

## **Foldings –creating an augmented hybrid piano for improvisation**

*Submission to Interactive Keyboard Symposium, 2012*

I propose a combined paper presentation and concert performance with me, and if possible John Tilbury, as an augmented/hybrid piano duo. The title of the performance is simply “*Foldings*”.

### **Abstract**

In 2006 I developed a novel mapping technique, allowing musical exploration of large parameter spaces from different performance interfaces, later expanded into a family of novel improvisation instruments. In 2011, I adapted it to my main instrument, the piano, creating an augmented hybrid instrument from a normal grand.

*Foldings* consists of acoustic and virtual resonating bodies, all sounds originating from the piano, allowing for unorthodox playing (knocking, plucking, ...). Processed sounds are projected from speakers behind the piano, and acoustic and processed sounds interact and blend into one new instrument.

Processing is controlled from keyboard alone. Each key has a certain effect on processing parameters, and effects of different keys are accumulated; essentially a vectorization of control parameters, allowing intuitive control of complex processing by ear.

The instrument is not random, but somewhat unpredictable. This feeds into the improvisation, just like how ideas from a fellow improviser provides unpredictability and food for reaction, leading into a new direction, spurring further reactions. Like chasing a moving target. Hence, the instrument itself is an essential part of the musical outcome.

The technology is simple but effective: A MIDI-enabled grand (Disklavier, or Moog Piano Bar), four microphones, signal processor with custom software and two speakers adjacent to the piano.

Foldings have been used with different sound engines, e.g., a microtonal adaptive resonator and an adaptive buffer shuffler. Performances include concerts in Sweden and Japan, alone and with others. Also used by John Tilbury in an improvisation concert in 2011.

The same technology was used in a dance-theatre performance, performed 12 times in Sweden and Finland, with the acoustic sources being celesta, harpsichord and organ.

***2 sound examples (concert recordings of solo improvisations) can be found here:***

[http://dl.dropbox.com/u/1774293/foldings/foldings\\_solo-1.mp3](http://dl.dropbox.com/u/1774293/foldings/foldings_solo-1.mp3)

[http://dl.dropbox.com/u/1774293/foldings/foldings\\_solo-2.mp3](http://dl.dropbox.com/u/1774293/foldings/foldings_solo-2.mp3)