



Thomas Friedman, Ph.D., NIDCD - Moderator

Thomas Friedman, Ph.D. is the chief of the Laboratory of Molecular Genetics, National Institute on Deafness and Other Communication Disorders, National Institutes of Health (NIDCD), and will serve as the moderator of the Symposium. Dr. Friedman received his bachelor's and doctorate degrees from the University of Michigan where he worked with Tahir Mohammed Rizki on the molecular genetics of purine metabolism in *Drosophila*.

After postdoctoral work studying galactosemia in humans at the National Institute of Mental Health, he became a faculty member in the Department of Zoology and the Department of Pediatrics and

Human Development at Michigan State University. For five years, he was also the Director of the Interdepartmental Graduate Program in Genetics. In 1996, he joined the NIDCD as the chief, Laboratory of Molecular Genetics. Dr. Friedman's Section on Human Genetics at the NIDCD studies hereditary hearing loss in humans and animal models. His laboratory also studies the functions (cell biology and biochemistry) of proteins encoded by genes associated with deafness.

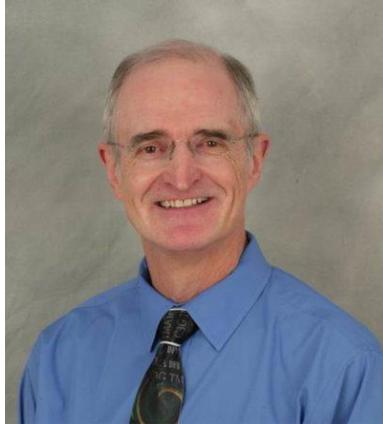


Zheng-Yi Chen, Ph.D., Mass. Eye and Ear/Harvard Medical School

Zheng-Yi Chen, Ph.D.'s research interests include functional genomics of hearing, inner ear hair cell regeneration, mechanisms and treatment for age-related and noise-induced hearing loss (ARHL and NIHL) and gene therapy for hereditary deafness. One of the most common causes of hearing loss is the loss of hair cells, the inner ear sensory cells that detect sound and sense balance. Regeneration of hair cells in the adult mammalian inner ear has been the most prominent obstacle to overcome. Dr.

Chen's laboratory takes a functional genomics approach to systematically study gene expression patterns during mouse inner ear development. Dr. Chen's laboratory has a long-standing interest in genetic hearing loss. The laboratory has been involved in cloning and characterizing numerous deafness genes. Though more than one hundred genetic deafness genes have been identified, still no therapy is currently available. The next frontier in genetic hearing loss is the development of treatment. Dr. Chen's long-term

research goals are to identify genes and functional pathways that govern the development, function and disease state of the inner ear, and to develop therapies for different types of deafness in humans.



Richard Smith, M.D., University of Iowa

Richard Smith, M.D. is the director of the Molecular Otolaryngology and Renal Research Laboratories (MORL) at the University of Iowa.

Dr. Smith is a world leader in the human genetics of hearing loss. The MORL has Clinical Diagnostics and Basic Research Divisions. It was CLIA certified in 1999 and accredited by the Joint Commission on Accreditation of Healthcare Organizations in 2001; it is recertified every two years. The Clinical Diagnostics Division pioneered the application of targeted genomic

enrichment with massively parallel sequencing for deafness to make comprehensive genetic testing the most informative diagnostic test that can be ordered in the evaluation of the patient with hearing loss. The Basic Research Division has made many significant contributions to our understanding of the biology of hearing and deafness by participating in the mapping and cloning of over 20 percent of all genes implicated in non-syndromic hearing loss loci. The MORL was also the first research facility to validate the use of RNA interference to prevent hearing loss in an animal model of deafness. Research in the MORL has been continuously supported by the National Institute of Health (NIH) for the past 27 years. As a reflection of his accomplishments, Smith has been elected to the Association of American Physicians and the National Academy of Medicine.



Patricia M. White, Ph.D., University of Rochester School of Medicine

Patricia M. White, Ph.D. is a research associate professor at the Ernest J. Del Monte Institute for Neuroscience, University of Rochester School of Medicine and Dentistry.

Dr. White received her bachelor's degree in biology from the California Institute of Technology in Pasadena in 1989. She completed her doctorate degree in Developmental Biology, also at Cal-Tech, in 2000, where she researched neural stem cells. She began post-doctoral work in hearing regeneration at the House Ear Institute, and joined the faculty at the University of Rochester

Medical and Dental Center in 2010.

Dr. White's work centers on identifying what molecules regulate inner ear regeneration in mammals. Her goal is to find a biological treatment for noise-induced hearing loss.