Keynote Presentation

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Music and Cognition: Links at Many Levels
The talk presents research showing that music and cognition have strong links at many levels. An example of a link at a deep level is the empirical support found for deeply theorized properties of music such as Lerdahl’s theory of musical tension. Confirmation of this theory demonstrates that the cognitive representation of musical structure includes hierarchical trees similar to those proposed for language. At a somewhat higher level, sensitivity to statistically frequent patterns in the sounded events enables listeners to abstract a tonal framework for encoding and remembering music and generating expectations. Violations of these expectations contribute to the emotional response to music and produce neural responses in fMRI studies. Thus, statistical learning, found for language and other perceptual domains, extends to music where it has special significance. Finally, research on music recognition suggests a great deal of surface information is encoded in memory. Very short excerpts of popular music can be identified with artist, title, and release date. Even when an excerpt is not identified, emotion and style judgments are consistent. These results point to a long-term memory for music with large capacity and fine detail as well as schematic knowledge of style and emotional content.