

Restoring voices, restoring lives

Dear <<Informal Salutation>>,

Lee Miller, professor of neurobiology, physiology, and behavior in the College of Biological Sciences, vividly recalls the day in 2021 when he met a woman who had lost the use of her vocal cords. In hoarse, whispering tones, she shared how her voice had been central to her vocation. Losing it, she said, felt like losing her life's purpose.

Today, Miller leads a groundbreaking project to restore people's original voices using cutting-edge technology. By capturing muscle activity through electromyographic (EMG) signals and pairing it with personalized speech samples, Miller and his team generate speech that reflects a person's own unique voice, even after the loss of vocal cords from head and neck cancer.

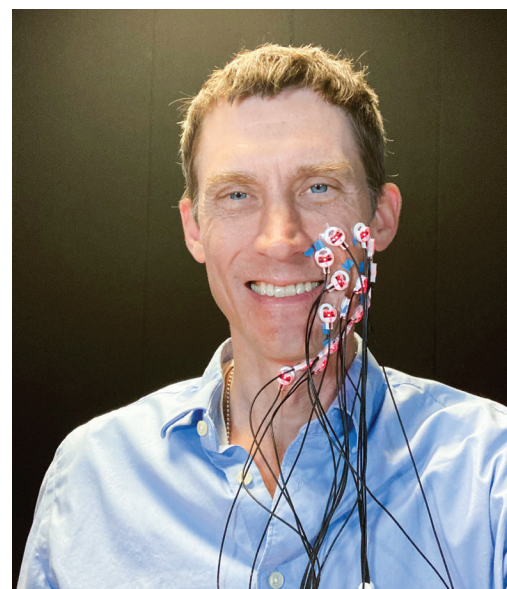
Inspired by technology originally used to interpret hand gestures and control robotic limbs, this work holds tremendous promise for individuals who lose their ability to speak intelligibly due to surgical removal of, or radiation damage to, the larynx, mouth, and tongue, or due to loss of speech motor control from conditions such as Parkinson's disease, ALS, cerebral palsy, or muscular dystrophy.

"We don't need that much data to clone the person's voice," said Miller.

With just five minutes of speech combined with a person's EMG signals, Miller can recreate a person's natural tone. For those unable to speak at all, his team carefully reconstructs their voice using recordings from family videos or audio diaries, giving individuals the chance to be heard again, in their own words and in their own voice.

Your support for the College of Biological Sciences strengthens our research excellence and enables transformative breakthroughs, like the work being done in Professor Miller's lab, that can truly change lives.

Please give today at give.ucdavis.edu



**"Our voice is so
important to our
sense of identity and
empowerment."**

- PROFESSOR LEE MILLER

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