

Lei Liang

Six Seasons

(for any number of improvising musicians and pre-recorded sounds, 2022)

Season 1: New Ice

Season 2: Darkness

Season 3: Sunrise

Season 4: Migration

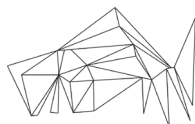
Season 5: Cacophony

Season 6: Bloom

Marco Fusi

violin / viola d'amore

Wednesday, February 21, 2024 at 7:00 p.m.
Conrad Prebys Music Center | Experimental Theater



UC San Diego
SCHOOL OF ARTS AND HUMANITIES
Department of Music



Program Notes:

The Chukchi Sea, north of Alaska, is one of the most inaccessible places to humans on earth. Six seasons in the Arctic, according to Inuit, are not demarcated by a fixed calendar, but by patterns we can hear in the environment.

Hydrophones, designed at the Whale Acoustics Laboratory at the Scripps Institution of Oceanography, were placed about 300 meters below the sea surface at a seafloor recording location 160 km north of Utqiagvik, Alaska. They captured the sound of sea ice, marine mammals, and the underwater environment throughout an entire year.

These sounds call for a different way of listening, challenging our temporal and spatial orientations. Our ocean is dynamic, unpredictable, and full of incredibly complex sounds – including sounds humans cannot perceive – and sounds that are vital for the survival of marine animals. Increasingly, these sounds are drowned out by anthropogenic noises including industrial activities and passing ships. Today, we can no longer presume any empathy with the ocean merely from the comfort and the fixed perspective of a beach chair: our oceans are in crisis.

Many marine mammals use echolocation to navigate in their living environment. We humans are not endowed to echolocate in the same way, but metaphorically, we do. The practice of sending out a “signal” and listening for its enriched “echoes” underlines musicking, reading, interpreting, and communication in general.

Six Seasons mirrors echolocation: “call” and “echo.” The “call” is the pre-recorded sounds that I describe as “the living score” that function as interactive modules; the “echo” is the improvising musicians’ creative response, intertwined with the original signal. Just as ice and wildlife are the “living score” that Inuit set their lives to, the musicians’ role is as much about listening as about responding creatively to the pre-recorded sounds with their instruments.

Our journey begins on October 29, 2015, just three days after new sea ice had started to form at the listening site– the birth of ice.

Six Seasons was commissioned by the Mivos Quartet. It was made possible by a generous grant from the Jebediah Foundation New Music Commissions.

-Lei Liang, February 2024

The Creative Team

Marco Fusi – violin / viola d’amore

Lei Liang – composer / artistic director

Joshua Jones – oceanographer / principal scientific advisor

Mingyong Cheng – visual designer

Charles Deluga – spatial audio designer / software developer

Zachary Seldess – audio software developer

Jeremy Olson - theatrical production specialist, Experimental Theater

Jessica C. Flores - lighting designer



Marco Fusi is a violinist/violist, a researcher in music performance, and a passionate advocate for the music of our time.

Among many collaborations with emerging and established composers, he has premiered works by Jessie Marino, Giacinto Scelsi, Yu Kuwabara, Salvatore Sciarrino and Kristine Tjøgersen, among others. Marco has performed with Pierre Boulez, Elena Schwarz, Lorin Maazel, Susanna Mälkki, Alan Gilbert, and frequently plays with leading contemporary ensembles including Klangforum Wien, MusikFabrik, Meitar Ensemble, Mivos Quartet, Ensemble Linea. He has recorded several solo albums, published by Kairos, Stradivarius, Col Legno, Da Vinci, Geiger Grammofon, New Focus Recordings. Marco also plays viola d'amore, commissioning new pieces and collaborating with composers to promote and expand existing repertoire for the instrument.

After his Masters in Violin and Composition at the Conservatory of Milan, Marco's received his PhD from the University of Antwerp / docARTES program with a dissertation on the performance practice of Giacinto Scelsi's works for string instruments.

He is currently Professor of Violin at the Conservatory of Alessandria and Research Fellow at the Orpheus Instituut of Gent.

Marco Fusi's appearance was made possible with the support of the Italian Cultural Institute, Los Angeles.



Chinese-born American composer **Lei Liang** is the winner of the Rome Prize, the recipient of a Guggenheim Fellowship, a Koussevitzky Foundation Commission, a Creative Capital Award, and the Goddard Lieberman Fellowship from the American Academy of Arts and Letters. His concerto for saxophone and orchestra, *Xiaoxiang*, was named a finalist for the Pulitzer Prize in Music in 2015. His orchestral work, *A Thousand Mountains, A Million Streams*, won the prestigious 2021 Grawemeyer Award for Music Composition.

Lei Liang was commissioned by the New York Philharmonic and Alan Gilbert for the inaugural concert of the CONTACT! Cew music series. His twelve portrait discs are released on Naxos, New World, Mode, BMOP/sound, Albany and Bridge Records. As a scholar and conservationist of cultural traditions, he has edited and co-edited seven books and editions, and published more than forty articles.

From 2013-2016, Lei Liang served as Composer-in-Residence at the Qualcomm Institute/Calit2 where his multimedia works preserve and reimagine cultural heritage through combining scientific research and advanced technology. He returned to the Institute as its first Research Artist-in-Residence in 2018. In 2023, the Institute launched "Lei Lab" where he continues to collaborate with engineers, geologists, oceanographers and software developers, to explore what he calls "the unique potential for learning offered by creative listening."

Lei Liang's recent works address issues of sex trafficking across the US-Mexican border (*Cuatro Corridos*), America's complex relationship with gun and violence (*Inheritance*), and environmental awareness through the sonification of coral reefs.

Lei Liang is Chancellor's Distinguished Professor of Music at the University of California, San Diego. His catalogue of more than a hundred works is published exclusively by Schott Music Corporation (New York).

Joshua Jones has spent the last 27 years working on the ocean, studying marine mammals and their environment around the world through listening underwater. Jones received his PhD in biological oceanography from the University of California, San Diego where he directs the Arctic marine mammal research program in the Scripps Whale Acoustics Laboratory. Josh has developed an international collaboration of non-governmental and Arctic coastal community organizations to study effects of changing ocean conditions and increasing human activities on Arctic marine mammals. His current research focuses on impacts of increasing shipping on Arctic whales and seals. This work is conducted in partnership with Inuit and under the guidance of community organizations and regional government in the Canadian Arctic.

From 2004-2014, Josh directed and produced the interactive exhibit, Whales: Voices in the Sea, which has been installed in nine US public aquariums. He also developed the SeaTech program at SIO, a research internship and technology training program based in Sitka Alaska, where primarily Alaska Native youth conduct research into marine mammals. Josh is a licensed captain. He has worked in all the world's oceans, and has continued to work annually as a charter fishing and wilderness guide in southeast Alaska since 1995.

Josh is the scientific advisor to our Arctic project. He provided bioacoustics data and relevant information about the data to our sound team.

Mingyong Cheng, originally from Beijing, China, is now a California-based new media artist, deeply entrenched in AI and generative art. Currently a Ph.D. student in Art Practice at the University of California San Diego, she integrates visual arts with a keen specialization in Interdisciplinary Environmental Research, collaborating closely with the Scripps Institution of Oceanography. Mingyong's recent foray since 2021 into the realm of generative AI, for her, AI isn't merely an instrument but a partner in creativity, reshaping historical perspectives and envisioning the future. Equipped with an MFA from Duke University, Mingyong has adeptly navigated from documentary filmmaking to an expansive array of experimental arts, capturing the essence of our shared experiences through innovative mediums. Mingyong's work has been showcased internationally such as Siggraph Asia Art Gallery, NeurIPS Creative AI Track, and various global venues.

Charles Deluga is a researcher, composer, installation artist, and systems designer exploring the translation of signals across sensory domains. His creative practice combines ecoacoustics, spatial audio, synthesis, and signal processing to produce immersive contexts for experiencing the intersection of nature and math. Charles has designed and produced A/V systems for architectural media installations across North America, including the Statue of Liberty Museum and MoMA PS1. He is currently pursuing a PhD in Computer Music at UC San Diego after earning a master's in Music Technology from NYU.

Zachary Seldess, a Chicago native now living in San Diego, is an inventor, creative coder, and musician. Zachary's professional and creative work covers a wide variety of audio-related topics, including new applications in microphone and speaker array beamforming, the design of tools and techniques for large-scale graphics-driven spatial sound, software and algorithms for efficient and generalizable psychoacoustic modeling, and many other projects loosely centered around the enhanced sending and receiving of audible expression.

Zachary has collaborated with artists in many mediums including theater, dance, film, and poetry. He has presented interactive installations at Zentrum für Kunst und Medientechnologie in Karlsruhe Germany, Siggraph Asia 2009 in Yokohama Japan, and Gallery Aferro in Newark New Jersey. Other projects include sound design and programming for New York-based dancer Johari Mayfield; and design of real-time multi-channel audio and video performance software for video artist Hisao Ihara. Zachary has also programmed for artists Mari Kimura, Lillian Ball, Rashaad Newsome, Cory Arcangel, Patrick Clancy, Miguel Frasconi, Rebecca Cherry, Mem1, Tobaron Waxman, Shana Moulton, and others.

Zachary is CTO and Chief Architect at BoomCloud360 Inc., based out of Encinitas, California. Among the important software Zachary developed is MIAP which was used for multi-channel sound spatialization in several collaborations with Lei Liang, including *Hearing Landscapes* and *Six Seasons*.