

David Temperley, Assistant Professor of Music Theory,
Eastman School of Music, University of Rochester

Friday, March 25, 2:00–3:00 pm @ EEB 248

Tonal Implication, Tonal Ambiguity, and Tonalness

In this talk I investigate three tonal properties of pitch-class sets: tonal implication (the implied key or keys), tonal ambiguity (whether the set implies just one key or several), and tonalness (the degree to which the set is characteristic of common-practice tonality). I begin by proposing a simple probabilistic model of tonal implication, and show how this leads naturally to models of tonal ambiguity and tonalness. I then investigate some applications of these models. I show how the tonal ambiguity model makes a prediction about the use of cadences in major and minor keys, which turns out to be empirically confirmed. I then consider several pitch-class sets which are high in tonalness but also high in ambiguity, such as the diatonic hexachord, and discuss some interesting uses of these sets in the common-practice repertoire.



David Temperley is Assistant Professor of Music Theory at the Eastman School of Music, University of Rochester. His main interest is computational modeling of processes of music cognition: the perception of meter, key, harmony, and stream segregation. Other research interests include rock music, African rhythm, and hypermeter. He has also worked in natural language parsing, and was the developer (with Daniel Sleator) of the widely-used link grammar parser. His articles have appeared in *Music Perception*, *Computer Music Journal*, *Ethnomusicology*, *Musicae Scientiae*, *Music Analysis*, *Popular Music*, *Current Musicology*, *Journal of Music Theory* (forthcoming), and *Language*. In 2003, he was awarded the Society for Music Theory's Emerging Scholar Award for his book *The Cognition of Basic Musical Structures* (MIT Press 2001). Currently, Temperley is writing a book on probabilistic models of music cognition.

Thursday, March 24: David Temperley will be guest teaching in **engineering approaches to music perception and cognition** (ISE575/CSCI575/EE675) in PHE223. Course material available at <http://www-scf.usc.edu/~ise575>. Visitors welcome.

Thursday-Friday, April 21-22: Christopher Raphael, Associate Professor of Informatics, University of Indiana, Bloomington, who will speak on his "Music Plus One" project and give a demonstration of his automatic accompaniment system. Announcements forthcoming.

Hosted by: Elaine Chew, echew@usc.edu, Integrated Media Systems Center,
Epstein Department of Industrial and Systems Engineering