

Title: Transsonic | Sonic Fluidity

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1. PROGRAM NOTES

Transsonic aims to develop new site-specific works that communicate the sonic fluidity in intermedial work consisting of site-specific light installations, electric guitar, multichannel live electronics, and relays working as oscillators. Transsonic is a duo project of sound artist/ composer and light artist Viola Yip as well as guitarist and sound artist Nicola L. Hein. The project centers around the development of “light as musical material” and questions the ontology of music from this intermedial perspective. In light of the ongoing digital revolution, we develop translational potentials of electronic and digital media to develop our working concept of music across different media. In addition to our existing set, Sonic Fluidity develops a new performance using self-built instruments with solar panels as microphones and lasers as visual loudspeakers. By developing instruments that use lasers as visual speakers, we plan to generate a different iteration of our audiovisual performance practice. In this iteration, using lasers will further develop the conceptual use of light as musical material. Furthermore, we will perform together with a musical agent who live-trains on our musical material during the performance and interacts as a third musician together with us.



The standard set-up of Transsonic with Viola Yip (Bulbble) and Nicola L. Hein (Guitar, Electronics)

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2. PROJECT DESCRIPTION

Transsonic (Viola Yip and Nicola L. Hein) is an experimental transmedia duo that creates immersive, site-specific performances and installations that bridge the vibrations of light and sound. They develop a transmedial aesthetic language using Yip's self-built light bulb instrument Bulbble, which generates both light and sound (with relay switches) and the electronic sounds of Hein, working with Buchla synthesizers and electric guitar. This composition has been performed many times, also at NIME 2021 (Yip&Hein [1]).

In addition, they use a third autonomous A.I. musical agent (NicolAI) as an additional voice, which is trained live on the musical material of Yip and Hein and is performing together with them. Transsonic develops complex cybernetic systems as a space for transmedial musical performance.

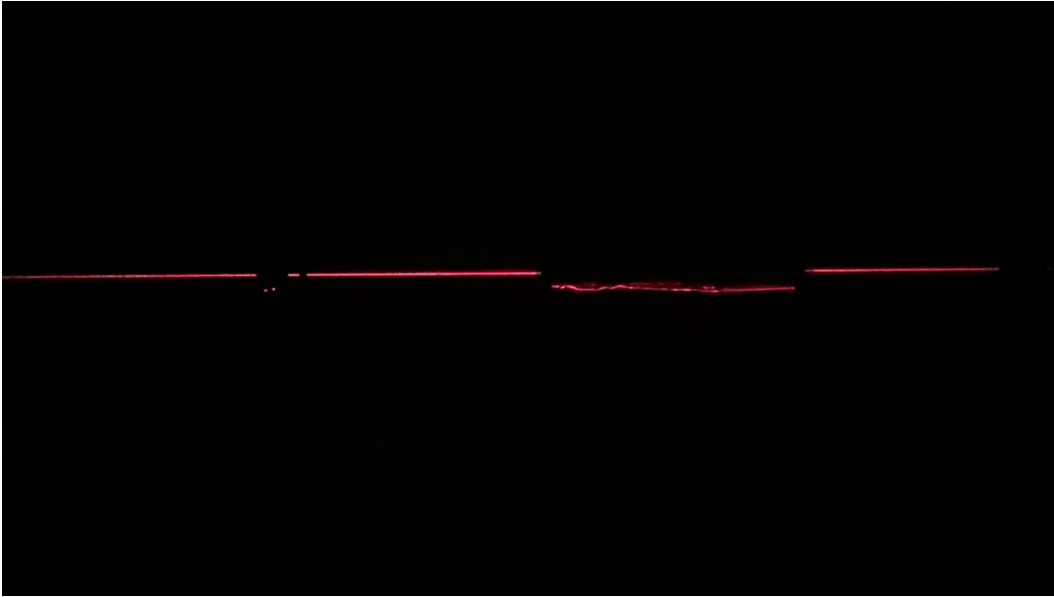
Sonic Fluidity further develops the work of Transsonic:

- Yip and Hein develop instruments that use solar panels as microphones for light signals and can further process these incoming audio signals, as well as spatialize them on a multichannel-loudspeaker system.
- The feedback feeds into physical modeling and RAVE (Realtime Audio Variational autoEncoder) (Caillon&Esling [2]) algorithms, furthermore into a chain of electronic effects to generate the sound of the piece.
- The piece uses an autonomous A.I. musical agent (NicolAI) as an additional voice, which live-trains on their musical material, enabling it to perform together with them.
- Transsonic works with a laser projection based on the bulb instrument Bulbble by Yip. For the first time, Transsonic uses lasers as a light source and uses them to fill the performance space. The lasers are controlled by incoming audio signals, using them as visual loudspeakers. These sound signals originate from the solar panel instruments developed for the project (which generate their sound by light falling on the solar panels).
- The project develops a highly dynamic audiovisual cybernetic system that Yip and Hein perform with.

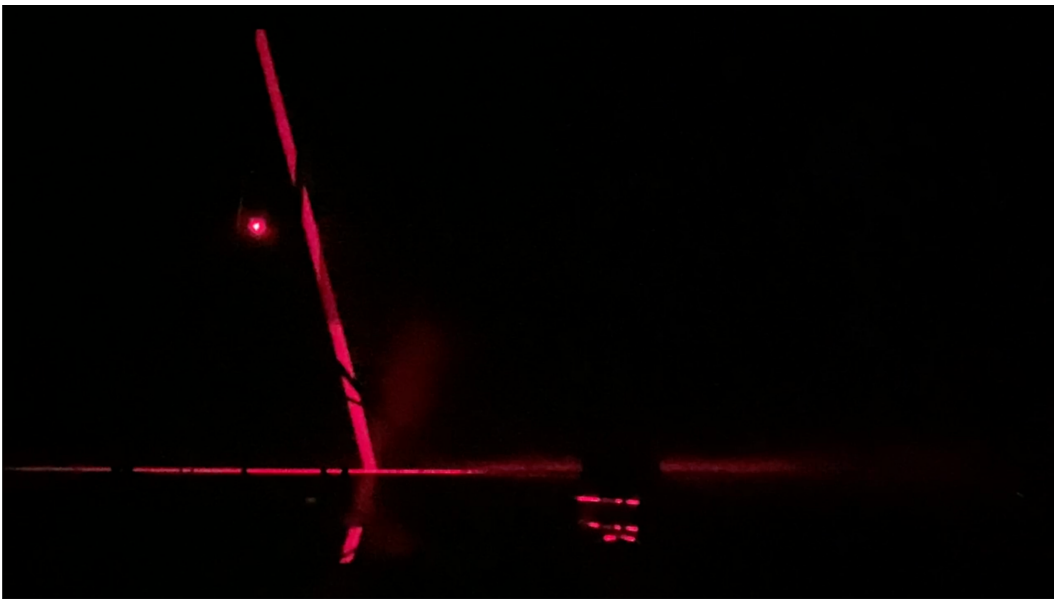
Relation to NIME 2024 Theme: "Tactility in a hybrid world":

With our project Transsonic | Sonic Fluidity we establish and search for new forms of tactility between light and sound. The interaction between these two media finds new ways by developing a feedback system that acts and functions in the medium of sound and light at the same time. Using the different points of equilibrium, we engage with the possibility of developing new ecologies of feedback, new *dances of agency* (Pickering [3]), and new forms of tactility of feedback in a hybrid medium of light and sound. We hope inspire future discussion and performances within the NIME community that aim to expand the medial definition of tactility, feedback and ecology in experimental music

performances.



An image of laser light, distorted by mirrors, triggering sonic-optical feedback by interacting with solar panels.



Another image of laser light, distorted by mirrors, triggering sonic-optical feedback by interacting with solar panels.

3. PERFORMANCE NOTES

We are flexible about the sound system that we would get to work with. It would be ideal for us to have a venue that allows us to set up our equipment and leave it set up before the performance, since our set up is quite extensive and needs a lot of time for attunement of the individual elements. Furthermore, we would be very interested in working with the Wavefield Synthesis System of Game of Life Foundation or the virtual acoustics system designed by Tijs Muijs and Antal van Nie or another multichannel sound system at HKU or any other multichannel system venue. We would also be interested in working with several different sound systems throughout NIME 2024, which is mentioned as an option in the call.

We want to point out that the visual element of our performance benefits from smaller venues that allow for the proximity of the audience.

Techrider:

- 2 extension cables
- Speaker system (preferably the Wavefield synthesis system)
- small mixer with phantom power on stage
- mic stand with boom
- 2 tables without metal parts** (minimum 1m x 1m, bigger is fine) (** the metal parts sometimes interfere with our instrument)
- 2x Access to Front of House either via analog cables or DANTE ethernet cable

4. MEDIA LINK(S)

- Video: <https://www.youtube.com/watch?v=15GxglxwhEo>
- Video : <https://www.youtube.com/watch?v=t16oltv-Fmk>

ETHICAL STANDARDS

Herewith we confirm to be conforming to the NIME ethical standards, including the authenticity of our artistic work and research, recognising the importance of individual persons and data as an expression of personhood. We adhere to the Vancouver guidelines, thus ensuring that the authorship is limited to those who have made a significant contribution to the conception of this piece. All co-authors have read and approved of the final version of the manuscript and have agreed to its submission. Furthermore concerns of inclusivity, accessibility, animal rights, socio-economic fairness, and environmental awareness have been consulted in my research.

Inclusivity: We attempt to be as inclusive in the choice of artists we collaborate with in the project and research.

Accessibility: In choosing concert venues, concerns of accessibility are of great importance to our collaboration with concert venues. Furthermore, we think that online performances increase the accessibility of musical performances, as they can easily be viewed and experienced by people with limited mobility and people of different abilities.

Environmental awareness: We attempt to be responsible and sustainable in our use of electronic tools and energy. However, as our work in electronic music and time based media art requires the use of electronic tools, there would space for improvement by the use of future technologies and sourcing of resources.

Socio-economic fairness: We attempt to adopt FLOSS/FLOSH access to the software that we program for our artistic work. As we are not working with animals in my research or artistic project, concerns for animal rights only apply as general underlying concerns to my work but not as guidelines for the content and production of my work. But similar concerns apply to animal rights as to environmental awareness.

Data & privacy: For our submission, we have gained consent for the use of personally identifiable data/media, acknowledge the use of open data wherever needed. We hope to make our software openly available in the future.

REFERENCES

- [1] Yip, V., & Hein, N. L. (2021). Transsonic. NIME 2021. <https://doi.org/10.21428/92fbeb44.7e245eca>
- [2] Caillon, A., & Esling, P. (2021). *RAVE: A variational autoencoder for fast and high-quality neural audio synthesis*. <https://doi.org/10.48550/arXiv.2111.05011>
- [3] Pickering, A. (2011). *The Cybernetic Brain: Sketches of Another Future*. University of Chicago Press.