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ICAD Workshop Proposal

The New Pulsar Generator (nuPG): Aesthetic contexts of sound composition with pulsar data.

The material point of departure for the workshop is a computer program called The New Pulsar Generator (nuPG) developed by the author in SuperCollider 3 (SC3) programming language (https://www.marcinpietruszewski.com/the-new-pulsar-generator). The nuPG program is an instrumental incarnation of the pulsar synthesis technique, a powerful approach to digital sound synthesis named after a highly magnetised rotating neutron star (pulsar) that emits a beam of electromagnetic radiation out of its magnetic poles. Much like a lighthouse, these radiation »pulses« can be observed only when a beam of emission is pointing toward Ear. As an audio technique, pulsar synthesis offers a seamless link between musical timescales of individual particle rhythms, periodic pitches, and the meso temporal or phrase level of composition. Pulsar micro-events produce rhythmic sequences or, when the density of events is sufficiently high, sustained tones, allowing the composition to pass directly from micro to meso temporal domain.

The aim of the workshop is twofold. First, to introduce the basic functionality of the program to a new group of users. This includes an overview of the GUI as well as script-based conversational approaches to interact with the program. Second, to incorporate pulsar data from the European Pulsar Network (http://rian.kharkov.ua/decameter/EPN/browser.html) as compositional material and a speculative vantage point between artistic and scientific sensitivities. I would like to invite workshop participants to explore and discuss aesthetic considerations of sonification work. A set of possible problems organising the discussion includes: How does the composer bypass conventions in music while addressing non-musical subjects? How can we compose sonic (or aesthetic) experience through dealing with sonification? And last but not least, what is the scientific use for such non-linguistic information?

The workshop will be conducted as an interactive learning session with participants. The number of participants should not exceed 15. The duration of the workshop is 2.5 hour. The number

Requirement

The program runs as a standalone application on MacOS 10.12 and newer. Participants will get a copy of the program and will be guided in its installation ahead of time.