Recent Events

Midwest Cochlear Implant Mini-Conference
November 3-4
The BHSL hosted our 3rd annual mini-conference to discuss recent findings in cochlear implant research. Special guest Professor Julie Bierer from the University of Washington presented to an audience of 60 researchers and students from the Midwest. Photos and highlights can be found at: http://www.waisman.wisc.edu/bhl/about_CRASH.html

Hot Off the Press: Our most recent publications


Lab Research Highlights: Toddlers reach for sounds

The BHSL is excited to be using a new method for testing the listening abilities of toddlers, which offers a great way to gather data efficiently and utilizes a fun reinforcement system for toddlers. This ‘reach-for-sound’ methodology involves a way for toddlers to indicate what they hear. The toddler listens to a recording from an arc of speakers hidden behind a curtain and reaches through a hole in the curtain to indicate the sound’s location. If correct, the toddler is rewarded by finding a sticker, snack, or small toy.

So far, members of the lab have used the reach-for-sound method to compare the localization abilities of toddlers with bilateral cochlear implants (BiCIs), receiving sound information from both sides of the head, to those of toddlers with unilateral cochlear implants (UCIs), receiving sound information from just one side.

A study by Litovsky et al. using this method is currently in press in Otology and Neurotology. This study found that toddlers with BiCIs can judge whether a sound came from the left or right better than children with UCIs. A graph featuring some of the study’s findings (page 2, right) shows that all six toddlers with BiCIs were able to identify left vs. right even at the smallest angles of separation between speakers, while most toddlers with UCIs were able to discriminate left vs. right only at the largest angles tested. These data suggest that BiCIs provide a spatial hearing benefit for these young children.

BHSL in the News:

- Video of BHSL on the University Homepage
  Recently featured on the homepage of the UW Website. To watch, visit http://www.youtube.com/watch?v=K_cDdpeNTyc

- BHSL in the University Newspaper
  Article in the UW news highlighting our studies with children. To read the full article, visit http://www.news.wisc.edu/19941

The members of the Binaural Hearing and Speech Lab

Want to participate in our research?

Give us a call at (608) 262-7483 to see if you would be a match for one of our studies!

Answers for Kids’ Corner (page 2):

HEARING, RESEARCH, TODDLER

For more information about our publications and presentations on fascinating topics, visit our website at www.waisman.wisc.edu/bhl
Q: What inspired you to go into the field of cochlear implant research?
A: I have always been interested in hearing and speech, especially how speech recognition is used in communication. Cochlear implants are such a promising field, with much for us to improve. In this field, we can help people and help companies improve their devices.

Yi Zheng has been a postdoctoral researcher at the BHSL for the past two years. Yi recently joined a new team at the Laboratoire Psychologie de la Perception in Paris, France in August.

Q: What inspired you to go into the field of cochlear implant research?
A: I have always been interested in hearing and speech, especially how speech recognition is used in communication. Cochlear implants are such a promising field, with much for us to improve. In this field, we can help people and help companies improve their devices.

Yi’s new analysis method for localization data helps us to understand how children improve in sound localization. From left to right are the plots from one child with BiCIs over a 3 year period. The plots show improvement over time as the blue area becomes more of a diagonal line.

The graph above shows all toddlers with BiCIs could tell the difference between sounds coming from different locations, even when close together (15 deg.), while not all toddlers with UCIs could.

Q: What are some of your research interests?
A: I use math to model how the brain is sensitive to pitch and can localize sound. Then I can use experiments with humans to observe behavioral responses. We already know a lot about how the auditory system works, but I am interested in how it works in humans. Working with humans is more interesting!

Q: What has been your favorite part of being in the BHSL?
A: I really like this lab! It is big, but it still feels friendly. I like how we celebrate everybody’s birthday; it is very warm. I got a goodbye card from the lab, and I will save it all my life!

For more information about Yi’s new lab and to follow her future research, please visit: http://lpppsycho.univ-paris5.fr/hearing.php

Fun Fact: Crickets have their hearing organs in their knees, and cicadas have their hearing organs in their stomachs!

WORD SCRAMBLE: These words can all be found throughout the newsletter!

RHAGNEI
HRSCEARE
LTDODRE

Answers on page 1