# Biological Sciences Students Present at Conference

The Association for Research in Otolaryngology is filled by researchers and clinicians that study anything under the umbrella of otolaryngology (ear/nose/throat). The Annual Mid-Winter Meeting gives members of the field an opportunity to share their work in a poster or talk format and attend a variety professional development workshops. Examples of research topics include the results of clinical trials for those with hearing loss, cellular approaches to regenerate hair cells in a variety of types of hearing loss , different techniques to study how the neurons connect the ear to the brain and even broad overviews of the evolution of the ear across different animals! Anyone who is a member can submit an abstract and present if they are selected, so you can see graduate students in the same room as post-docs, in the same room as big names in the field. It's meant to be informative, creative, and collaborative - you can get valuable feedback and constructive criticism from the people whose work you've read! As a result, it is the biggest conference in this field and, from a graduate student perspective, the most valuable one to attend. Three graduate students from Dr. Jeremy Duncan's lab attended the 2020 Conference in California.
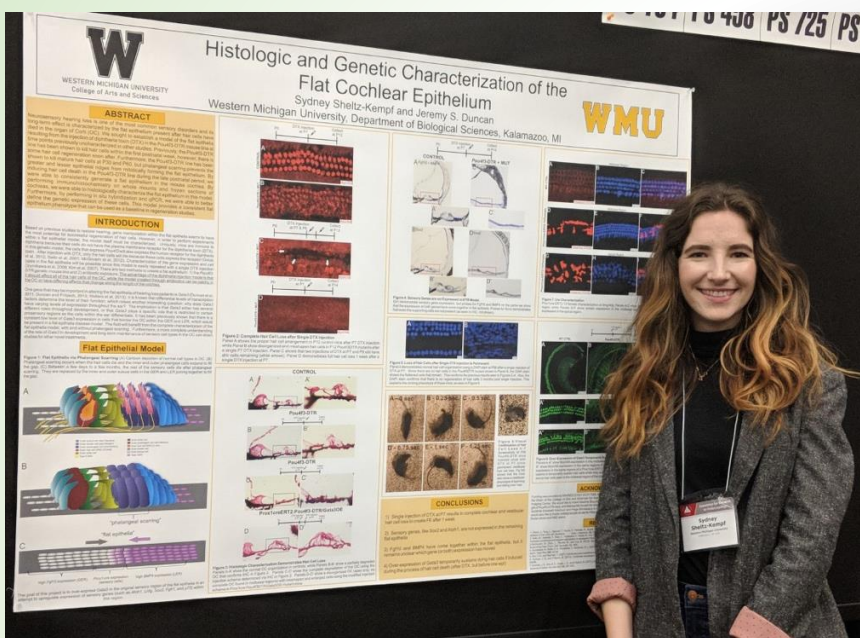
Sydney Sheltz Kempf's poster titled "Genetic and Histology Characterization of the Flat Cochlear Epithelia" contains a characterization of a brand-new model of hearing loss that is relevant for the human conditions of congenital hearing loss, hearing loss caused by ototoxic drugs, or even age-related hearing loss. By using a combination of immunohistochemistry, *in situ hybridization*, qPCR, and H&E stains, she discusses the process of creating a flat epithelia, the cell types that are found there, and the genes they express.

Elizabeth Ketchum's poster titled "GATA3 and NEUROD1 Regulate the Projection of Spiral Ganglion Neurons from the Cochlea to the Cochlear Nucleus" looks at how the afferent neurons of the inner ear (spiral ganglion neurons) properly project from the cochlea to the hindbrain. LIzzy's project focuses on the role of two genes, *Gata3* and *Neurod1*, which have both been shown to be important in spiral ganglion neuron development. She selectively eliminated either of these genes from the spiral ganglion neurons, and then used lipophilic dye tracing to label the neurons as they project from the cochlea towards the hindbrain to elucidate the roles of *Gata3* and *Neurod1* in this process.
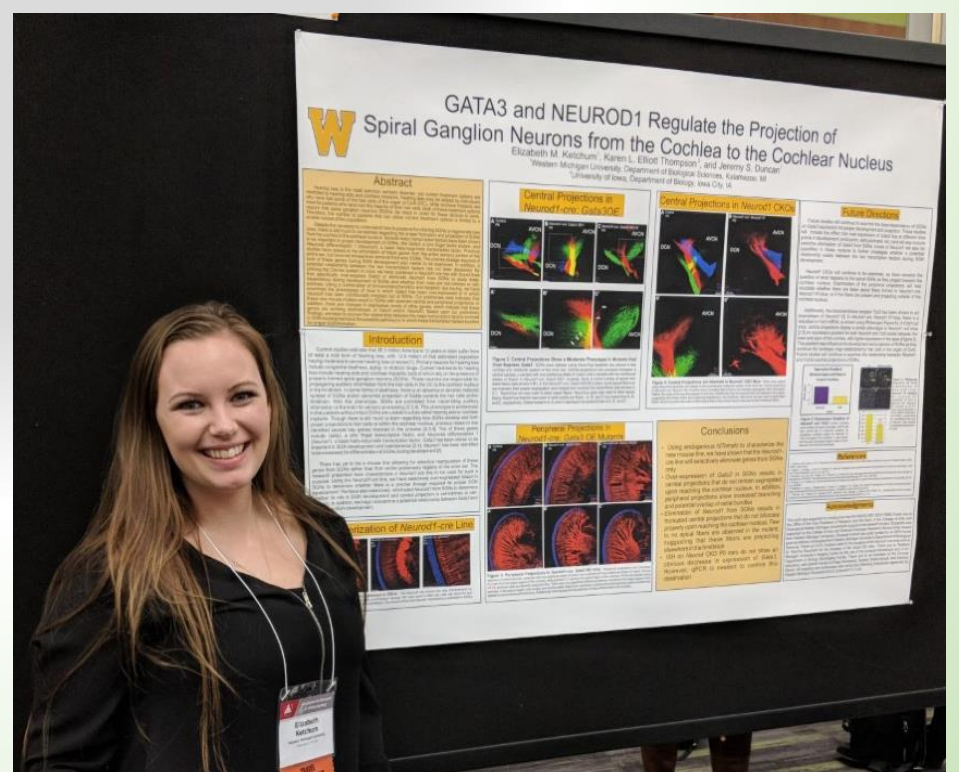
Paige Blinkiewicz's poster titled "Determining the Function of Gata3 in Differentiating Hair Cells" examines the role of Gata3 within different sensory cell populations in the organ of Corti to better understand the complex transcription factor network required for the precise organization and maintenance of this structure. By using immunohistochemistry, we found that Gata3 plays an important role in hair cell maintenance, which holds strong clinical relevance.