Intelligent Musical Instruments: Challenges for the Composer/Performer

Dr. Andrew Schloss, Dr. Peter Driessen
University of Victoria, Canada

Abstract

The field called New Interfaces for Musical Expression (NIME) has arisen to address questions of Human-Computer Interaction in the context of musical performance.The interface is a gesture sensor whose output is mapped by software to actuate sound generators. As we introduce more and more complex software to interpret and mediate the musical gestures of the performer, it may become more difficult for the observer to interpret what the performer is doing. Thus a guiding principle of our research is to retain expressive musical interaction with NIME when making software and hardware design decisions. The research outcome is a musical performance where the observer perceives an intuitive relationship between the musical gestures and the musical sounds, even though the observer may not discern the exact mapping between gesture and sound. We demonstrate some musical applications for our research, following the development of the *radiodrum*interface and the *Mechdrum* sound generator.