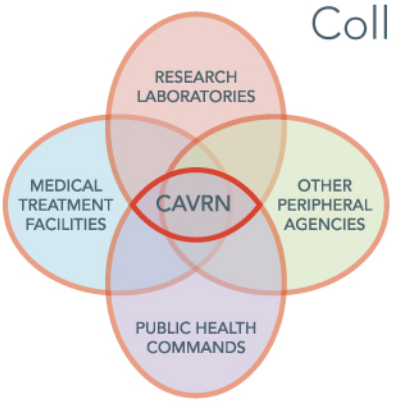


Collaborative Auditory/Vestibular Research Network (CAVRN)

FALL 2016 NEWSLETTER

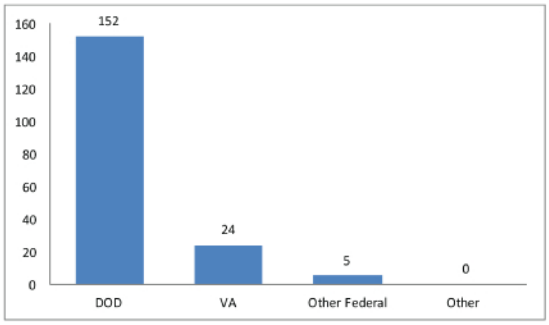
DEPARTMENT OF DEFENSE
HEARING CENTER OF EXCELLENCE

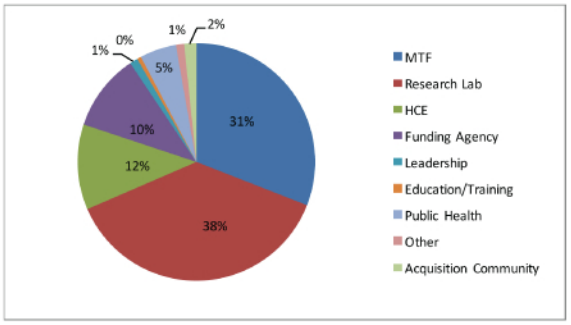
CONTENTS

The Collaborative Auditory & Vestibular Research Network (CAVRN) exists to coordinate, leverage and expedite auditory and vestibular research within the Department of Defense (DoD) and Veterans Affairs (VA) enterprises. The CAVRN contributes scientific advisement to the DoD Hearing Center of Excellence (HCE), inclusive of all Federal auditory researchers and research stakeholders. The CAVRN's responsibilities include exhaustive review and dissemination of existing research efforts, identification of the most functional and reliable methodologies, development of specific working groups to address gaps in knowledge and clinical capabilities, scientific review and responsible collaboration.

FY16 CAVRN SUMMARY

Our current total membership is 182 active duty, civilian and support contractors from the DOD (primarily), VA, CDC, NIH and FDA. We'd love to grow the VA contingent of our group this year! While CAVRN annual meetings are closed to non-federal stakeholders, many of its working groups are not. If your academic or commercial partners are interested in learning more about how to collaborate with the CAVRN, please send them our way (POC: tanisha.hammill.ctr@us.af.mil).





2016 CAVRN MEETING SUMMARY

This past May, many of you joined us for our 5th annual Collaborative Auditory Vestibular Research Network (CAVRN) conference in Ft. Rucker, Alabama. This was our largest meeting yet, with 80 of you in attendance with over 40 presentations and 12 excellent scientific posters! We were able to offer 0.40 CEU credits and hope to increase that in coming years. The slides, presentations, and posters released for distribution will be available online (see Announcements below for more information on where and when).

Over the course of three days and two concurrent tracts, we enjoyed sessions from our CAVRN researchers as well as the Hearing Center of Excellence team on topics ranging from tinnitus to hearing health education, from vestibular therapy rehabilitation to the effect of auditory processing deficits on service members. We were also able to see a Blackhawk helicopter demo and tour both the USAARL laboratories and Ft. Rucker U.S. Army Aviation Museum. A huge thank you to all those who made this event a success, including HCE's own JR Stefanson and the leadership at USAARL who were so supportive of hosting us.

Finally, thank you to all who attended, and we look forward to seeing you at our 6th annual conference in June 2017 located at the Joint Base San Antonio facilities, including the HCE's new Wilford Hall Ambulatory Surgical Center building! The BBQ experiences had in Alabama will be put to the Texas test!

ANNOUNCEMENTS

NEW ONLINE WAY TO COMMUNICATE ALL YEAR ROUND!

The HCE has been using APAN the last year internally and we've decided to employ it for CAVRN as well. The All Partners Access Network (APAN) is the Unclassified Information Sharing Service (UISS) for the U.S. Department of Defense (DOD). APAN is a collaborative solution which allows file sharing and discussion boards in a secure environment for closed groups of selected users. A CAC card is not required so we can use it across Federal agencies. You will receive an invitation email from APAN in the next week. DO NOT DISMISS IT! You'll need to register to gain access to all the CAVRN files cleared for distribution to this group. In the meantime, feel free to visit the site to learn more about APAN at https://www.apan.org/.

CAVRN MID-YEAR TELECONFERENCE – OCTOBER 27

Please join us on October 27 at 2 pm ET for the CAVRN mid-year telecom. More details to come via email invitation!

NEW INTERIM EXECUTIVE DIRECTOR FOR THE HCE!

After 7 years of serving as the HCE's Executive Director, Colonel Mark Packer has retired from the military. His future plans are still in flux, with a current new job as part of a clinical group in St. Louis, but a return to the Federal system here in San Antonio is still a possibility for which his grieving staff are holding out hope! We are very excited to announce that Dr. Lynn Henselman, the HCE's former Deputy Director, is now the HCE's Interim Executive Director. Dr. Henselman remains a VA GS employee and is located in Falls Church, VA.

HCE IN THE NEWS – FULL METAL RACKET: THE NUMBER-ONE DISABILITY AMONG VETS ISN'T PTSD. AND IT'S GETTING WORSE EVERY YEAR.

Read more at: https://newrepublic.com/article/135754/full-metal-racket

RECENT RESEARCH HIGHLIGHTS

The HCE would like to include any recent publications or research highlights submitted by you, the CAVRN membership! This will help our network keep abreast of the milestones reached and exciting new areas of expertise within our community. When your research breaks new ground or your results publish, let us know about it so we can highlight it in the next Newsletter at tanisha.hammill.ctr@us.af.mil.

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Dye, J. L., Eskridge, S. L., Tepe, V., Clouser, M. C., & Galarneau, M. (2016, January). Characterization and Comparison of Combat-Related Injuries in Women During OIF and OEF. Military Medicine, 181(1S), 92-98. doi:10.7205/milmed-d-15-00237

Melzer, J. M., Eliason, M., & Conley, G. S. (2016, April). Congenital stapes malformation: Rare conductive hearing loss in a patient with Waardenburg syndrome. The Laryngoscope, 126(4), 992-995. doi:10.1002/lary.25443

Henry, J. A., Griest, S., Austin, D., Helt, W., Gordon, J., Thielman, E., . . . Carlson, K. (2016, June). Tinnitus Screener: Results From the First 100 Participants in an Epidemiology Study. Am J Audiol, 25(2), 153-160. doi:10.1044/2016_aja-15-0076

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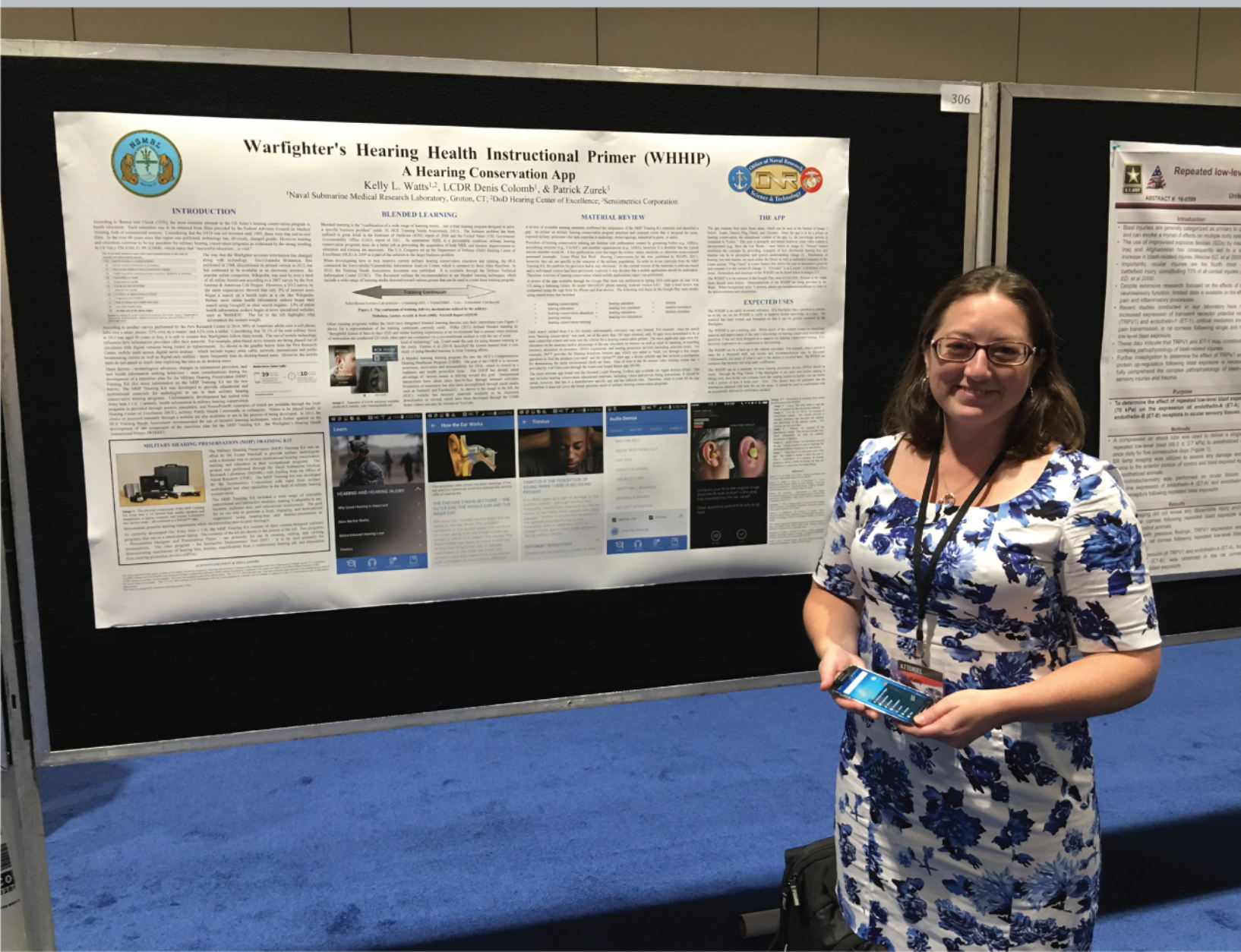
UPCOMING PROFESSIONAL MEETINGS

JOINT DEFENSE/VETERANS AUDIOLOGY CONFERENCE (JDVAC):
February 6-8, 2017, Anaheim, CA
For more information: http://militaryaudiology.org/2016/05/27/jdvac-2017/

ASSOCIATION FOR RESEARCH IN OTOLARYNGOLOGY (ARO),
February 11-15, 2017, Baltimore, MD
For more information: http://www.aro.org/page/SaveTheDate

NATIONAL HEARING CONSERVATION ASSOCIATION (NHCA):
February 23-25, 2017, San Antonio, TX
For more information: http://www.hearingconservation.org/page/2017HotelTra

AMERICAN AUDITORY SOCIETY (AAS):
March 2-4, 2017, Scottsdale, AZ
For more information: http://www.amauditorysoc.org/annual-conference



FUNDING OPPORTUNITIES

Refer to the HCE website (http://hearing.health.mil/Research/FundingInformation.aspx) for up-to-date hearing-related research funding opportunities.

LONG RANGE BROAD AGENCY ANNOUNCEMENT (BAA) FOR NAVY AND MARINE CORPS SCIENCE AND TECHNOLOGY

Accepting white papers on a rolling basis • Amount and period of performance TBD based on proposal

Topics of interest include noise-induced hearing loss. The Office of Naval Research (ONR) is interested in receiving proposals for Long-Range Science and Technology (S&T) Projects which offer potential for advancement and improvement of Navy and Marine Corps operations. Readers should note that this is an announcement to declare ONR's broad role in competitive funding of meritorious research across a spectrum of science and engineering disciplines. A brief description of the ONR Program Codes and the science and technology thrusts that ONR is pursuing is provided below. Additional information can be found at the ONR website at http://www.onr.navy.mil/Science-Technology/Departments.aspx. Potential offerors are urged to check the program areas that they are interested in throughout the year for updates to thrust areas and research priorities on the ONR website at http://www.onr.navy.mil. Prior to preparing proposals, potential offerors are strongly encouraged to contact the ONR technical point of contact (POC). To identify the POC, follow the link for the appropriate code or division listed below and then click on the link to the thrust or topic area. Each thrust or topic area will provide a POC or e-mail address. For more information: http://www.grants.gov/web/grants/view-opportunity.html?oppId=289180

NOISE-INDUCED SYNAPTOPATHY IN THE HUMAN AUDITORY SYSTEM (R01)

Application due 24 January 2017 • $500,000 for up to 5 years

This Funding Opportunity Announcement (FOA) seeks applications focused on determining if noise-induced cochlear synaptopathy occurs in humans. Studies may include, but are not limited to, diagnosis/detection and determination of functional consequences of such noise-induced damage. Animal studies could be responsive to this FOA, but the direct applicability to humans must be clearly delineated. Multi-disciplinary teams are encouraged to apply. For more information: http://www.grants.gov/web/grants/view-opportunity.html?oppId=281114

RESEARCH INTERESTS OF THE AIR FORCE OFFICE OF SCIENTIFIC RESEARCH

Open until superseded • $200,000-400,000, up to 5 years

For the sensory systems portion of the portfolio, a goal is to pursue new capabilities in acoustic analysis, to enhance the intelligibility and usefulness of acoustic information. The primary approach is to discover, develop, and test principles derived from an advanced understanding of cortical and sub-cortical processes in the auditory brain. Included are efforts to model and control effects of noise interference and reverberation, understand the psychoacoustic basis of informational masking, develop new methods for automatic speech detection, classification, and identification, and enable efficient 3D spatial segregation of multiple overlapping acoustic sources. For more information: http://www.grants.gov/web/grants/view-opportunity.html?oppId=285269

AMERICAN NEUROTOLOGY SOCIETY GRANT AWARD

31 January 2017 • $25,000

The purpose of the ANS Research Grant is to encourage and support academic research in sciences related to the investigation of otology and neurotology. Appropriate areas of research include diagnosis, management, and pathogenesis of diseases of the ear and/or skull base. Grants that focus on addressing clinical gaps are especially encouraged. Grants may involve cell/molecular studies, animal research, or human subjects' research. For more information: http://www.americanneurotologysociety.com/ans-research-grant-award

AMERICAN OTOLOGICAL SOCIETY RESEARCH GRANTS

Letter of Intent - 1 November 2016 • $55,000-$80,000+ depending on the award

The American Otological Society, Inc., through its Research Fund, is offering Research Grant Awards, an Award for a Clinical Trial, full-time Research Training Fellowships, and a Clinician-Scientist Award. Research supported by all of the grant mechanisms can relate to any aspects of the ear, hearing and balance disorders. For more information: http://www.americanotologicalsociety.org/information.html

HEARING HEALTH FOUNDATION EMERGING RESEARCH GRANTS

Letter of Intent - 28 October 2016; Full App – 2 December 2016 • $30,000 for 1-2 years

General Hearing Health: In addition to specific topics below, HHF supports research in the following areas of special interest:

- Physiology of hearing and balance
- Epidemiology of auditory and vestibular disorders
- Human otopathology
- Diagnosis, treatment and prevention of hearing loss and balance disturbance
- Human genetics and mouse models of peripheral and central auditory/balance dysfunction
- Innovation in cellular and molecular therapies
- Auditory and vestibular implants, and hearing aids

CENTRAL AUDITORY PROCESSING DISORDERS: CAPD IS GENERAL TERM FOR A RANGE OF DISORDERS WITHIN THE EAR AND BRAIN THAT AFFECT THE PROCESSING OF AUDITORY INFORMATION. THE FOLLOWING AREAS OF RESEARCH ARE OF SPECIAL INTEREST:

- normal and abnormal auditory processing
- creating testable models of auditory processing disorders
- etiology, diagnosis, and treatment of CAPD
- genetics of CAPD
- development of screening tools and diagnostic tests for CAPD including behavioral, physiologic and neuroimaging
- language, music, learning and communication issues related to CAPD

HEARING LOSS IN CHILDREN: CONGENITAL AND ACQUIRED CHILDHOOD HEARING LOSS, IF LEFT UNTREATED, CAN HAVE DEVASTATING, LIFELONG CONSEQUENCES. THE FOLLOWING AREAS OF RESEARCH ARE OF SPECIAL INTEREST:

- Etiology of childhood hearing loss (e.g., genetic, infectious, traumatic)
- Assessment and diagnosis of childhood hearing loss
- Auditory neuropathy
- Behavioral, cognitive, developmental, and psychosocial consequences of childhood hearing loss
- Impact of early intervention
- Education of the hearing impaired child
- Cochlear implants and Auditory Brainstem Implants in children

HYPERACUSIS: HYPERACUSIS IS CHARACTERIZED BY AN INCREASED SENSITIVITY AND REDUCED TOLERANCE TO CERTAIN ASPECTS OF SOUND. RESEARCH IN THE FOLLOWING AREAS ARE OF SPECIAL INTEREST:

- mechanisms of hyperacusis
- development of animal models
- genetics of hyperacusis
- etiology, diagnosis and treatment of hyperacusis
- brain imaging, biomarkers, electrophysiology of hyperacusis
- distinctions between hyperacusis and tinnitus
- Interaction between auditory nerve and trigeminal nerve information

MENIERE'S DISEASE: MENIERE'S DISEASE IS CHARACTERIZED BY EPISODIC VERTIGO, HEARING LOSS, TINNITUS, AND THE SENSATION OF EAR FULLNESS. THE FOLLOWING AREAS OF RESEARCH ARE OF SPECIAL INTEREST:

- mechanisms of endolymphatic hydrops including mechanisms of cochlear fluid regulation
- genetics of Meniere's disease
- animal models of Meniere's disease
- imaging of hydrops
- etiology, diagnosis and treatment of Meniere's disease
- vestibular function and dysfunction

STRIA: THE STRIA VASCULARIS PLAYS AN IMPORTANT ROLE IN INNER EAR HOMEOSTASIS. BASIC, TRANSLATIONAL, AND CLINICAL RESEARCH ON THE STRIA VASCULARIS AND SPIRAL LIGAMENT ARE OF SPECIAL INTEREST INCLUDING:

- normal and abnormal development
- normal and abnormal function
- cell types and their physiology
- endocochlear potential
- ion transport mechanisms
- genetics of the cochlear lateral wall
- etiology, diagnosis and treatment of stria-related hearing loss

TINNITUS: TINNITUS IS THE PERCEPTION OF SOUNDS IN THE EAR IN THE ABSENCE OF AN ACOUSTIC STIMULUS. RESEARCH IS NEEDED ON BOTH THE PERCEPTION OF AND REACTION TO TINNITUS, FOCUSING ON THE FOLLOWING AREAS:

- Peripheral and central mechanisms
- Role of ion channels, ototoxicity, genetics
- Subjective and objective assessment
- Etiology, diagnosis, treatment, and prevention
- Imaging of tinnitus

USHER SYNDROME: USHER SYNDROME IS CHARACTERIZED HEARING LOSS AND RETINITIS PIGMENTOSA AND IS THE MOST COMMON CAUSE OF COMBINED BLINDNESS AND DEAFNESS. RESEARCH FOCUSING ON THE FOLLOWING AREAS IS OF SPECIAL INTEREST:

- Etiology, diagnosis and treatment of Usher Syndrome
- Genetics of Usher syndrome
- Role of identified genes in hearing and vision
- Creation of mouse models of Usher syndrome
- Development of molecular and cellular therapies

For more information: http://hearinghealthfoundation.org/2017_loi