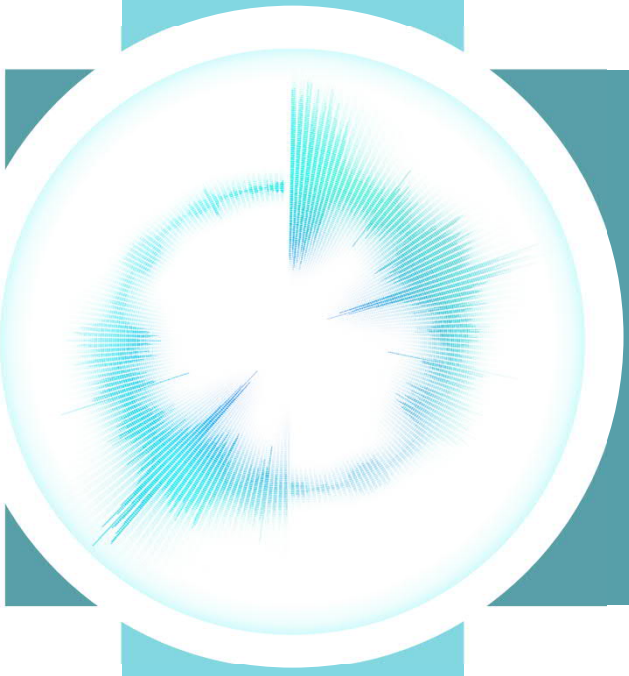
WOCMAT 2019

15th WOCMAT 2019
| Program Manual
第十五屆國際電腦音樂與音訊技術研討會議程手冊



2019/12/13 FRI

09:00 – 09:20

開幕式 Opening Ceremony

https://lewis841214.github.io/WOCMAT2019.github.io/

International Workshop on Computer Music and Audio Technology

DATE | **2019/12/13 FRI**
2019/12/14 SAT

VENUE | **清華大學 台達館107&108**
Delta Hall 107&108 NTHU
清華大學 資電館 B1 國際會議廳
B1 International Conference Hall, College of Electrical Engineering and Computer Science, NTHU

台灣新竹市光復路二段101號
清華大學台達館 107&108
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd., East Dist., Hsinchu City, Hsinchu, Taiwan 300

第十五屆國際電腦音樂與音訊技術研討會議程
15th International Workshop on Computer Music and Audio Technology Program

DAY 1

Time/時間	2019年12月13日（五）December 13 (Fri.)
08:30-09:00	Registration / 報到
09:00-09:15	Opening Ceremony and Remarks / 開幕及貴賓致詞 Venue : Delta Hall 108 AI Choir by virtual singers : At Least I have you 至少還有你 Presented by Matteo Soo, Giang Kim-Lam, Cheng Jyu-Rong, Von-Wun Soo
09:20-10:20	Keynote Speech 1 主題演講 1 Venue : Delta Hall 108 Speaker : Elain Chew Session chair : Von-Wun Soo Title : Musical Structures, Performances, and Arrhythmias
10:25-10:30	The dialogue between Erhu, Pipa and Hakka music and technology Venue : Delta Hall 108 The sigh of Smoking Flower Tango Presented by Chih-Fang Huang, Von-Wun Soo, Pei-Yu Liao and Shing Kwei Tzeng
10:30-10:50	Tea Break and Poster Presentation / 茶敘、海報論文發表
10:50-11:50	Paper Presentation 1 Session chair : Ching-Te Chiu Venue : Delta Hall 108 Paper 1 : Lynette Quek, Utilising obsolete technology to create a live audiovisual performance Paper 2 : Yan Ting Lu, Yu Chung Tseng, An AI instrument using RNN and IOHMM mixed model-Pocket Guitar, Paper 3 : Li-Wei Chang, Von-Wun Soo, Audio Super Resolution using Zero-Shot Neural Network
12:00-13:00	Lunch / 午餐 Venue : Delta Hall 108
13:00-13:40	Invited Speech 1 邀請演講 1 Venue : Delta Hall 107 Speaker : Sever Tipei Session chair : Yu-Chung Tseng Title : Automatic notation of complex rhythms using sieves in DISSCO
13:50-14:30	Invited Speech 2 邀請演講 2 Venue : Delta Hall 107 Speaker : Naotoshi Osaka Session chair : Yi-Wen Liu Title : Improvement of sound collage synthesis using NMF
14:30-14:50	Tea break / 茶敘
14:50-15:50	Paper Presentation 2 Session chair : Yi-Shin Chen Venue : Delta Hall 107 Paper 1 : Chih-Fang Huang, Cheng-Yuan Huang, An Emotion-Based Artificial Intelligence Music Composition Method, Paper 2 : Yi-Wen Liu, Analysis and Classification of Female Voices in Head, Headmix, Chestmix, and Chest Register Paper 3 : Hsin-Hung Chen, Computer automated real-time multi-mode music composing engine
15:50-16:50	Invited Speech 3 邀請演講 3 Venue : Delta Hall 107 Speaker : Deepti Navratna Session chair：Yu-Huei Su Title : New directions in Neurocognitive music therapy with emergent technologies
17:00-18:30	Dinner / 晚餐
18:30-19:30	Opening Concert / 開幕音樂會 Venue : B1 International Conference Hall
19:30-20:00	Tea break / 茶敘
20:00-21:00	Evening Concert / 晚間音樂會
21:00-	Closing / 賦歸

第十五屆國際電腦音樂與音訊技術研討會議程
15th International Workshop on Computer Music and Audio Technology Program

DAY 2

Time/時間	2019年12月14日（六）December 14 (Sat.)
08:30-09:00	Registration for Performance / 作品發表報到
09:00-10:00	Keynote Speech 2 主題演講2 Venue : Delta Hall 107 Speaker : Marc Battier Session chair : Chih-Fang Huang Title : Computer Music and Science: some Interactions
10:00-10:20	Tea Break and Poster Presentation / 茶敘、海報論文發表
10:20-11:00	Invited Speech 4 邀請演講4 Venue : Delta Hall 107 Speaker : Ken Paoli Session chair : Chao-Ming Tung Title : Phil Winsor's Musical Poetics: Music is nothing, music is nowhere, music is nothing.
11:00-12:00	Paper Presentation 3 Session chair : Chao-Ming Tung Venue : Delta Hall 107 Paper 1 : Chingi Lu, Models of Music Therapy based on Cognitive Neuropsychological Approach Paper 2 : Li-Chuan Tang , A Brief Review and Characterization on few Mandarin Christian Musicals in the Last Century Paper 3 : Chih-Fang Huang, Hsin-Yu Chou, Pentatonic scale with leading tone using sequence for artificial intelligence automated composition
12:00-13:00	Lunch / 午餐 Venue : Delta Hall 107
13:00-13:40	Invited Speech 5 邀請演講5 Venue: Delta Hall 107 Speaker : Axel Roebel Session chair : Shing-kwei Tzeng Title : Representation and manipulation of sound textures for electronic music
13:50-15:00	Artificial Intelligence and Music Workshop / 人工智慧與音樂工作坊 Venue : Delta Hall 107 Dialogue between AI and Music / 音樂與科技的對話 Moderator : Von-Wun Soo Panelists : Elain Chew, Sever Tipei, Naotoshi Osaka, Deepti Navratna, Marc Battier, Axel Roebel, Ken Paoli, Chih-Fang Huang, Yu-Chung Tseng
15:10-17:00	Award Ceremony and Closing Concert Venue : B1 International Conference Hall 頒獎與閉幕音樂會
17:00-	Closing / 賦歸

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Content of presentation

DAY 1

Keynote Speech 1 主題演講 1

Speaker : Elain Chew

Elain Chew is currently a senior researcher at the Science et Technologies de la Musique et du Son (STMS) Laboratory, a joint laboratory supported by the Centre National de la Recherche Scientifique (CNRS), the Institut de Recherche et Coordination Acoustique/Musique (IRCAM), Sorbonne University, and the French Ministry of Culture.

Title: Musical Structures, Performances, and Arrhythmias

Abstract:

Musical performance is widely regarded to be one of the most breathtaking feats of human intelligence, but the nature of this creative act remains illusive and studies on expressive performance still lag behind those on composition and improvisation. However, with the advent of music in digital format, unprecedented computational prowess, and algorithmic development, it is now possible to probe scientifically and to mathematically model the creative work of performance.

Treating performance as a problem-solving task, a job of the performer is to find plausible units of coherence in the music at multiple time scales, and to exercise strategies to communicate convincingly such an analysis to the listener so as to influence the reception and parsing of the music. Over a series of studies, we show how computer analysis of performed music can reveal the shape and form of musical structures thus molded and projected in performance. By superimposing performed structures and score-based information, we show not only how these structures are made but also why, thereby enabling more nuanced understanding of the decisions that make for good, and perhaps great, performances.

Similarities between music and the human heartbeat has long been noted, but mainly in reference to normal heart rhythms. We show how abnormal heart rhythms exhibit behaviors akin to the variations introduced during performance, thereby opening the door to applying a host of analytical techniques hitherto reserved for music to cardiac arrhythmias. The novel musical view and description of abnormal heart signals has potential for facilitating personalized treatment and diagnoses. Finally, in a study with heart patients with biventricular pacemakers, we demonstrate that brain responses to structurally salient events in live music performance can have direct impact on cardiac electrophysiology.

Paper Presentation I

Paper 1 : Lynette Quek, Utilising obsolete technology to create a live audiovisual performance

Abstract:

-ect -act is a piece for solo performer (cello or double bass) that crosses fields of live projection, visual music, graphic score, sound painting, conduction, and improvisation. The obsolete technology used in the piece is the Overhead Projector (used with markers and transparencies), projected directly onto the performer and instrument. The performer interacts with the live projection, complementing or going against the visuals with their own performance interpretation. The visual projectionist plays a part in creating the piece - as if being an orchestral conductor. The visual projectionist has to guide and interact with the performer throughout the whole piece, providing both visual and audio cues. This takes influence from pioneers of conduction, Butch Morris, John Zorn, and Soundpainter Walter Thompson. Though being a structured piece, the individual sections are improvsed within -ect -act. My

current research examines audio-visuality - the synchronisation and interaction between sound and visuals, challenging the notion of the heard and unheard. Through this, I am also interested in exploring the integration of technology and musicians - examining the relationships between digital and physical elements. My work exists in different forms and medium - from web installations, physical prints, fixed and live video, as well as live musical performance

Paper 2 : Yan Ting Lu, Yu Chung Tseng,
An AI instrument using RNN and IOHMM mixed model-Pocket Guitar
Abstract:

We introduce a scientific instrument called "Pocket Guitar." The instrument consists of two parts, software and hardware. The core of the software is an algorithm for fuzzy pattern matching constructed by using the IOHMM(Input-Output Hidden Markov Model) combined with the LSTM (Long Short-Term Memory) recurrent neural network model. The algorithm maps the user's fuzzy pitch intent to the real pitch. The hardware is a "pocket guitar" solid instrument model structure equipped with Arduino driven by pressure sensing, distance sensing, and infrared light emitters. The solid model using the above algorithm will provide the possibility of playing the guitar improvisation for users who have not played guitar before.

Paper 3 : Li-Wei Chang, Von-Wun Soo, Audio Super Resolution using Zero-Shot Neural Network
Abstract:

In this paper we design a method to conduct audio super resolution that increases the sampling rate with a lightweight neural networks model using the real music album as training data. Our model is inspired by the ideas and principles from zero-shot learning. It can reconstruct the low-resolution signal quickly and successfully with the high frequency structure. In the experiments, we allow 2 times (2x), 4 times (4x) and 6 times (6x) up-sampling rates. The model can be applied to the audio in which the signals are recorded under similar recording environment and conditions such as the same singer in the same album, for example.

Invited Speech 1 邀請演講 1
Speaker : Sever Tipei

Sever Tipei is a composer and theorist whose main fields are computer music and music formalization. Professor Tipei manages the Computer Music Project of the University of Illinois Experimental Music Studios and, as a visiting scientist at Argonne National Laboratory (1993-2003), he pursued research in sonification of scientific data.

Title : Automatic notation of complex rhythms using sieves in DISSCO
Abstract:

DISSCO, a Digital Instrument for Sound Synthesis and Composition, combines computer-assisted (algorithmic) composition and sound synthesis in a seamless, unified approach. Its output can take the form of electro-acoustic sounds, a printed score or both. In DISSCO, precise, unequivocal choices coexist with random options that could be introduced at all levels of a musical work. When transcribing the output of a computer-assisted composition into a musical score that uses traditional Western notation, the automatic notation of complex rhythms is arguably the greatest challenge. In ISSCO, this challenge is managed through the use of sieves, logical filters involving modulo and

Content of presentation

Boolean operations. Sieves restrict the number of available choices and guide their selection but, due to the randomness included in the process, a series of further adjustments are necessary in order to ensure that the output is compatible with the tenets of traditional Western notation system. A number of methods that resolve these issues and achieve the desired result are described. The final output consists of a text file that follows the format of LilyPond, an open source software that can produce scores engraved according to traditional layout rules.

Invited Speech 2 邀請演講 2
Speaker : Naotoshi Osaka
Title : Improvement of sound collage synthesis using NMF
Abstract:

Timbre has played an important role since the early stage of computer music. In order to create a new timbre, sound effect and sound source synthesis techniques are indispensable. In this study a fairly new sound effect known as “sound collage” or “sound mosaic” is taken as a subject and technical detail is described. This effect is defined as expressing a target sound in terms of other elemental timbres. In order to fill the target sound, NMF (Nonnegative Matrix Factorization) is used. This paper describes the definition of the effect and explains how the target sounds are expressed in terms of given instrumental sounds. We confirmed that the synthesized sound has 2.03dB of SD in comparison with the target sound.

Paper Presentation II
Paper 1 : Chih-Fang Huang, Cheng-Yuan Huang,
An Emotion-Based Artificial Intelligence Music Composition Method
Abstract:

A music piece for us to listen to will be changed with the mood and express emotion. With the rapid development of technology, the variety of music has become more diverse and spread faster. However, the time and personnel cost required for the music composition for a piece is still very high. To solve the problem of imbalance between supply and demand, automated composition has gradually gained attention in recent years. This paper hopes to establish a set of machine learning-based architecture and emotion-based automatic composition system based on the integration of emotion, machine learning and music. The system takes the music database with emotional markers as input, and then trains the model with CVAE-GAN as the framework to produce the music fragments corresponding to the emotions.

Paper 2 : Yi Wen Liu
Analysis and Classification of Female Voices in Head, Headmix, Chestmix, and Chest Register
Abstract:

For beginner vocalists, it is a difficult task to recognize and control vocal registers during singing. Thus, this study aims to analyze female singers’ voices in head, headmix, chestmix and chest registers and establish a robust classifier to help vocalists learn singing. The definitions of four target registers were fully discussed at first. Then, voice data in these registers were recorded by three female singers and labelled by two judges. For each time frame from audio files, mel-cepstral coefficients (MCC),

band aperiodic spectral envelope (BAP), and fundamental frequency (F0) were extracted from the WORLD vocoder. Two machine learning techniques, Support Vector Machines and Multi-layer Perceptrons were then adopted for classification. The mean accuracy yielded from these classifiers were 70% and 68%, respectively.

Paper 3 : Hsin-Hung Chen, Computer automated real-time multi-mode music composing engine
Abstract:
Algorithmic composition is one of the most significant issues in the field of music technology. An automated music composition system is designed with specific set rules and calculation carried out by a computer. The techniques will greatly improve the composing efficiency among composers or industries. In this project, a software system is developed for multiple music style and real-time playback. Users may instantly receive feedback upon each execution. In the system, varied chord progressions are used, and major scale, minor scale, and blue notes are selected for the multiple styles. The melody is then composed with adaptive Markov chain, in which different weighting tables are designed for different styles. Additionally, syncopation are implemented with section-based probability, which makes the music more humanized and real.

Invited Speech 3 邀請演講 3
Speaker : Deepti Navratna
Deepti Navaratna is a Bangalore-based neuroscientist and musician. She is currently serving as the Executive Director of the Indira Gandhi National Centre for the Arts, Bengaluru. As an accomplished South Indian classical musician, Deepti has presented her work at the Symphony Space and Asia Society, New York; Museum of Fine Arts, Boston; Yale School of Music, New Haven; and Harvard Arts Museum, Cambridge among others, as well as at many spaces in India.
Title : New directions in Neurocognitive music therapy with emergent technologies
Abstract:
Electrical and Computer technologies are increasingly being used across the world to analyze and understand the science of music. Due to the availability of cutting-edge digital signal processing techniques, machine learning algorithms and robotics; composing, analyzing and performing music is now an interactive process between man and machine. Studies that combine EEG, ECG and other physiological measurements with new music technologies are on the rise. Instead of relying on surveys and physical observations like in the past, with technology enabled neurological measurements, examining the wholistic effect of music on mind and body with a greater degree of objectivity is now possible. In the context of the human body and its relation to music, there is emergent research exploring the idea of the interconnectivity of senses also. The thesis dissertation at MIT's Opera of the future lab by Wang, Q. "Music, Mind, and Mouth: Exploring the Interaction Between Music and Flavor Perception" is an excellent example of such new frontiers. A still relatively new field of research is affective neurofeedback computing - which attempts to detect emotion states using brain imaging techniques combined with brain-computer interfaces to deploy targeted musical neurofeedback. Users are able to manipulate expressive parameters in therapeutic music delivered as per cognitive, cultural, musical and psychological parameters. The Raaga Lab; Music, Culture and Cognition Laboratory at Indira Gandhi National Centre for the Arts has explored such EEG-based BCI paradigms in assessment of

delivery of music – as per arousal, valences, attentive and meditative states of users.

The fields of Artificial intelligence and Robotics have changed the way music can be created and performed. Music can be composed specifically to a genre, style, and emotional content by training machine learning algorithms. The 'Bach bot' is an AI-based music compositional tool that can generate music like that of Baroque composer Johann Sabastian Bach. Brain-computer interfaces (BCI) have been used to enable neuroprosthetic devices allowing individuals to not just passively listen to music, but play music as therapy for restorative function. The paper will review emergent technologies, neuroscientific strategies and advances in brain-computer interfaces that are transforming music, neuroscience and technology.

DAY2

Keynote Speech 2 主題演講 2

Speaker : Marc Battier

Marc Battier (born 21 December 1947 in Brive, France) is a composer and musicologist. He is known as a cofounder with Leigh Landy and Daniel Teruggi of the Electroacoustic Music Studies Network, which established a new field in musicology specifically for the musicological study of electroacoustic music.

Title : Computer Music and Science: some Interaction

Abstract:

In this talk, I will present some aspects of the meeting of music and science.

In the meeting of music and science, technology serves as a necessary tool to enable the musical use of scientific discoveries. In other words, science and music meet through a dialog, enabled by new tools provided by technology. Music and science do not always meet by chance.

In the 20th century, it was felt that music needed to expand its sounds and the way it was performed. Technology, a product of scientific research, was an answer. This was Varese's attempt with Bell Telephone Laboratories which, unfortunately, did not succeed. Varese, again, had agreed in 1958 to lead the newly created Paris Groupe de Recherches Musicales, a product of Pierre Schaeffer's imagination. Although it was Schaeffer who, in the end, became the director of that new laboratory, Varese had on several occasion showed what a research center could achieve in terms of allowing technology to become operational for music creation, and his dreams of encounters between musicians and scientific researchers have left a deep mark.

Music Research Centers appeared in the 1970s and 1980s as places where musicians – composers, performers - met with engineers and researchers to develop new ways of making music.

At the same time, scientists learn more about sounds, and, as importantly, how we, humans, perceive sounds, thanks to their contact with musicians. I will present some historical examples of such endeavors as well as several excerpts from my own music.

Invited Speech 4 邀請演講 4

Speaker : Ken Paoli

Ken Paoli is currently a professor of music at College of DuPage. A current project involves archiving the works of American composer Phil Winsor. He recently lectured on his analysis of Winsor's "Il Passaggio Spaziale." A fan of old-time radio he always was fascinated by the otherworldly background noises a tube radio can generate.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Content of presentation

Title: Phil Winsor's Musical Poetics: Music is nothing, music is nowhere, music is nothing.

Abstract:

Phil Winsor worked as both a sound and visual artist and photographer throughout his lifetime. While leaving a large output of sound works and photographic images Winsor was also an active author and computer programmer writing books concerning computer music composition and computer programs reflecting his algorithmic compositional aesthetic. In his last creative period, he penned a Poetics of Music in two versions. This lecture concerns itself with Winsor's Musical Poetics and his views on music in Academia.

Paper Presentation III

Paper 1 : Ching-i Lu, Models of Music Therapy based on Cognitive Neuropsychological Approach

Abstract:

In the last half century, studies of patients with brain damage and mental illness using music therapy have been reported at the different fields, such as neuropathology, neuropsychology, and clinical psychology. Furthermore, using modern imaging technologies, such as PET, fMRI, EEG/ ERP, Transcranial magnetic stimulation (TMS), and magnetoencephalography (MEG), neuroscience of music also achieve fruitful successes. However, there is still lack models to standardize and combine all achievements at the music therapy field. Models of music therapy based on cognitive neuropsychological approach can be very useful in the diagnosis and treatment of patients with brain damage or mental illness, especially in cases where the goal of therapy is to restore patients' normal cognitive or mental function. At the very least, a conception of how the music system operates normally provides a basis for interpreting how brain damage has altered normal music processing. For planning therapy, a concept of the component involved in normal processing can guide the selection of therapy materials and can influence the design of therapy tasks. A number of recent studies have demonstrated that therapy can be guided even by a partial model of music processing. Moreover, the interpretation of treatment response in the context of a model of music processing have enlightened our understanding of how music therapy affects patients' neuropsychological function. These models (passive vs active perspectives) of music therapy will be proposed in this preliminary study based on cognitive neuropsychological approach. These models may provide therapists and researchers - a theoretical foundation for treat patients who have brain damage or mental illness at the music therapy field.

Paper 2 : Li-Chuan Tang,

A Brief Review and Characterization on few Mandarin Christian Musicals in the Last Century

Abstract:

Certain mandarin Christian musicals in 20th century were picked for analysis to address the modern mandarin gospel musicals. This article will provide some aspects on these music pieces from historian, area, the popularity, instruments, tonality, and Philosophy of Chinese. The analysis results will not only carry out the identification of modern mandarin Christian musicals and mandarin popular musicals, i.e. Mandopop, but also try to give some developed suggestions on them.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Content of presentation

Paper 3 : Chih-Fang Huang, Hsin-Yu Chou, Pentatonic scale with leading tone using sequence for artificial intelligence automated composition

Abstract:

Melody using pentatonic scale with leading tone is common in many fields of music genres. This article describes a method to compose music automatically using artificial intelligence for pentatonic scale with leading tone and sequence. Based on some analysis results from Billboard Music Awards and other popular music, the melody scale is crucial to compose, and the algorithmic composition integrates both melody scale and sequence method to generate music piece completely. Several sequence methods can be applied with the proposed algorithmic composition for melody generation. The result shows this proposed method is possible to be applied for the music industry in the future.

Invited Speech 5 邀請演講5

Speaker : Axel Roebel

Axel Röbel is research director IRCAM working on audio signal analysis, modeling, and transformation using especially frequency domain signal representations.

Title : Representation and manipulation of sound textures for electronic music

Abstract:

Sound textures and noises are sounds for that the understanding of the perceptually relevant features has remained unclear for a rather long time. This has changed with the work of Josh McDermott who proposed and perceptually validated a hypothesis about the perceptually relevant features, and at the same time proposed a method allowing to convert textures and noises by means of manipulating these features.

The presentation will introduce the set of features and demonstrate a software implementation for sound manipulation working with the set of features proposed by McDermott. Further, the representation will discuss our recent result for using convolutional neural networks for improved sound textures and noise synthesis.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Content of Dialogue between Erhu, Pipa and Hakka music and technology

「二胡琵琶與客家音樂科技的對話」桃園新愛樂管絃樂團主辦
“The Dialogue between Erhu, Pipa, and Hakka Music Technology”
Organized by Taoyuan New Philharmonic Orchestra (TNPO)

(1) 黃志方，蘇豐文：嘆煙花探戈
為二胡、電聲、人工智慧自動作曲、人工智慧詩詞生成，和自動演奏鋼琴（5 min.）
人工智慧自動作曲、指揮：黃志方. 人工智慧詩詞生成：蘇豐文
二胡演奏家：廖珮妤. 客家詩詞念詞：曾興魁
Chih-Fang (Jeff) Huang & Von-Wun Soo: The Sigh of Smoking Flower Tango
for Erhu Solo, Electroacoustics, and Disklavier Automatic Performing Piano (Duration: 5-min.)
AI Automated Composition, Conductor: Chih-Fang (Jeff) Huang
AI Poem Generation: Von-Wun Soo
Erhu Solo: Pei-Yu Liao Hakka Poem Reciter: Shing-Kwei Tzeng

本曲創作於2019年，以客家民歌「嘆煙花」為主題，結合客家「山歌仔」人工智慧自動作曲元素，以及「探戈舞曲」元素，具有悲喜交加的複雜感覺，並搭配自動演奏鋼琴與電聲音樂，整合為一首非常獨特並具有創新的作品。二胡以客家民歌旋律為主題發揮並結合探戈舞曲，電聲音樂以客家情境聲景元素為題材創作，自動演奏鋼琴則以人工智慧自動作曲演算法的「山歌仔」自動演奏，結合並搭配探戈風格的節奏與和聲系統，搭配蘇豐文教授人工智慧自動詩詞生成搭配，可自動生成，由人念生成詩詞的效果。

Program Note:
The piece “Sigh of Smoking Flower Tango” was composed in 2019. It is based on the Hakka folk song "Sigh of Smoking Flower Tango". It combines the Hakka "Mountain Song” elements with artificial intelligence automated composition, and "Tango dance music" elements. It has a complex feeling of sadness and joy. Electroacoustic music, integrated into a very unique and innovative work. The Erhu plays with the theme of Hakka folk songs with Tango, electroacoustic music is composed based on the Hakka context soundscapes elements, and the automatic piano Yamaha Disklavier is automatically performed for the Hakka "Mountain Song”, which is composed by artificial intelligence algorithm. With the automatic matching of Professor Soo, Von-Wun's artificial intelligence, it can be automatically generated, and the effect of poetry by a person reading the words.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Content of Dialogue between Erhu, Pipa and Hakka music and technology

歌詞: 嘆煙花探戈

Lyric: The Sigh of Smoking Flower Tango

一更思裡嘆煙花，罵一聲爺娘呀做事差！

During midnight I sigh at the smoking flower, I curse my parents for being thoughtfulness.

痛絕對, 床台皮肉,

Absolutely painful, the bedside skin and flesh,

愁經常, 溪邊殘月。

Frequently sorrow, the river-side waning crescent,

朝朝暮暮, 落魄妝,

Every morning and dusk, the lousy make-up,

向著黯淡的月, 拖著疲憊的身。

Facing the diminished moon, dragging my tired body,

繡枕豈只看表面, 這一輩子我了解, 墮入風塵欺和騙,

Don't just look at the embroidered pillow cover,

I understand my life has fallen into the cheat and lie,

這身敗絮, 和虛偽, 半夜感受, 偶嘲笑。

I am rotten cotton with disguise, at midnight I received occasional laughters,

死心, 不得回家常哭泣,

Give-up, I often wept for not being able to go home.

絕望, 客人拋棄常逃避。

Desperately, I often escaped from the abandoning guests.

映小溪, 不訴姊妹。

Mirroring from the river, I don't talk to our sisters.

八字命運依舊頻揮手, 冬季難得一刻春啊, 不痛不遺忘,

The horoscope character and fortune still wave their hands at me,

Oh, the winter rarely has a moment of the spring, I don't forget unless it's painful.

對內誰的姊妹喲, 對外家園盼, 悲喲歸人心,不痛不放棄。

Oh, who are my real sisters inside, look forward outside to seeing my hometown, my heart is moaning for returning, I don't give up unless it's painful.

哀痛欲絕, 不思故園。

Too sad to stop, I cease to think of my hometown.

(2) Marc Battier, “Mist on a Hill”, for Pipa and Electroacoustic Sounds (2009)
山中薄暮
Duration: 10'25
Pipa Solo: Chao-Yun Luo

Program Note:

In this piece, harmonic fields are constructed from various combinations of pitches. They vary from two to seven pitches per octave. The solo pipa and the electroacoustic sounds enter a dialog which follows the various states of the harmonic fields. This piece was composed with the collaboration of pipa player Gao Yunxiang (高韵翔). She provided all the pipa sounds which I used to realize the electroacoustic parts. Mist on a Hill received its first performance during the Musicacoustica 2009 festival in Beijing. The pipa player was Miss Gao Yunxiang.

(3) Shing-Kwei Tzeng, “Capriccio from Old Mountain Song” for Erhu with Computer Max/MSP
Erhu Solo: Pei-Yu Liao

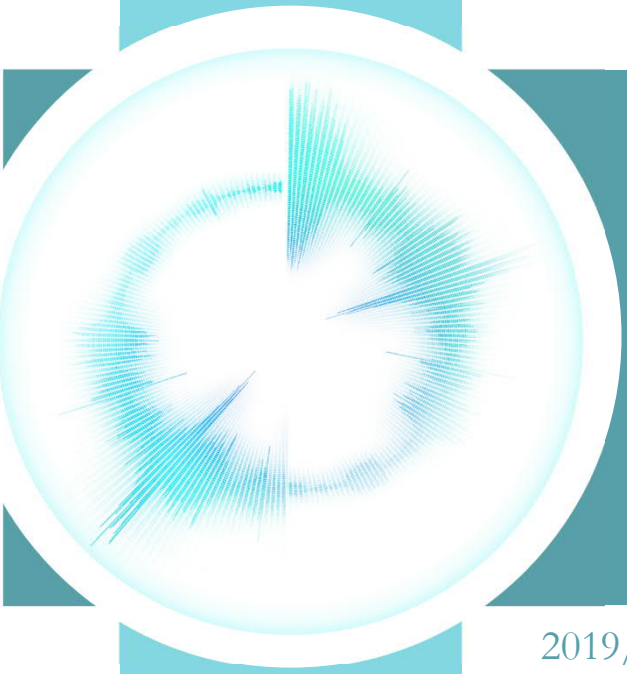
Program Note:

The Hakka old mountain song is a quite unique folklore. It contains 3 tones in minor chord only (la, do, mi in solfège), but its free glissandi and microtone are subtle and hard to trace. The composer resumes the theme with auxiliary tones and creates the tone serial as below.

The whole piece can be divided the following 5 parts. I Largo, the original mountain song II Moderato in a changing meters III Allegro in toccata style (virtuoso) IV Andante cantabile in rhythm O. Messiaen Valeur ajoutee V Da capo back to beginning.

WOCMAT 2019

WOCMAT 2019
| Concert Program
第十五屆國際電腦音樂與
音訊技術音樂會節目單



國立清華大學 電機資訊館B1演講廳
B1 International Conference Hall, College of Electrical Engineering and Computer Science, NTHU

https://lewis841214.github.io/WOCMAT2019.github.io/

International Workshop on Computer Music and Audio Technology

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd., East Dist., Hsinchu City, Hsinchu, Taiwan 300

2019/12/13 FRI 18:30 – 19:30
開幕音樂會
Opening Concert

12/13 FRI 20:00-21:00
晚間音樂會
Evening Concert

12/14 SAT 15:10-17:00
頒獎與閉幕音樂會
Award Ceremony and Close Concert

「二胡琵琶與客家音樂科技的對話」
Dialogue between Erhu, Pipa and Hakka music and technology
(1) The sigh of smoking flower tango
2019/12/13 FRI 10:25-10:30
Opening Concert
(2) Mist on a Hill (at opening concert)
(3) Capriccio from Old Mountain Song (at opening concert)

開幕音樂會 Opening Concert 12/13(Fri.)18:30-19:30
國立清華大學 電機資訊館B1國際會議廳
B1 International Conference Hall, College of Electrical Engineering and Computer Science, NTHU

Composer	Title	Instrument	Duration
Marc Battier Pipa：Luo Chao Yun	Mist on a Hill	Pipa and electroacoustic sounds	10:25

*Taoyuan New Philharmonic Orchestra (TNPO) Organized: “The Dialog between Erhu, Pipa, and Hakka Music Technology” *

Hubert Howe	Improvisation on the Undertone Series	Acousmatic Music	7:32
Chih-Fang Huang 黃志方 Singer: Deepti Navaratna	Raga-Maqam Fantasy	Indian Female Singer and Real Time Electroacoustic Music -	7 :00
Emilio Adasme	Anulación	Acousmatic Music	7:59
Shing-kwei Tzeng 曾興魁 Erhu:Pei-yu Liao	Capriccio from old mountain song	Erhu with computer Max/MSP	9:00

*Taoyuan New Philharmonic Orchestra (TNPO) Organized: “The Dialog between Erhu, Pipa, and Hakka Music Technology” *

WOCMAT 2019

International Workshop on Computer Music and Audio Technology Conference

Marc Battier/Mist on a Hill
Pipa and electroacoustic sounds(10:25)

Marc Battier/ Mist on a Hill/ Luo Chao Yun (Pipa)

Introduction of Composer: Marc Battier
Marc Battier is an electroacoustic music composer and a distinguished professor at Shenzhen University, as a recipient of the Chinese national program of One thousand talent experts. He is also emeritus professor at Sorbonne University (Paris) and has been visiting professor the University of California (San Diego and Irvine, USA), the Montreal University in Canada and Aichi University of the Arts in Japan.

Marc Battier/Mist on a Hill/Pipa and electroacoustic sounds(10:25)
Pipa: Luo Chao Yun

In this piece, harmonic fields are constructed from various combinations of pitches. They vary from two to seven pitches per octave. The solo pipa and the electroacoustic sounds enter a dialog which follows the various states of the harmonic fields.
This piece was composed with the collaboration of pipa player Gao Yunxiang. She provided all the pipa sounds which I used to realize the electroacoustic parts.
Mist on a Hill received its first performance during the Music acoustica 2009 festival in Beijing. The pipa player was Miss Gao Yunxiang.

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

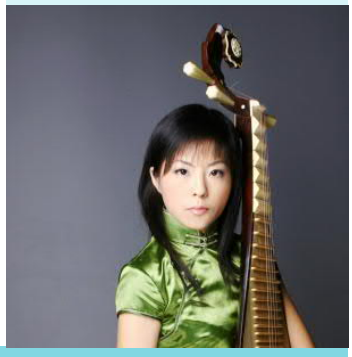
WOCMAT 2019

International Workshop on Computer Music and Audio Technology Conference

Marc Battier/Mist on a Hill
Pipa and electroacoustic sounds(10:25)

Marc Battier/ Mist on a Hill/ Luo Chao Yun (Pipa)

Introduction of Performer: Luo Chao Yun World Famous Taiwan Pipa Goodwill Ambassador/International Charity Renowned Philanthropist/PIPA Pioneer Virtuoso/Free Jazz Soloist/Christian Musician/International Cultural Educator/Avant-Garde Soloist/Guest Professor -----LUO CHAO-YUN. She gets her Pipa Performance Master Degree at Central Conservatory of Music in Beijing.



台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Hubert Howe/Improvisation on the Undertone Series Acousmatic Music (7:32)

Hubert Howe/ Improvisation on the Undertone Series

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd., East Dist., Hsinchu City, Hsinchu, Taiwan 300

Introduction of Composer: Hubert Howe
Recently retired from the Aaron Copland School of Music at Queens College of the City University of New York, where he had taught since 1967. In addition to composing, he is now Director of the New York City Electroacoustic Music Festival and Executive Director of the New York Composers Circle.

Hubert Howe/Improvisation on the Undertone Series/Acousmatic Music (7:32)

The undertone series is a subharmonic sequence of partials that inverts the intervals of the overtone series. In using the undertone series, the partials go down from the fundamental rather than up. In the overtone series, the higher you go, the closer the partials become. With the undertone series, partials are clustered into the lower registers, where they are more indistinct. Thus the "fundamentals" have to be in very high octaves in order to produce usable components, and only fundamentals at least one octave above middle C are useful at all. In this work, there are many tones that originate one to two octaves above the highest note on the piano. For notes in the extreme high range, the piece uses only "upper" partials (which are actually lower), and notes in the lower range use only "lower" partials (which are in the higher range).

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Chih-Fang Huang 黃志方/Raga-Maqam Fantasy Indian Female Singer and Real Time ElectroacousticMusic(7:00)

黃志方 Chih Fang Huang / Raga-Maqam Fantasy/ Deepti Navaratna (Singer)

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

Introduction of Composer: Chih-Fang Huang 黃志方
Associate Professor at Kainan University, Taiwan. Now he is the conductor of the Taoyuan New Philharmonic Orchestra, Taiwan. He's also the AI automated music composition researcher in Kainan University and NCTU.

Chih-Fang (Jeff) Huang黃志方/Raga-Maqam Fantasy/Indian Female Singer and Real Time Electroacoustic Music(7:00)
Singer: Deepti Navaratna

The piece "Raga-Maqam Fantasy" was composed in 2014 It uses traditional Indian Raga as the tone basis, to hybrid Arabic style Maqam, with electroacoustic transformation techniques, Indian cyclic rhythms, and the sound samples from traditional Indian instruments, Iranian Oud, and Chinese pipa, and applies the real time singing voice sustain process and with electroacoustic microtones, to respond with the delicate Indian and Arabic tuning systems. This piece begins with the ancient oriental imagery, and then goes through the gradually transformed sound, with the gorgeous rhythms and extremely varied noise, to set off "Raga-Maqam Fantasy" to a unique style, using contemporary electroacoustic processes.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Chih-Fang Huang 黃志方/Raga-Maqam Fantasy
Indian Female Singer and Real Time ElectroacousticMusic(7:00)

黃志方 Chih Fang Huang / Raga-Maqam Fantasy/ Deepti Navaratna (Singer)

Introduction of Performer: Deepti Navaratna
Musician/Neuroscientist/Cultural Entrepreneur Executive Director, Indira Gandhi National Centre for the Arts Indira Gandhi National Centre for the Arts, Kengunte Circle, Jnanabharati Post, Mallathahalli, Bangalore - 56005
Deepti Navaratna is a neuroscientist and musician currently serving as the Executive Director, Indira Gandhi National Centre for the Arts, Bengaluru, India. her current research focus is on the neuropsychobiological aspects of musical rhythm, memory and developing cognitive therapies for autism and dyslexia.

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Emilio Adasme/Anulación
Acousmatic Music(7:59)

Emilio Adasme /Anulación

Introduction of Composer: Emilio Adasme
Graduated in Composition and musicology at Universidad Católica de Chile. He's active member of the Electroacustic Community of Chile and producer of the international electroacoustic music festival AI MAAKO. Producer of Café con Cables: electronic arts festival and professor of composition techniques using MAX/MSP at the electronic arts and sound school "Casa Ruido", Santiago de Chile. He is dedicated to electroacustic, modern classical, noise and he is part of the composed-theater company "Oído Medio". He has participated at multiple festivals in Chile, Argentina, New York, Texas, Scotland, Spain and Belgium. He currently works at the archive of the National Chamber Orchestra of Chile.

Anulación (annulation) is an acousmatic piece that encompasses different approaches to the problem of cut-and-paste in digital audio. The sudden cuts of sounds and the interpolation of different sonic moments brings to surface the techniques of hard-sampling installing the piece into the Post-Digital world. The goal of these approaches is to reflect on the contemporary landscape of discarded and obsolete media and to elaborate onto new artistic perspectives of these topics. As circuit bending or hardware hacking, this piece seeks to provide an example of how acousmatic works can be considered a a methodology for media archeology research. This piece was premiered on October 18th, in Santiago de Chile, same day of the beginning of the 2019 Chilean metro protests and general strikes.

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

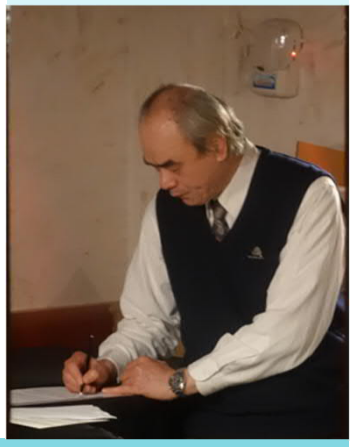
No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Shing-kwei Tzeng曾興魁/Capriccio from old mountain song Erhu with computer Max/MSP(9:00)

曾興魁 Shing kwei Tzeng /Capriccio from old mountain song/Pei-Yu Liao(Erhu)



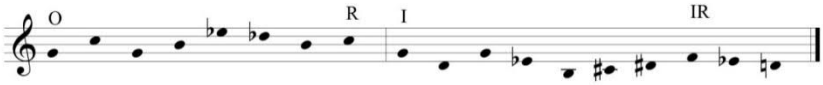
台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

Introduction of Composer: Shing-kwei Tzeng 曾興魁 graduated from Musik Hochschuleim Freiburg, Germany. studied film music at Ecole Normal de Musique de Paris and took research at IRCAM/ Paris, France.

Shing-kwei Tzeng曾興魁/Capriccio from old mountain song/Erhu with computer Max/MSP(9:00)
Erhu: Pei-Yu Liao

The Hakka old mountain song is a quite unique folklore, it contains 3 tones in minor chord only (la, do, mi in solfège), but its free glissandi and microtone are subtle and hard to trace. I resume the theme with auxiliary tones and create the tone serial as below.
The whole piece can be divided the following 5 parts.



I. Largo, the original mountain song
II. Moderato in a changing meters
III. Allegroin toccata style(virtuoso)
IV. Andante cantabile in rhythm O. Messiaen Valeurajoutee
V. Da capo back to beginning

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Shing-kwei Tzeng曾興魁/Capriccio from old mountain song Erhu with computer Max/MSP(9:00)

曾興魁 Shing kwei Tzeng /Capriccio from old mountain song/Pei-Yu Liao (Erhu)

Introduction of Performer: Pei-Yu Liao
Pei-Yu Liao is a professional Erhu performer. Born in Taipei County in 1985, she started to practice piano at the age of 4 and began to learn erhu at the age of 9. In 2007, She won the first prize of Chinese Music Competition, which was hosted by Chinese Music Association Taiwan, R.O.C. She completed her master's degree at the Department of Chinese Music in National Taiwan University of the Arts.

The piece "Sign Smoking Flower Tango" was composed in 2019. It is based on the Hakka folk song "Sigh of Smoking Flower Tango". It combines the Hakka "Mountain Song" elements with artificial intelligence automated composition, and "Tango dance music" elements. It has a complex feeling of sadness and joy. Electroacoustic music, integrated into a very unique and innovative work. The Erhu plays with the theme of Hakka folk songs with Tango, electroacoustic music is composed based on the Hakka context soundscapes elements, and the automatic piano Yamaha Disklavier is automatically performed for the Hakka "Mountain Song", which is composed by artificial intelligence algorithm. With the automatic matching of Professor Su, Von-Wun's artificial intelligence, it can be automatically generated, and the effect of poetry by a person reading the words.

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

晚間音樂會 Evening Concert 12/13(Fri.)20:00-21:00
國立清華大學 電機資訊館B1國際會議廳
B1 International Conference Hall, College of Electrical Engineering and Computer Science, NTHU

Composer	Title	Instrument	Duration
Chao-Ming Tung 董昭民 Clarinet: Chen-yin Kao	Yu-Yong	Clarinet and Live Electronics	9:00
Jason Fick	Junktures	Acousmatic Music	6:45
Kuo, Yng-Torng 郭盈彤	Horology	Acousmatic Msuic	3:00
Shih-Lin Hung 洪世霖	Autumn Meditation(秋思)	Acousmatic Msuic	1:51
Nicola Fumo Frattegiani	Gusseisen	Audio-visual work	5:53
Pradit Saengkrai	Digital Soundscape No.3	Electronics and Live video	7:00
Francesco Bossi	The ball that sings for joom	Audio-visual work	3:34
Zoe Lin 林宜徵	The Breath of the Forest	Acousmatic Music	7:59

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Chao-Ming Tung董昭民/Yu-Yong Clarinet and Live Electronics(9:00)

董昭民Chao-Ming Tung/Yu-Yong /Chen-yin Kao (Clarinet)

Introduction of Composer: Chao-Ming Tung董昭民
He is a renowned Taiwanese-born composer, educator, and a very active figure on the island's New Music circuit. He studied composition with Chien Nan-Chang, Johannes Fritsch, Mauricio Kagel, and Nicolaus A. Huberand graduated his composition studies in 1999 at the Folkwang-Hochschule Essen Germany with distinction.He is the founder and artistic director of the mixed chamber ensemble “C-Camerata Taipei”.

Chao-Ming Tung董昭民/Yu-Yong/Clarinet and Live Electronics(9:00)
Clarinet: Chen-yin Kao

In this composition, I use the live electronic to produce the virtual sounds. The computer reacts to the played sounds of the clarinet, analyzes the pitches of the sounds and sends out the samples which the musician follows: Computer and musician play together, sing together, a conversation between the human and the machine. Yu means also fish. This piece bases on a famous Chinese traditional melody of a fisher-song .

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Chao-Ming Tung董昭民/Yu-Yong
Clarinet and Live Electronics(9:00)

董昭民Chao-Ming Tung/Yu-Yong /Chen-yin Kao (Clarinet)

Introduction of Performer: Chen-yin Kao
Master of Music, Fu Jen Catholic University. Master of Music, Indiana University Jacob School of Music. Leader of "Transparent Sonority Clarinet Ensemble". Clarinet/Bass Clarinet of "Yujun Wang and the Times".Bass Clarinet of "ChuNoodle". Member of Weiwuying Contemporary Music Platform Academy Ensemble. Member of International Society for Contemporary Music - Taiwan. Member of "Philharmonia Moment Musicaux" and "Taipei Philharmonic Orchestra". Starting from classical music, Chen-yin devotes himself continually exploring the possibilities of being a clarinet player.

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

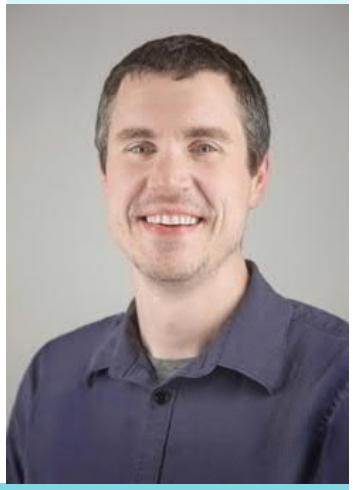
No.101, Sec. 2, Guangfu Rd., East Dist., Hsinchu City, Hsinchu, Taiwan 300

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Jason Fick/Junktures
Acousmatic Music(6:45)

Jason Fick/ Junktures



Jason Fick/Junktures/Acousmatic Music(6:45)

Junktures is an exploration of pivotal moments in time and the connections between them that forge new pathways.

Introduction of Composer : Jason Fick

Jason Fick is a composer, researcher, and educator specializing in music technology. His recent electroacoustic and interactive computer music has been performed at academic and public concerts, festivals, and conferences throughout the United States, Europe, and Asia, including ICMC, NYCEMF, SEAMUS, Electroacoustic Barndance, International Horn Symposium, and International Tribunal on Fracking and Human Rights (Corvallis, OR, 2018). His research on sonification, music technology pedagogy, and electroacoustic music has been published by the Audio Engineering Society, International Community on Auditory Display, International Journal on Interactive Design and Manufacturing, and Array, the Journal of the International Computer Music Association. Jason is currently Assistant Professor and Coordinator of Music Technology and Production at Oregon State University. For more information, visit www.jasonfick.com.

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Yng-Torng Kuo郭盈彤/Horology（芯）
Acousmatic Music(3:00)

郭盈彤
Yng-Torng Kuo
/Horology（芯）

Introduction of Composer: Yng-Torng Kuo 郭盈彤
Yng-Torng Kuo郭盈彤.Based in Taiwan, Taipei. As a master's degree student in National Chiao Tung University(NCTU), majoring in Electronic music with Prof. Yu-Chung Tseng.

Yng-Torng Kuo 郭盈彤/Horology（芯）/Acousmatic Music(3:00)

This piece comes from the sound source of Piano, which is also constructed by many subtle parts. The title "Horology" means "Art of designing and constructing clocks." By using the internal sound of the piano as the sound material. Like the components in the watch parts, the original sound is re-edited, designed and transmitted. The pitch change and particle synthesis techniques process the sound into small pieces for manipulation, and the process of design creation and the final product become the “Horology”.

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

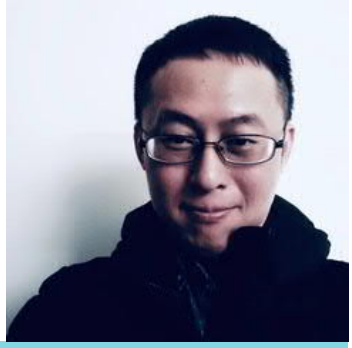
No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Shih-Lin Hung洪世霖/Autumn Meditation（秋思）
Acousmatic Music(1:51)

洪世霖
Shih-Lin Hung
Autumn
Meditation
（秋思）



台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

Introduction of Composer: Shih-Lin Hung 洪世霖
Shih-Lin Hung 洪世霖 is currently a second year postgraduate student at the Institute of Music, National Chiao Tung University. He is majoring in Neues Musiktheater (théâtre instrumental) have studying with composer Chao- Ming Tung.

Shih-Lin Hung 洪世霖/Autumn Meditation （秋思）
/Acousmatic Music(1:51)

The sound material is derived from the content of Chinese Poetry “Autumn Meditation” (天淨沙·秋思) by Ma, Zhiyuan (馬致遠, Chinese poet and celebrated playwright, c. 1250–1321)
The original vocal readings are as follows:
Chinese (original)
枯藤老樹昏鴉。 小橋流水人家。 古道西風瘦馬。 夕陽西下，斷腸人在天涯。
English(translation)
Over old trees wreathed with rotten vines fly evening crows; Under a small bridge near a cottage a stream flows;
On ancient road in the west wind a lean horse goes.
Westward declines the sun; Far, far from home is the heartbroken one.
I completed the work with the sound material (Chinese characters) by means of reverberation, delay and cutting of the vowel.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Nicola Fumo Frattegiani/Gusseisen
Audio-visual work(5:53)

Nicola Fumo Frattegiani/ Gusseisen

Introduction of Composer: Nicola Fumo Frattegiani
Born in Perugia, Nicola Fumo Frattegiani graduated from D.A.M.S. at the University of Bologna, with a thesis on Luigi Nono's work "Intolleranza 1960".
Later he has advanced Master's degree on "The musical cultures of 1900's" at the University of Tor Vergata in Rome, and a bachelor's degree on "Electronic Music and New Technologies" at the Conservatory of Music of Perugia.
Currently Nicola FumoFrattegiani is attending the Master's degree of "Electronic Music and New Technologies" at the Conservatory of Music of Frosinone.

Nicola Fumo Frattegiani/Gusseisen/Audio-visual work(5:53)

Gusseisen. Literarly "iron casting". The metamorphosis of bodily form. The opposition of the material states. The white-hot and bright liquid which conceals yet magnifies a colourless hardness ready to endure time. The movement becomes stasis.
An individual conflict founded on the ineluctable mental solitude, harbinger of potential chimerical scenarios. The epiphany of memories or fantasies, as well as desires and denials is founded on strips of never-ending antinomies. The alternation becomes a mass which submerges and deforms the facets of identity and of its vital and absolute uniqueness within a progressive internal tension. At the end of the voyage the mass resurfaces affirming its own being, resolving itself.

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Pradit Saengkrai/Digital Soundscape No.3 Electronics and Live video(7:00)

Pradit Saengkrai Digital Sound-scape No.3

Introduction of Composer: Pradit Saengkrai
Pradit Saengkrai is a Thai sound artist, music composer, sound engineer, multimedia artist and lecturer at Rangsit University, Thailand.
Pradit Saengkrai/Digital Soundscape No.3/Electronics and Live video(7:00)

This piece is the third piece in digital soundscape composition series which are inspired by the book “The Education of a Gardener” by Russell Page. The principle idea of this composition is to develop the main theme of digital soundscape No. 1 which composed on CSound with different approach by hardware synthesizer modules (Makenoise DPO, Makenoise Rene, Mutable Instruments Plaits and Mutable Instruments Marbles) with additional live video on Max.

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Francesco Bossi/The ball that sings for joom
Audio-visual work(3:34)

Francesco Bossi
The ball that sings for joom

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

Introduction of Composer: Francesco Bossi
Francesco Bossi is a composer and sound designer. His work includes acoustic, electroacoustic music, video, and installations. He holds degrees from the University of Bologna and Conservatorio di Milano where he graduated with the highest honors. He currently focuses on algorithmic computer-based custom synthesizers. The effort is to share contemporary music beyond academic audiences.

Francesco Bossi/The ball that sings for joom/Audio-visual work(3:34)

Since electroacoustic music is concerned, "The ball that sings for joom" is an atypical work. Accordingly with the main issues of the Wocmat Conference (new form of music, academic research, the connection between this conference and entertainment industry), the principal target of this work is to go beyond the abstractiveness of visual music (or the sound-reacting music). You will see a cinematic ball that sings and slightly moves back and forth, while the audio focuses on the voice fragmentation. On one side, the basic idea is the artistic evolution of the oscilloscope. On the other, the intention is to be iconic and ironic. The visual work was designed and created in Jitter - Max MSP. The audio is made by a granular synthesizer, in the Max MSP application environment.
Last but not least, In this case, “joom” means loveliness. I hope you enjoy it.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Zoe Lin林宜徵/The Breath of the Forest
Acousmatic Music(7:59)

林宜徵Zoe Lin
The Breath of the Forest

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

Introduction of Composer: Zoe Lin林宜徵
Zoe Lin林宜徵got her Doctor of Musical Arts degree in music composition at the age of 26 from the University of Wisconsin-Madison and is focusing on researches on music technology, including algorithmic composition, application of neural network, Unity 3D.

Zoe Lin林宜徵/The Breath of the Forest/Acousmatic Music(7:59)

This is a work for memorizing the trip visiting the Plitvice Lakes National Park at Croatia and reflect the lives and the breath of the forest I sensed during the trip. Every time I went to nature, I felt I was integrated as a whole with nature where human-beings are from. I love the sense of connections between humans and nature.
It is very important to have natural sound to speak itself, therefore, I compose this work with 50 % of soundscapes and 50% of electronic music (with instrumental sound). The soundscapes are not backgrounds, but foreground mingled with electronic chamber music part. I synthesized sound to mimic the 'heart-beat' of nature. The instrumental sound mimics the whispers of the forest. In 21st century, we hope to connect with nature more consciously and admit it is vividly alive rather than just treats it as a “place or space” where we are living in and taking things from it without mercy.

頒獎與閉幕音樂會Award Ceremony and Close Concert

12/14(Sat.)15:10-17:00

國立清華大學 電機資訊館B1國際會議廳

B1 International Conference Hall, College of Electrical Engineering and Computer Science, NTHU

Composer	Title	Instrument	Duration
Phil Winsor	Il Passaggio Spaziale	Audio-visual version	9：00
Winner of International Electroacoustic Music Young Composer Award		Electronic Art Music	ca.4:00
Winner of International Electroacoustic Music Young Composer Award		Applied Music	ca.4:00
Mei-ling Lee	Giant Dipper	Live Electronics	10：00
Timothy Moyers Jr.	Polystyrene	Audio-visual work	11：07
Felipe Tovar-Henao Flute：Yi-Hui Lin	Arborescencia	Flute and Live Electronics	9：00
Ken Paoli	SpazioSconosciuto	Audio-visual work	6：30
Massimo vito avantaggiato	Alfabeto Senza Fine (Endless Alphabet)	Audio-visual work	3：08
Yu Chung Tseng 曾毓忠 Zhong Ruan(中阮)： Sze-Ting Huang	Moments of Capriccio ii-Extension	Zhong Ruan and- Max/MSP Interactive Electronics	8：30
Sever Tipei	CAGEquad	Acousmatic Msuic	5：00
Benjamin Broening Flute：Yi-Hui Lin	Twilight Shift	Flute and Electronics	6：36

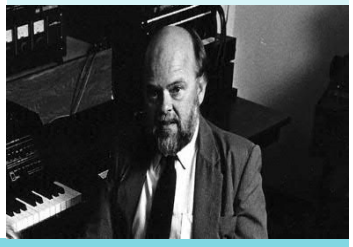
WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Phil Winsor/Il Passaggio Spaziale

Audio-visual version(original version for piano and computer music)(9:00)

Phil Winsor/ Il Passaggio Spaziale



台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd., East Dist., Hsinchu City, Hsinchu, Taiwan 300

Introduction of Composer: Phil Winsor

Phil Winsor(1938-2012) holds degrees from Illinois Wesleyan University and San Francisco State University; he has done graduate work at the University of California, Berkeley and doctoral studies at the University of Illinois, Urbana.

Phil Winsor/Il Passaggio Spaziale/Audio-visual version(original version for piano and computer music)(9:00)

The title reflects the composer's fantasy (while writing the piece) of floating through zero-gravity space and observing the beauty of transitional passage from galaxy to galaxy. Structurally, the work has no beginning, no end. It is meant to be a meditative, timeless experience without reference to conventional technique of rhetorical manipulation of thematic material. The listener's attention is always directed toward the present moment, to a kind of weightless dwelling on the sensual qualities of the musical atmosphere, devoid of all mnemonic guideposts to the past or future of the event. The synthesizer music for Il Passaggio Spaziale was algorithmically composed, and was generated in a single run of the composer's computer program, ATP5. Designed to interactively generate an entire 16-voice texture, the computer program was given input data to determine the major structural features of the piece. Several consecutive runs of the program were evaluated, then one was chosen for conversion to a musical score. This music was then played as a MIDI sequence on two Yamaha TG77 synthesizers to simulate a multitimbral orchestral texture.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology Conference

Mei-ling Lee/Giant Dipper
Live Electronics(10:00)

Mei-ling Lee
Giant Dipper

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

Introduction of Composer and Performer: Mei-ling Lee
Mei-ling Lee Taiwanese-born composer Dr. Mei-Ling Lee's work integrates contemporary western music with traditional Chinese culture. Her work regularly draws inspirations from western and Chinese poetry. She received her Ph.D. degree in Composition, studied under Dr. Robert Kyr, and Dr. David Crumb. She is currently pursuing her second Doctor of Musical Arts degree in Music performance, emphasis in Performance of Data-driven Instruments, studying under Dr. Jeffrey Stolet.

Phil Winsor/Giant Dipper/Live Electronics(10:00)

Giant Dipper is an interactive electronic music composition. It attempts to arouse the experience of roller coaster rides, the blistering up and down, left and right motion of the ride compels one's thoughts to be only in that moment.
The sound material of Giant Dipper comes from two main sources. One is a home recording of an eight years old girl singing/talking in a bathroom. Another one is field recordings from Santa Cruz Boardwalk park. Those field recordings share one commend theme: the roller coaster ride.
Comprised of MAX and Kyma, Giant Dipper uses Gametrak, a three-dimensional positional reporting system, as a data requirement interface to generate and transmit data to MAX. Inside Max, the data streams are modified, scaled, then routed to Kyma for sound manipulation in real-time.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Timothy Moyers Jr/Polystyrene
Audio-visual work(11:07)

Timothy Moyers Jr/ Polystyrene

Introduction of Composer: Timothy Moyers Jr
Timothy Moyers Jr is a composer and audio-visual artist originally from Chicago. He is an Assistant Professor of Music Theory and Composition at the University of Kentucky where he is the supervisor of the Electroacoustic Music Studio.

Timothy Moyers Jr/Polystyrene/Audio-visual work(10:00)

Polystyrene is an exploration of the juxtaposition of abstract audio and image. Audio has the power to change and affect our emotional response to the imagery it is presented with, just as the visual components can affect and change our relationship to the sonic material. Our focus can be attuned to different aspects of the audio depending on the synchronization or lack of synchronicity with the visual events. It is my intention, through utilizing visual components within this piece, to guide the listener through the dense and chaotic musical passages which are so intrinsic to the work and to bring the dense rhythmic details into greater focus and clarity.

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Felipe Tovar-Henao/Arborescencia
Flute and Live Electronics(9:00)

Felipe Tovar-Henao/ Arborescencia

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

Introduction of Composer: Felipe Tovar-Henao
Felipe Tovar-Henao Characterized by a strong interest in engaging the audience on multiple perceptive levels, the music of Colombian-born composer Felipe Tovar-Henao has been consistently awarded and performed throughout his emerging professional career.

Felipe Tovar-Henao/Arborescencia/Flute and Live Electronics(11:07)
Flute: Yi-Hui Lin

«Arborescencia» circles around utterances of tree-like gestures and representations in music, taking the phenomenon of branching as a metaphor model to derive musical events. This tendency manifests itself both vertically — timbre and harmony — and horizontally — duration, rhythm, and time — with a particular emphasis on the perceptual domain. The listener might then be able to notice instantiations of arborescence through the segmentation of the flute sound into multiple spectral strands, entangled rhythms that arise from juxtaposition of echoes, harmonies that stem and grow from the flute lines, or hierarchically established repetitions and fragmentations of sound sequences. Just like in trees, one might also occasionally hear semblances of chirps and warbles of the birds that inhabit them.
«Arborescencia» is written for the Mexicanflutist and composer Alejandro Escuer, and was commissioned by the C3: Colombian Composers Collective through the 2018-2019 Rainwater Innovation Grant from University of Texas at Austin.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Felipe Tovar-Henao/Arborescencia
Flute and Live Electronics(9:00)

Felipe Tovar-Henao/ Arborescencia Yi-Hui Lin (Flute)

Introduction of Performer: Yi-Hui Lin

Yi-Hui Lin is one of the most active flautists in Greater China. As an educator, Lin teaches at National Chiao Tung University as an adjunct assistant professor. She published her years of experience of teaching master classes in the popular textbook Flute Learning for Novices in 2009. She received her bachelor degree at the Taipei National University of the Arts, where she studied with Man-Nung Fan and Hsiao-Hwa Niu. She has also studied at the Affiliated Senior High School of National Taiwan Normal University and Fuxing Elementary School.

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Ken Paoli/SpazioSconosciuto
Audio-visual work(6:30)

Ken Paoli/
Spazio
Sconosciuto

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

Introduction of Composer: Ken Paoli
Ken Paoli Professor of Music at College of DuPage,studied composition with Phil Winsor at DePaul University. His graduate degrees are from Northwestern University, studying composition with M. William Karlins.

Ken remains active as a commercial and jazz keyboard performer and arranger in the Chicago metro area.

Ken Paoli/SpazioSconosciuto/Audio-visual work(6:30)

Spazio Sconosciuto (Undiscovered Space) is a reimaging of Phil Winsor's Il Passiaggio Spaziale which, in its final version was a work for fractal computer music video with solo piano. Winsor envisioned a passage through space with the piano as a personification of an observer of celestial events. This work revisits his concept.
This short film uses animations of photographs from the Hubble telescope with an algorithmically generated soundtrack that allows the composer to define harmonic structures using Hindemith's notions on harmonic fluctuation. The resultant material is routed to a digital workstation for "orchestration" and further compositional manipulation. The sonic material consists of granular, analog and fm synthesis and processed audio samples.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Massimo vitoavantaggiato/Alfabeto Senza Fine(Endless Alphabet) Audio-visual work(3:08)

Massimo vitoavantaggiato Alfabeto Senza Fine(Endless Alphabet)

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

Introduction of Composer: Massimo vitoavantaggiato
Massimo vitoavantaggiato His work revolves around research processes and combination of experimental video and Experimental music.
He holds a degree in Electroacoustic Composition and Sound Technology (3+2 years) with top marks at " Giuseppe Verdi" Conservatoire in Milan and a degree as a sound engineer (2 years).
He is interested in programming languages applied to audio and video: He has written music for films, short films and video installations.
He has won and have been finalist in some international composition and video competitions.
Some of his articles were published by Università di Venezia; Cambridge Scholars Publishing; Yonsei University; Plymouth University; TU Berlin; Università di Torino.

Massimo vitoavantaggiato/Alfabeto Senza Fine(Endless Alphabet)/Audio-visual work(3:08)

The aim of this work was to re-establish, electronically, the images and feelings of some paintings by masters of informal art. The picture autogenerate together with music. The creation of sketches is casual but controlled by algorithms, just like the creation of music. The work was created by synchronizing video with MAX MSP and electronic music to the video sequence.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Yu-chung Tseng曾毓忠/Moments of Capriccio ii–Extension Zhong Ruan(中阮) and Max/MSP Interactive Electronics(8:30)

曾毓忠
Yu-chung Tseng
Moments of Capriccio ii–Extension/ Sze-Ting Huang

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd., East Dist., Hsinchu City, Hsinchu, Taiwan 300

Yu-chung Tseng曾毓忠/Moments of Capriccio ii–Extension/Zhong Ruan(中阮) and Max/MSP Interactive Electronics(8:30)
Zhong Ruan: Sze-Ting Huang

Music as the art of time, the composer intends to use a capriccio attitude and to use a Chinese instrument - Zhong Ruan as sound medium to express moment changes of sound gestures and tone color while time evolving. With the aids of modern technology, the main compositional idea was then extended to a certain level which beyond the traditional performing idioms of Zhong Ruan can achieve or reach it.

The overall structural form and creative concept of "Moments of Capriccio ii-Extension" is close to a so-called "moment form"(K. Stockhausen, 1963). The length of the music phrases varies, and the proportion of the passages does not have certain regularity. Static is sometimes dynamic close to the concept of yin and yang bipolar contrast; sections aggregation presents a non-linear "quasi-mosaic" combination; each section has its own independent and complete connotation.

In appreciation of Moments of Capriccio ii-Extension, the composer hopes that the listener can capture or appreciate the ingenious transformation of the tone color and posture of the music during the rapidly changing moment extended by the employment of computer interactive techniques.

Moments of Capriccio ii-Extension revised from earlier work "Moments of Capriccio", is a work for Zhong Ruan and interactive computer music and will be premiered at WOCMAT2019 at NTHU.

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Yu-chung Tseng曾毓忠/Moments of Capriccio ii–Extension
Zhong Ruan(中阮) and Max/MSP Interactive Electronics(8:30)

曾毓忠
Yu-chung Tseng
Moments of Capriccio ii–Extension/ Sze-Ting Huang

Introduction of Performer: Sze-Ting Huang
Sze-Ting Huang has a M.A. in Graduate Institute of Ethnomusicology from National Taiwan Normal University and a B.A. in Chinese Music Department from the Tainan National University of the Arts. HUANG has been invited to perform in China and Japan since 2011.HUANG has won numerous awards, including the winner of the NTCH's " Young Star of Chinese Music" series in 2010, the sound poetry work Echo has chosen in " 2015 Taipei Poetry Festival".

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Sever Tipei/CAGEquad
Acousmatic Music(5:00)

Sever Tipei/ CAGEquad

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

Introduction of Composer: Sever Tipei
Sever Tipei was born in Bucharest, Romania, and immigrated to the United States in 1972. He holds degrees in composition and piano performance from the University of Michigan and Bucharest Conservatory. Tipei has taught since 1978 at the University of Illinois at Urbana-Champaign School of Music where he also directs the Computer Music Project.

Sever Tipei/CAGEquad/Acousmatic Music(5:00)

CAGEquad is a reworking for quadraphonic sound of an older piece using new materials. Similar to John Cage's Number Pieces, attacks and durations are selected by chance within defined ranges. There are five layers, each of them characterized by a particular range of densities, durations, sets of pitches, spectra, etc. and by their placement in the audio field.
CAGEquad is a manifold composition and the WOCMAT19 variant will only be performed in public once. It was produced with DISSCO, software for composition and additive sound synthesis developed at UIUC Computer Music Project, Argonne National Laboratory and National Center for Supercomputing Applications

WOCMAT 2019

International Workshop on Computer Music and Audio Technology

Benjamin Broening/Twilight Shift
Flute and Electronics(6:36)

Sever Tipei/
CAGEquad/
Yi-Hui Lin
(Flute)

台灣新竹市光復路二段101號
清華大學資電館 演講廳(B1)

No.101, Sec. 2, Guangfu Rd.,
East Dist., Hsinchu City,
Hsinchu, Taiwan 300

Introduction of Composer: Benjamin Broening

Benjamin Broening's music couples his interest in the expressive power of sound with a sense of line derived from his background as a singer. His orchestral, choral, chamber and electroacoustic music has been performed in over twenty-four countries and across the United States. His music has been widely recorded including solo discs on Bridge (with Eighth Blackbird) and Innova (with duo runedako) as well as works on Centaur, Everglade, Equilibrium, MIT Press, Oberlin Music, Open G, Ravello and SEAMUS/New Focus record labels.

He is the recipient of a numerous awards including Guggenheim, Howard and Fulbright Fellowships and is the founder and artistic director of Third Practice Electroacoustic Music Festival at the University of Richmond where is Professor of Music. He holds degrees from Wesleyan University, Yale University, Cambridge University and the University of Michigan.

Benjamin Broening/Twilight Shift/Flute and Electronics(6:36)
Flute: Yi-Hui Lin

Twilight Shift explores the liminal light of dusk as shadows lengthen, the bright colors of day darken, and the familiar world is gradually transformed. A comparable transformation takes place in Twilight Shift; the flute and electronics slowly descend to lower registers over the course of the piece as flute sounds are gradually replaced by whispering percussion sounds in the electronics.

感謝您的參與！

Thank you for your attendance!

主辦單位：清大電機資訊學院

共同主辦:交通大學音樂研究所、清華大學藝術學院、桃園新愛樂管絃樂團

合辦單位：清華大學資工系、台灣電腦音樂學會

協辦單位：清華大學資工系、清華大學 資訊系統與應用研究所、逢甲電聲碩士學位學程、中研院資訊科學研究所、

客家委員會

贊助指導單位: 科技部、教育部、清華大學 研究發展處、清華大學 電機與資訊學院、清華大學 資訊工程學