



DECEMBER 2025

SOUND LAB ANNUAL



NEWSLETTER

► A MESSAGE FROM THE LAB

Thank you for your support – we're excited to share the research and progress we've made together in 2025 and to highlight our plans for 2026.

This year, we have welcomed Dr Sheila Flanagan and Lisabeth Buelt to the lab and said goodbye to Dr Liam Collins-Jones, Dr Cynthia Lam and Dr Bhavisha Parmar. We were very happy that Cynthia passed her PhD with flying colours. We're also delighted to share the news that lab members Dr Nick Haywood and Dr Marina Salorio-Corbetto have both earned promotions to Assistant Research Professor status.

In June we organised a Translational Auditory Research Group meeting on the topic of unilateral hearing loss/single-sided deafness in adults and children and brought together a group of clinicians and researchers to share and discuss ideas. We've also published several articles about our research in scientific journals, and we've been sharing our findings with researchers around the world at international conferences. Please see our website for updates on our work (<https://sound-lab.medschl.cam.ac.uk/>).

In terms of our major research projects, the NIHR-funded BEARS project (<https://www.bears-ci.com/>) which explores the use of virtual reality for listening training in 8-16 year old bilateral cochlear implant users now has over 200 people taking part, we are getting close to the 272 target. We are very happy that we can use the tools developed for BEARS in the new LUCIA trial, for which Mr Matthew Smith and I, along with our collaborators, have received funding from the NIHR to conduct a randomised control trial for bilateral implants in adults.

We have also started the first year of the MPhil in Translating Medical Device and Advanced Therapy research, which aligns with our Biomedical Research Centre theme (<https://cambridgebrc.nihr.ac.uk/our-research/themes/devices-and-advanced-therapies/mphil-in-translating-devices-and-advanced-therapies-research/>).

Finally, I am very happy to say that I was promoted to Professor of Translational Auditory Neuroscience in March 2025. On the final page we show a few photos of my Inaugural lecture where we celebrated this.

Season's Greetings

Debi Vickers,

Professor of Translational Auditory Neuroscience

dav1000@cam.ac.uk



▶ EMILEE GOSNELL

Over the past year, audiologist and PhD student Emilee Gosnell has been conducting a study looking at hearing aid use in over 300 children aged 0-4 years. So far, the study has found that hearing aid use varies widely, and is linked to several complex factors, such as socioeconomic circumstances to severity of hearing loss. So how can we level the playing field for families? Emilee is currently collaborating with a team of parents and professionals to understand their needs and desires for an intervention aimed at optimising hearing aid use across families.

▶ LOUIS VILLEJOURBERT



PhD student Louis Villejoubert is conducting research to better understand how individual factors influence the way people adapt to their cochlear implant. This work combines behavioural listening tests (using speech and music) with brain recordings to study how sound is processed in everyday listening situations.

The main goal of this research is to help clinicians better understand why some cochlear implant users experience more difficulty with speech and music perception than others. In the long term, these findings may contribute to more personalised cochlear implant fitting strategies and improve hearing outcomes for each individual.

A second project explores whether haptic feedback (small vibrations linked to sound characteristics) delivered through a smartwatch could help improve speech and music perception by providing additional sensory information.

▶ MATS REKSWINKEL

When we listen to speech, we rely on hearing small differences in sounds. Think of vowels, for instance. If we mistake one for another, we might accidentally confuse the word for a completely different one. Mats Rekswinkel, a visiting PhD student from the Technical University of Denmark in Copenhagen, aims to investigate a new way of testing whether people can hear such differences, by looking at recorded activity from the brain. Mats is especially interested in looking at how the brain responds to changes in vowel sounds. During October and November, Mats worked with volunteers in Cambridge who wear cochlear implants, to understand how people respond to changes in sound in situations resembling everyday life.

Ultimately, he believes these findings can be important for the development of similar testing methods to be used in hearing diagnostics, for newborns, for example. In such cases, if clinicians can see from the brain whether the newborn hears these differences, they could better assess how they will be able to perform with real speech and, perhaps, if the child would benefit from a hearing device. Or, if they are already using a hearing device, whether they are benefitting enough to develop good understanding of speech. He's hoping research like this can make the difference.

► NICK HAYWOOD

This year, Nick has mostly been looking at brain measurements using EEG. Here, we put sensors on the head, and see whether the brain responds to a change in an on-going sound. These measurements are particularly useful, as the listener doesn't need to tell the researcher/audiologist what they are hearing – so they are great for hearing tests with babies, toddlers, and children. We have been trying to develop tests for people listening with cochlear implants, which can be tricky, as the implant causes 'noise' (interference) in the recording, which can disguise the brain's response. We are hoping to develop our tests for the clinic, and this work has had fantastic support from great colleagues – Evelien De Groote, Mahmoud Keshavarzi, Mats Rekswinkel, and earlier, Ben Williges.

Nick has also just joined a new project developing a test battery to measure the health of the auditory nerve (which transmits sound information from the ear to the brain). This project is in collaboration with partners in industry, who are developing a Stem Cell treatment for hearing loss, which may come to a clinical trial in 2027. He is hopeful that the range of stem and gene therapies currently being developed may hold promise for the treatment of hearing loss, and that the next few years will see promising and encouraging results in the first human trials.

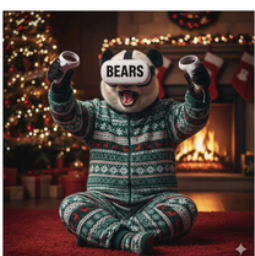
► LISABETH BUELT

Two ears like to work together to make sense of the world. Signals from both ears help our brain work out where sounds are coming from, which helps improve listening, especially in noisy situations. The **BEARS** (or Both Ears) Project is evaluating the benefits of using a virtual-reality game suite to help children with bilateral cochlear implants improve their listening in noise and their ability to tell where sounds come from. This year, Lisabeth has been busy supporting BEARS at the Cambridge site and revamping the study's [website](#). The trial is continuing to enroll participants aged 8 -16 through the end of July 2026. Please let us know if you would like to take part! Lisabeth is also taking part in a broader effort to build on the BEARS study and develop a digital platform with a menu of speech and hearing tests to help improve clinical access to speech testing.

► MARINA SALORIO-CORBETTO

Marina had a busy year on the BEARS project, gathering the data from 14 national cochlear-implant centres and working with Lisabeth Buelt and many clinicians across the UK on creating speech tests that reflect everyday life and can be done with simple equipment in the clinic. She attended several conferences, including one in the USA and two in Spain. Together with SOUND Lab PhD student Jane Gallacher and other British colleagues, she appeared live on Spanish radio speaking about cochlear implants. Marina was promoted to Assistant Research Professor in August, and most importantly, she won the prize for having the most Christmassy presentation at the Cambridge Hearing Group Christmas Symposium last week.

Cambridge Hearing Group Christmas Symposium A very BEARSy Christmas

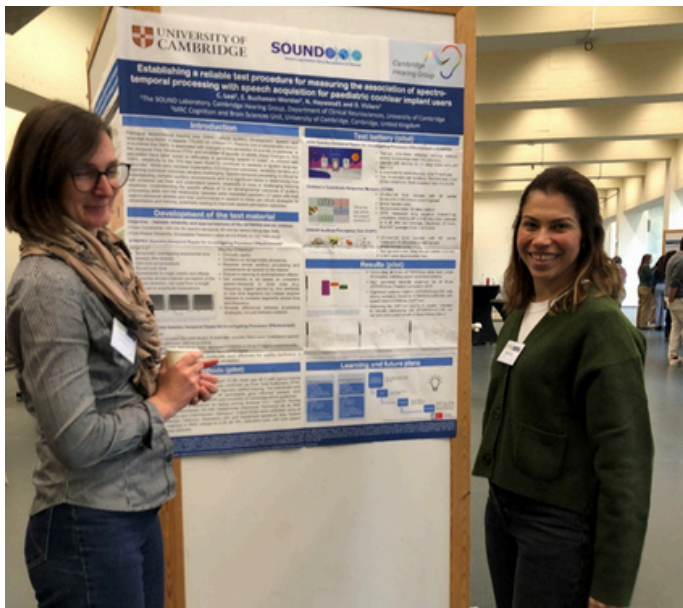


► JASON TZU-HSIEN LIEN

Jason was happy to return to the SOUND Lab in 2025, after a break. Jason has published a systematic review showing ways to adjust cochlear implants based on information about how the cochlear implant electrode stimulates the hearing nerve. It was published in a Nature journal, Scientific Reports.

Currently Jason is exploring an important feature of auditory (hearing) nerves. Jason wants to thank all the collaborators who shared their data, and all the participants who spent time doing the experiments. This work would not be possible without you. Please check out our [website](#) if you'd like to take part! In 2026, Jason will keep exploring the amazing hearing system, and will share his findings.

Jason has also had his MSc research work from UCL, on frequency discrimination, published this year in the Journal of the Acoustical Society of America.

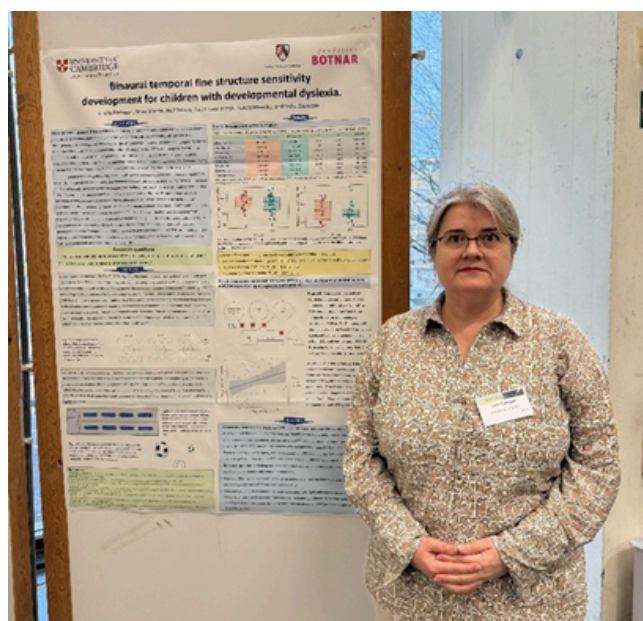


► CAROLINA LEAL

Carolina attended the auditory development workshop (AudiDev) in Brussels in November, and it was an incredibly insightful and inspiring experience. Here she is standing in front of her poster (on the right) with one of the organisers, Laurianne Cabrera from CNRS-Université Paris Cité, France. Laurianne's work played a key role in influencing the start of Carolina's PhD, so meeting her in person and discussing her research felt especially meaningful.

► SHEILA FLANAGAN

Sheila had the opportunity to attend the 2nd Auditory Development Workshop at ULB University in Brussels this November. There were two days of fascinating talks and posters dedicated to cutting edge research into human hearing development. Her poster described some results from a 5-year longitudinal study investigating the link between children's hearing development and their literacy development.



► ADDISON BILLING

We are excited to share that we are preparing to submit for publication the first study to examine speech-in-noise processing in infants using a special cap that uses light to pick up blood flow in the brain as a measure of brain activity, diffuse optical tomography (DOT). This work reveals how different parts of the brain engage - or disengage - depending on how challenging the listening environment is. This matters because many of infants' social and speech/language-learning experiences take place in noisy settings such as nurseries and playgroups, where speech perception can be especially difficult.

In the new year, we will begin a follow-up study with toddlers, using a high density DOT (more measurement sensors) to explore how typically hearing toddlers and toddlers with cochlear implants process speech in noise, with the intention of providing a useful clinical tool to monitor speech and language acquisition.



If you have a toddler and would be interested in taking part in this research, please contact ab2712@cam.ac.uk. We would love to hear from you!

► JANE GALLACHER

Jane Gallacher has really valued the workshops that she has conducted with the AMINA Muslim Women's Friendship Group as part of her PhD. The group has been helping to understand what the barriers are to adults in the South Asian ethnic group seeking help with hearing difficulties. The group has also been helping to think about ways to change this and are helping Jane to design an intervention.

The group has given Jane some very positive feedback because they appreciated being given a voice and to play a role in making changes. They reported feeling valued and respected, with one member saying after one of the workshops that she had 'felt important today' and another member saying that 'By engaging with our community directly, Jane opened the door to conversations, and they could see how their experiences might help shape real change'.

Jane was over the moon on the day that the group made a cake to celebrate the work that they had done. Particularly nice that they iced the name of her project on the top 'Be Heard'.



DEBI'S INAUGURAL LECTURE

June 2025



**THANK YOU TO OUR
AMAZING STUDY
PARTICIPANTS!**

All of this exciting work is only made possible with your help. We really appreciate all the time and effort you have given to us

CONTACT THE SOUND LAB



[SOUND Lab Website](https://sound-lab.medschl.cam.ac.uk/)

<https://sound-lab.medschl.cam.ac.uk/>



University of Cambridge, Department of
Clinical Neurosciences
Herchel Smith Building for Brain and
Mind Sciences
Robinson Way, CB2 0SZ

