

Opening Ceremony and Keynote Speakers

Opening Ceremony: Rex Ziak – “Into the Wilderness: First Contact”

Monday, 09:30–10:30, Grand Ballroom



Explorers who first visited remote regions of the world often encountered indigenous tribes that spoke languages unlike anything ever imagined. Nevertheless, communication was essential. An excellent example of such cross-lingual encounters can be found in the journals of the American explorers Lewis and Clark.

During their transcontinental expedition across North America in 1805 Lewis and Clark met fifty-two aboriginal tribes. Their journals describe each encounter and the techniques they used to bridge the communication and cultural gap. This lecture will highlight several of these conversations to show the variety of approaches Lewis and Clark used to comprehend spoken and gestured communication.

In addition Rex Ziak will display the power of speech in a real-world educational experience. To demonstrate this, he will combine a well-told story with simple visual aids in a way that will create an indelible impression on the audience's memory.

Lewis and Clark's arrival at the Pacific Ocean had confused historians for nearly two hundred years. Some scholars overlooked what took place while others misinterpreted the events. Rex accidentally stumbled upon this gap in our history and became intrigued. With no formal higher education but ample passion and curiosity he dug into the Lewis and Clark journals, closely examining every word, studying their maps and repeatedly retracing sections of their route on foot. He even calculated the tides and phases of the moon to better understand the exact conditions the explorers endured in November of 1805. Finally, after more than six years of research, Rex published his discoveries, which contradicted everything we'd come to believe about Lewis and Clark's arrival at the Pacific. At first, scholars challenged Rex's new interpretation, but after further investigation and re-examination of the journals, they acknowledged his breakthrough findings. He has written three books including his most recent *In Full View: A True and Accurate Account of Lewis and Clark's Arrival at the Pacific Ocean and Their Search for a Winter Camp Along the Lower Columbia River*.

Rex is an extraordinary character. The son of a logger, he has worked as a professional photographer and cinematographer – for which he won an Emmy in 1993. As a young man he traveled solo through Central and South America ultimately settling in a small rural village in the mountains of Mexico for two years. Upon returning to the United States he had to learn to wear shoes and speak English again. And in 1990, Rex single-handedly took on a multi-national corporation to defend the last parcel of threatened ancient rainforest in southwest Washington. He devised a unique approach to persuade the corporate owners to protect the trees rather than cutting and selling them. Today the forest is alive, thriving and fully protected.

Keynote 1: Chin-Hui Lee, Georgia Tech, USA (2012 ISCA Medalist)

Monday, 11:00–12:00, Grand Ballroom, see Page 25



Chin-Hui Lee is a professor at School of Electrical and Computer Engineering, Georgia Institute of Technology. Dr. Lee received the B.S. degree in Electrical Engineering from National Taiwan University, Taipei, in 1973, the M.S. degree in Engineering and Applied Science from Yale University, New Haven, in 1977, and the Ph.D. degree in Electrical Engineering with a minor in Statistics from University of Washington, Seattle, in 1981.

Dr. Lee started his professional career at Verbex Corporation, Bedford, MA, and was involved in research on connected word recognition. In 1984, he became affiliated with Digital Sound Corporation, Santa Barbara, where he engaged in research and product development in speech coding, speech synthesis, speech recognition and signal processing for the development of the DSC-2000 Voice Server. Between 1986 and

2001, he was with Bell Laboratories, Murray Hill, New Jersey, where he became a Distinguished Member of Technical Staff and Director of the Dialogue Systems Research Department. His research interests include multimedia communication, multimedia signal and information processing, speech and speaker recognition, speech and language modeling, spoken dialogue processing, adaptive and discriminative learning, biometric authentication, and information retrieval. From August 2001 to August 2002 he was a visiting professor at School of Computing, The National University of Singapore. In September 2002, he joined the Faculty Georgia Institute of Technology.

Prof. Lee has participated actively in professional societies. He is a member of the IEEE Signal Processing Society (SPS), Communication Society, and the International Speech Communication Association (ISCA). In 1991–1995, he was an associate editor for the IEEE Transactions on Signal Processing and Transactions on Speech and Audio Processing. During the same period, he served as a member of the ARPA Spoken Language Coordination Committee. In 1995–1998 he was a member of the Speech Processing Technical Committee and later became the chairman from 1997 to 1998. In 1996, he helped promote the SPS Multimedia Signal Processing Technical Committee in which he is a founding member.

Dr. Lee is a Fellow of the IEEE, and has published more than 350 papers and 25 patents. He received the SPS Senior Award in 1994 and the SPS Best Paper Award in 1997 and 1999, respectively. In 1997, he was awarded the prestigious Bell Labs President's Gold Award for his contributions to the Lucent Speech Processing Solutions product. Dr. Lee often gives seminal lectures to a

wide international audience. In 2000, he was named one of the six Distinguished Lecturers by the IEEE Signal Processing Society. He was also named one of the two ISCA's inaugural Distinguished Lecturers in 2007–2008. Recently he won the SPS's 2006 Technical Achievement Award for “Exceptional Contributions to the Field of Automatic Speech Recognition”.

Keynote 2: Roger B. Dannenberg, Carnegie Mellon University, USA

Tuesday, 08:30–09:30, Grand Ballroom, see Page 53



Roger B. Dannenberg, Associate Research Professor of Computer Science, Art, and Music is also a fellow of the Studio for Creative Inquiry at Carnegie Mellon University. Dannenberg is well known for his computer music research, including the Audacity Audio Editor, programming language design, and real-time interactive systems. In the language area, his chief contribution is the use of functional programming concepts to describe real-time behavior, an approach that forms the foundation for Nyquist, a widely used sound synthesis language. His pioneering work in computer accompaniment led to three patents and the SmartMusic system now used by over one hundred thousand music students, and Rock Prodigy, a music app for the iPhone. He also played a central role in the development of the Piano Tutor, an intelligent, interactive, automated multimedia tutor that enables a student to obtain first-year piano proficiency in less than 20 hours. As a composer, Dannenberg's compositions have been performed by the Pittsburgh

New Music Ensemble, the Pittsburgh Symphony, and many festivals. As a trumpet player, he has collaborated with musicians including Anthony Braxton, Eric Kloss, and Roger Humphries, and performed in concert halls ranging from the historic Apollo Theater in Harlem to the Espace de Projection at IRCAM. Dannenberg is active in performing jazz, classical, and new works.

Keynote 3: Michael Riley, Google, USA

Wednesday, 08:30–09:30, Grand Ballroom, see Page 93



Michael Riley has a B.S., M.S., and Ph.D. from MIT, all in computer science. He began his career at Bell Labs and AT&T Labs where he, together with Mehryar Mohri and Fernando Pereira, introduced and developed the theory and use of weighted finite-state transducers (WFSTs) in speech and language. He is currently a senior staff research scientist at Google, Inc. His interests include speech and natural language processing, machine learning, and information retrieval. He is a principal author of the OpenFst library and the AT&T FSM Library™. He manages a group with expertise that includes natural language parsing, document and sentiment analysis, automata and speech recognition algorithms, and machine learning.

Keynote 4: Garet Lahvis, Oregon Health & Science University, USA

Thursday, 08:30–09:30, Grand Ballroom, see Page 133



Garet P. Lahvis is an assistant professor of Behavioral Neurosciences at Oregon Health and Sciences University (OHSU). His research interests are focused on social motivation and acoustic communication in mouse models of developmental disability and adolescent drug use. His laboratory has made seminal contributions to our understanding of the social and genetic conditions that moderate how affiliative vocalizations are expressed and how mice respond to the vocalizations of others. Dr. Lahvis combines experimental manipulations of social context, social motivation and behavioral response with computational approaches, including dynamic time warping, to dissociate critical features of call meaning. His research has been featured in public forums including NEWSWEEK Russia, TV, documentary and public radio.