

Neuroaudiology Newsletter

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Remembering-Dr. Allen Counter



Dr. Frank Musiek's tribute to Dr. Allen Counter.

The world of audiology, hearing science and human relations lost a friend and leader when Samuel Allen Counter died on July 12th. Allen was the Director of the Harvard Foundation and

Professor of Neurology at Harvard Medical School. Dr. Counter was a champion of race relations and was a most welcoming person to all.

He was also an active researcher in auditory neurophysiology and strong supporter of **clinical audiology**. His enthusiastic and welcoming personality made him a friend to many the world over. "Harvard has lost a great champion of inclusion and belonging in Dr. Allen Counter," said President Drew Faust. "Through his leadership of the Harvard Foundation, he advanced understanding among members of our community and challenged all of us to imagine and strive for a more welcoming University and a more peaceful world. We remember today a campus citizen whose deep love of Harvard, and especially our undergraduates, leaves a lasting legacy." (Harvard Gazette).

I first became acquainted with Allen during our time as PhD students in the audiology/hearing science program at Case Western Reserve University. He was a few years ahead of me. His work at Reserve was on auditory nerve recordings from the cricket. To my recollection, after graduation Allen was appointed to Harvard's Biology and Neurology departments, where he continued to work on auditory system neurophysiology. Allen and I would have great visits in the summers when I was at Dartmouth and later during my time at the University of Connecticut. On several occasions, I invited him to speak at various national meetings and university academic functions. He was a captivating speaker, not only relating information on audiology and hearing science, but also of his many adventurous travels around the world. Allen Counter was well acknowledged for

TEST YOUR AUDIOLOGY TRIVIA KNOWLEDGE

1) How many distinct cell layers are in the stria vascularis? A) 5, B) 3, C) 2, D) 1

2) Which of the following was the audiologist, using functional imaging, who was one of the first to help determine the tonotopic arrangement of the auditory cortex of humans? A) Judy Lauter, B) David Lilley, C) William Rintelmann, D) Arnold Small

Answers on page 5 of this newsletter.

his recent work of the effects of lead on auditory evoked potentials in lead workers in South America. However, he was also well known as an explorer. One of his most notable achievements in this regard was locating descendants of earlier U.S. explorers of the arctic. His expeditions into Greenland laid the ground work for learning of Mathew Henson's and Robert Peary's work in exploring the North Pole. Henson, a member of Peary's first expedition to the North Pole, was an unsung African-American explorer whom Counter told the world about in various chronicles (see New York Times, July 17, 2017).

Chief among Dr. Counter's many awards, was being knighted in 2012 by Carl XVI Gustav, King of Sweden, where he conducted research for many years with well-known auditory scientist Erik Borg. In 2013, he was presented the Lowell Thomas Award of the Explorers Club.

Interoperative Neuromonitoring Program-Bryan Wong

Over Summer 2017, a member of the Neuroaudiology Lab, Bryan Wong, participated in a 5-week program at the University of Connecticut.

Hello all, my name is Bryan Wong and I am a 3rd year Audiology graduate student at the University of Arizona. Over the summer I recently completed a graduate degree certificate program in Intraoperative Neuromonitoring.

What was the day-to-day operation of the class?

The program consisted of 3 graduate level courses (9 credits) accredited through UConn's Physiology and Neurobiology department. Labs enforced lectures in a variety of ways, such as: observing live dissections of human cadavers, utilizing animated and physical models of the brain, writing protocols in manufacturer software for recording/administering electrophysiologic tests, and learning how to correctly place needle electrodes using mannequins.

Was this program audiology specific?

This program was open to students of all academic backgrounds. Although the course material did include topics related to audiology, a majority of the training was geared toward surgeries that commonly employ IONM specialists- spinal surgeries.



What were your overall impressions of the program?

Overall, I believed the UConn program to be a very positive experience. It was enlightening to broaden my knowledge of electrophysiologic tests and their anatomical correlates. The professors were both very knowledgeable and charismatic about their particular subject matter. Although this program did not include a clinical portion, the material presented in the lecture and lab sections were very insightful and provided the necessary tools to continue forward in the certification process.

Did you know?....

For most paradigms, within channel gap detection reaches adult values around 6 years of age. This is a shorter maturational course than most other behavioral tests of central auditory function.

Congratulations are in order!!

Barrett St. George, a current Neuroaudiology lab member won the International Conference on Auditory Cortex Travel Grant for the International Conference on Auditory Cortex in Banff, Alberta, Canada. At this conference, he will be presenting Modern Views on the Anatomy of Planum Temporale with Dr. Frank Musiek.

International collaboration on CAPD research

Former post-doc student, Dr. Renata Filippini and Professor Eliane Schochat of Sao Paulo, Brazil will be visiting the Neuroaudiology lab in mid-October. Both of these amazing researchers will be working on collaborative projects in Neuroaudiology related to backward and forward masking as well as clinical decision processes for gap detection and temporal sequencing.

In the works

This past summer witnessed considerable amounts of new information gathered and synthesized for the new 2nd edition of the top selling, "The Auditory System: Anatomy, Physiology, and Clinical Correlates" (Musiek and Baran) to be published early next year by Plural Publishers. Expect major changes in chapters on the middle ear, auditory nerve, and auditory cortex. New illustrations also inhabit the 2nd edition with more work yet to be done, stay tuned!

Did you know?....

The two muscles associated with the opening and closing of the Eustachian tube are the tensor veli palatine and levator veli palatine. When these muscles contract, the Eustachian tube opens and when they relax, it closes. Contraction of these muscles is often a result of swallowing, chewing, and opening the mouth (yawning). This allows an equalization of air pressure in the middle ear cavity to that of the environmental air.

Did you know?....

The N1 of the N1-P2 late potentials is not readily observed in humans until about 8 years of age. It does not reach adult values in amplitude until approximately 15 or 16 years of age. The amplitude of this auditory evoked response is sensitive to the inter-stimulus interval (ISI). Essentially, the longer the ISI, the larger the N1 response becomes-extending into ISIs that are several seconds in duration.

University of Arizona Journal Club

The Neuroaudiology Lab hosts a Journal Club that will continue this Fall semester. Journal Club will take place in the Speech, Language, and Hearing building in room 409 from 6-7pm on the following dates:

Monday September 25

Monday October 30

Monday November 27

Join us in welcoming our guest speaker to lead our first Journal Club on September 25th, John Durrant. John Durrant, Ph.D. is Professor Emeritus at the University of Pittsburgh. He is internationally known for his many contributions to our understanding of auditory evoked potentials and hearing science. He is the recent author with Lawrence Feth of "Hearing Sciences: A Foundational Approach." He has also been awarded the "Honors of ASHA" and is a past President of the International Evoked Response Audiometry Study Group (IERASG).

Upcoming Major Conferences

| Conference | Date and Location | Dr. Musiek's Presentation |
|--|---|--|
| 6 th International Conference on Auditory Cortex: JosFest | September 10-15: Banff, Alberta, Canada | Is hidden hearing loss really hidden?: A Perspective |
| SLHS Colloquium | September 25: Tucson, AZ | MLR: Neurodiagnostics revisited |
| ASU Speech and Hearing Seminar | October 20: Tempe, AZ | Neuroanatomy and Neuroaudiology of the vertebra-basilar system |
| ASHA | November 9-11: Los Angeles, CA | Current issues in central auditory processing (presenting with G. Chermak and J. Weihing). |

Past Neuroaudiology Newsletters

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

Recent Article of Interest

Beyond Controversies: The science behind central auditory processing disorder; May 10, 2017 *Hearing Review*

G. Chermak, F. Musiek, and J. Weihing

Audiology Trivia Answers

1: B) How many distinct cell layers are in the stria vascularis? 3 layers

2: A) Which of the following was the audiologist, using functional imaging, who was one of the first to help determine the tonotopic arrangement of the auditory cortex of humans? Judy Lauter