Concert-Presentation of Genetic music

On evening 4 June, 2015, 20:00

in the Festsaal of TU Wien

Program

The first part of the concert

- ***Ivan Soshinsky*. Five Genetic Miniatures.**

  1. Eastern Harp
  2. Magical Vibraphone
  3. Old Piano
  4. Genetic heritage
  5. Striving

- ***Ivan Soshinsky*. Genetic Etude "The Hot Sea".**

- ***Eduardo Miranda*. Grain Streams.**
  Piano part performs ***Konstantin Zenkin***

The second part of the concert

- ***Konstantin Zenkin*** (Vice-rector of Moscow P. I. Tchaikovsky State Conservatory) plays classical piano compositions.

- ***Alexander Koblyakov*** (Dean of Composer Faculty of Moscow P. I. Tchaikovsky State Conservatory) performs his compositions and classical works for piano.

Wien 2015

Within the conference **ISIS Summit Vienna 2015** the **"Center for Interdisciplinary Research of Musical Creativity"** of the Moscow P. I. Tchaikovsky Conservatory represents searches for new musical sounds and frets. In particular, some studies of so-called genetic frets are presented.

The genetic musical scales

The genetic musical scales are certain sets of non-classical music frequencies, which have special micro-chromatic structures. They have been derived by Prof. Sergey Petoukhov on the base of known data about molecular parameters of molecular-genetic code. The genetic scales are connected with the "Golden Section" 1,618... and "Fibonacci numbers" 3, 5, 8, 13, 21, 34, 55,... At the moment the 5-, 8-, 13-, 21-stage genetic scales are used the most widely. Genetic scales form a system of embedded scales, for example, all sounds of the 8-stage scale exist in the 13-stage scale (just as white keys is a part of the entire keyboard of piano).

The following **genetic musical instruments** have been created in the Moscow Conservatory:

- ***Pentagramon*** is an electronic keyboard instrument for sounding the music in 13-stage genetic scale.
- ***Genetic guitar*** is an electronic guitar frets with a special device for the performance of genetic microtonal music.
- ***Computer software*** for sound in 13-stage genetic tunings played on Pentagramon music, with the ability to connect to any device as input a MIDI-keyboard or synthesizer through the MIDI-interface.

Eduardo Miranda, (composer, Computer Music Research, University of Plymouth, UK) Ph.D, is a Brazilian composer of chamber and electroacoustic pieces but is most notable in the United Kingdom for his scientific research into computer music, particularly in the field of human-machine interfaces where brain waves will replace keyboards and voice commands to permit the disabled to express themselves musically.

Ivan Soshinsky, (2002 - Moscow M.V.Lomonosov State University as a physicist, 2012 - Moscow P.I.Tchaikovsky State Conservatory as a composer). Sphere of interes: Composition of academic music, Mathematic, Algorithms and computer programming, Electronic music.

Additional information about **“Five Genetic Miniatures”** of Ivan Soshinsky:
Five Miniatures are series of simple plays, created as an attempt to characterize the specificity (distinguishing features) of genetic scale. They are the first experience of composing music in such system. The 13-stage genetic scale is used as a basis throughout this cycle. At the same time a style of music (timbre, texture, tempo, etc.) is chosen, which underlines the particular system and works to create an image.

1. Eastern Harp

In this piece, the genetic scale is stretched almost in 3 octaves up to 31 keys. That is, in the amount of 31 piano keys are taken 13 sounds of the genetic scale. Wide sound range makes it look like an Eastern pentatonic scale. But it is not a pure pentatonic, there are other frequencies in the fret.

2. Magical Vibraphone

The musical scale in this piece is stretched to 21 piano keys. Its sound imitates the sound of bells. A special sound form of bells provides a wide range of sound aliquant frequencies. It is in prosperity in this variant of the genetic music.

3. Old Piano

A large number of genetic variants of micro-tonal music scale gives a special coloring and volume for the sound. This piece sounds just as an old piano, which for years has exist in an old house with a leaking roof and very detuned, and some its keys stopped working. And this music is the only thing that it is still possible to play on this old piano.

4. Genetic heritage

The 13-stage scale is stretched to 13 piano keys. In this version the scale has the same number of sound as normal piano, but the keys are a bit displaced and they are genetically modified. This is not the tempered scale, for which Bach composed, but is the genetic and modern.

5. Striving

The genetic scale in this piece is compressed to 7 keys. In contrast to an ordinary piano with its 7 keys, this variant of scale has 13. That is, every sound of normal piano has a few different versions. It attaches particular sensitive perception of sound. Ivan Soshinsky also works on the study of the interaction of sound and color. But in contrast to previous experiments in this direction (for example, a composer Alexander Scriabin) his search is based on genetic structures. In this play, sounds and colors are connected in a single complex and they should simultaneously appeared.

Genetic Etude "The Hot Sea" for Pentagramon-piano

The Genetic etude is conceived as a large concert piece, composed for performance in contests, and as a technical virtuoso etude. The play is written in an unstretched 13-stage genetic scale.

МОСКОВСКАЯ КОНСЕРВАТОРИЯ
1866

PENTAGRAMON