

SOUND MINDS

UCI Center for Hearing Research (CHR):

Providing an intellectually stimulating and interactive home to advance collaborative and multidisciplinary research, training, and service in hearing loss and other communication disorders

Dear Colleagues and Friends,

The Center for Hearing Research (CHR) started 20 years ago as a journal club with several faculty members enjoying getting together to discuss auditory science over a cup of coffee. Looking back, I can say without any doubt that the simple enjoyment of learning and teaching has inspired the CHR to become a multi-campus and multi-disciplinary center of excellence today.

The most significant news in 2018 was that the CHR has successfully renewed its status as a Campus Center for another 5 years. The successful renewal is based on not only endorsements and recommendations from department chairs, school deans and the Vice Chancellor of Research, but more importantly the strong and active participation of [41 faculty members](#), including 32 from UCI and 9 from Chapman, Loma Linda, UCR and UCSD.

The success of an organization starts and ends with its people. Please join me in welcoming 7 new members whose outstanding experience in brain and language nicely complement CHR's existing strengths in ear and hearing (Page 2). In addition, a new group of stellar post-docs and graduate students have joined the CHR (Page 2). Our donors' support has allowed the CHR to bring in a steady stream of outside academic leaders to campus (Page 3). Our faculty and students continue to engage in public service in hearing education and healthcare (Page 4).

Other 2018 news included that (1) Raju Metherate received a 5-year NIH grant to study nicotinic enhancement of auditory-cognitive processing, (2) Wei Dong and co-workers found different vibration patterns along the length of intact gerbil cochlea (J Neurophysiol), (3) Ed Rubel and colleagues partnered with Decibel Therapeutics to commercialize drugs for the prevention of hearing loss from aminoglycoside antibiotics, (4) CHR advisory board member Richard Miyamoto received the President's Medal, the highest honor from Indiana University, and (5) our clinical partner, Providence Center, became the second cochlear implant center certified by California Children's Services in Orange County.

Looking ahead, we face challenges in recruiting and mentoring students, concerting faculty research to achieve "the whole greater than the sum of its parts" return, and increasing and broadening donor support. I believe we will be fine as long as we remember our original aspiration in the simple enjoyment of learning and teaching.

Happy Holidays,

Fan-Gang Zeng, CHR Director



Seven Joined CHR in 2018:



Carol Connor is Chancellor's Professor in Education and is interested in examining the links between children's language, cognitive, social-emotional, and literacy and mathematics development from preschool through elementary grades, including those with cochlear implants.



Sarah Creel is a professor of Cognitive Science at UCSD and studies language development, word recognition, eye tracking, cognitive control, and music perception. You may enjoy her quotes: <https://quote.ucsd.edu/creel/>



Gyorgy Lur recently joined UCI Department of Neurobiology & Behavior and is interested in how neurons integrate synaptic input from various modalities. He has just received a 3-year grant from Whitehall Foundation to study the interaction of auditory and cognitive afferents in the parietal cortex.



Lisa Pearl is a professor of Cognitive Sciences and chair of Language Science. She thinks "research is like writing stories" and that "human language is a freakin' awesome system." [Check out her cool interview here.](#)



Elizabeth Peña is a professor of Education and explores bilingualism, language impairment and language development. She is also a certified Speech-Language Pathologist and is a Fellow of the American Speech Language Hearing Association.



Aaron Seitz is a psychology professor and also heads up the UCR Brain Game Center. His research addresses mechanisms of learning and memory using behavioral, computational and neuroscientific methodologies. His brain training game helped the [UCR baseball team win 10% more games.](#)



Jonathan Venezia was a former CHR trainee working with Ginny Richards and Greg Hickok and has taken a research faculty position at Loma Linda University. His research focuses on cortical representations of speech acoustics.

Meet Our New Trainees:

Joselyn Ho is a third year PhD student in Cognitive Neuroscience, working with Charlie Chubb and Greg Hickok. She is passionate about music and investigates musical sensitivity and its connection to speech processing.

Michelle Kapolowicz is a post-doc working with Dr. Fan-Gang Zeng. Her research utilizes psychoacoustic techniques to study and treat tinnitus. She joined us in September, 2018 and already won a 2nd Place Award at the 3rd Annual UCI Postdoctoral Scholar Research Symposium.

Matthew Richardson is a post-doc in John Middlebrooks's lab, supported by a collaborative award from the Wellcome Trust. He is doing animal psychophysical and physiological experiments intended to improve pitch perception with cochlear implants and auditory nerve electrodes.

Forrest Weghorst is a second-year PhD student in Neurobiology and Behavior. He works with Dr. Karina Cramer, where he studies molecular signaling pathways necessary for precise axonal targeting in the auditory brainstem of chicks and mice.

Sima Chokr is a second-year PhD student in Neurobiology and Behavior. She works with Dr. Karina Cramer, where she studies neuroimmune modulation of synaptic pruning and plasticity in the mouse auditory brainstem.



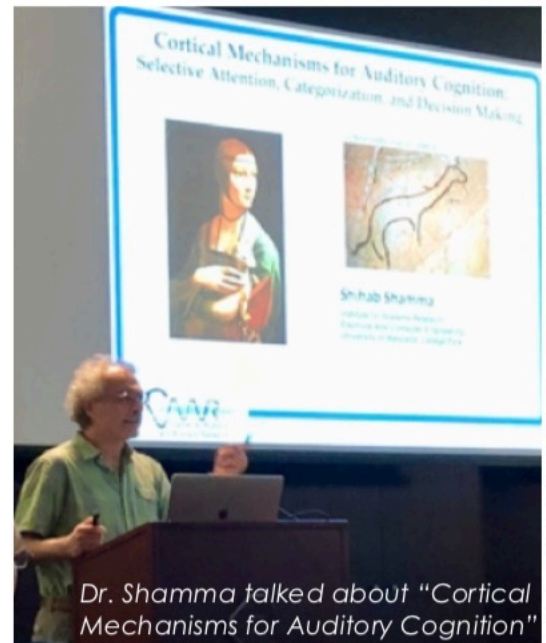
CHR Seminars

Six speakers presented seminars in 2018

- Josh Bernstein, Walter Reed Medical Center
- Sarah Creel, University of California San Diego
- Ivan Milenkovic, University of Leipzig
- Shihab Shamma, University of Maryland
- Anu Sharma, University of Colorado at Boulder
- Yuan Wang, Florida State University

Sneak peak in 2019

- Adrián Rodríguez-Contreras, The City College of New York (1/15)
- Li Zhang, University of Southern California (2/26)
- Nace Golding, University of Texas Austin (3/5)
- Assal Habibi, University of Southern California (4/2)
- Sven Vanneste, University of Texas Dallas (5/7)
- Lisa Goodrich, Harvard University (5/28)
- Antje Ihlefeld, New Jersey Inst. of Technology (6/4)



CHR Symposium

Instead of the usual Annual Research Symposia on campus, CHR co-sponsored the 2018 Palm Springs Hearing Seminar on "Big Health Meets Hearing Healthcare", which attracted 150 audiologists, hearing aid specialists and otologists. CHR member Raju Metherate presented his research on nicotine enhancement of auditory processing while Fan-Gang Zeng discussed applications of artificial intelligence to hearing aids.



CHR attendees Phillip Tran, Payton Lin, Michelle Kapolowicz, Fan-Gang Zeng and Raju Metherate along with the 2018 Palm Springs Hearing Seminar organizer, Dr. Mark Parker.

COSMOS Research Day

-Bradley McHargue & Brooke Mackenzie Koren, UCI Biomedical Engineering Sophomores

On July 10, 2018, thirty high-school students came to UCI to attend the COSMOS (California State Summer School for Math & Science) research day. The day was designed for students to get an idea of how hearing research is conducted by participating in interactive games and hearing tests. Students learned about how the typical cochlear implant works by playing a cochlear implant jeopardy game, and they were also able to explore multiple types of hearing tests that are conducted regularly in the clinic. Students moved through multiple stations learning about audiometry from Katie Turner, bone conduction from Matthew Richardson, and binaural hearing from Phillip Tran. The high schoolers left the COSMOS research day with a better understanding of the importance of hearing research and were also able to get a snapshot of the day-to-day experiments in the lab. It opened the students' eyes to one of the possible careers that they could have going into STEM majors and careers.

As undergraduates helping the event, we found the COSMOS day to be a beneficial experience because we were able to get a more in-depth and personal look into what occurs in a research university. We even got to talk to some of these high-achieving students about their scholastic and career goals which made us feel optimistic about this new generation of scientists, engineers, and physicians. It was our job to encourage these students and foster dreams so that one day they will be our peers. *(Right: Post-doc, Phillip Tran, led discussion on the COSMOS Research Day).*



Help and Support CHR

At present, the CHR seminar series and symposia totally rely on philanthropic support. We would like to provide funding for collaborative faculty research and for recruiting and retaining the best students so that we can become responsible global leaders in our profession. Your support is greatly appreciated to help us achieve this vision.

You may give online by clicking this link "[Giving to UC Irvine](#)", then the "[See All / Schools & Units](#)" button, scrolling down and selecting "[CENTER - Center for Hearing Research](#)". You can also contact me at any time if you want a confidential conversation about how to help and support the CHR.

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