. Gaupp, Radhika Patkar, Ketki Patil, Martha Betancur, Garrett B. Stanley, and Ravi V. Bellamkonda. "The impact of chronic blood-brain barrier breach on intracortical electrode function." *Biomaterials* (2013).
- Stokes, Mark G., Makoto Kusunoki, Natasha Sigala, Hamed Nili, David Gaffan, and John Duncan. "Dynamic Coding for Cognitive Control in Prefrontal Cortex." *Neuron* (2013).
- Osawa, Shin-ichiro, Masaki Iwasaki, Ryosuke Hosaka, Yoshiya Matsuzaka, Hiroshi Tomita, Toru Ishizuka, Eriko Sugano et al. "Optogenetically Induced Seizure and the Longitudinal Hippocampal Network Dynamics." *PLOS ONE* 8, no. 4 (2013): e60928.
- Perge, János A., Mark L. Homer, Wasim Q. Malik, Sydney Cash, Emad Eskandar, Gerhard Friehs, John P. Donoghue, and Leigh R. Hochberg. "Intra-day signal instabilities affect decoding performance in an intracortical neural interface system." *Journal of Neural Engineering* 10, no. 3 (2013): 036004.
- Shanechi, Maryam M., Ziv M. Williams, Gregory W. Wornell, Rollin C. Hu, Marissa Powers, and Emery N. Brown. "A Real-Time Brain-Machine Interface Combining Motor Target and Trajectory Intent Using an Optimal Feedback Control Design." *PLOS ONE* 8 no. 4 (2013): e59049.

Recent articles published in full print:

- Jennings, Joshua H., Dennis R. Sparta, Alice M. Stamatakis, Randall L. Ung, Kristen E. Pleil, Thomas L. Kash, and Garret D. Stuber. "Distinct extended amygdala circuits for divergent motivational states." *Nature* 496, no. 7444 (2013): 224-228.
- Ng, Benedict Shien Wei, Nikos K. Logothetis, and Christoph Kayser. "EEG phase patterns reflect the selectivity of neural firing." *Cerebral Cortex* 23, no. 2 (2013): 389-398.
- Nishikawa, Jun, and Kazuo Okanoya. "Cantor Coding of Song Sequence in the Bengalese Finch HVC." *In Advances in Cognitive Neurodynamics (III)*, pp. 629-634. Springer Netherlands, 2013.
- Patel, Shaun R., Sameer A. Sheth, Clarissa Martinez-Rubio, Matthew K. Mian, Wael F. Asaad, Jason L. Gerrard, Churl-Su Kwon et al. "Studying task-related activity of individual neurons in the human brain." *Nature Protocols* 8, no. 5 (2013): 949-957.
- Totah, Nelson KB, Mark E. Jackson, and Bitu Moghaddam. "Preparatory attention relies on dynamic interactions between prelimbic cortex and anterior cingulate cortex." *Cerebral Cortex* 23, no. 3 (2013): 729-738.