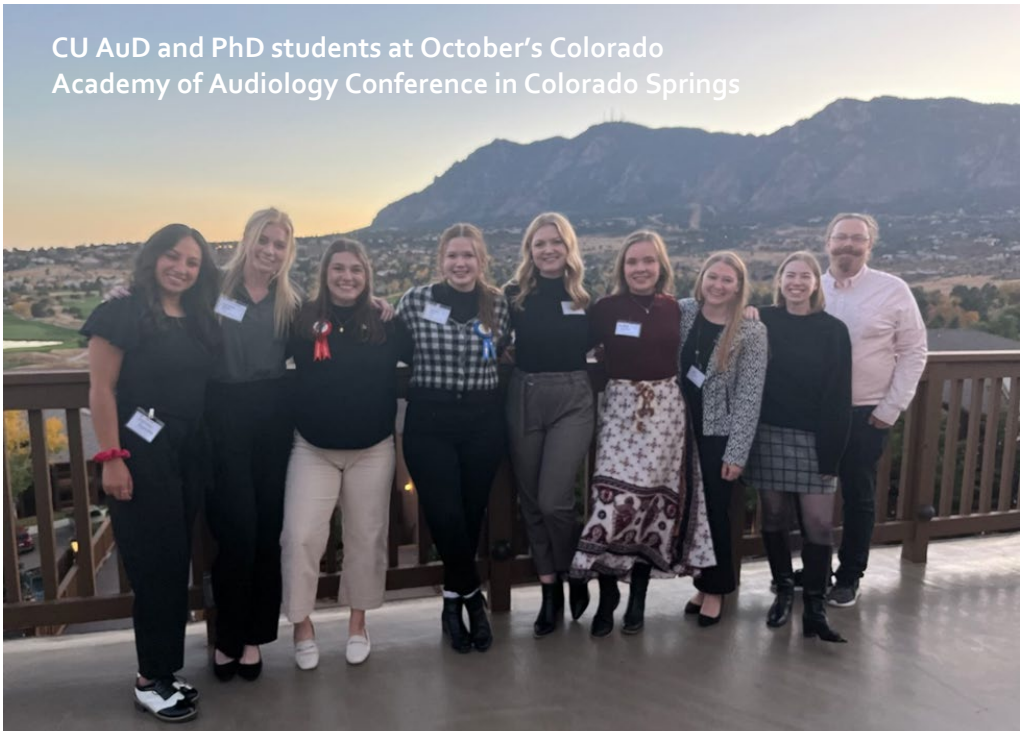


CU AuD and PhD students at October's Colorado Academy of Audiology Conference in Colorado Springs

AuDs & Ends:

News about CU's AuD Program

Spring 2024

IN THIS ISSUE

New adventures...

by Tammy Fredrickson

Hellllllooooo!

And Happy New Year! I hope your 2024 is off to a great start! For some, a new year is an opportunity to pursue new endeavors, for reflecting on the past, and/or for making changes.

Personally, I've never been a big 'new year' person. I'm not someone to make resolutions or stay up til midnight. This new year will bring changes though: I'll be stepping down from my position as Director of Audiology Clinical Education in June.

This decision didn't come easy. I've been in this position for more than 10 years now – and I love what I do. I even think I'm pretty good at it! I love watching students grow in their knowledge and skills and confidence – and graduation day is my favorite day of the year! But this position carries a lot of weight – and my shoulders are tired.

What's next for me? I'm not sure yet!

I'll still be here locally and hope to see you at conferences and continue to work together in one way or another to promote and provide fantastic services to patients and families.

In this issue's Perspectives on Precepting, I'll share some of my favorite (and least favorite!) aspects of precepting. I'll also share some resources that I think have been/are helpful.

As always, **THANK YOU** to preceptors for all you do for our audiology program and for our students – you are vital to our students' success! And **THANK YOU** to our students and alumni who have taught me a lot while, hopefully, learning a lot themselves!

Tammy

SAA made some pretty cool tshirts (see below). Want one? Email saa@colorado.edu!

Capstone Corner:

Case Report: Mild Gain Amplification Devices for Hearing Difficulties Improved Quality of Life Following mTBI

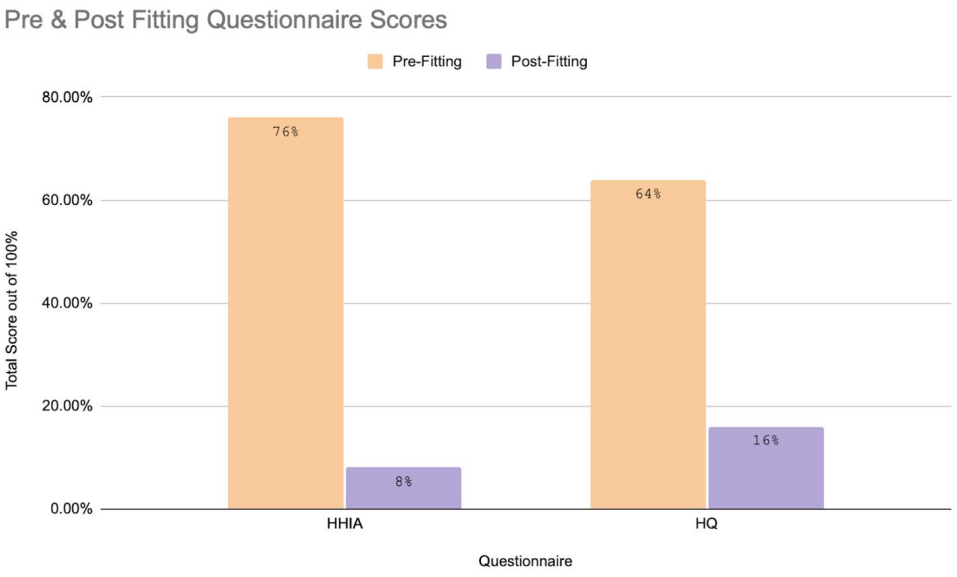
By Acayla Chung
Faculty Advisors: Rachael Baiduc, PhD, MPH ; Christine Brennan, PhD, CCC-SLP

Hello! My name is Acayla Chung, and I am a second-year AuD student. Several years before starting the program I sustained a traumatic brain injury (TBI) which opened my eyes to the successes and flaws of the healthcare system. It was through this turbulent experience that I became interested in exploring the role audiologists could play in the treatment and rehabilitation of patients with TBI.

In the United States alone, an estimated 3.8 million diagnosed concussions, or mild traumatic brain injuries (mTBI), occur every year (Pruthi, 2022). It is common for individuals with a history of mTBI/TBI to seek audiological care with complaints of communication difficulties. However, despite these complaints, and a prevalence as high as 58% (Bergemalm and Lyxell, 2005), little attention has been paid to creating a treatment protocol for these patients.

This illustrative case study follows a twenty-six-year-old female who presented with communication complaints and hyperacusis following a motor vehicle accident four years prior to audiological evaluation. It aims to describe one case of an adult with a history of mTBI and normal hearing thresholds being successfully fit with mild-gain amplification. For the purpose of this case study, an interview was conducted with the patient to gather case history information and complete the HHIA, Hyperacusis, and TBI-QOL questionnaires. Medical notes from the mTBI diagnosing provider, head/brain MRI, CTA head/neck, and CT head imaging were reviewed.

The hope is that by sharing this success story with audiology journals, further evidence will be available to support treating individuals with a history of TBI and communication complaints. By increasing the saturation in peer-reviewed literature, we can create a groundwork for future research and encourage clinical providers to step outside their comfort zone.



This graph shows a comparison of the HHIA and HQ questionnaire scores prior to fitting mild gain amplification and at the one-month follow-up appointment. Before fitting, the patient scored 76% on the HHIA indicating a significant handicap, and after fitting, the patient's score had substantially lowered to 8% which is indicative of no handicap. Similarly, on the HQ, the patient scored 64% before fitting showing a high impact of hyperacusis. After fitting, the patient's score lowered to 16%. Both the HHIA and HQ questionnaires reflect a substantial improvement in patient quality of life following amplification.

Perspectives on Precepting

By Tammy Fredrickson

Today's topic:

The good, the bad, and the ugly of precepting

I admit: I really like precepting! It requires that I am confident in my knowledge and skills. And that I'm knowledgeable in teaching and mentoring and coaching as well. As a person who loves to learn, I say *bring on all the learning!* ☺

My favorite aspects…

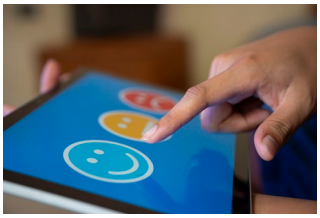
- *Learning about (active) adult learning.* Over the years, I've read about adult learning and worked to incorporate principles of it into my work with students. Our students are adults! And they bring with them experiences and knowledge – and we need to incorporate those into our work with them. (Your Complete Guide to Adult Learning Theory | NEIT)

- *Watching students gain knowledge, skills, confidence*. I LOVE THIS PART!

- *Seeing those 'a-ha!' moments live and in person.* I LOVE THIS TOO!

- *Seeing a student's interest and passion for something take off.* And being able to support and encourage them to explore that interest.

- *Learning from them*. Inevitably, I'm challenged by students. Perhaps they ask a question about a topic that I don't know about. Perhaps an issue arises that I haven't dealt with before. Whatever it is that pops up, I have to figure it out. Resourcefulness, creative thinking, and listening are key.



My least favorite aspects…

- *Saying good-bye* when they complete their rotation/the program. You always have to say good-bye right after the student gets really good at things! But it is fun to watch them fly out there on their own…

- *The time it takes to complete evaluations.* Ugh. Not fun. The good news: Evaluations are easier if you plan ahead! When working with a student, I take notes on what they're doing well as well as areas for improvement. I include specific examples from what I am seeing during our time together – and I do this live as they're working with their patients. At the end of the day, we debrief so that we can discuss the feedback and I give them a copy of my notes. I file my copy so that I can refer to it when the time comes to do evaluations. This has been a lifesaver at evaluation time!

- *The paperwork*. (Which includes the evaluations, so 'evaluations' goes in the least favorite category twice.) Every site we work with has to have an affiliation agreement with the university. As an accredited program, we have to track lots of information – from faculty meeting minutes to student advising meetings to curriculum discussions to information about sites to compliance aspects to performance improvement plans to… well, you get the picture. Lots of documentation.

The ugly…

- *Difficult conversations* – They never get easier. I mean, they do but only because you get better at them. But they're still never enjoyable. One way to get better at them? Read Crucial Conversations (the book is available at bookstores and online; learn more at www.cruciallearning.com) . I took a Crucial Conversations training – and would highly recommend it to anyone who may find themselves in a role in which they likely will have to engage in tough conversations with individuals (whether it's a student or an employee or a family member!)

We should also ask: What makes for a good preceptor?

Of course, different students will have different thoughts about that question, but I dare say I suspect many would agree upon the following 'favorite' characteristics…

Students appreciate a preceptor who gives them the space to learn. Learning means making mistakes. It means having to struggle sometimes. Of course, we cannot sacrifice patient care, but we can hold off on jumping in during an appointment that the student is leading. We can consider how we can guide the student to the right answer rather than simply taking over the situation completely. (Note: This is hard to do! It takes awareness and practice!)

Students appreciate timely, specific feedback. Feedback is what really helps them learn – not the evaluation! Many of them have told me that more = better when it comes to feedback!

Students appreciate a preceptor who clearly communicates their

expectations of them. Whether you recognize it or not, there is a power differential between you and the student. You have the power to evaluate a student's performance and provide a recommended grade. Students often feel intimidated and may feel uncomfortable asking questions – especially questions they may feel they should already know an answer to. Setting the stage for a rotation early on by sitting down to share what you expect of a student – and asking them what they expect of you – is a great way to address this topic and ensure everyone is on the same page.

Students appreciate knowing that preceptors are human too. In other words, even we preceptors don't know everything. And we make mistakes.

Students like when preceptors ask them for their thoughts. This could be related to a particular case (e.g., What would you do next?, Would you have done anything differently if you were to see this patient again?) or perhaps about a topic they're learning about in class (e.g., You're in a course on Aging – Tell me about what you're learning!).

I do hope that more individuals jump on the precepting bandwagon – and enjoy the challenges and rewards that it brings. I suspect we preceptors probably make a bigger difference in our students' work/lives than we know. And that's a big responsibility! Let's support them and challenge them to become the best professionals they can be. And let's welcome them to challenge us to be the best preceptors we can be!

One great big resource!

As I've noted before, the Council of Academic Programs in Communication Sciences and Disorders (CAPCSD) has eLearning courses about topics in Precepting and Supervision – and they're FREE for you. The courses cover the basics of clinical education as well as how to create an effective learning environment, how to provide feedback, and information about assessment. Those good/bad/ugly aspects? They're all covered in these courses! The courses also provide additional resources for learning as well as ideas and tools you can implement right away.

CAPCSD has informed us that they plan to phase out these handy online learning tools sometime this year (they haven't told us an exact date yet!), so take advantage of them while you can!

See the image below for log in information.

CAPCSD
Council of Academic Programs in Communication Sciences and Disorders

University of Colorado Boulder

APPROVED PROVIDER

Free Online Learning Courses in Clinical Education!

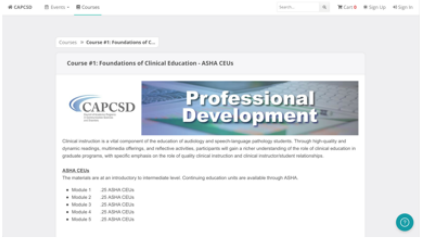
Training in Clinical Education/Supervision Matters!

Your work as a highly skilled clinical educator of graduate students in audiology is important to the success of our profession!

ASHA now requires that preceptors have a minimum of two hours of professional development in the area of supervision, post-certification.

To help meet this need, CU Boulder is pleased to offer their clinical preceptors the opportunity to participate in the CAPCSD Clinical Education eLearning Courses **at no charge!**

ASHA CEUs are available **at no charge** for successful completion of each course module!



Each course has five (5) modules that may be completed independently of the others. Course modules contain readings, video tutorials and interactive learning activities that you may complete on your own schedule.

Access the courses here:

Course 1 – Foundations in Clinical Education: **https://www.pathlms.com/capcsd/courses/21495**
Course 2 – Effective Student-Clinical Educator Relationships: **https://www.pathlms.com/capcsd/courses/21574**
Course 3 – Feedback in the Clinical Education Environment: **https://www.pathlms.com/capcsd/courses/21579**
Course 4 - Assessing Student Performance: **https://www.pathlms.com/capcsd/courses/21586**

Questions? Contact Tammy at 303-579-6347 or fredrict@colorado.edu

Support SAA!

Purchase a mug, water bottle, or T-shirt and support SAA!

Email SAA at saa@colorado.edu to learn more or to make a donation!

Student Academy of Audiology

CU's SAA group has been busy! Check out what great things they've been up to….

SAA's 2023-2024

Board of Directors

Mara Smith, President

Elency Valle-Ortega, Vice President

Victoria Rivera, Secretary

Graham Gansar, Treasurer

Madison Romero, Social/Education Chair

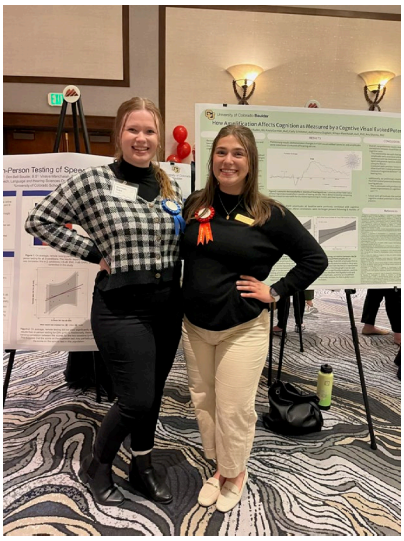
Ana Sanchez, Colorado Academy of Audiology Representative

Vanessa Lucero, Graduate & Professional Student Government Representative

Chloe Tierney, Undergraduate Representative

Colorado Academy of Audiology Convention

October's CAA convention was held in Colorado Springs. A number of CU students were in attendance and 10 students presented posters and/or learning sessions. Way to go!



Hannah Sake and Natalie Raden received awards for their poster presentations.

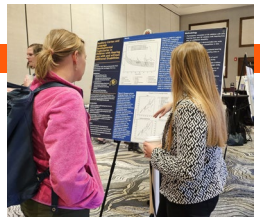
Social Events

Making time to have fun is important! SAA members had a karaoke night in September and painted pumpkins in October.

In November, SAA members toured Cochlear Americas. What a great way to learn about what goes on 'behind the scenes' in industry!

In December, SAA once again held a food drive to help our community. Goods were donated to Community Food Share. SAA has done this for a number of years.

Karaoke night! – September 2023



Research Ramblings: Research Update: The Brain & Behavior Laboratory

By Carly Schimmel, AuD and Kayla Cormier, AuD

Our laboratory (director: Anu Sharma, PhD, CCC-A) focuses primarily on clinical and translational research. Our lab's research examines neuroplastic changes (i.e., changes in structural and functional aspects) in the brain as a result of hearing loss. Our research includes studies in both children and adults with hearing loss who are treated with hearing aids and/or cochlear implants. We are currently recruiting for studies on prescription and over-the-counter hearing aids, single-sided deafness treated with cochlear implants or osseointegrated devices, children with auditory neuropathy spectrum disorder (ANSD) and conductive losses. See our website for more information on referring patients.

https://www.colorado.edu/eeglab/

A project that we would like to highlight, is our clinical use of the P1 cortical auditory evoked potential, which is a biomarker of cortical maturation. The P1 cortical auditory evoked potential is an objective response which tells us about auditory cortex maturation in children with hearing loss who are candidates for or have been fitted with a hearing aid and/or cochlear implant. The P1 test is useful for determining candidacy and evaluating the efficacy of hearing treatments for children with hearing loss. It can provide objective information in cases where behavioral testing is unreliable or more information is needed, such as in children with additional disabilities, children with ANSD, or children with hearing aids considering cochlear implantation. In our lab, we test children from all over the state and country in order to provide families and their audiology team with helpful information for important clinical decision making. P1 testing is done at no cost to the patient, and we provide a clinical report. Additionally, we are now examining how conductive hearing loss and osseointegrated devices in both children and adults impact brain development and clinical outcomes.

As an example of the utility of P1 testing, we provide a case example of a child diagnosed with bilateral ANSD who was referred to our lab for testing. This child was fit with hearing aids but not consistently wearing them at the time of their first visit to our lab and behavioral testing showed inconsistent results. At the first visit, the child was about 2.8 years old and we found that he had a delayed P1 response, indicating the child was not receiving sufficient auditory stimulation to allow development of speech and language. This can be seen in Figure 1, with this visit indicated in green, with the left panel showing the waveform and right panel showing the latency outside of normal limits.

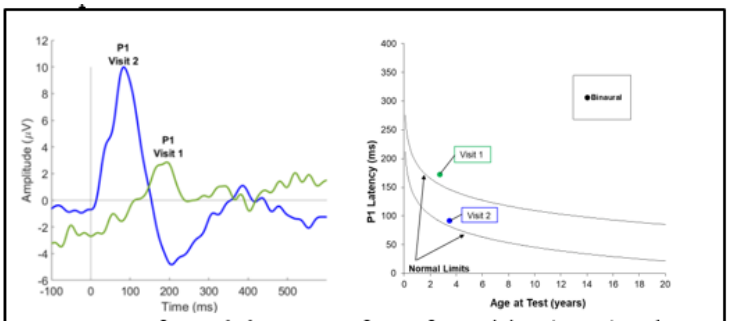
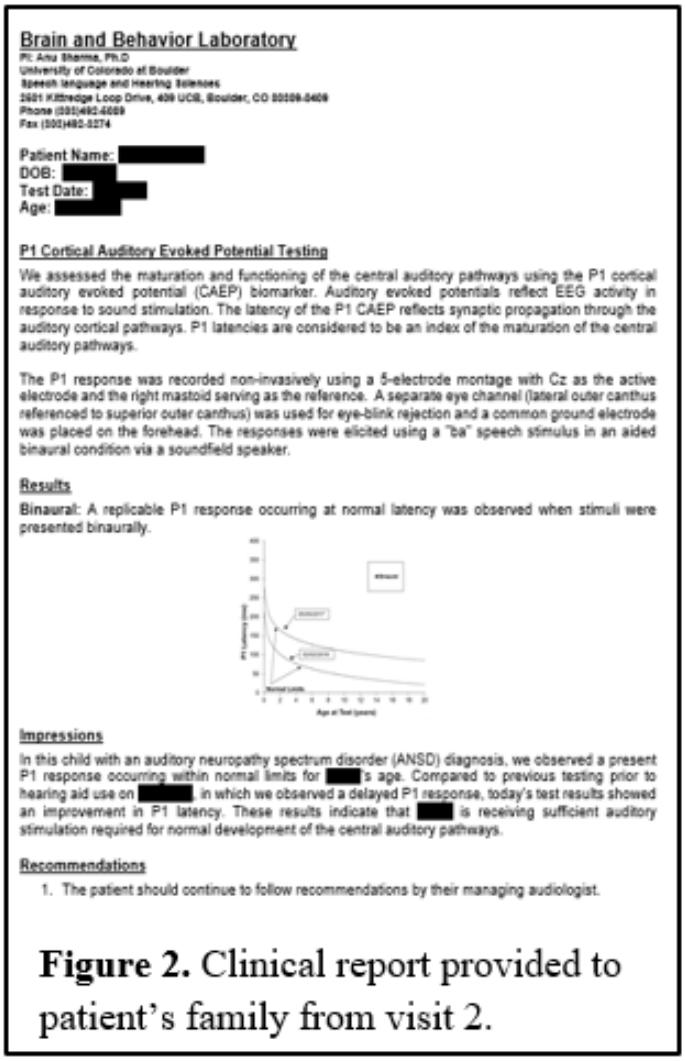


Figure 1. Left panel shows waveforms from visit 1 (green) and visit 2 (blue). Right panel shows the confidence intervals indicating normal limits of P1 latency, with visit 1 (green) and 2 (blue) indicated.

The child then began to wear hearing aids more consistently and we saw him for a second visit at about 3.5 years old. At this visit, you can see in Figure 1 that the amplitude of the waveform (indicated in blue) increased and latency of the waveform decreased, showing the P1 response was now within normal limits for his age, consistent with improvements in speech and language development self-reported by the family. We wrote a report shown as Figure 2. Although, only about a third of children with ANSD benefit from hearing aids (Sharma and Cardon, 2013), in this case, aiding with hearing aids was helpful for this child's cortical maturation allowing for speech and language development.



Brain and Behavior Laboratory

PI: Anu Sharma, Ph.D
University of Colorado at Boulder
Speech Language and Hearing Sciences
2501 Kittredge Loop Drive, 409 UCB, Boulder, CO 80309-0409
Phone (303)492-6069
Fax (303)492-5274

Patient Name: [redacted]
DOB: [redacted]
Test Date: [redacted]
Age: [redacted]

P1 Cortical Auditory Evoked Potential Testing

We assessed the maturation and functioning of the central auditory pathways using the P1 cortical auditory evoked potential (CAEP) biomarker. Auditory evoked potentials reflect EEG activity in response to sound stimulation. The latency of the P1 CAEP reflects synaptic propagation through the auditory cortical pathways. P1 latencies are considered to be an index of the maturation of the central auditory pathways.

The P1 response was recorded non-invasively using a 5-electrode montage with Cz as the active electrode and the right mastoid serving as the reference. A separate eye channel (lateral outer canthus referenced to superior outer canthus) was used for eye-blink rejection and a common ground electrode was placed on the forehead. The responses were elicited using a "ba" speech stimulus in an aided binaural condition via a soundfield speaker.

Results

Binaural: A replicable P1 response occurring at normal latency was observed when stimuli were presented binaurally.

Impressions

In this child with an auditory neuropathy spectrum disorder (ANSD) diagnosis, we observed a present P1 response occurring within normal limits for [redacted]'s age. Compared to previous testing prior to hearing aid use on [redacted], in which we observed a delayed P1 response, today's test results showed an improvement in P1 latency. These results indicate that [redacted] is receiving sufficient auditory stimulation required for normal development of the central auditory pathways.

Recommendations

1. The patient should continue to follow recommendations by their managing audiologist.

Figure 2. Clinical report provided to patient's family from visit 2.

Please contact eeglab@colorado.edu for more information if you have patients who would benefit from P1 biomarker testing (at no cost) or if you would like to refer persons who may benefit from our studies on prescription and OTC hearing aids, single-sided deafness, or osseointegrated device users.

Lastly, we want to give a shoutout to all of the hard-working PhD, AuD, and undergraduate students who make this research possible!

Brooke Leonard, Jillian Zuwala, Sierra Morrow, and Ana Sanchez presented at CAA's Grand Rounds session.

Alumni Updates!

Oyster eating in France

Family outing at Casa Bonita

Lauren (Durkee) Pontis

After receiving her AuD in 2017, Lauren served as a clinical pediatric audiologist at Seattle Children's Hospital until April 2021. Following this, Lauren and her family relocated their home state of Colorado to be closer to extended family. Between 2021 and 2023, Lauren embarked on a brief adventure in educational audiology while also teaching courses at University of Colorado. In Fall 2023, she embraced a new opportunity as a clinical faculty member in the Speech, Language, and Hearing Sciences department at CU. Alongside her academic responsibilities, Lauren also enjoys serving a small caseload of birth-to-three children and their families through her work as an early intervention provider for children with hearing loss.

Outside of work, you can find Lauren gardening in her backyard (or in her kitchen during colder months), curled up on her couch with a good book or a craft, or exploring local events and museums with her husband and 3-year-old daughter.

Are you an alum who'd like to share an update with fellow alumni and preceptors via this newsletter? Let us know! aud_program@colorado.edu

AuDs & Ends:
News about CU's AuD Program

2501 Kittredge Loop Rd
Boulder, CO 80309-0409

I hope you've enjoyed this issue of our AuDs & Ends newsletter! We'd like to share news with you twice per year – every fall and spring.

If you think you know someone who'd be interested in receiving this newsletter, please share it with them!

Thank you for supporting our students and our program!

Visit our website: slhs.colorado.edu