

East Bay Chapter

August 2022 Newsletter

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At the August 13 meeting we will present: John Galvin, Ph.D., is a Research Scientist at the House Institute Foundation in Los Angeles, CA. He has been involved with cochlear implant research for more than 20 years, first at the House Ear Institute, then at UCLA, and now at the House Institute Foundation. John's areas of interest in cochlear implant research range from psychophysics to music perception, with many things in between. The cochlear implant is now more than 60 years old, and nearly one million devices have been implanted in deaf adults and children worldwide. Dr. William House and the House Clinic/Institute were at the forefront of the development of the cochlear implant. While there have been many advances in cochlear implant technology, many limitations persist. Arguably, the greatest advance in cochlear implants has been the increasing inclusion of residual acoustic hearing in the ear to be implanted and/or in the contralateral ear. Even a little bit of acoustic hearing can provide pitch cues that can be greatly beneficial for difficult listening situations. In this presentation, we will review the history of the cochlear implant, advances in electrode design and surgical techniques, and the benefits of combined acoustic and electric hearing for speech and music perception. Social time: 9:30 a.m., Meeting begins: 10 a.m.

Register for these free events <u>HERE</u>. Or use this link if you are getting a hard copy of the newsletter: https://www.hearinglosseb.org/monthly-meetings-1. After you register, you'll be sent the link to join the meeting. Consider staying after the meeting for AfterWords – a chance to ask more in-depth questions, as well as discuss anything you want with fellow members!

HLAA-EB posts our newsletters to the California State Association webpage and a link on our website. VOLUNTEER! Contact us to let us know you are available! Check out our website at: http://www.hearinglosseb.org/ Contact us at: info@hearinglosseb.org

MEETING NOTES: "Can Lipreading Training Improve the Understanding of Noisy Speech by Listeners with Hearing Loss?"

At our July 9, 2022, HLAA-EB Chapter meeting, our guest speaker was Ed Auer, Ph.D. (see picture right). As part of a 4-person research team in the Speech, Language and Hearing Department at George Washington University (GWU). Dr. Auer and his faculty-research team members are currently conducting a National Institute of Health (NIH)-supported study to determine whether training in lipreading can improve the understanding of speech in noisy environments by listeners with hearing loss (HL). Dr. Auer initially presented a video that provided a detailed overview of their on-going research studies and then opened up for a Q & A and discussion time. He wrapped up with an invitation to eligible audience members for an opportunity to participate in GWU's current lipreading training studies.



The Research Question: "Can training improve understanding of noisy speech by listeners with hearing loss?"

The Preliminary Answer: The tentative answer is "Yes, but maybe in a surprising way." For purposes of this study, "Lipreading" was described as the ability to understand speech by watching a person when they are talking, including their tongue, teeth, jaw, lips and cheek movements. Examples were shown to demonstrate the differences in making the following sounds: "B", "F", "S", "TH", "UH", "AY", and "DAH". Based on the initial results from their study, most participants improved on word recognition when only trained on lipreading for 8 sessions of 30 minutes each.

Lipreading Benefits: Although individual differences exist, research has shown that lipreading can improve accuracy of speech recognition in noise, no matter whether persons are deaf, have some level of HL, or even have normal hearing. Persons with HL often rely on their hearing aids (HA's) or cochlear implants (Cl's) to help with listening and hearing. As helpful as they may be, HA's and Cl's, as well as other hearing devices, have certain limitations so listening with them does not generally equate to normal hearing, especially in noisy environments.

However, it seems that lipreading can improve speech recognition in noise. When you see someone talking, what you can hear and see can combine to make speech much easier to understand. (1+1 = a lot more than 2). Of course, the size of the benefit of being able to lipread can vary for each individual. Furthermore, the noise suppression in hearing devices, such as HA's & Cl's, is often less effective in reducing the effects of noise than is being able to see the talker while listening in a noisy setting. In fact, the best digital noise reduction can improve the signal-to-noise by about 3-5 decibels. In comparison, being able to lipread while listening can have the same effect on recognizing speech as improving the signal-to-noise by 12-20 decibels.

Therefore, what has been learned about the benefits of lipreading can be summarized as follows:

- Lipreading contributes to distinguishing consonants & vowels in recognizing spoken words.
- Lipreading can improve comprehension beyond using HA's and/or CI's.
- Context is important, but individuals need to have really good skills of lipreading words.
- > Lipreading can greatly improve understanding speech in many noisy social settings.

Why Lipreading Training Is Needed: There are several reasons that lipreading training is needed:

- ✓ Most people lipread to some extent, but without training, make common lipreading errors.
- ✓ Research shows that poor lipreaders get less benefit than good lipreaders in noisy speech.
- ✓ The better lipreader you are, the larger the benefit when you hear and see someone talking.

Unsuccessful vs. Successful Lipreading Training: Below is a comparison of lipreading training methods:

What unsuccessful lipreading training does to you:

- You get good at naming consonants & vowels in insolation without comprehending words or sentences.
- It improves your lipreading of only the materials on which you trained.
- You learn to rely too much on guessing and context as your primary strategies.

What useful, successful lipreading training should do for you:

- o It improves lipreading of words & sentences that are different from the training materials.
- $\circ\hspace{0.4cm}$ It helps in correcting consonant & vowel errors through regular feedback.
- o It improves audio-visual speech recognition in quiet and in noise.

GWU's Lipreading Training Methods: GWU's new speech recognition training methods are described below:

- Their methods are based on brain & perceptual learning science.
- ♣ The researchers' studies have been published in peer-reviewed scientific journals.
- They have developed web-based lipreading training methods.
- ♣ Their system uses sophisticated software to analyze lipreading errors to give adequate feedback for correcting errors.

How to Get Involved in GWU's Research Studies: GWU's research team is currently conducting their lipreading training studies. The research studies are all remote so there is no need to travel to their research lab.

The qualifications for participating in their current lipreading training studies are as follows:

- ❖ Age 18-85 years of age.
- Have been diagnosed with hearing loss acquired in adulthood or have normal hearing.
- Have primarily heard & spoken American English during the first 10 years of their life.
- ❖ Have not had major concussions or other brain injury or disability.
- ❖ Have normal or corrected-to-normal vision.
- Have access to a desktop or laptop computer with an internet connection fast enough to stream movies & sound output by a loudspeaker loud enough for understanding speech in quiet and in noise.

For More Information: Visit: https://seehear.us Email: eauer@gwu.edu Phone: 202-994-7414

~ Kathy Fairbanks

AMERICAN DISABILITY ACT (ADA) CELEBRATES 32 YEARS!

On July 26, 2022, the American Disability Act celebrated having been enacted 32 years ago! The ADA has been opening doors for many people with disabilities over the last 32 years. There are also many other federal, state and local laws that protect the rights of people with hearing loss and other disabilities. You should check with your local legislators for disability rights laws in your state.

Some of the ADA communication requirements that HLAA helped to enact:

- **Employers** with more than 15 employees must provide reasonable accommodations on request, including assistive listening systems in the workplace for <u>employees with hearing loss</u>.
- **Public places** must provide effective communication for people with hearing loss. This may include hearing loops, captioning and CART, or a sign language interpreter.
- **Health care settings**, like hospitals and doctor's offices, are included in public places that must accommodate people with hearing loss.

Hearing loss is an "invisible disability," and accommodations may not be obvious.

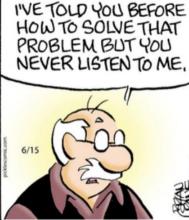
- Know your rights
- Ask for appropriate accommodations
- Notify authorities if accommodations are not available

If you have a complaint, you can find ways to file here (or at ada.gov/file-a-complaint/). Once you've filed a complaint, it may take up to 3 months to hear from the people at the ADA. You can also call the ADA Information Line to check your complaint's status. You can reach the ADA Information Line at 1-800-514-0301 (voice) or 1-800-514-0383 (TTY).

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East Bay Leadership Team

The chapter is run by a Steering Committee, Leader Dale Davis, ddavis94605@gmail.com, who also oversees the Membership Database.

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Veteran Membership: Complimentary 1-Year Regular Membership & Lifetime Online Membership.

Do you have something to contribute to our newsletter?

Let us know!