Live Electronics for Improvising Musicians and Composers

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This workshop is intended for acoustic and electric instrumentalists as well as singers who are curious about using computers / electronics as an extension of their regular instruments / live-setups.

Over the last 10 years we have seen a new generation of musicians evolve. Computers continue to get smaller, cheaper and more powerful and it has become a small step for a regular musician to become involved with recording, sound-design, or using the laptop in a live situation.
There is a growing number of performing musicians and composers seeking for possibilities to incorporate the computer in their live-setup. That can be as an extension of their regular instrument, or even as an instrument in itself.
But even apart from technical issues there are many problems to solve along the way: How do you create your personal electronic instrument in a way that does reflect your artistic preferences, your own voice? How do you design an interface that lets you interact with the computer in a musical and intuitive way? How do you present it as an instrument to the audience in a live situation? How can you still listen, respond, be musical, while keeping track of all the technology involved? How do you make sure an audience understands that you are actually playing live with the computer and not only checking your emails on stage?

The workshop will be designed as much as possible to fit the needs of the students. Depending on the knowledge of the group I will explain technical details about commonly used hardware and software. How do you get the sound of your instrument in and out of the computer? What possibilities are there to process the signal?
How can music software be controlled without using keyboard, mouse, or visual feedback from the screen? We will talk about commercial USB controllers as well as more exotic devices like smartphones, game-controllers, and sensors.

I will first introduce some basic concepts, then students will build and finally play their own instruments in an improvised context. Improvisation provides room for experimentation for composing as well as performing. It is a great way to learn how to intuitively use electronics in a performance situation.

The software used for this workshop will be Ableton Live since it is very much suited for being used in a live situation. It is very much customizable to fit personal needs and can be used intuitively. In case you don't have a copy of Live already, there is a fully functional, 30 days trial version of Live that you can download from the Ableton website.

Possible contents of the workshop

A brief history of live-electronics
This will provide students with a good background about the topic and will later make it easier to proceed during the workshop. It will also make it easier to identify and understand common problems with live electronics.

Setups
Students will be asked to describe their setups and performance style. Those who are not yet using live electronics will be encouraged to talk about what they would like to be able to do with their setup.
This section is about getting first ideas on how to build a personal setup that is fitting one's own style of playing and performing.

Demo of my setup
I will give a short playing demo and explanation of my setup.

Hard- and software, MIDI-controllers
This section is about practical issues. How do I get sound in the computer, process it, and finally send the signal to an amplifier.

- Microphones and mixers
- Audio interfaces
- How does MIDI work?
- MIDI-controllers
- Computer Keyboard, mouse, trackpad as controllers for music software
- Alternative controllers (Nintendo wii mote, smartphone)
- Software: Ableton Live, Max/MSP (fully working 30-day trial downloadable)

Setup development
Students will work individually on developing a live-setup. This should be done in conjunction with their instrument or a microphone. Alternatively students can make field recordings in or around the building and use their own sample material to then build an instrument from it in the computer.
Those who don't own a MIDI controller will use computer-keyboard and trackpad.

Presentation / Discussion / Feedback
Students will present their setups in short improvised solo performances. There will be room for discussion / feedback after each performance.