

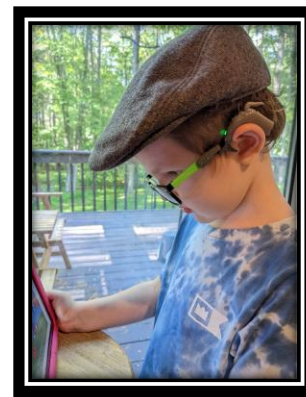
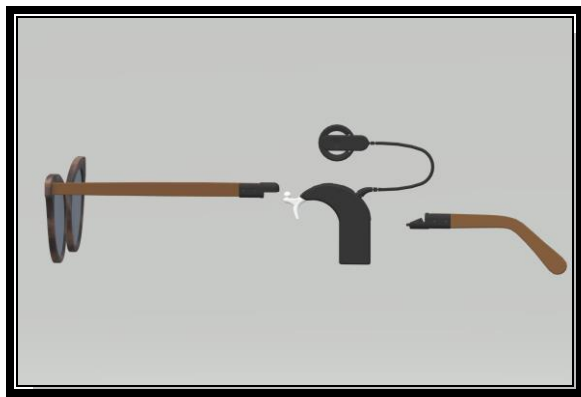
# FERRIS STATE UNIVERSITY

## OFFICE OF RESEARCH AND SPONSORED PROGRAMS

### A Comfortable, Usable, Secure Adapter to Connect Spectacles with Cochlear Implant Processors

**Current Problem:** People who have received cochlear implants (CIs) for the treatment of hearing loss and deafness often have difficulty wearing spectacles. This is due to the positioning of the CI system sound processor and power supply above and behind the auricle (external ear). The temples of spectacle lenses, which also sit above the ear, interfere with the CI processor, leading to discomfort and insecure positioning of the devices. These effects are particularly problematic for people who wish to remove and replace their spectacles throughout the day—for example, in the use of sunglasses or reading glasses—or for children, who have less usable space above the auricle.

**The Solution:** The [patent-pending](#) invention is a 3-D printable adapter that allows spectacles to be used both with and without CIs. When CIs are being worn, the spectacles are securely attached to the CI processor, in place of the normally-used silicon earhook. When spectacles alone are desired to be worn, the glasses can be easily reassembled.



Demonstrated benefits:

- Improved comfort in the supra-auricular space when wearing CIs and spectacles simultaneously
- Improved ability to easily remove and replace spectacles without unseating the CI processors
- Improved stability of the CI processor/spectacle system during daily wear
- Ability to wear the spectacles without also wearing CIs, if desired

**Intellectual property status:** [Published US Patent Application](#)

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