



ASK ME ABOUT AUDIOLOGY DAY – SAA MEMBERS HANDED OUT 170 PAIRS OF EARPLUGS

## Happy New Year!

by Tammy Fredrickson ([tammy.fredrickson@colorado.edu](mailto:tammy.fredrickson@colorado.edu))

When I first started as a pediatric audiologist almost 20 years ago, I knew that audiology was a fast-changing profession. That said, it's unbelievable how quickly things are changing! When I was in grad school, the AuD was brand new and only offered at a few places across the country. Digital hearing aids were just coming out. And ENG's printed looong sheets of paper illustrating saccades that we had to measure in order to interpret them.

My, oh my, how things have changed! One of the items that folks in our field have recently been talking about is the President's Council of Advisors on Science and Technology (PCAST) report (find the section about amplification here:

[https://www.whitehouse.gov/sites/default/files/microsites/ostp/PCAST/pcast\\_hearing\\_tech\\_letterreport\\_final.pdf](https://www.whitehouse.gov/sites/default/files/microsites/ostp/PCAST/pcast_hearing_tech_letterreport_final.pdf)) which recommended the FDA create a class of over-the-counter hearing aids – something very controversial in the audiology community.

Both ASHA and AAA have developed responses to the PCAST recommendations, but are they missing something? (See ASHA's response here:

<http://www.hearingreview.com/2015/11/asha-expresses-concerns-pcast-recommendations-otc-hearing-aids/>, and AAA's response here: [\[dvocacy\\\_files/20151115\\\_AAA\\\_PCAST\\\_respons\\\_e.pdf\]\(#\)\) In the current issue of Audiology Today \(Jan/Feb 2017\), American Academy of Audiology President Ian Windmill shares his thoughts on the PCAST report and what it means for audiology. He points out that our profession needs to see that we – audiologists – need to look at our role in this issue as well. What can we do to improve patient care? How can we help to better meet patient wants and needs?](http://www.audiology.org/sites/default/files/a</a></p>
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This also leads to another question: What will audiologists of the future need to know? Will their scope of practice evolve (given past experience, yes, it will)? It is clear that we need to consider what the future of audiology will entail. And we need to prepare our future audiologists for that future.

What do you think the future of audiology will bring? What can we, an AuD program, do to ensure we're preparing students for the future?

As always, please reach out if you have any questions, thoughts, or concerns about our students or our program!

Tammy

# AuDs & Ends:

News about CU's AuD Program

SPRING 2017

IN THIS ISSUE



Our [Student Academy of Audiology \(SAA\)](#) group is doing great things!

[Perspectives on Precepting](#) introduces the idea of reflective practice in audiology and how students (and professionals) can use it to improve their skills.

Jolene Sletten shares her capstone with us in this semester's [Capstone Corner](#).

Dr. Rachael Baiduc introduces us to her research lab in this issue's [Research Ramblings](#).

Mari Peterman shares her experience of the 4<sup>th</sup> year application process with us in [Student Perspective](#).

# Perspectives on Precepting

By Tammy Fredrickson

Today's topic:

## Reflective Practice

Self-reflection has been indicated as a tool for learning for years. Kolb (1984) described an Experiential Learning Cycle made up of four phases. As learners, we progress through these stages in order to effectively learn: concrete experience, reflective observation, abstract conceptualization, and active experimentation. In other words, these stages occur over and over again as we learn.

The diagram below depicts these stages in an easy-to-understand format. In order to learn something (this holds especially true for clinical skills), we must gain the experience – we must do it. Once we've done it, we need to step back and reflect on it: How did it go? What did we do that impacted how well it went (or didn't go)? What should we do differently the next time so that it goes better?

As a preceptor, I encourage students to do this type of thinking every day. When student clinicians start working in the clinic during their 2<sup>nd</sup> year of our program, they are provided with a



composition book. They are asked to not only jot down things they've learned throughout the day, but also to reflect on their performance. At the end of each clinic day, I take a few minutes to sit with students to help guide them as they reflect: What went well today? What didn't go so well? What will you do to improve on it? It honestly takes only a few minutes and helps students learn to not only reflect on their performance, but to see if what they think about a situation matches what I – the preceptor – thinks. There are times that a student may think something went terribly wrong, but I can share that I didn't think it went as poorly as they thought and provide feedback. This helps students develop perspective as well as appropriate expectations.

Once students get in the habit of this type of reflection, they can begin "reflection in action". This type of reflection occurs

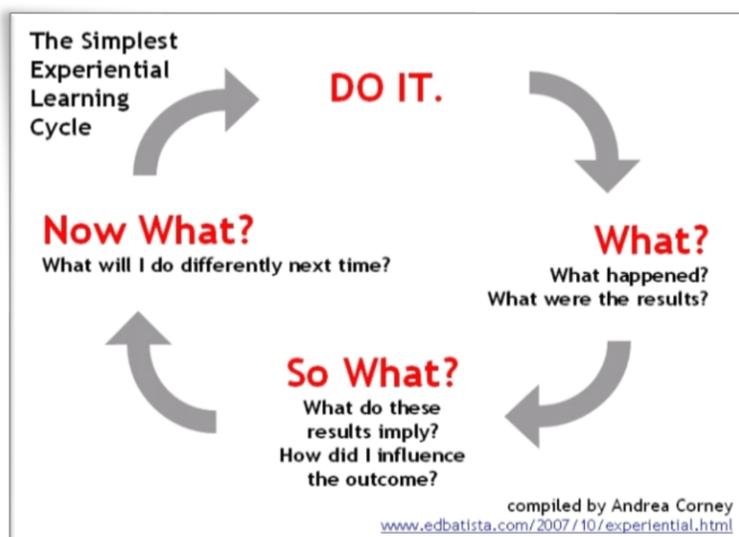
while the student clinician is seeing a patient. For most beginning student clinicians, this type of reflection occurs frequently, but isn't very helpful – they're more focused on how nervous they are! Once they've become a bit more comfortable as a clinician, they can instead focus on a specific aspect of the appointment (e.g., am I adjusting my speaking rate appropriately?, am I addressing the patient rather than the interpreter?, etc.).

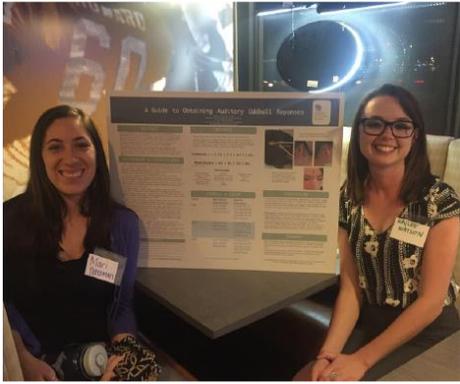
The IDA Institute ([idainstitute.com](http://idainstitute.com)) has developed tools that can be used for self-reflection. The Reflective Journal prompts you to look back at an appointment after it happened and to answer a series of questions. Many students find it helpful to have these questions as a guide.

Self-reflection isn't a tool only for student clinicians! As preceptors, we, too, can find it fruitful to reflect on our performance (both with patients and with students) and develop goals for improvement.

To learn more about self-reflection, see:

- [http://idainstitute.com/toolbox/self\\_development/get\\_started/reflective\\_journal/](http://idainstitute.com/toolbox/self_development/get_started/reflective_journal/)
- Ng, S.L. (2012) Reflection and reflective practice: Creating knowledge through experience. *Seminars in Hearing*, 33(2): 117-134.





Mari Peterman (left) and Kaylee Watson (right) presented their capstone projects at the Fall Connect and Learn event hosted by Colorado Academy of Audiology.

#### BY THE NUMBERS

# 170

Pairs of earplugs were handed out at this fall's Ask Me About Audiology Day on the Pearl Street Mall

# 94.6

pounds of food collected and donated to Boulder's Emergency Family Assistance Association

### ***Did you know....***

CU AuD students lead *free* Aural Rehabilitation classes for members of our community?

Classes are taught in Boulder and Denver and are intended for adults with hearing loss as well as their communication partners. If you'd like to learn more, please contact Tammy!

# Student Academy of Audiology

by Emily Lundberg, President

**What has CU's SAA group been up to this fall?** Well, we've been busy!

## Earplug Program

This year SAA has been working to develop our earplug program. In partnership with local company E.A.R. Inc., we are able to provide custom and universal-fit hearing protection for members of the community at a discounted price. It has been a great opportunity to educate individuals about hearing protection and has given our members opportunities to take earmold impressions. We hold monthly clinics for individuals to place orders and have impressions taken. We are looking forward to developing the program and providing more access to hearing protection.



## Jolene Mannequin Build

CU's SAA joined the University of Northern Colorado's SAA group in October to build our own Jolene Mannequin. The two groups worked together to build a total of four mannequins, one of which we took home with us to use for advocacy and education events. The Jolene Mannequin will allow us to measure sound levels of personal stereo

systems. Our new mannequin's name is Cochleapatra.

## Education, Advocacy, and Outreach

### AuD Squad

SAA's "AuD Squad" has had a banner year so far. AuD Squad gives undergraduate students who are interested in audiology an opportunity to get hands on experience learning more about the field from current AuD students. Monthly meetings have had record turnout!

### Ask Me About Audiology Day

During "Ask Me About Audiology Day", SAA members took to Pearl Street to hand out earplugs, facilitate use of Cochleapatra, and education Boulderites about audiology and hearing protection.

### CAA Fall Connect and Learn

Nine SAA members presented posters at the Colorado Academy of Audiology's Fall Connect and Learn event in November.

### Food Drive

SAA collected a total of 94.6 lbs of food for Emergency Family Assistance Association in December.

# Capstone Corner:

## Adaptation of the Dangerous Decibel® Program for an Adult Audience

by Jolene Sletten

My capstone project is unique as it was completed as a T-35 Pre-Doctoral Short-Term Trainee at the National Center for Rehabilitative Auditory Research (NCRAR) in Portland, OR. The Training Grant is supported by the NIH National Institute on Deafness and other Communicative Disorders. This study was completed with Gabrielle Saunders, PhD and Susan Griest, MPH and investigates which components and activities adults find relevant regarding a hearing conservation program intended for children/adolescents and which components and activities require adaptation.

Annually 26 million adults are exposed to hazardous levels of noise that could place them at risk for developing a noise-induced hearing loss and many refrain from using hearing protection and/or preventative strategies despite knowing the damaging effects noise can have on hearing (NIH, 2014; Ivory et al., 2014; Vogel et al., 2008). Effective hearing conservation programs currently exist for children/adolescents (Griest, 2008). When presenting these programs to an adult audience, modifications may be required as health messages are more effective when tailored for a specific audience (Kreuter & Wray, 2003).

For this study participants from five focus group sessions completed a demographic questionnaire and observed a hearing conservation curriculum, the Dangerous Decibels (DD) program. A discussion followed the presentation to determine how the DD program could be adapted to be more

relevant and appropriate for an adult audience.

During the discussion participants described the demonstrations and visuals as relevant, interesting, fun, and impactful. Many participants suggested that materials be personalized to an adult audience by increasing complexity, using realistic models, and by using meaningful examples. It was also suggested that the introduction be more captivating, the duration of the program be modified, and that take-home materials be provided. There were many uncertainties amongst participants regarding the relevancy of including a peer-pressure activity, as many found it to be more relevant in adulthood while others found it be less or not relevant in adulthood. In regards to the modifications that the presenter should make, it was suggested that the presenter be knowledgeable and prepared with additional content, be flexible, and increase the complexity of program (e.g. describing noise reduction ratings and what hearing protection is appropriate for different activities).



Jolene presented her research at the International Hearing Aid Research Conference (IHCON) in Tahoe City, CA in August and at the Colorado Academy of Audiology (CAA) Connect and Learn in November. She also received a Travel Award from NIH and is slated to present her research at the Scientific and Technological meeting of the American Auditory Society in March in Scottsdale, AZ.



WANT TO KNOW MORE ABOUT NOISE-INDUCED HEARING LOSS?

[Dangerous Decibels](#)

[National Institute on Deafness and Other Communication Disorders](#)

[Centers for Disease Control & Prevention](#)

See Jolene's poster here:

<https://www.colorado.edu/slhs/2017/01/17/jolene-sletten-presents-aud-capstone-poster>

# Research Ramblings

There are great things happening in SLHS... Learn about them here!

This issue's focus: Dr Rachael Baiduc

Dr. Baiduc is currently in the process of setting up her laboratory, which will explore the association between age-related hearing loss (presbycusis) and cardiovascular disease (CVD) risk factors such as hypertension, diabetes, and tobacco smoking. She is especially interested in the influence of CVD risk factors on the auditory periphery, and more specifically, the cochlea. She will be applying the concept of *CVD risk factor burden* to explore prevalent hearing loss. The concept of CVD risk factor burden has been used widely in cardiovascular epidemiology, and involves stratification of participants into one of five groups mutually exclusive groups based on the presence of common CVD risk factors.

Dr. Baiduc is pursuing two parallel tracks of research on this topic. First, she will conduct epidemiological analyses using datasets containing hearing and cardiovascular data on thousands of individuals. Datasets this large will permit novel analysis techniques, including various supervised machine learning methods, to explain the relationship between hearing outcomes and CVD risk factor burden.

Second, she will be conducting laboratory-based studies to explore the effects of CVD risk factors on hearing in a more fine-grained way. These studies will involve a variety of behavioral and physiological tests such as extended high-frequency

behavioral thresholds, otoacoustic emissions, auditory brainstem responses, and electrocochleography. She will use high-frequency otoacoustic measurements to see how CVD risk factors influence outer hair cell health.

She is passionate about this work and its potential implications for patients and the healthcare system. Understanding the contribution of CVD risk factors to presbycusis is a key towards prevention, early identification, and treatment.

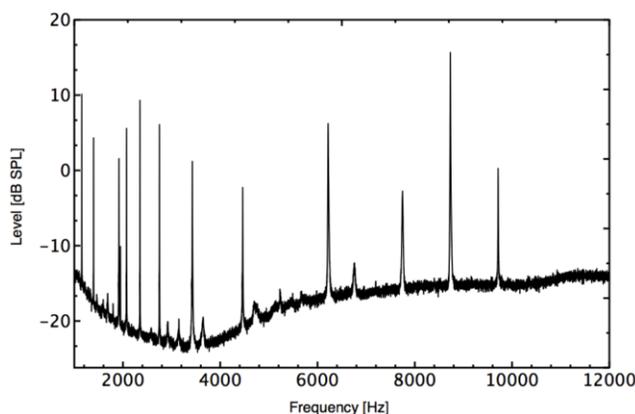
Dr. Baiduc will be recruiting research assistants this spring and summer to assist with laboratory set-up, conduct behavioral and physiological tests, and perform various other research tasks. She will also be recruiting older adults for her studies of hearing loss and cardiovascular health. You can contact Dr. Baiduc at [Rachael.Baiduc@colorado.edu](mailto:Rachael.Baiduc@colorado.edu).



## LEARN MORE

Baiduc, R.R., Lee, J., Dhar, S. (2014). Toward a test battery for differential categorization of age-related hearing loss. *JISHA*, 28(2), 25-40. No PMID; available [here](#).

Baiduc, R.R., Lee, J., Dhar, S. (2014). Spontaneous otoacoustic emissions, threshold microstructure, and psychophysical tuning over a wide frequency range in humans. *J Acoust Soc Am*, 135(1), 300-14. PMID: 24437770



Spontaneous otoacoustic emissions from a young woman. This ear is particularly remarkable in the number and level of emissions produced. (Measured in Dr. Sumitrajit Dhar's laboratory at Northwestern University and associated findings reported in Baiduc, Lee, and Dhar [2014].)

# Student Perspective: The 4<sup>th</sup> Year Application Process

by Mari Peterman

The 4<sup>th</sup> year is something that audiology students think about from the first day of the program. It's an exciting opportunity that marks the final stretch of our time as a graduate student and begins the transition into our professional careers. This is the first time we are able to make personal career choices and the steps we take in searching, applying, and accepting a 4<sup>th</sup> year externship can be exciting but there are also some aspects that brought on anxiety. It doesn't help that we put additional pressure on ourselves during the whole process: who wouldn't want to find the best externship they could? The initial anxiety comes from the search for available positions and I often found myself asking questions like "Where do I begin looking?" "What do I want out of a 4<sup>th</sup> year (particular clinical services, salary, location, number of audiologists, specializations etc.)?" and "Where do I see myself in 5 years?"

Once we began the search, I realized that there is no standardization for any part of the process. A site can post their available position anytime and the application windows extend from June to March (and sometimes even beyond!). This means that as an applicant, we need to begin making difficult decisions early on (as early as spring of our 2<sup>nd</sup> year in the program) and have all of our materials ready to go in the early weeks of summer following our 2<sup>nd</sup> year. For the application, one site could require only an online form while another site could require official transcripts, a letter of interest, and 3 letters of recommendation from specific references.



As I noticed with the application process, the interview process is not standardized either. One site may require multiple rounds of phone interviews or video conferencing while another site requires all in-person interviewing with case studies and academic questions. The in-person interview may require travel and that also means paying for a hotel, paying for a flight, and missing classes/clinic time. The interviews also bring anxiety because this may be the first time that our resume is going to be compared to other prospective applicants and we have to prepare for the interview in order to portray ourselves in a professional manner with the appropriate confidence and knowledge. Then, it's time to wait. We may hear from one site before our top choice and then there are more difficult questions to ask: do you say no to a good opportunity in order to wait for another opportunity you might like better?

It is also important to remember that we are full-time students with classes, tests, projects, clinic placements, meetings, and a personal life (what personal life?). It can be difficult to stay positive and focused in class when the future is unknown. Balancing all of these aspects made the first semester of my 3<sup>rd</sup> year the most challenging for me -- I felt as if I was spread a little too thin, and I think that my fellow 3<sup>rd</sup> years would agree. In the end I am able to say that the hard work does pay off and we probably

The 4<sup>th</sup> year externship is an exciting – yet daunting – thing for AuD students. I've asked one of our 3<sup>rd</sup> year AuD students to provide her thoughts about the 4<sup>th</sup> year externship process. Thanks to Mari for sharing her thoughts! -- Tammy

shouldn't put so much pressure on ourselves because ultimately, if we work hard during the 4<sup>th</sup> year externship we will become good audiologists! That being said, my hope is that in the years to come the 4<sup>th</sup> year application process becomes a more standardized, organized, and concise process so that upcoming students don't have to experience the same stressful months of difficult decisions, lack of sleep, and overwhelming stress that we just experienced. Cheers to the future!



Mari presented her capstone research at CAA's Fall Connect and Learn.

# AuDs & Ends: News about CU's AuD Program

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I hope you've enjoyed this issue of our AuDs & Ends newsletter! We'd like to share news with you twice per year – every August and again in January. Please let us know if you'd like to continue to receive it! It can be sent via a paper copy or electronically – whichever you'd prefer!

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!

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