
Many thanks to all those in the CCRMA Staff and Bing Staff for helping to produce this concert!

STANFORD'S LAND ACKNOWLEDGMENT STATEMENT

Stanford sits on the ancestral land of the Muwekma Ohlone Tribe. This land was and continues to be of great importance to the Ohlone people. Consistent with our values of community and inclusion, we have a responsibility to acknowledge, honor, and make visible the University's relationship to Native peoples. www.stanford.edu/native-peoples-relationship

Thank you for coming!
Please join us again for these upcoming CCRMA 50th Anniversary Concerts in the Spring:

nostalgica utopica futura
SAT APR 20 | 4:30 PM
Bing Concert Hall Studio

Bing Star | The Spatialized Audissey
CONCERT 2 | SAT APR 20 | 7:30 PM
Bing Concert Hall Studio

Stanford Graduate Composers Present: Marco Fusi
FRI APR 26 | 7:30 PM
CCRMA Stage

Galan Trio: Kinesis
MON APR 29 | 7:30 PM
CCRMA Stage | CCRMA LIVE

Open House Concert
THU MAY 16 | 4:00 PM
CCRMA Stage | CCRMA LIVE

Caroline Davis: Liberative Joy
THU MAY 16 | 7:30 PM
CCRMA Stage | CCRMA LIVE

John Chowning & Friends
FRI MAY 17 | 7:30 PM
CCRMA Stage | CCRMA LIVE

Stanford Graduate Composers Present: Manuela Freua & The TANK
SAT MAY 18 | 7:30 PM
CCRMA Stage

Fernando Lopez-Lezcano: Phase Changes
THU MAY 23 | 7:30 PM
CCRMA Stage | CCRMA LIVE

Stanford Graduate Composers Present: Ensemble Linea
THU MAY 23 | 7:30 PM
Dinkelspiel Auditorium

Guillermo Galindo: Nexo Organico/Organic Nexus
MON MAY 27 | 7:30 PM
CCRMA Stage | CCRMA LIVE

Iran Sanadzadeh: Frames of Reference
THU MAY 30 | 7:30 PM
CCRMA Stage | CCRMA LIVE

Stanford Graduate Composers Present: Iran Sanadzadeh
FRI JUN 7 | 7:30 PM
CCRMA Stage

CCRMA LIVE: ccrma.stanford.edu/live

Directions and parking: ccrma.stanford.edu/about/directions

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The Spatialized Audissey.

CCRMA 50th Anniversary



BING STAR

Bing Concert
Hall Studio

CCRMA

MUSIC
AT STANFORD

Concert 1

Friday, April 19, 2024 | 7:30 PM
Bing Concert Hall Studio

PROGRAM

Network Music Ensemble Improvisation

SARAH WEAVER
& CHRIS CHAFE

CCRMA Performers:

Chris Chafe (cello, director)
Soohyun Kim (electric guitar/effects)
Madalyn Merkey (computer instrument)
Chryssie Nanou (synthesizer)
Luna Valentin (double bass)

NYU Performers:

Sarah Weaver (conductor, director)
Nick Boyko (electronic guitar/effects)
Jun Han Cui (voice)
Nancy Rico-Mineros (flute)
Yi Wu (computer instrument)
Jerry Xu (alto saxophone)

Silicon Valley Breakdown (1982)

DAVID A. JAFFE

for a symphony of imaginary plucked strings

Oh, Susanna (1971)

LOREN RUSH

for piano

A Little Traveling Music (1971-73)

for piano with computer-generated quadraphonic tape

Chrysi Nanou, piano

Shaman (1984)

JANIS MATTOX

PART I: Call to the Spirits (excerpt)

PART II: Song from the Center of the Earth (excerpt)

PART III: Passage (excerpt)

Point Line Piano (2024)

JAROSŁAW KAPUŚCIŃSKI,

Jarosław Kapuściński, VR performance

OPENENDEDGROUP

(MARC DOWNIE & PAUL

KAISER) + EITO MURAKAMI

Face Coverings Are Strongly Recommended. We encourage you to continue wearing masks for the comfort of our audience members, staff, and artists.

To Ensure a More Pleasant Experience for All: No food, drink, or smoking is permitted in the concert space. Cameras and other recording equipment are prohibited. Please ensure that your phone, other electronic devices, or watch alarm are all turned off. Thank you.

Loren Rush was a composer, pianist and digital audio pioneer. In 1975, with James A. Moor, John Grey and John Chowning, he co-founded Stanford University's Center for Computer Research in Music and Acoustics (CCRMA). At CCRMA he directed research in digital recording and editing systems, digital audio signal processing, simulation of acoustic environments, and intelligent systems. He received the Prix de Paris, the Prix de Rome, a Guggenheim Fellowship and several NEA fellowships. A graduate of U.C. Berkeley (M.A., music composition) and Stanford University (D.M.A., music technology), his music has been performed by the Boston Symphony, New York Philharmonic, San Francisco Symphony Orchestra, St. Louis Symphony, Brooklyn Philharmonic, Detroit Symphony, Minnesota Orchestra, Rome RAI Orchestra and Pierre Boulez' Ensemble Intercontemporain. From New Grove Dictionary of Music and Musicians, article by Charles Shere: In its delicacy of texture and elegance of construction, Rush's early music resembles the style of other Webern-influenced American and French composers. Many early works are in open form: Hexahedron (1962-3) presents the pianist with a choice of routes through its structure; Nexus 16 (1964) dispenses with measured and synchronized ensemble attacks. An interest in historical precedent is clear in Dans le sable (1967-68), which refers to Barbarina's cavatina in the fourth act of Mozart's Le nozze di Figaro. In 1970 Rush began to employ amplification to increase the dynamic range of his compositions. Increasingly sophisticated computer programs allowed him to process intonation, attacks, spatial placement and timbral manipulations of pre-recorded material with a new degree of complexity. Later works, such as Song and Dance (1975), are dominated by rhythmic organization. Others use digital processing to refine musique concrete (The Digital Domain, 1983) or to generate pure tuning systems, incorporated as taped sound accompanying music played by conventional forces. He continued to intensify his study of intonation and acoustics, working closely with the performers for whom his music is intended.

Luna Valentin is a curious soul, finding harmony in the realms of science and music. Her journey is guided by a simple love for exploration. She's found solace in the depths of caves, earning her stripes as a spelunker advisor, and she's found joy in the resonance of the double bass, playing in orchestras and bands from Saint-Etienne (France) to Stanford, traversing borders and genres. Luna's curiosity led her to the world of cave acoustics, where she embarked on expeditions to uncover the secrets of ancient and inaccessible soundscapes. In her second year of pursuing a Ph.D. at CCRMA, her research explores the intersection of acoustics, audio technologies, music, archaeology, and natural underground architectures.

Sarah Weaver, Ph.D. is a New York-based contemporary composer, conductor, technologist, educator, researcher, and administrator working internationally as a specialist in ensemble composition and network arts. Her network composition system innovates contemplative concepts on synchrony, synthesis, transmission, and interconnection for artistic and social purpose through the networking of music and intermedia elements in notation, structured improvisation, and gestures. Weaver's works have been performed and recorded over the past twenty-five years throughout New York and internationally. Her recent projects include sets of pieces in Synchrony Series (2011-2019), Synthesis Series (2020-2022), and new pieces for Transmission Series (2023-). Weaver is Director of the Sarah Weaver Ensemble, Director of NowNet Arts, Editor of the Journal of Network Music and Arts (JONMA), and teaches network arts courses at New York University and The New School College of Performing Arts in New York.

Janis Mattox, composer, pianist, video artist and music educator, is a native of Minnesota and graduate of the University of Minnesota (BFA) and Northwestern University (MFA) in Evanston, Illinois. In the 80's she began creating multi-media works merging live performance, dance, film, and interactive digital music technologies at Stanford University's Center for Computer Research in Music and Acoustics. Her music-drama *Shaman* for percussionist, bassist, actor/vocalist, belly dancer and digital synthesis premiered at Stanford and became the subject of a feature article in *Smithsonian Magazine* by Alan Rich. She was co-producer of *The Digital Domain (Elektra)*, a best selling classical CD which became an audio standard in the industry. Mattox conceived, produced, and scored *Book of Shadows*, a video ballet which premiered in San Francisco and went on to receive over a dozen first-place awards and over fifty international screenings: "This ground-breaking video ballet employs experimental techniques in sound, performance, video and choreography to create a new and moving work." — Miloz Stehlik, *Facets Multimedia*. Other major works include *Memories of Fallen Angels* - a suite featuring Iranian vocalist Sussan Deyhim and instrumental ensemble, dedicated to those living with AIDS; *The Art of War* for jazz drummer Aaron Scott and enhanced prepared piano; *The Rejected Harmony* for African-American dancer Sharon Ritchie and percussion ensemble; *Seven Chakras* for performance artist Linda Montano, dancers and instrumental ensemble; and *Solombra (SunShadow)* - a seven movement song-cycle inspired by the life and poetry of Brazilian poet Cecília Meireles and sung in Portuguese, for soprano Katia Escalera and piano trio: "Solombra contains some of the most inspired song writing in contemporary literature." — Terry Riley, composer/pianist. Awards include a Guggenheim Fellowship, a Rockefeller Bellagio Residency, a Camargo Foundation Residency, four fellowships from the National Endowment for the Arts, a Djerassi Residency, grants from the American Music Center, the Ann and Gordon Getty Foundation, the Rex Foundation, the Argosy Contemporary Music Fund, and three grants from the Ross McKee Foundation for her music education project, "Music for Kids by Kids". Mattox's current work-in-progress, *Sueños de Medianoche (Midnight Dreams)* is an inter-media chamber opera based on an 18th century Bolivian legend and sung in Spanish.

Madalyn Merkey is an American electronic musician acclaimed for her avant-garde contributions to the experimental music scene in the Bay Area. Her music is characterized by its intricate soundscapes, blending various textures and tones to create immersive auditory experiences.

Pianist **Chrysi Nanou** combines a career as a performer, curator, and researcher in music psychology. She is currently a Music Fellow and Lecturer at RPI, NY. Born in Greece, Chrysi's personal and professional aesthetics were formed in Paris and further shaped in the United States with her studies at the Ecole Normale de Musique de Paris / Alfred Cortot, The Peabody Institute of The Johns Hopkins University, and at Stanford University's Center for Computer Research in Music and Acoustics (CCRMA). Her repertoire is particularly diverse, ranging from core classical music to twentieth-century and contemporary music in a wide variety of genres. Appearing as a concert pianist in over 30 countries, she has premiered many compositions by young and eminent composers. Chrysi has served as the Artistic Coordinator of CCRMA (Stanford University, Palo Alto, California) and currently sits on the board of the International Computer Music Association (ICMA). She co-hosts the Leonardo LASER talks at Cambridge University and is an Associate Editor for the *AI & Society: Knowledge, Culture and Communication Springer Journal*.

PROGRAM NOTES

***Network Music Ensemble Improvisation* | Sarah Weaver & Chris Chafe**

Network Music Ensemble Improvisation featuring CCRMA performers and NYU student performers connected via JackTrip audio (authored by Chris Chafe). Conducted by Sarah Weaver with Soundpainting and original gestures.

***Silicon Valley Breakdown* | David A. Jaffe**

"Silicon Valley Breakdown" for computer-generated sound (1982) presents a symphony of imaginary plucked stringed instruments. This electronic orchestra---all sounds are entirely synthesized---is often divided into four smaller ensembles, each with its own tone quality and character. "Silicon Valley Breakdown" has been presented in over twenty-five countries on five continents. *Le Monde* hailed it as a landmark of computer music.

The sound was synthesized by the Systems Concept Digital Synthesizer at CCRMA, which was used to model the physics of a plucked string, using a technique invented by Alex Strong, Kevin Karplus, Julius O. Smith, and David A. Jaffe. The piece combines a variety of filtering and modulation methods to blur the dividing line between string resonance and reverberation, between instrument and space.

The piece opens with bluegrass music pitted against opposing chromatic "abstract" material. Gradually, these two styles exchange attributes---the rock-solid rhythm of the bluegrass fractures, while the abstract material adopts country music harmony. The two eventually find a kind of resolution, fusing together into a single cohesive texture during the extended finale, then flying apart into opposite corners of the cosmos. The title is a pun on classic bluegrass titles like "Shenandoah Valley Breakdown," as well as to the work's explosion of rhythmic complexity. The computer controls musical timing in ways that would be nearly impossible with human instrumentalists. These custom simulation programs (written in Bill Schottstaedt's PLA language) also extend traditional contrapuntal imitation to produce "elastic canons," in which parts begin together, diverge in tempo and eventually find their way back into perfect synchronization.

***A Little Traveling Music* | Loren Rush**

A Little Traveling Music (for keyboard and tape) was written in 1971-73 for Dwight Peltzer and premiered by him in New York in 1974. The computer generated sound was created at CCRMA using Tovar's MUS10 program. The synthesized sounds are based on the first ten partials of the harmonic series of E above cello C. Each of the ten pitches is a complex gong-like timbre that travels about in space independently from the others. The spectral characteristics of each synthesized instrument change as a function of the instrument's apparent location in space.

Shaman | Janis Mattox

“Shaman” is a four part musical theatre piece for percussionist, belly dancer, bassist and computer processed and synthesized sound.

PART I: Call to the Spirits (excerpt) | George Marsh, conga drums

The drum is the essential ritual element of the shamanic seance, enabling the shaman to summon and maintain contact with the spiritual world. In this movement, six tuned conga drums are played against a backup of percussion sounds that were synthesized on CCRMA's Digital Synthesizer. PM microphones were used in the digital recording of the conga drums.

PART II: Song from the Center of the Earth (excerpt)

Characteristics of both the female soprano and the Arabic flute were fused to create this surrealistic and passionate voice of the Primordial Goddess. This music accompanies the Goddess dance, through which she reveals to the shaman mysteries of the universe. All sounds are synthesized.

PART III: Passage (excerpt)

This is a 16-track digital mix of processed and synthesized sounds. The spring-like sounds were produced on a one-of-a-kind instrument built by Richard Waters of Sebastapol, California. The vocal sounds were processed to alter pitch and duration. With the exception of the wooden rattles, all other sounds in this mix were synthesized. The digital recordings were made with PM microphones.

Point Line Piano | Jarosław Kapuściński, OpenEndedGroup (Marc Downie & Paul Kaiser) + Eito Murakami

Point Line Piano is a project at the intersection of music and virtual reality, offering an immersive experience that redefines the composition, performance, and reception of piano music. Participants draw lines in VR that generate music, melding auditory, visual, and kinesthetic elements, and witness a novel paradigm of spatial and full-body abstraction.

Point Line Piano was authored in, and is generated by, OpenEndedGroup's open source software platform Field. The sound spatialization software component was developed by Eito Murakami using Unreal Engine and PD.

ABOUT THE ARTISTS

Chris Chafe is a composer, improviser, and cellist, developing much of his music alongside computer-based research. He is Director of Stanford University's Center for Computer Research in Music and Acoustics (CCRMA). In 2019, he was International Visiting Research Scholar at the Peter Wall Institute for Advanced Studies The University of British Columbia, Visiting Professor at the Politecnico di Torino, and Edgard-Varèse Guest Professor at the Technical University of Berlin. At IRCAM (Paris) and The Banff Centre (Alberta), he has pursued methods for digital synthesis, music performance and real-time internet collaboration. CCRMA's jacktrip project involves live concertizing with musicians the world over. Online collaboration software and research into latency factors continue to evolve. An active performer either on the net or physically present, his music reaches audiences in sometimes novel venues. An early network project was a simultaneous five-country concert was hosted at the United Nations in 2009.

Chafe's works include gallery and museum music installations which are now into their second decade with “musifications” resulting from collaborations with artists, scientists and MD's. Recent work includes the Earth Symphony, the Brain Stethoscope project (Gnosisong), PolarTide for the 2013 Venice Biennale, Tomato Quintet for the transLife:media Festival at the National Art Museum of China and Sun Shot played by the horns of large ships in the port of St. Johns, Newfoundland.

Acclaimed by The San Francisco Chronicle for its “resourceful intricacy and variety of writing,” **David A. Jaffe's** music traverses an expansive landscape, from American bluegrass to Yiddish folk melodies. A protege of composer Henry Brant, Jaffe has written over a hundred works spanning all genres of classical music. He received the Doctor of Musical Arts degree from Stanford University and has taught at Princeton University, Melbourne University and the University of California San Diego. His works have been presented by the San Francisco Symphony, the Brooklyn Philharmonic, the Russian National Orchestra, the Saint Paul Chamber Orchestra, the Lithuanian Opera and Ballet Theatre Orchestra and numerous chamber ensembles; and featured at such international music festivals as Other Minds, the Berlin Festival, the Bergen Festival, the Warsaw Autumn Festival, the Venice Biennale, and the American Festival in London. He has been awarded commissions from the Kronos Quartet, Chanticleer (as their National Endowment for the Arts Composer-in-Residence), Cello Octet Amsterdam, the Lafayette String Quartet, Nancy Karp + Dancers and others. His music has been recorded extensively. More information at jaffe.com.

Marc Downie and Paul Kaiser have collaborated as **OpenEndedGroup** since 2001. Working in a broad variety of media and venues, they make art for façade, gallery, dance, stage, 3D cinema, print, and virtual reality. Their works respond to a wide range of materials — drawing, film, motion capture, photography, music, and architecture. They frequently combine three signature elements: non-photorealistic 3D rendering; the incorporation of body movement by motion-capture and other means; and the autonomy of artworks directed or assisted by artificial intelligence. OpenEndedGroup's films, installations, stage works, and VR pieces have premiered in such venues as MoMA, Lincoln Center, the Barbican, the Isabella Stewart Gardner Museum, the Brooklyn Academy of Music, the Hayward Gallery, Sadler's Wells, and the Berlin, New York, and Rome film festivals. Eight of their 3D digital films were the first of their kind to enter MoMA's permanent collection.

Jarosław Kapuściński is a composer and pianist whose creative focus is in intermedia. His work was commissioned internationally and awarded prizes at UNESCO Film sur l'Art Festival in Paris (1992), VideoArt Festival in Locarno (1992, 1993), Manifestation Internationale Vidéo et Art Électronique in Montréal (1993), and International Festival of New Cinema and New Media in Montréal (2000), and Fresh Minds Festival, Texas A&M University (2014). Presentations include New York MOMA; ZKM in Karlsruhe, Spoleto USA, EMPAC NY, Logan Center, Chicago; Reina Sophia Museum Madrid; Media Biennale Wrocław, Warsaw Autumn Festival; National Art Centre, Ottawa; Tokyo Wonder Site; Creative Media Center, Hong Kong; and Benz Arena Shanghai. He is an Associate Professor of Composition and Chair of the Department of Music at Stanford University.

Soohyun Kim is a second-year master's student and incoming PhD student at CCRMA, Stanford University, whose primary research interest lies in human-AI interaction design for new music performance. He is also a music producer and recording/ mixing engineer trained in South Korea, who participated in multiple popular music production works. As a musician, he is a guitarist and singer.