## Concert 5

15 April UTC 07:00 (3pm Beijing, Hong Kong, Singapore; 4pm Seoul, Tokyo; 9am Paris; 8am London, 3am New York; 12am Los Angeles)





### **Concert 5**

## SymphonyNet: Rhapsody of dancing strings

(automatically composed by AI)

The rhapsody was automatically composed by SymphonyNet, an AI musician developed by Central Conservatory of Music. The first five measures were composed by Yuanliang Dong, and then the AI musician continued to compose the rest part of the rhapsody. In contrast with the harmony of the other tracks, the high density of tremolo string notes impress us with insanity and craziness, so we named it a "rhapsody of dancing strings". SymphonyNet was trained with about 46,000 pieces of symphony crawled from Musescore and 700 pieces of classical symphony from Classicism to Romanticism. More detailed description of our system, including deep learning model architecture and methodology, will be published in our paper (coming soon).

这首狂想曲是由中央音乐学院的研究成果,人工智能音乐家SymphonyNet自动创作。开头的5小节由团队成员董原良创作,然后由人工智能音乐家续写全曲的剩下部分。和其他轨道形成的和声相比,弦乐轨道的高密度颤音音符给我们留下了疯癫痴狂的印象,所以我们将其命名为"跳动之弦狂想曲"。SymphonyNet由46,000首来自Musescore的交响乐以及700首古典交响乐(从古典主义时期到浪漫主义时期)共同训练而成。如果想了解包括深度学习模型结构和训练方法的更详细的介绍,请参考我们即将发表的论文。

## Jiafeng Liu, Yuanliang Dong, & Prof. Sun Maosong

**Jiafeng Liu**, PhD of the Central Conservatory of Music, an expert in music artificial intelligence technology, under the supervision of Professor Sun Maosong and Professor Yu Feng. The main research direction is the multitrack automatic composition based on deep learning technology. This new technology can be widely used in the automatic generation of various styles of music such as symphony, chamber music, and pop music, and reaches to a level close to human music creation.

**Yuanliang Dong** is a second-year PhD student of Central Conservatory of Music in China, who majors in AI music and music technology with the supervision of Prof. Sun Maosong and Prof. Yu Feng. His research interests lie in music representation learning and the structural generation of symbolic music. He has a bachelor's degree of computer science and technology in Tsinghua University, where he minored in music engineering and technology.

**Prof. Sun Maosong** is currently the Executive Dean of the Institute of Artificial Intelligence, Tsinghua University, Chairman of the Sub-Committee of Computer Science Degree Evaluation, Tsinghua University, Deputy Director of the Online Education Research Center of the Ministry of Education, and Director of the Research Center for Massive Online Open Education of Tsinghua University. He was formerly the Chairman of the Department of Computer Science and currently a Distinguished Professor at the Department of Music AI and Information Technology, Central Conservatory of Music.

### **Concert 5**

## KYAGER

PerMagnus Lindborg, Loo Sze Wang, et al. (2021) :: live performance version for sheng, electronics, and video // fixed-media version [film], soundislands.com/kyager/.

KYAGER is about a mountain, a musician, and a robot. Every creative musician dreams of reaching the parnassum of his or her art: Jesus and Petrarca climbed mountains. Some musicians inspire, like Gepetto, Drosselmeyer, or Frankenstein, their ambitions into a robot. But with Loo Sze Wang, is it the robot Zaku that becomes more like its master, or the master that becomes more like the robot?

## PerMagnus Lindborg & Loo Sze Wang

PerMagnus Lindborg, PhD, is a research-driven composer and sound artist, author of more than a hundred media artworks and compositions, commissioned or selected for ArtScience Museum (Singapore 2021), Osage Gallery (Hong Kong 2021), Banga Gallery (Hong Kong 2020/21), CubeFest (Virginia 2019), Berlin Konzerthaus (2018), Xuhui Museum (Shanghai 2017), Tonspur (Vienna 2016), National Gallery (Singapore 2015), Onassis Centre (Athens 2014), World Stage Design (Cardiff 2013), Moderna Museet (Stockholm 2008), Centre Pompidou (Paris 2003), etc. Won awards for short films at World Film Carnival (2021), Cannes Short, and TIFF (2020), and for composition at SSO [First Prize] (Norway 2002), Forum [Audience Prize] (Canada 1996), Young Artist and TONO Awards (Norway 1998, 1999, 2003). Referred publications in PLoS One, Leonardo, Applied Acoustics, Frontiers, Applied Sciences, JAES, IRCAM-Delatour, Springer-LNCS, and conference proceedings such as SMC, ICMC, ICMPC, NIME, DACA, and ICAD. Serves as Regional Director for Asia-Oceania of the International Computer Music Association, and as Associate Professor at the School of Creative Media, City University of Hong Kong.

Prize-winning Loo Sze-wang is the foremost sheng (Chinese mouthorgan) player of his generation in Hong Kong and has been active in world-famous Music Festivals. Loo had premiere the Sheng Concerto "Mirror de Macao" by Dr. Lam Bun Ching in ISCM2009 and several Sheng Concertos by Dr. Chan Hing Yan with HK Sinfonietta under the baton of Yip Wing Sie. Loo was the Artist-in-residence of Cornell University, NY and CUHK and Artist associate of HK Sinfonietta in 2009, 2011 and 2012 respectively.

## **Concert 5**

## SirenII: Song

for soprano, guitar and electronics

The creation of the work is inspired by the story of the Siren in Greek mythology. Siren's beautiful voice made the sailors who go past the sea are lost themselves, and the ship hit the rocks and sank. The work uses two acoustic instruments, guitar and soprano, combined with pre-made electronic music to echo each other, telling the story of Siren using her sweet and beautiful singing voice to gradually lead people into an illusion and fall into danger. The pre-made electronic music is designed based on guitar, soprano and aside (extract from the English poem Siren Song by Margaret Atwood), and try to let it blends with the original sound of the instrument.

## Zhang Kewanchen

张可宛辰,四川音乐学院电子音乐系研究生,师从陆敏捷副教授学习电子音乐作曲,在严肃型电子音乐方向进行深一步学习与研究。在校就读期间多次参加大师班工作坊并进行作品展演。作品《双城忆》曾入选国际电脑音乐与音频技术年会WOCMAT电子音乐会进行展演并获得第16届国际青年电脑音乐竞赛Winsor奖、入选2021"地球日"全球马拉松异地实时音乐节并通过全球网络直播形式展演。作品《塞壬之歌》在2021年第九届全国高校数字艺术设计大赛(未来设计师NCDA大赛)中获得省赛二等奖。主要作品有:《双城忆》、《塞壬之歌》、《宝石》等。

Zhang Kewanchen is a postgraduate student in the Electronic Music Department of Sichuan Conservatory of Music. She studied electronic music composition from associate professor Lu Minjie. She has participated in many workshops and performed works. The work "Memory of Two Cities" was selected for the WOCMAT electronic concert and won the Winsor Award of the 16th International Youth Computer Music Competition. It was selected for the 2021 Earth Day Art Model Festival and performed on the global Live webcast . The work "Siren" won the second prize of the provincial competition in the 9th Future Designer NCDA Competition in 2021. The main works are: "Memory of Two Cities", "Siren", "Gem".

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## The Phoenix Songs II

The phoenix is a symbol of good fortune and immortality in traditional Chinese culture. The Suona is a wind instrument with a distinctive timbre among Chinese folk instruments. This electronic music piece was composed in 2021, using samples from a high pitched Suona recording to imitate the sound of the phoenix, and the sound of wooden instruments colliding with each other to create an atmosphere of changing weather and birds living in the mountains and forests, signifying the harmony between humans and nature, and calling for people to be more aware of environmental protection. At the same time, the electronic music is used to present the characteristics of Chinese folk music and musical instruments, adding a Chinese folk "flavor" to the music and allowing listeners to capture the Chinese sound in it.

## Wang Xiaoxuan

Central Conservatory of Music PhD in Electronic Music Composition

Electronic music, chamber music, vocal music, choral music, etc.

#### **AWARDS**

- 1. Piano quintet 'Chinese Impression' won second prize (honorable mention) in the 2019 Brixworth Composition Competition, UK.
- 2. Electronic music "Chess Charm" won the International Top 10 in the "Silent Thoughts" Electronic Music Competition, Pennsylvania, USA, 2020. https://soundsilencethought.com/2020/11/05/winners- of-international-composition-competition/

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## Metamorphosis

Metamorphosis is a real-time interactive audio-visual composition for one human performer and two artificial intellectual performers. Three performers will start by playing the same virtual ancient Chinese percussion instrument: Bianqing (磬). Then, by learning, imitating, having confrontation and cooperation with each other, the shape and sound of this instrument will evolve gradually and the performers themselves. From ancient to modern, concrete to abstract, the fusion of sound, image and live performance creates an immersive experience exploring the dramatic shift and co-evolution between human and Al.

《蜕变》是为一位人类演奏者和二位人工智能演奏者而作的实时交互多媒体作品。三位演奏者通过演奏虚拟中国传统打击乐器编磬进行音乐交互。随后经历相互学习、模仿、对抗以及合作等过程,虚拟乐器的音色和外形以及演奏者本身将逐渐进化。从古代到现代,具象到抽象,通过声音,视觉以及现场演出的多媒融合创造了一个沉浸式体验来探讨人类与人工智能之间戏剧性的变化以及共同进化的过程。

## Hongshuo Fan

Hongshuo Fan is a Chinese cross-disciplinary composer, new media artist and researcher. His work has involved various real-time interactive multimedia contents, such as acoustic instruments, live electronics, generative visuals, light and body movements. His research and creative interest focus on the fusion of traditional culture and cutting-edge technology in the form of contemporary art. His output spans live interactive electronics, installations, and audio-visual works.

范弘硕是一位中国跨媒介作曲家,新媒体艺术家以及研究者。他的作品 包含多种实时交 互媒介,例如声学乐器、现场电子音乐、生成视觉、光 线以及身体动作。他的研究以及 创作实践集中以当代艺术的形式体现传 统文化与跨时代科技的结合。他的作品主要包括 现场交互式电子音乐作 品、装置作品以及交互视听作品。

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## Particle system

粒子系统是由许多粒子组成的用来表达抽象事物的几何。粒子可以在一段时间内生成(create)、移动(move)、转化(change),最后消亡(die)。就如同白色污染问题的发展过程一样,先是问题的形成,再到问题的堆积和变化以至于难以消散,最后问题消亡但不至于完全消亡。在这种可以完美体现作品运动过程的系统的支持下,在音乐情绪的推动下,我将白色污染作为粒子进行抽象化,得以将这个作品实现。同时,作品名中"curb"一词有控制、抑制,约束等含义,所以我才将这个动词作为这个作品的主题:把白色污染囚禁在我的影像里。在音乐部分,我也将其中几段的推动都限制住了,没有及其持续的推动。但由于白色污染问题的发展,在最后一段的推动时,我让其发展变得更为猛烈。最后的一声轻微的余音,也代表了问题的延续。

Particle system is composed of many particles, which is used to express the geometry of abstract things. Particles can create, move, change, and die within a period of time. Just like the development process of the white pollution problem, first the formation of the problem, then the accumulation and change of the problem, so that it is difficult to dissipate, and finally the problem dies, but not completely. With the support of this system that can perfectly reflect the movement process of the work, and driven by the music emotion, I abstracted the white pollution as particles to realize this work. At the same time, the word "curb" in the title of the work has the meanings of control, inhibition and restraint, so I take this verb as the theme of the work: imprison white pollution in my image. In the music part, I also limited the promotion of several paragraphs, without continuous promotion. However, due to the development of the problem of white pollution, I let it develop more violently in the last paragraph. The last slight aftersound also represents the continuation of the problem.

### Cai Jiaxun

Cai Jiaxun, a senior majoring in art and technology at Zhejiang Conservatory of music, loves electronic music composition.

蔡佳迅,浙江音乐学院艺术与科技专业大四学生,热爱电子音乐作曲

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## To Know Anything For Sure

Sonically manipulated string sounds were sculpted to represent time and memory. Sounds play with energy as ruminations and fleeting perceptions. Temporal elements interact creating shifts in reference angles suggesting different points of view. Reversals, relocations, retractions formulate micro and macro objects to be considered in distinctive aural contexts. The work emphasizes a playful character of sound heard from all sides, like contemplating a stream of water.

## Larry Matthew Gaab

Larry Matthew Gaab is a native of the United States. His body of works are for tape alone and for mixed acoustic and electronic instruments. The pieces utilize improvisation, composition, and computer generation.

Larry Matthew Gaab은 미국 태생입니다. 그의 작품은 테이프 단독과 어쿠스 틱 및 전자 악기의 혼합을 위한 것입니다. 작품은 즉흥 연주, 작곡 및 컴퓨터 생성을 활용합니 다.

Larry Matthew Gaab-eun migug taesaeng-ibnida. geuui jagpum-eun teipeu dandoggwa eokuseutig mich jeonja aggiui honhab-eul wihan geos-ibnida. jagpum-eun jeugheung yeonju, jaggog mich keompyuteo saengseong-eul hwal-yonghabnida.

## Curated by:

Kerry Hagan
PerMagnus Lindborg
Mikako Mizuno
Takeyoshi Mori
Qi Mengjie Maggie



