

Neuroaudiology Newsletter

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6th International Conference on Auditory Cortex

The 6th International Conference on Auditory Cortex (ICAC) took place in beautiful Banff, Alberta, Canada (below) September 10-15.



Approximately 300 researchers and students from many different disciplines and expertise were in attendance. This conference emphasized hearing research involving the brain from basic to clinical work. Presentations from this spectacular conference included topics on auditory attention, further uses of central auditory tests like gap detection, and how neural networks are represented in the auditory and pre-frontal cortices.

The conference highlighted work from researchers in training in



addition to including an engaging poster session. Two members of the University of Arizona's Neuroaudiology Lab attended this conference with Dr. Frank Musiek (left: Barrett St. George and Alyssa Everett.)

TEST YOUR AUDIOLOGY TRIVIA KNOWLEDGE

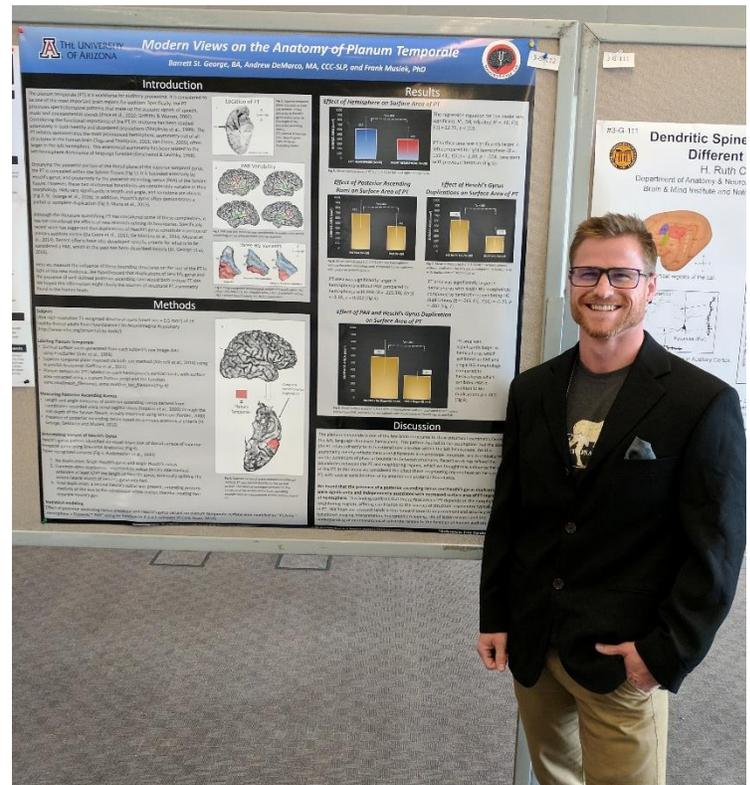
1) The Sensory Acuity Level test has to do with what? A) Pure tone thresholds, B) Sensory adaptation, C) Temporary threshold shifts, D) Masking

2) The descending angle of the Eustachian Tube in infants is approximately how many degrees? A) 0, B) 5, C) 10, D) 30

Answers on page 5 of this newsletter.

Barrett St. George was one of the poster presenters at this conference in addition to a Travel Grant Recipient. He presented his work on Modern Views on the Anatomy of Planum Temporale with Dr. Frank Musiek. The following is a quote from Barrett St. George (pictured below) regarding his view on the International Conference.

“I had a fantastic experience at ICAC 2017. The conference itself was well-organized and quite sizable for an international research conference held at such a remote location like Banff. Just being there afforded abundant networking opportunities. Overall, I was pleased with the lectures, and especially the poster sessions. The level of interest among conference attendees was contagious. You could tell that everyone was happy to be there, embracing the opportunity to further their knowledge in topics related to central auditory anatomy, physiology and clinical correlates. I had the opportunity to meet a prominent researcher from Switzerland whose work greatly influenced my own neuroanatomical research. In fact, it turned out that she had a poster presentation adjacent to mine, so we ended up talking awhile which was definitely a highlight for me. I would have to say that ICAC has been my favorite auditory-related research conference I’ve attended thus far, and I look forward to attending again in the future should the opportunity present itself.”



This conference also incorporated a daylong symposium called JosFest to celebrate the work of Dr. Jos Eggermont. JosFest featured various work on the topics of Hearing Loss and Tinnitus including a presentation by **Dr. Frank Musiek**. This invited presentation was titled “Is Hidden Hearing Loss Really Hidden? A Perspective.” Presentations from this symposium bring attention to the multi-faceted behavioral consequences of hearing impairment.

Historical Vignette-Kent Morest

D. Kent Morest was born in Kansas City, Missouri in 1934 and is revered as the “Father of Modern Neuroanatomy of the Auditory System”. In 1955, he completed his undergraduate studies at the University of Chicago, with honors, where he studied the anatomy and physiology of the auditory system. From there, he attended medical school at Yale University where he was a Brown Student Fellow, a fellow at the Montreal Neurological Institute, and a Foreign Fellow of Yale at University College London. After receiving his M.D. with honors from Yale University in 1960, he worked as a senior assistant surgeon in Neuroanatomical Sciences, NIH. He held numerous high positions throughout his career as an educator and researcher. Dr. Morest ultimately ended up at the University of Connecticut where he was a key person in founding the High-Tech Center and establishing the Department of Neuroscience and the doctoral program of neuroscience.

Studies on the neuroanatomy of the auditory system in humans and mammals led Dr. Morest to explore specific cell types found in the medial geniculate body (MGB) and in the inferior colliculus. Using Gogli methods of nervous tissue staining, he identified the three divisions of the MGB (ventral, medial, and dorsal), which laid the groundwork for investigating the central auditory signal processing.

Dr. Morest expanded his research on damaged hair cells in the cochlea and the degeneration of axon endings in the brain, which both result from traumatic noise exposure. His research on pathological changes in the central auditory pathways of adult cats and chinchillas exposed to loud noises shed light on the functional significance of the inner and outer hair cells to the finer cochlear nerve fibers and endings.

In 2012, Dr. Morest retired. He has authored, co-authored and edited a number of books and articles. He also received numerous accolades for his work throughout his career to include the prestigious Jacob Javits Neuroscience Investigator Award in 1984 and the Claude Pepper Award in 1990.

Upcoming Major Conferences

Conference	Date and Location
ASHA	November 9-11, 2017: Los Angeles, California
Association for Research in Otolaryngology	February 10-14, 2018: San Diego, California
American Auditory Society	March 1-March 3, 2018: Scottsdale, Arizona
American Academy of Audiology (AAA); AudiologyNOW!	April 18-21, 2018: Nashville, Tennessee
University of Cincinnati	April 23, 2018: Cincinnati, Ohio

Future newsletters will include the presentation titles coming out of the Neuroaudiology Lab.

Did you know?....

Jim Jerger's first book, at least to our knowledge, was titled "Modern Developments in Audiology" published in 1963 by Academic Press. Jerger pulled together top names in audiology at that time to write chapters for this edited book. Some of these classic names included; Bilger, Bocca, Goldstein, Harris, Naunton, Rudmose, Small, Ventry, and Ward. Though many of the chapters covered expected audiology topics, some chapters were devoted to topics probably not currently expected in a book on audiology such as: auditory fatigue and masking, auditory adaptation and theory of signal detectability and the measurement of hearing. This perhaps showed the breadth of audiology back then and its close relationship to psychoacoustics. These were well written chapters with ample background information and current research findings. Even today, probably much could be learned from reading or rereading this classic book.

Visitors in the Neuroaudiology Lab

In the past couple of months, the Neuroaudiology lab has been busy with visitors: Gail Chermak from Washington State University, Jane Baran from University of Massachusetts, John Durrant from University of Pittsburgh, and most recently Eliane Schochat and Renata Filippini from Sao Paulo University. They provided lectures, discussions with students and ideas for research.

Former post-doc student, Dr. Renata Filippini and Professor Eliane Schochat of Sao Paulo, Brazil visited from-October16-25th. Collaboration on various central auditory-related projects is in the works, including backward and forward masking as well as clinical decision processes for gap detection, and temporal sequencing. Collaboration will continue with these high-level researchers. (pictured right: Alyssa Everett, Renata Filippini, Eliane Schochat)



University of Arizona Journal Club

The Neuroaudiology Lab's final Journal Club for the Fall semester will take place on Monday November 27th in the Speech, Language, and Hearing building in room 409 from 6-7pm. Join us for engaging discussions on audiology-related topics as well as review of recent auditory-related news.

Speakers Scheduled for Pathways Meeting at AAA

Three excellent speakers have been scheduled for the Pathways education session at AAA in Nashville: Julianne Ceruti, AuD, PhD will speak on new approaches to Gaps in Noise testing; Deb Moncrieff, PhD will talk on Ambliaudia; and Brian O Hara, MD will discuss new findings on his APDQ questionnaire work.

Past Neuroaudiology Newsletters

All past newsletters can be found at:
<http://musiek.faculty.arizona.edu/>

Recent Article of Interest

Noise Equally Degrades Central Auditory Processing in 2- and 4-Year-Old Children; August 16, 2017 *Journal of Speech, Language, and Hearing Research*

E. Niemitalo-Haapola, S. Haapala, T. Kujala, A. Raappana, T. Kujala, & E. Jansson-Verkasalo

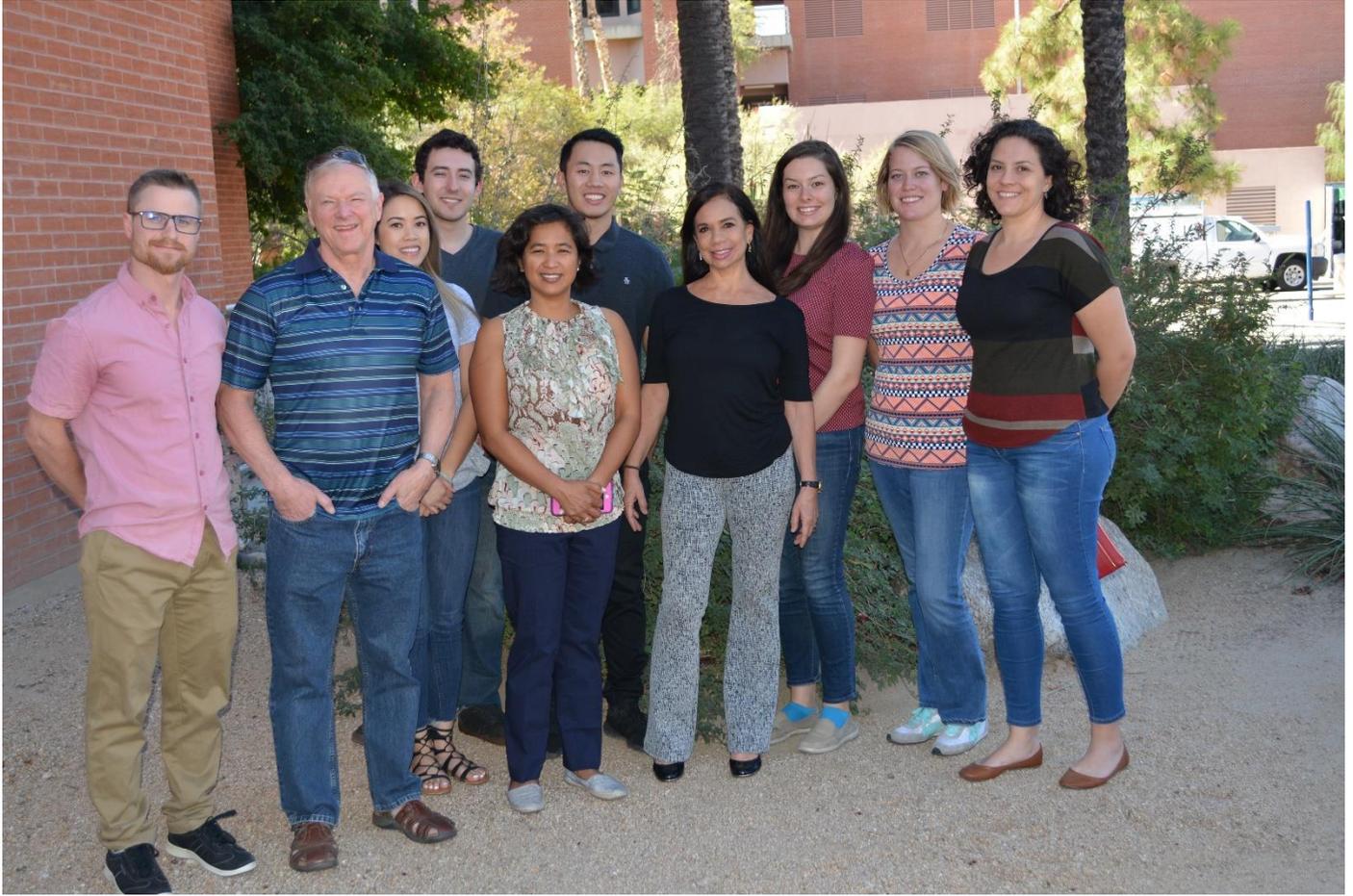
Did you know?....

Experimentally, it has been shown that increasing blood flow will reduce the amount of permanent threshold shift (PTS) related to noise exposure.

Did you know?....

Von Bekesy was nominated for the Nobel prize 5 times before actually winning the honor in 1961.

2017-2018 Neuroaudiology Lab Group!



(From left: Barrett St. George (AuD, PhD student), Dr. Frank Musiek, Athena Luong, Aaron Whiteley, Liza Clark, Bryan Wong, Dr. Eliane Schochat, Alyssa Everett (AuD, PhD student), Lori Sommerfeld, and Dr. Renata Filippini)

Audiology Trivia Answers!

- 1) Sensory Acuity Level Test has to do with what? D) Masking!***
- 2) The descending angle of the Eustachian Tube in infants is approximately how many degrees? C) 10 Degrees!***