



Call  
2025

March-April 2025  
Call for Applications:  
Artists and Scientists in  
Residence at the *ligeti center*

# Where the Arts meet Technology

Application deadline: December 3rd. 2024  
More information at [www.ligeti-zentrum.de](http://www.ligeti-zentrum.de)

ligeti  
center







# Infocall

26.11.2024



**who is who?**



**Nadine Schwalb**

*residency coordinator*

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**Dr. Simon Linke**

*project „Cyberinstruments“*

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**Prof. Jacob Sello**

*leader "innovation lab"*

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**Joana Welteke**

*project „participation in arts, politics and edification“*

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**Prof. Dr. Robert Moeres**

*project leader „HAW Hamburg“*

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**Quirin Nebas**

*project "Sound Sculptures"*

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# **basic information**



## ligeti center

- founded in 2023
- Idea: bring science, arts and innovation together
- More info here: [About Us – Ligeti-Zentrum](#)
- situated in Hamburg Harburg:  
Veritaskai 1  
21079 Hamburg
- 4 hamburg-based universities:  
Hochschule für Musik und Theater (HfMT)  
Technische Universität Hamburg (TUHH)  
Hochschule für Angewandte Wissenschaften (HAW)  
Universitätsklinikum Eppendorf (UKE)



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## our labs

The **XR Lab** creates new mediums at the intersection of art, music and extended reality. These include immersive artworks, concerts and theater productions.

The **Sustainable Theater Lab** explores the technical, social and aesthetic possibilities of the theater of tomorrow. It explores new ways of storytelling in the light of today's ecological and social challenges.

The **Innovation Lab** sees itself as a maker space and incubator for new ideas, combining artistic visions with the latest technological developments. A wide range of projects are realized here: from innovative musical instruments to connected loudspeakers.





## our labs

The **Haptic Lab** researches physical interaction between humans and machines: body movements are analyzed and haptic feedback is generated with the help of sensors and actuators.

**The Artistic Research Lab** deals and reflects on the process of creating art. It combines art and research and puts this process into practice through various artistic formats, such as concerts, performances and installations.

At the heart of the ligeti center is the **Production Lab**: equipped with a high-quality 3D audio system, it opens up new possibilities for the production and reception of sounds and invites up to 60 visitors to discover new listening environments.

# Scientists and Artists in Residence Program

- February to April 2024: Fredrik Mathias Josefson:  
[Residency-march-feb – Ligeti-Zentrum](#)





## Scientists and Artists in Residence Program

- July to September 2024: Dr. Lea Luka Sikau & Denisa Pubalova: [Residency Juli – September 2024 – Ligeti-Zentrum](#)



## Scientists and Artists in Residence Program

- March to April 2025
- Kick-Off: March, 3rd 2025
- End: mid-April 2025
- Applications are open until December, 3rd
- Call for Applications here:

<https://ligetizentrum.hfmt-hamburg.de/index.php/residency-en-dec25/>





## What do we offer?

- Total stipend of 2.000 € plus accommodation allowance
- Assistance with finding accommodation
- Opportunity to work in our production lab with technical equipment
- Introduction week: Getting to know the labs and people involved, the production lab and technical equipment
- Organization of post-residency presentation
- Documentation
- limited but adequate tech support
- shared capacity in the production lab



## What do we expect?

- Introduction: Presentation of your proposal at the beginning of your residency for the people involved with ligeti center
- Documentation of work-in-progress
- Interactive format anytime between March and Mid-April
- After-residency presentation (eg concert) not only with artistic but also theoretical focus



## production lab @ ligeti center



# production lab @ ligeti center

## Microphones

- (Schoeps)
- 2x Neumann KM 183
- 1x Neumann KU100 Dummy Head
- 1x AKG C414 Stereo Set
- 4x Shure SM58
- 4x Beyerdynamic M201
- 1x DPA 4055
- 2x DPA 6066
- 2x DPA 4061
- 1x DPA 4560 Binaural Headset
- 4x iSemcon EMX-7150 Measurement Microphone
- 2x Radial Pro D2 DI Box
- 2x Radial Pro 48 DI Box
- 1x Radial Pro AV2 DI Box

## Piano

- Steinway & Sons

## Wireless

- 2x Sennheiser EW-DX EM 2 Receiver
- 2x Sennheiser EW-DX SK Bodyback

## Transmitter

- 2x Sennheiser EW-DX SKM-S Handheld Transmitter
- 2x Sennheiser MMK 965

## Lighting

- 6x Elation KL Fresnel 150W 6" Warm White / Pole Operated
- 16x Litecraft BeamX.7
- QLC+ Software for Controlling

## Video

- 1x Panasonic PT-MZ570 WUXGA
- 1x Projection Screen 4m x 4m





## production lab @ ligeti center

### Speakers

- 20x d&b 8s
- 8x d&b B8 Sub
- 2x d&b Bi6 Sub

### Amping

- 7x d&b 5D
- 1x d&b 10D

### Console and Preamps

- 1x Yamaha DM7 Compact + Control
- 1x Yamaha Rio3224-D2

### Computing

- 1x Mac Studio, Apple M2 Ultra: 24-Core CPU, 60-Core GPU, 128 GB RAM, 4 TB SSD
- 1x iPad Air 5th Generation, 64GB

### Software (only non-freeware listed)

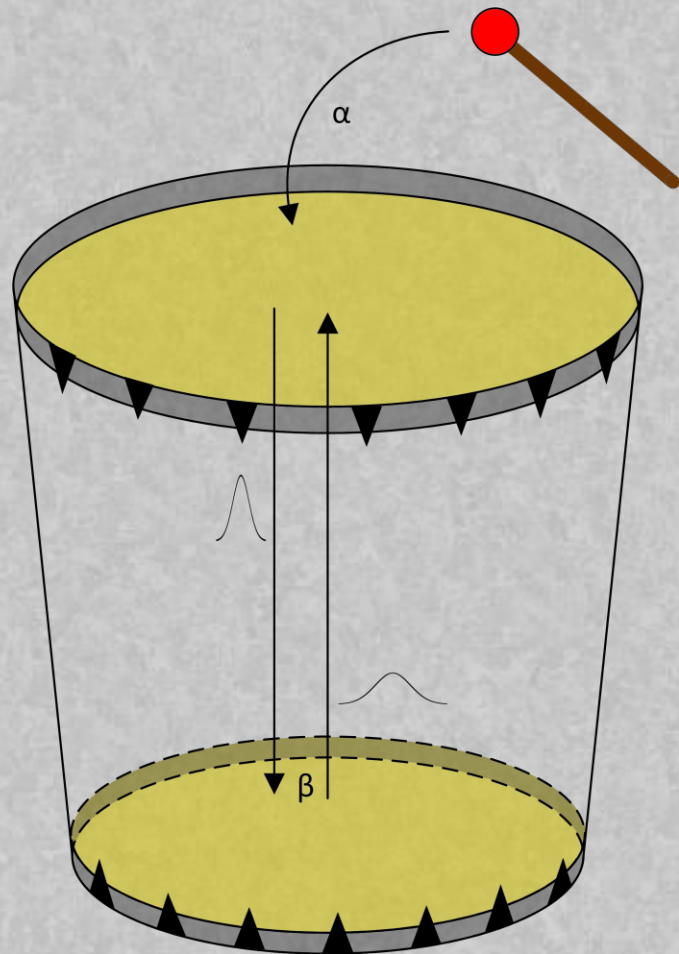
- Cycling '74 Max 8
- Cockos Reaper
- Ableton Live 11 Suite
- INA GRM Tools Complete II
- FabFilter Total Bundle
- Liquid Sonics Seventh Heaven



**the technologies**



# 1. Impulse Pattern Formation (IPF)



actual systems state:  
an abstract number, but could  
be interpreted as period,  
amplitude or phase shift

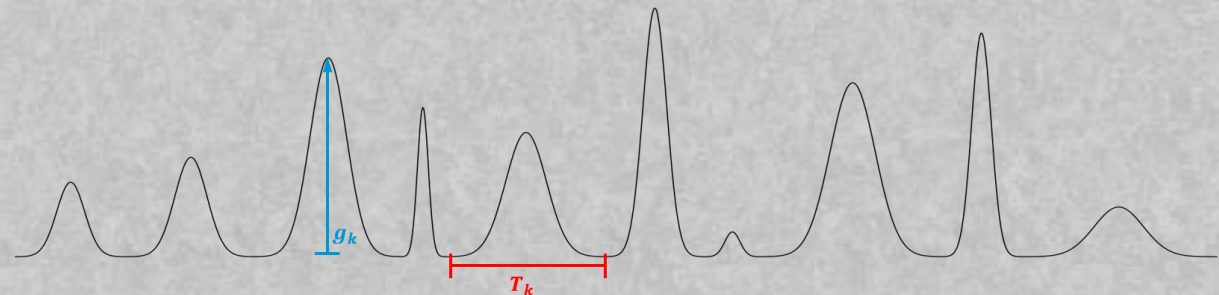
previous systems states

$$g_+ = g - \ln \left( \frac{1}{\alpha} \left( g - \sum_{k=1}^n \beta_k e^{g - g_k} \right) \right)$$

logarithm: due to the  
assumption of exponential  
dampening

input strength

reflection strength of  
each subsystem



## 2. Der Hexenkessel („witch's cauldron“)





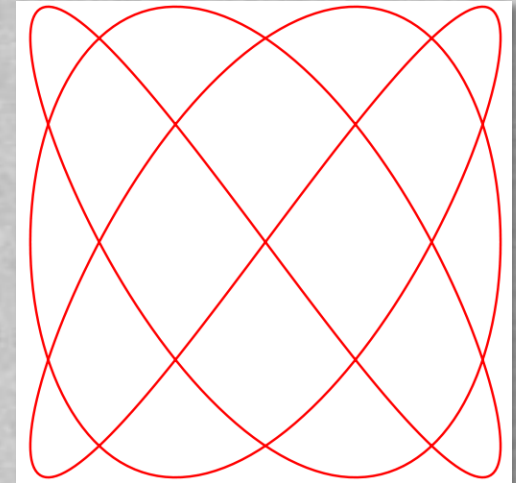
### 3. record-o-mat





## 4. Moving Sound Sources

- Max patch combining auditory perceptual effects used in Chownings “Turenas”
- using adjustable lissajous figures to control doppler pitch and directional reverb
- simulating organic 3D movement of audio signals with only 2 or 4 loudspeakers
- tested for live performances with musicians
- possible to adjust to personal artistic environment using parts of patch







**Q & A**



**How many scholarships are there in total?**

Right now, there is one scholarship planned

**Do residents have to be in Hamburg at all times?**

We want residents to be actively present at ligeti center. We encourage them to connect to the labes and the people working here. Of course we understand that people working as freelance artists also have other commitments from time to time.

**Is the timeframe from March, 3rd until mid-April fixed?**

Due to the availability of the production lab the timeframe is rather fixed. If it doesn't suit your plans please refer to alternatives in your application. We also encourage you to look into future opportunities to apply for the program.