Warm weather is still avoiding us in Kansas, but we have taken advantage of the long winter to roll-out some great new products. We are thrilled to introduce our three-channel wireless potentiostat for rats that allows you to use three sensors simultaneously. We are also introducing two new cannula systems, one for measuring in different regions of the brain and a tri-barrel cannula for measuring three analytes in one region of the brain. Example data collected using this system is found in the presentation in the article below. Synchronization of devices has been an underlying goal of Pinnacle’s for years (see our synchronized video). The problem is inherent drift in the PC clock, which controls a lot of your experiments. Therefore, we have developed a master clock, which performs high-precision synchronization of multiple devices when precision timing is important for your experiment. This product will be available in May. Please let us know what other tools you would like to see in the future.

All the best,

Donna A. Johnson, President and CEO

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**New Product**

**Record Three Biosensor Channels Wirelessly in Rats**

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**Conferences**

Please stop by our booth at [SLEEP 2013](#) to learn about our advanced analysis software and turn-key solutions for sleep research.
Pinnacle’s NEW biosensor system uses Bluetooth® v4.0 technology to wirelessly record three biosensors simultaneously in one animal. The battery-powered potentiostat, which is housed in a Rat Hat that is affixed to the skull of the animal, transmits data to a paired USB dongle. All data are amplified and digitized on the head of the animal, which greatly reduces noise artifact and prevents data corruption during transmission. In addition, Pinnacle has developed two new cannula systems. Both can be used with Pinnacle’s full line of biosensors. Learn more about the cannulas below.

**Tri-Barrel Cannula**

Pinnacle’s tri-barrel cannula was designed to allow three biosensors to be implanted within the same local environment. Biosensors can be placed less than 0.5 mm apart using the tri-barrel cannula system.

**Single-Barrel Cannula**

Single-barrel cannulas allow researchers to freely target three regions of the brain with ease. The cannula’s pie shape provides increased flexibility in biosensor placement, and the potentiostat’s design maximizes implantation area. This cannula system can also be used with Pinnacle’s two-channel potentiostat.
Coming Soon
Master Clock
Beginning in May, Pinnacle will offer a central timing source for experiments that require high-precision synchronization of multiple devices. The master clock communicates with Pinnacle’s Sirenia® acquisition software at a precisely fixed interval (< 1 ppm stability from 0 to 70 °C), which allows the PC to maintain strict synchronization. Digital inputs and outputs are provided to allow precise timing with other directly connected devices, and robust latency measurement and control schemes are employed within the Sirenia® software suite to ensure that strict synchronization is also maintained between all USB, video, and network connected devices that are part of the overall experiment. Because it minimizes latency, the master clock is perfect for optogenetics, behavioral studies, and other protocols requiring strict synchronization.

System Features:
- High precision synchronization
- 3 TTL inputs/outputs and pulse train output support
- Accurate to 1 second per month
- Compatible with all Pinnacle hardware

View Data Slides
Employee Spotlight

Daniel Aillon

When Daniel Aillon accepted a position at Pinnacle over ten years ago, his primary challenge was to manage the transfer of biosensor technology from an academic lab to a commercial setting. Since then, Daniel has played a vital role in developing a number of Pinnacle products.

Most recently, he helped design Pinnacle's new three-channel biosensor system, which allows the implantation and recording of three biosensors simultaneously. "I'm really excited about the new cannula," he says. "It simplifies a lot of surgical issues and tells a new story that was previously unavailable."

Despite his many accomplishments at Pinnacle, Daniel's daughter, Hanna, tops his list of achievements. He and his wife, Kristin, welcomed their new bundle into their home just six months ago. "Being a dad is like every cliché you've ever heard multiplied by 100," he says. "Of course, I'm lucky because I have the best and prettiest little girl in the entire world. She's amazing."

Recent Publications

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Biosensor Publications


Sleep Publications


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