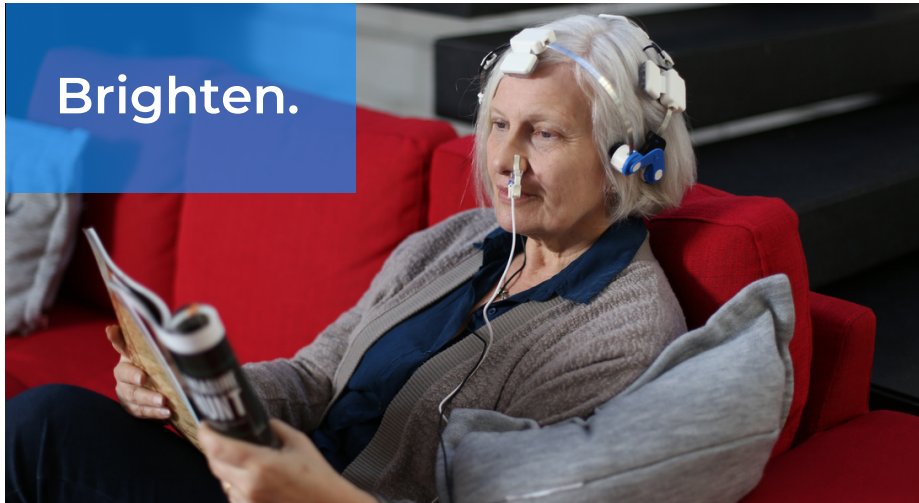


15 MARCH 2023

Vielight News

Accelerating photobiomodulation.



PHOTOBIMODULATION OF LIVING CELLS, TUBULIN, AND MICROTUBULES *IN VITRO*

Department of Physics and Oncology, University of Alberta
Department of Mechanical and Aerospace Engineering, Politecnico di Torino
Vielight Inc.

By collaborating with researchers from the University of Alberta, we've investigated the potential of 810nm NIR light energy to positively modulate microtubule polymerization *in vivo*. The study "[Near-Infrared Photobiomodulation of Living Cells, Tubulin, and Microtubules In Vitro](#)" is published in the journal *Frontiers in Medical Technology*.

Through this multi-layered study, which used the [Vielight Neuro Alpha](#), we have gained a better understanding of the way that living cells, cellular structures, microtubules and tubulin respond to near-infrared photobiomodulation.

In molecular biology, microtubules play vital roles in regulating cell growth and key signaling events, which modulate fundamental cellular processes. [Many neurodegenerative pathologies, including Alzheimer's disease \(AD\), exhibit microtubule abnormalities.](#) Consequently, microtubule enhancing interventions are potential therapeutic candidates for this devastating brain disease.

At Vielight, we remain committed to partnering with brilliant minds to understand the effects of NIR energy on molecular structures to optimize photobiomodulation-based parameters for optimal cognitive outcomes.

Newsletter Highlights

Microtubules and 810nm Light Energy

Vielight Spotlight: Jacki Jing

The Neuro 3: Understanding the form factor

The brain's Default Mode Network

VIELIGHT



VIELIGHT SPOTLIGHT

Jacki Jing is a reality TV star, seen on Netflix's *The Circle*, and has been an esports desk and stage host for years. The Emmy-nominated TV journalist has also hosted several live red carpets and conducted dozens of celebrity interviews for AAA feature films.

Jacki suffered from a sports-related injury which led to brain fog, slurred speech and zoning out. She enrolled in the U of Utah's study on traumatic brain injury and found improvement.

"I've sensed a large improvement, and I know I still have a long way to go, but I have faith now. It was weeks of just depression and feeling like there was no hope."

Jacki's website: <https://www.jackijing.com/>

THE NEURO 3

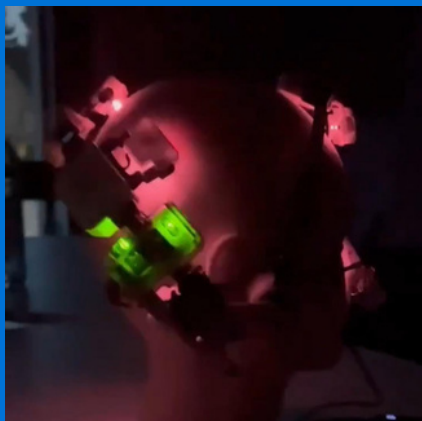
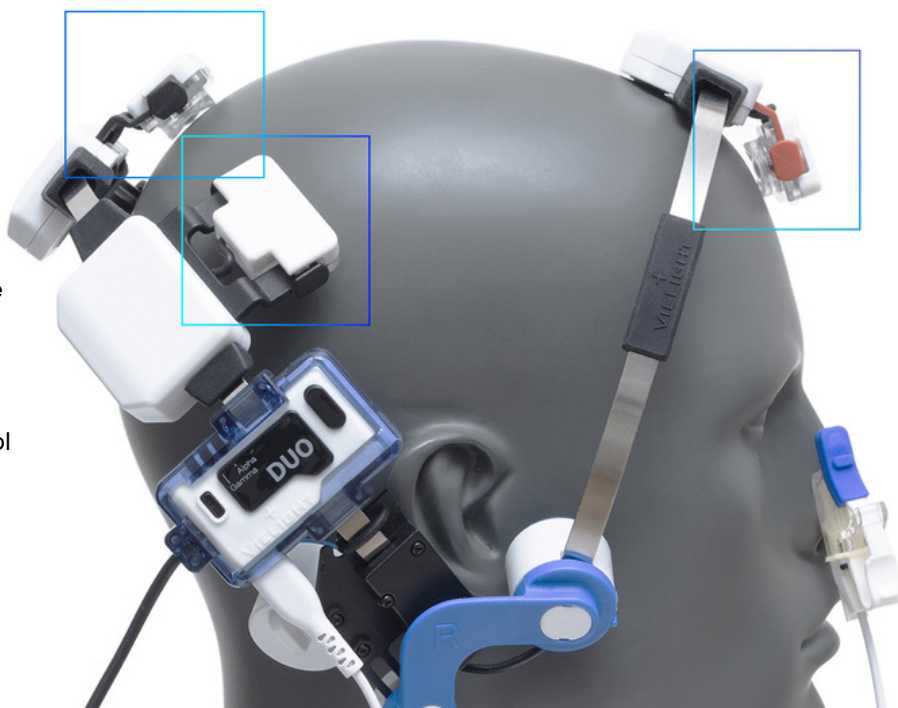
Understanding the Form Factor

What's with the Vielight Neuro's headset design? No, it's not for mind control or telepathy.

The Neuro's LED modules were engineered to maximize contact with the scalp. Contact with the scalp optimizes the transmission of light energy into the skull.

The microchip-regulated LED modules also control the thermal output. This increases comfort by reducing heat.

Read more on the Neuro's patented design: [Understanding the Vielight Neuro 3](#)



The Brain's Default Mode Network

The Vielight Neuros are designed to deliver near-infrared (NIR) light to the Default Mode Network (DMN) of the brain.

The Default Mode Network (DMN) is a network of highly interconnected brain regions responsible for internal modes of cognition.

The DMN has been linked to the general health of the brain and is involved in various domains of cognitive and social processing.

To read more on why, read our blog post: ["Enhancing the Default Mode Network"](#)