

Technosphärenklänge #2

(Sounds of the Technosphere #2)

Thursday, April 21, 2016

Concerts

→ AUDITORIUM

8 pm

gamut inc

Dreaming of Electric Sheep Again

8.45 pm

Andrey Smirnov

Polyrhythmoform #1

(premiere)

9.45 pm

John Chowning & Mark Fell

(premiere)

10.30 pm

Marcus Schmickler & Carsten Goertz

Fortuna Ribbons

Friday, April 22, 2016

Talks and presentations

→ THEATERSAAL

6 pm

gamut inc

Archaeology of Sound

7 pm

Andrey Smirnov

Rhythm 'n' Light. The Story of Leon

Theremin's Rhythmicon and Beyond

8 pm

John Chowning in conversation with

Holly Herndon

9 pm

Marcus Schmickler in conversation

with Peter Kirn

All events in English

Thursday & Friday, April 21 & 22, 2016

Installation

→ HKW FOYER

5– 10 pm

Yuri Suzuki

The Sound of the Waves

The *Technosphärenklänge* concert series explores current practices in sound and music as an element and expression of the technosphere—the quasi-autonomous entity that is the sum of operational and technical processes and infrastructures around the globe, and whose conflicted interaction with natural planetary processes characterizes the Earth's current geological time. The second event of the series explores the historic co-evolution of music and technology with a special emphasis on its underlying mathematical foundations: as the basis of mechanics, electronics, and digital data processing, mathematics permeate and bind all of the technosphere's processes. Ever since Pythagoras's monochord experiments, the increasingly mathematical description and manifestation of the world is reflected in the ever-growing mathematical understanding of sound and music. A noticeable move towards automation can be seen here—with the increased autonomy of machines whose capabilities often exceed those of human musicians. At the same time, however, music also continually points to the limits of mathematical predictability, as music's ability to conjure emotion is especially strong when it becomes mathematically blurred or jumps to the unexpected. Mistakes and imperfections thus take on special roles, and evoke Alan Turing's classic question: At which level of complexity do actually unintended deviations become indistinguishable from their deliberate simulation?

gamut inc

Concert: Thursday, April 21, 8 pm
Dreaming of Electric Sheep Again

Presentation: Friday, April 22, 6 pm
Archaeology of Sound

The relationship between humans and technology is the fundamental theme of gamut inc's diverse projects. The ensemble is conceived around the construction of pre-modern acoustic instruments and the control of these instruments by recent technologies, resulting in an aesthetic that bridges the very old and the very new. Their instruments, such as an electromagnetic monochord or an automated Physharmonica, consist of acoustic sound generators that are excited by means of electromechanical equipment, which is also computer-controlled. Such inventions make possible the performance of compositions and playing techniques that human muscles and anatomy cannot accomplish. A focus on automation is also seen in gamut inc's compositions, where computer-generated note sequences and control sequences intertwine with the capabilities of their music machines and live improvisation by musicians.

In their audiovisual presentation on Friday, gamut inc will talk about their media-archaeological research on early music experiments.

GAMUT INC, founded in 2011 by the computer musician Marion Wörle and the composer Maciej Sledziecki, is made up of human musicians as well as a growing number of autonomous music-generating robots. Their diverse projects include the music theater piece *One More Pioneer, Perspektywy/Perspektiven*, a homage to the Polish Radio Experimental Studio and Avantgarde (2013), an international festival dedicated to experimental music before the 20th century. gamut inc's first release, *Ex Machina*, was released on the vinyl in January 2015 on Polish recordlabel Bolt.

Andrey Smirnov

Concert: Thursday, April 21, 8.45 pm
Polyrhythmoform #1 (premiere)

Presentation: Friday, April 22, 7 pm
*Rhythm 'n' Light. The Story of Leon
Theremin's Rhythmicon and Beyond*

Russian researcher and musician Andrey Smirnov premieres a piece performed on the original Rhythmicon, created by Leon Theremin in 1931 for composer Henry Cowell. The Rhythmicon is regarded as the world's first drum machine. As the inventor of the Theremin, the world's first commercially distributed electronic musical instrument, Leon Theremin is the most famous representative of the community of sound researchers, sound experimentalists, and inventors active in Russia during a period of revolution, war, and dictatorship in the early 1900s. Incompatible with the ideas of an increasingly totalitarian state, from the end of the 1930s on, his legacy and that of this generation of "machine music" apologists, driven by socio-political utopias, has largely been deleted from the country's history. Following 27 years of internment camps and forced labor, Theremin could finally find employment at the Moscow Conservatory in the mid-1960s, where he began to work again on his instruments. Even though electronic components were hardly available at that time in the USSR, Theremin managed to assemble a third version of his Rhythmicon from shotgun parts. This third version is the only fully functional version of this revolutionary music machine, and is included in Smirnov's collection.

In his lecture, Smirnov will talk about Leon Theremin and the history of his Rhythmicons in the context of the artistic avant-gardes of post-revolutionary Russia.

ANDREY SMIRNOV is an interdisciplinary artist, curator, composer, researcher, author, and technologist. He is founding director of the Theremin Center for Electro-acoustic Music at the Moscow State Conservatory and a lecturer at the Rodchenko School of Photography and Multimedia. Since childhood, Smirnov has collected documents and artifacts on the history of electronic music in the Soviet Union. For his *Sound in Z* publication (2013) and the accompanying *Generation Z* exhibition which was presented at CTM 2014 in Berlin, Smirnov has gathered his research in historical documents and public and private archives to reconstruct this forgotten and long-lost history.

**John Chowning
& Mark Fell**

Concert: Thursday, April 21, 9.45 pm
(premiere)

**John Chowning
with Holly Herndon**

Talk: Friday, April 22, 8 pm

For the first time, John Chowning who discovered the principle of frequency modulation synthesis, and computer musician and artist Mark Fell perform together in a collaborative work: an ambisonic multichannel composition.

John Chowning is a pioneer of the digital music and sound technology that is omnipresent today. He discovered the principle of FM in 1967. A simple yet extremely powerful method for generating synthetic sounds, FM synthesis allowed for the first time the creation of realistic-sounding instrument sounds and even the reproduction of the human voice. Chowning thus not only laid the foundation for digital synthesizers, which from 1983 helped shape the sound of pop and electronic music, but also was seminal in establishing computers as a technology that would revolutionize the music world. From the sounds of contemporary electronic music all the way to mobile phone ringtones, FM synthesis can be found everywhere today. As a composer, Chowning explores its far-reaching possibilities in terms of the production of complex timbres. In his tone- and texture-rich compositions, he works with exciting dissonances. In contrast, Mark Fell works with algorithmic processes to generate sounds, rhythmic patterns, and compositions. He uses his own composition machines built on elements of contemporary club music to generate new and surprising sound patterns. His erratic and irregular rhythm deconstructions and decidedly digital sounds explore strange-sounding intervals and moods beyond the conventions of Western music traditions.

In a talk on Friday, John Chowning will meet Holly Herndon. The computer musician reflects on computer usage and on the almost intimate relationship between man and machine. She treats the computer as more than an instrument, rather as a digital collaborator who helps shape her artistic process.

JOHN CHOWNING is Professor Emeritus at Stanford University in San Francisco, where he founded the Center for Computer Research in Music and Acoustics (CCRMA) in 1975. He is regarded as a teacher of multiple generations of electronic musicians. In 1964, he developed a sound-generating computer program with Max Mathews and David Poole in Stanford's Artificial Intelligence Laboratories. In 1967, he invented the FM synthesis and further developed it for musical use. The patent was licensed by the Yamaha Corporation in order to develop the first digital synthesizers for the market. Among his best-known works as a composer are *Sabelithe* (1971), *Turenas* (1972), *Stria* (1977), and *Phone* (1981).

MARK FELL is a British multidisciplinary artist. In collaborations such as the duo SND, and as a solo artist he experiments with synthetic and algorithmic sound, and influences of non-European music in the tradition of electronic and Techno music. The at-first improbable combination of rhythmic irritation and dance floor functionality comes to life via Fell's warm house music tones as Sensate Focus. In addition to live performances and studio albums, Fell is also known for his work as an installation artist.

US computer musician HOLLY HERNDON entangles electronic club sounds, experimental music, and questions about society. In her critically acclaimed album *Platform*, often described as a "digital protest album," Herndon reflects on her own computer usage. Born in Tennessee, Holly Herndon studied at Mills College before pursuing and completing her doctorate at Stanford's CCRMA, where she was able to interact intensively with John Chowning's ideas and compositions. Herndon currently lives in Berlin.

**Marcus Schmickler
& Carsten Goertz**

Concert: Thursday, April 21, 10.30 pm
Fortuna Ribbons

**Marcus Schmickler
with Peter Kirn**

Talk: Friday, April 22, 9 pm

The proximity of music and mathematics, the aesthetic exploration of abstraction and interest in how the human brain processes sounds and music are central to the computer compositions of Marcus Schmickler. *Fortuna Ribbons*, developed together with artist Carsten Goertz, combines a calculated arsenal of psychoacoustic effects with extreme lighting for an audiovisual experience that straddles the completely abstract and directly concrete. The performance's central aspect is the findings of computer music pioneer Jean-Claude Risset, who discovered the psychoacoustic paradox referred to as the Shepard-Risset-glissandos. These tone sequences create the illusion of an infinitely ascending or descending pitch, even though in reality the same limited number of tones is played around the same pitch. Through synthetic sounds and lights, *Fortuna Ribbons* creates an independent, physically haunting presence that makes one forget the human agency behind it, and leads the audience to reflect on their own perception.

In his talk on Friday with the journalist and media artist Peter Kirn, Marcus Schmickler will offer insights into his research on the limits of perception and cognition in the context of his musical work.

MARCUS SCHMICKLER is a musician, composer, and sound artist. Also known for his Pluramon project and for collaborations with Julee Cruise and Felix Ensslin, he studied with Johannes Fritsch, a student of Karlheinz Stockhausen's. He has composed choral and instrumental pieces that have been performed by renowned ensembles. In 2014 he was visiting professor of composition at CalArts in Los Angeles.

The artist CARSTEN GOERTZ designs intermedia installations and performances that explore the limits of perception, often in conjunction with sound and music. He has collaborated with Marcus Schmickler for over ten years. Goertz lives in Amsterdam and is a member of the Design Displacement Group and the Creative Director at Random Studio.

PETER KIRN is a US journalist and media artist living in Berlin. He is founder and author of the online magazine CDM (createdigitalmusic.com) and co-creator of the open source platform MeeBlip Synth. Classically trained in composition and piano, he now focuses on live electronic performance and exploring creative technology.

Yuri Suzuki

Installation: Thursday & Friday,
April 21 & 22, 5–10 pm
The Sound of the Waves

In his installation titled *The Sound of the Waves*, sound artist Yuri Suzuki combines the current possibilities of data mapping with old sound traditions, by sonifying waves at different beaches around the world.

Real-time wave motion data control electric motors, on which Suzuki has mounted traditional Rain Sticks. The rhythm of the waves thus moves the Rain Sticks, producing a sound of regular fine-grained noise reminiscent of surf soundscapes.

YURI SUZUKI is a Japanese sound artist, designer, and electronic musician whose work deals with diverse aspects of sound. Born in 1980 in Tokyo, Suzuki studied at the Royal College of Art in London, where he now teaches. As a designer and consultant, he works among others for Google, Panasonic, and Disney. In 2014 the Museum of Modern Art in New York acquired two of his works, *OTOTO* and *Colour Chasers*, for their permanent collection.

Next week at HKW:

Pop 16: 100 Years of Recorded Music

Thu, Apr 28—Sun, May 1, 2016

Cubist rhythms and electronics, wax cylinder sampling, live record cutting, shellac DJ sets, and much more.

hkw.de/en/pop16

hkw.de/en/tsk

hkw.de/now

[#hkw#ctm](#)

The *Technosphärenklänge* series is a cooperation with the CTM Festival and takes place as a part of 100 Years of Now.

HKW

Haus der Kulturen der Welt
John-Foster-Dulles-Allee 10
10557 Berlin

Haus der Kulturen der Welt is founded by



Federal Government Commissioner
for Culture and the Media



Federal Foreign Office