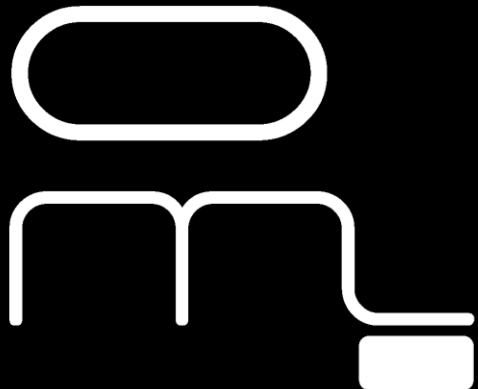
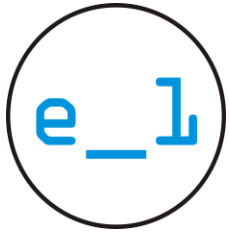


„The neurophysiology of an artist
in a performance"
_experiment_e1/2015-2017



Art & Science Research Foundation om - organisms and machines in culture



The neurophysiology of an artist in a performance _experiment_e1/2015-2017

Research Domain

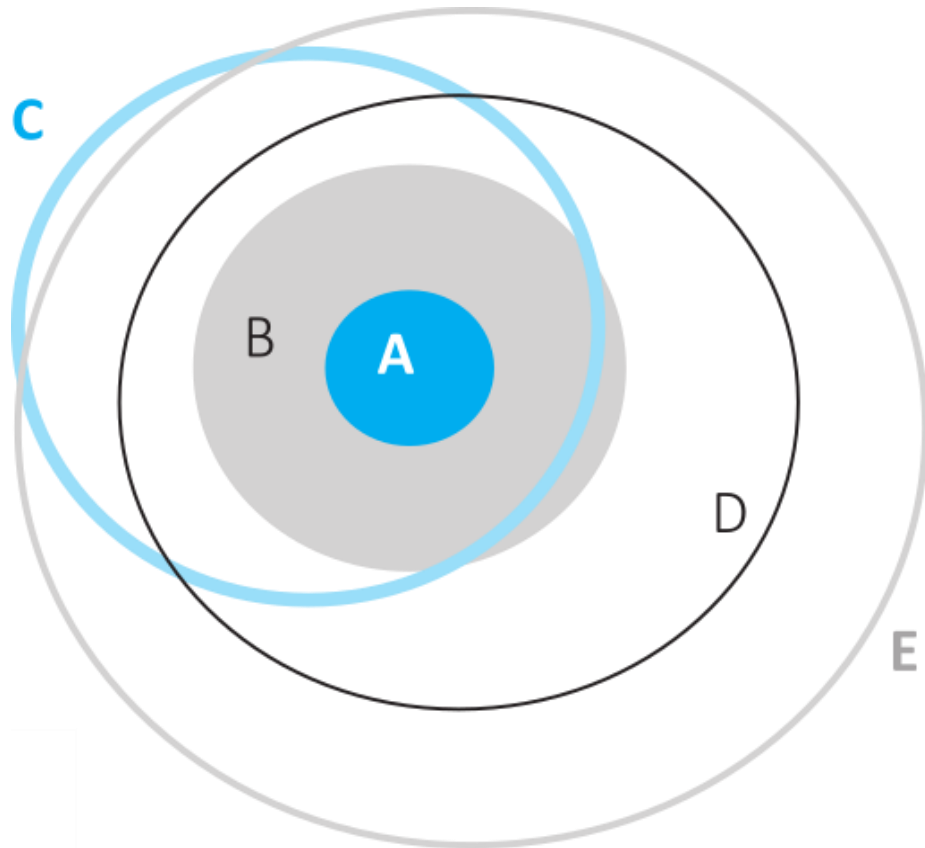
Searching for new forms of recording ephemeral pieces of art by measuring psychophysiological states of the creator and recording simultaneous sounds from the area of the artistic event.

Assumption

Performance is an intellectual activity of the creator and the conscious use of the body as the main tool of artistic expression.

e_1

The neurophysiology of an artist in a performance _experiment_e1/2015-2017



Method

Case study – a natural experiment;

A - performer / action

B - recipients

C - researchers

(measuring cognitive states and recording sounds)

D - researchers / observers

(interviews with artists and audience)

E - documenting the experiment

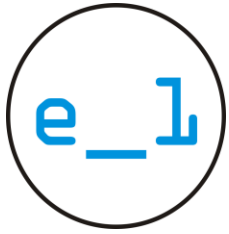
(videos, photos).

^ Place – Toruń;

Center of Contemporary Art. (CSW) Znaki Czasu,

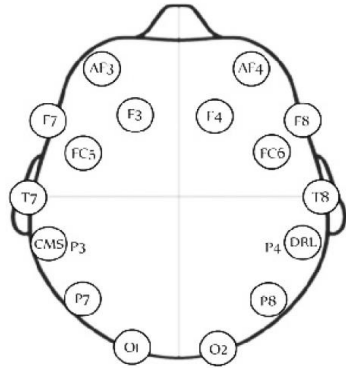
Wozownia Art. Gallery,

Neurocognitive Lab at ICNT, NCU



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Machines that cooperate with us (measuring apparatus)



/ EEG EMOTIV EPOC

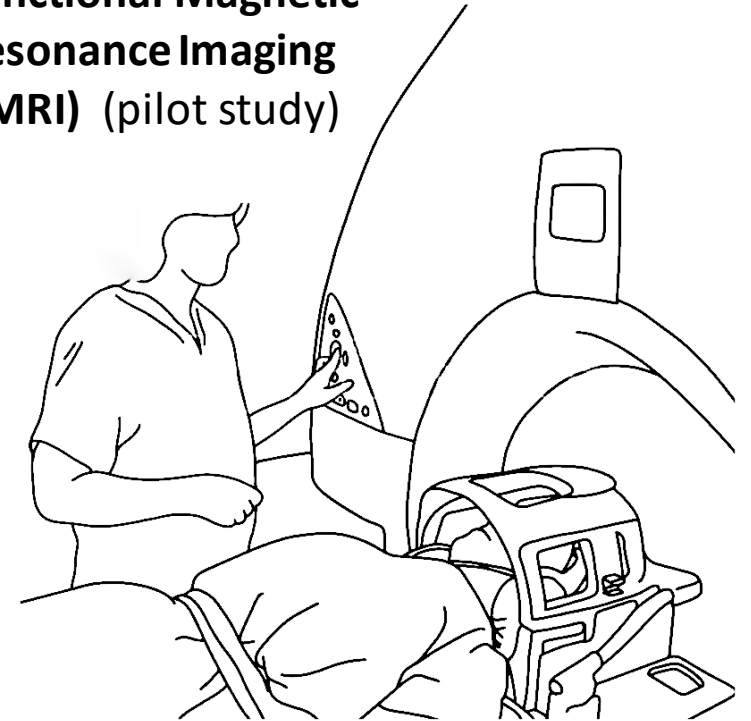
PARTNERS

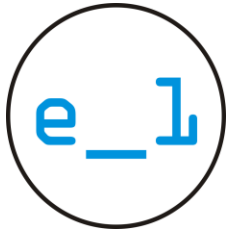
- / The Neurocognitive Laboratory of ICNT
- / fMRI Facility of ICNT
- / Laboratory of Neuropsychology and Utilities



/ B-Alert X24 qEEG

**Functional Magnetic
Resonance Imaging
(fMRI) (pilot study)**





The neurophysiology of an artist in a performance _experiment_e1/2015-2017

RESEARCH QUESTIONS

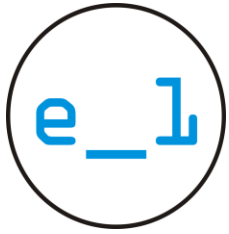
Does the use of measuring apparatus determine the performance of an artist at an emotional, physical or aesthetic level? (An interview with the artist.)

Does the background work of people, as well as the measuring apparatus placed on the body of the artist, influence the reception of the performance?
(An interview with a group of recipients, 5 randomly selected people.)

Is it possible to use the measuring apparatus effectively in the performance conditions?
(An attempt to create an original system of procedures.)

Can defined artifacts created by the measuring apparatus during an artistic action be a collection of relevant information about the performance? (Data analysis and visualization.)

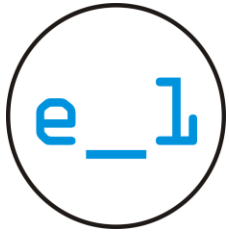
Can a study using fMRI be a useful tool for obtaining information about the artist's brain activity during the performance? (Does not apply to the performance in real time, the study is based on the BOLD phenomenon using the AV material from the artistic performance.)



Artists taking part in the experiment (7 sessions /18 artists)



Photo V. Kuš / FUNom



The neurophysiology of an artist in a performance _experiment_e1/2015-2017

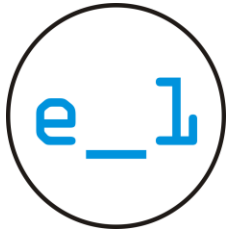
PRELIMINARY CONCLUSIONS

Information on the psychophysiological state of an artist obtained along the activities by means of measuring apparatus (interface observations) in real time or in the process of reproducing a record at the level of performance documentation can be of help for viewers during the reception of the work of art. However, due to the body movement and facial expressions of the performer, there are numerous artifacts that largely depict cognitive states, which do not allow the researchers to conduct proper scientific studies based on quantitative research, but in the field of art science they are an interesting illustration of the emotional states of the artist-performer. The sounds recorded using microports turned out to be an interesting record taking us into the space of the artist's experience, they revealed what was not directly heard during the action, including the artist's breath.

RPORTY and INTERVIEWS in Polish <https://www.funom.org/experiments>

CURRENTLY

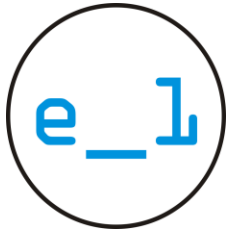
I preparation: a monograph of the experiment edited by Viola Kuś



The neurophysiology of an artist in a performance _experiment_e1/2015-2017

FURTHER RESEARCH

We are in the process of developing a research project involving fMRI (Lab at ICNT, NCU, Torun) and we are trying to create appropriate paradigms that would allow us to create a reflection of the artist's brain similar to that during a performance. We are also thinking about the implementation of mobile functional Near-Infrared Spectroscopy (fNIRS). The use of this device would enable us to do research in real time at the level of quantifiable laboratory tests, because, as in magnetic resonance, brain activity is measured by hemodynamic reactions related to the behavior of neurons.



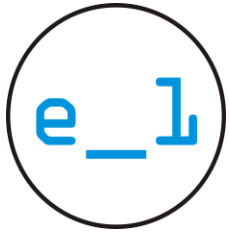
The neurophysiology of an artist in a performance _experiment_e1/2015-2017



Photo V. Kuś / FUNom

^ Video from the pilot study in the Laboratory of functional Nuclear Magnetic Resonance (fMRI) at the Centre for Modern Interdisciplinary Technologies(ICNT) at the Nicolaus Copernicus University in Toruń.

https://youtu.be/s1WfjqSt_Mg

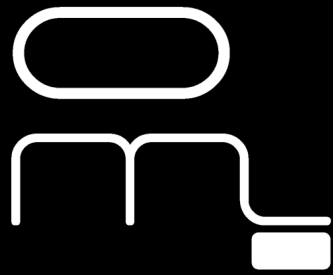


RESEARCH TEAM

Łukasz Kędziora / B-Alert x24 qEEG, Equivital EQ02 sem
Kamil Kęska / simultaneous sound, sound intensity recorder
Viola Kuś / author of the idea of the experiment, research coordinator
Jan Nikadon / functional Magnetic Resonance Imaging (fMRI)
dr Piotr Szymański / EMOTIV EPOC EEG, Eyetracker Tobii Pro Glasses 2
Aleksandra Wypych / functional Magnetic Resonance Imaging (fMRI)
/ substantive consultant - Joanna Dreszer PhD (ICNT)
/ researchers / observers: Anieli Kokosza, Anetta Kuś, Dagmara Sobczak,
Julia Śliwińska, Magdalena Zamorska PhD

ARTISTS IN THE EXPERIMENT

Dariusz Fodczuk
/ Marcin Gumieła
/ UTP Choir
/ Elżbieta Jabłońska
/ Bartek Jarmoliński
/ Małgorzata Kaczmarek
/ Anna Kalwajtys
/ Antoni Karwowski
/ Michał Kowalski
/ Wacław Kuczma
/ Viola Kuś
/ Anka Leśniak
/ Danuta Milewska
/ Justyna Orłowska
/ Justyna Piotrowska
/ Natalia Reszka
/ Agnieszka Sowa
/ Aleksandra Sojak-Borodo



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