* Please check this space again in January 2022 when more elaborated information and syllabi will be provided. The launch date of the education program will be announced by March/April and start June 2022 at the earliest.

Course Modules

Module 3: Concepts and Tools of Sound and Music Design

Offered is digital audio theory in sampling practice, post-Schaefferian developments in electronic music theory, principles of auditory scene segregation in electroacoustic music, specialised voice-processing techniques, recent trends in human-computer interface design and digital musical instrument design. Advanced tools and techniques for mixed electroacoustic composition, including real time human computer interaction, machine listening, artificial intelligence for music, performance tracking, and networked performance; real time pitch and tempo manipulation of fixed media using fast Fourier transformations; interactive systems for prepared instrumental improvisation. Approaches to composition in the current context.

Objectives:

To expose students to recent developments and artistic practices in the field of sonic arts.

To develop advanced critical listening skills such as timbre identification and classification, technological listening, to learn existing lexicons of sound objects.

To improve the necessary software knowledge, programming and design skills for music software as for networked multimedia performance.

To teach programming skills required to design digital sound, music and advanced machine listening systems.

To gain experience designing and implementing electroacoustic performance systems with multichannel playback, live instrumental sampling and processing capabilities.

To develop composition and improvisation ability.

To develop composition techniques relevant to producing complex mixed electroacoustic timbres.

Outcomes:

Skills to produce well thought-out formal design of sonic structures.

Skills to produce electroacoustic compositions.

Ability for processing and synthesis techniques in digital sound, vocal and instrumental processing.

Ability to identify complex musical timbres and technical processes when listening to electronically produced sounds.

Competency in implementing a range of techniques for real time processing of live audio sources in compositions for musical instruments and electronics.

Skills required to design customised real time multi-modal performance tracking tools.

Skills to design and implement networked performance systems incorporating acoustic and digital instruments as well as multimedia devices.

CLASSES and WORKSHOP TOPICS in MODULE 3

Week 1: Applied spectral analysis

Week 2: Acoustics and psychoacoustics

Week 3: Modular synthesis and sampling

Week 4: Intro to Max MSP / Pure Data

Week 5: Super Collider

Week 6: Electronics and circuitry

Week 7: Sensors and interactivity

Week 8: Sound visualisation and multi-media

Week 9: Mixed media and electroacoustic composition

Week 10: Working methods, improvisation and compositon in the electronic studio

Week 11: Real-time and live electronics

Week 12: Networked systems, haptic devices and human-machine interfaces

Berlin School of Sound

Week 13: Machine learning and AI

Week 14: Further compositional approaches, complex coloration and orchestration

ONGOING TRAINING:

Ear-training, listening exercises, notation with music software.

Assignments to integrate new skills into artistic practices.

Berlin School of Sound