

SOE 8: Invited Talk Theo Geisel: Human Synchronization in Music Performance

Time: Tuesday 9:30–10:15

Location: H11

Invited Talk SOE 8.1 Tue 9:30 H11
Musicians' Synchronization and the Enigma of Swing —
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It is a widespread opinion that musicians who are interacting together in a performance should perfectly synchronize their timing. This view was challenged for the swing feel, a salient feature of jazz, which has eluded scientific clarification for a century. For much of this period it was considered arcane, arguing that swing can be felt but not explained, until the theory of 'participatory discrepancies' raised the controversial claim that swing is caused by microtiming deviations between different participating musicians [1].

In several projects we have clarified the controversy on the central role of microtiming deviations for the swing feel using time series analysis and experiments with temporally manipulated MIDI-recordings, whose swing feel was measured through ratings of professional jazz musicians. We thereby showed that involuntary random microtiming deviations are irrelevant for swing, whereas a particular systematic microtiming deviation between musicians enhances the swing feel and is a key component of swing in jazz [2]. It consists in slightly delaying downbeats but not offbeats of soloists with respect to a rhythm section. This effect was unknown to professional jazz musicians, who are using it unconsciously but were unable to determine its nature.

[1] C. Keil, *Cultural Anthropology* 2, 275 (1987).

[2] C. Neliás et al., *Commun. Phys.*, to be publ.