

SEAMUS@40 – *Electroacoustic Fais Do Do*
New Interfaces for Musical Expression
Saturday, April 6, 2024 1:00 PM
Digital Media Center Theatre

Program Notes:

Aeon

The symbolic abstraction of origin, motion of circle, and the reflection of evolution can be implemented in numerous forms and timespans and can inspire provocative insights into everyday life. Four custom-made controllers of two sizes are used for the performance. Each controller can be performed individually or together with the other three, creating an immersive musical experience.

Chi Wang is a composer and performer of electroacoustic music. Her research and compositional interests include sound design, data-driven instruments creation, musical composition, and performance. Chi's compositions have been performed internationally including presentations at the International Computer Music Conference, New Interfaces for Musical Expression, Musicacoustica-Beijing, the Society for Electro-Acoustic Music in the United States Conference, the New York City Electroacoustic Music Festival, Kyma International Sound Symposia, Electronic Music Midwest Festival, Third Practice Electroacoustic Music Festival, Electroacoustic Barn Dance, Portland Biennial of Contemporary Art, I. Paderewski Conservatory of Music in Poland, International Confederation of Electro-Acoustic Music, and WOCMAT in Taiwan. Chi's compositions were selected for SEAMUS CD, Best Composition from the Americas from International Computer Music Conference, and Award of Distinction from MA/IN festival. Chi has also served as a judge for international electronic music competitions including Musicacostica-Beijing, Society for Electro-Acoustic Music in the United States national conferences and International Computer Music Conference. Chi is also an active translator for electronic music related books, including Kyma and the SumOfSines Disco Club and Electronic Music Interactive. Chi received her D.M.A. at the University of Oregon in the Performance of Data-driven Instruments and is currently an assistant professor of music (composition: electronic and computer music) at the Indiana University Jacobs School of Music.

Palpitations

In August, I started having episodic heart palpitations that were induced by stress and anxiety. At times, I would feel my heart speed up; sometimes, it felt like it would pause and quickly start back up again. This led me to start asking my female-identifying and non-binary colleagues if they ever had these sensations and how they felt them. Most of them said that they have. They felt them in different ways and in different parts of their bodies. Hearing these stories led me to listen to and interact with my heart rhythms more intentionally. I started performing biofeedback-like listening sessions by attaching multiple heart rate sensors to my body, soloing them, hearing them together, and/or hearing how they were latent across different parts of my body. Palpitations is a result of vulnerable conversations between friends and the desire to observe inner states without judgment. Palpitations is the first piece in a series of pieces that sonifies women, trans, and non-binary health issues. In this performance, you will hear three methods of sensing being sonified live: heart rate readings from three different parts of the performer's body, galvanic skin response readings, and respiration. The performer will first interact with their heart rate readings, listening to and observing the space around them. Gradually, the performer will start adding other methods of sensing. In some instances, they will be superimposed with previous heart rate sonifications that the performer gathered while experimenting with listening to their biological data in advance. Palpitations can be performed with the biofeedback instrument electroacoustically with any other instrument connected to the software system.

I have been cultivating a bioartistic practice that enables a performer to listen to their biological signals via galvanic skin response, heart rate, respiration, and gesture sensing and translate the sensor readings into music. My bioartistic compositional process is an intersection between construction, design, theoretical exploration, and performance involving wearable electronics capable of capturing and translating biological

data into immersive sonic and visual environments. Through the process of critical making, I intersect building new interfaces for musical expression (NIME) with discussions routed in the feminist science and technology studies discourse (FSTS) and sustainability. When I work with performers, I embed sensors in a piece of clothing that is meaningful to them in order to make more sustainable pieces and for the performers to feel more comfortable learning a NIME, and I make my pieces as accessible to as many performance backgrounds as possible by using text scores or open form material. I reuse and source as many recycled parts as possible and make sensors out of alternative conductive materials that are often found or recycled from household items. For this piece, I constructed a NIME that sonifies galvanic skin response, heart rate, and respiration. There are three heart rate sensors, one galvanic skin response sensor, and a respiration sensor embedded into a piece of clothing. I designed software that collects the sensor readings from a microcontroller, smooths the data, and makes it easier to send into other software environments. The electronic sounds you hear will be sonifications of sensor readings processed in Max MSP/Ableton Live alongside processed trumpet and voice (at times being processed by the biofeedback readings). This piece aims to explore a listening practice that engages with biological data in ways that are not a means for control but instead an extended, intersectional, and situated listening practice. NOTE: The submission upload is slightly different than what will be performed at the event - these pieces are improvisatory in nature and sound different in each performance. The NIME is in a new iteration that will include more methods of sensing. Also, the duration will be shorter.

Praised by The New York Times for her “appealingly melancholic sound” and “entertaining array of distortion effects,” **Alexandria Smith** is a multimedia artist, audio engineer, scholar, trumpeter, and educator who enjoys working at the intersection of all these disciplines. Her research interests focus on integrating feminist methods of making and scholarship into music technology. To explore how electronic music is embodied through practice, she has been experimenting with ways to integrate biofeedback training and sensor observation into her music and designing interactive media applications and environments for performers. Her research in this interdisciplinary area has been published in *Arcana Musicians on Music X*. Alexandria Smith is an active performer-composer in New York City, California, New Orleans, and Atlanta. Recent performances include performing in the premiere of Alvin Lucier’s *Orpheus Variations* for solo cello, seven wind instruments, and seven dancers, David Behrman’s “Open Space with Brass” with Ed Bear & Ensemble, San Diego Symphony’s *Hearing the Future Festival*, Tulane’s *Music at Midday Series*, *Instigation Festival*, and the *Instant Opus Series*. As an improviser/multi-media artist, Smith has had a residency at the Stone NYC and feature recitals on the *Future of New Trumpet (FONT) Festival West*, Dartmouth’s *Vaughan Recital Series*, the *VI Semana Internacional de Improvisación* in Ensenada, Baja California, and Tulane University. She has been a performer at the *FONT Festival NYC*, *Improv Night at the Stone*, *Chosen Vale Seminar for Advanced Musical Studies*, *Either/OR Spring Festival*. She has performed with Jeff Albert, Anthony Coleman, Billy Martin, Caroline Miller, Justin Peake, Kathryn Schulmeister, Wilfredo Terrazas, the *Tilt Ensemble*, Dave Taylor, the *Versipel Ensemble*, John Zorn, and more. Alexandria can be heard on Billy Martin’s *GUILTY* and Wilfredo Terrazas’ ‘the Torres Cycle’. She is currently an Assistant Professor of Music at the Georgia Institute of Technology. She received her Ph.D. from the University of California, San Diego, and holds an M.M. and B.M. from Mannes the New School for Music. Alexandria is a *Demonic Machines Artist*.

Migration Script centers on the unrelenting forces of nature that push creatures to live their lives as molded through centuries-old patterns without question. Using two scripts for the *Monome Norns*, the performer reacts to and shapes the slowly evolving harmonic content generated in real-time from bird migration patterns captured across Europe. Building new polyphonic and rhythmic overlays from bird song field recordings and the aforementioned sonified data, the performer uses granular engines and digital sample reduction processing to impart their fleeting influence on an unrelenting force. This piece also uses the *Collab-Hub* package developed by the composer, allowing wireless collaborative data sharing between multiple *Monome Norns* instruments, mobile devices, and computers. During the performance, one *Norns* transmits audio-reactive control data to the other two computers, allowing the sonic properties of the music it synthesizes to adjust properties such as the grain density, bit reduction amount, and modulation depth of the

signal processing machines in real time. In this manner, the musician gains an improvisation partner out of one of their own instruments, another source of stochastic drive they must attempt to sculpt and decide how to react to in each performance.

Anthony T. Marasco is a composer and sound artist who takes influence from the aesthetics of today's Digimodernist culture, exploring the relationships between the eccentric and the everyday, the strict and the indeterminate, and the retro and the contemporary. These explorations result in a wide variety of works written for electroacoustic ensembles, interactive computer performance systems, and multimedia installations. An internationally recognized artist, his music and installations have been presented across the United States as well as in Norway, Italy, Brazil, Denmark, and Canada. He has received commissions from performers and institutions such as WIRED Magazine, Phyllis Chen, the American Composers Forum Philadelphia, Quince Contemporary Vocal Ensemble, Toy Piano Composers, the Rhymes With Opera New Chamber Music Workshop, Data Garden, Maureen Batt, and the soundSCAPE International Composition Exchange. Marasco was the grand-prize winner of the UnCaged Toy Piano Festival's Call for Scores, a resident artist at Signal Culture Experimental Media Labs, and a grant winner for the American Composers Forum's "If You Could Hear These Walls" project. His performances, works, and research have been featured at forums such as the International Conference on New Interfaces for Musical Expression (NIME), the Web Audio Conference, the Toronto International Electroacoustic Symposium, the Society for Electro-Acoustic Music in the U.S. (SEAMUS), New Music Gathering, Electroacoustic Barn Dance, the Audio Engineering Society's International Conference on Audio Education, New York City Electroacoustic Music Festival, the International Computer Music Conference (ICMC), the National Student Electronic Music Event (NSEME), Mise-En Festival, Montreal Contemporary Music Lab, Electric LaTex, and Omaha Under the Radar. Marasco is an Assistant Professor of Music Technology and Composition at the University of Texas Rio Grande Valley where he also serves as the director of the UTRGV New Music Ensemble. His research focuses on topics such as web audio, hardware hacking, and creating hardware and software tools for networked music performance practices. He is a co-developer of Collab-Hub along with Nick Hwang and Eric Sheffield.

Photosynthesis

Optron is a light-based electronic music controller and visualizer. At first glance, it may appear like an ordinary florescent lamp. Underneath however is a powerful combination of electronics. It is held in the hands with a strap around the neck and performed a little like a guitar, and a little like a lightsaber. It was inspired by Japanese noise artist Atsuhiro Ito, who in 1998 created the first Optron. It was comprised of an amplified commercial fluorescent light, controlled directly (and dangerously) by manipulating voltage out of the wall into the lamp. This safer version harnesses the power of 144 ultra-bright, individually addressable RGB LEDs, and can rapidly switch between using light for both visual feedback and as control input. In visualization mode, serial messages transmitted from the computer to an onboard Arduino Micro running at a screaming 38.4kBaud at up to 200hz refresh rate translate into subroutines that execute different light color patterns. Alternatively, a webcam and computer visualization software has been used to translate light position and color into digital controller information, which can be wielded by waving hands over the lights or moving the Optron itself in space.

Optron has undergone a series of upgrades and improvements since its inception, including 3D printed fixtures, array of 8 hand tracking sensors allowing hands to carve and shape the lights, motion sensors, "air guitar" hand tracker, and linearly sensitive fretboard.

From the ancient cypress swamps of Wewahitchka Florida, **Chet Udell** has a PhD in Music Composition with Electrical Engineering Cognate. He is an Associate Professor of Biological and Ecological Engineering and Multidisciplinary Programs Administrator for the Design for Social Impact certificate at Oregon State University. He is also an international, national award-winning electronic instrument designer, performer, and composer. His works have been recognized with ASCAP-SEAMUS Student Commission 1st prize, Best-

Performance at the GA Tech New Instrument Competition, and world-finalist in international composition and performance competitions including Prix Destellos and Sound in Space.

He is Director of the Openly Published Environmental Sensing (OPeNS) Lab. A globally-recognized NSF and USDA funded Makerspace led by a staff of over 40 undergraduate Researchers across Electrical, Computer, Mechanical Engineering, and Environmental Sciences. They advance environmental, climate change, and agriculture research by designing new scientific instrumentation.

String Thing #2

A year ago, the first String Thing was born from a bucket of discarded piano bass strings. Fastened with nails to two blocks of scrap wood, they were rusty and unwieldy and much too thick to be pulled taught between two bodies. At their best they produced a low resounding thud. To compensate for the Thing's lack of acoustic ability, the strings were attached to a Touch Board which activated recorded samples of bowed strings and voices.

A year later, the second String Thing came to fruition, this time made of harpsichord strings and a cigar box fashioned with guitar pegs, heart-shaped holes, and bridges. These strings are strong and thin, bending and stretching with the bodies that animate them. Inside the other box is an Arduino, which attaches to an accelerometer-based glove and potentiometers. One hand activates the strings, the other's motion controls their processing. String Thing #2 exists in the space between the two bodies that wear it. They are its backbone. Without them it makes no sound.

Penina Biddle-Gottesman is a third-year Technology in Music and Related Arts (TIMARA) major with a musicology minor at Oberlin Conservatory. She studied the cello growing up in Berkeley at The Crowden School of Music and started composing music in the eighth grade at the John Adams Young Composers program. Penina has worked as a sound designer for several films and theatre productions, most notably composing music for multiple productions at Marin Theatre Company. As a performer she has opened for notable experimental musicians, including Lydia Lunch and Aaron Dilloway. Her current areas of study are instrument design, film scoring, installation-based performance, and Jewish music history. Penina works as a promoter for Oberlin's Dionysus Discotheque, and as a singer at the Christ Episcopal Church in Oberlin. She is also an organizer of Oberlin's Modern Music Guild. She now spends her summers teaching kids about graphic scores and contemporary music at the John Adams Young Composers program - the place where she was first brought into the world of composition.

Fae Ordaz, born and raised in Santa Fe, New Mexico, is a multimedia artist who's practice involves crafting wearable noise-machines, stop-motion animation, puppetry, vocal improvisation, electronic music, electronic textiles, and different types of notation. She is very passionate about exploring themes such as mythology, body art, movement, and restraint, and loves to integrate visuals in her work. She is also a part of Modern Music Guild (MMG) where she helps to organize miscellaneous events related to experimental music and improvisation. As a Crafting Sound Lab Research Assistant and Makerspace Teaching Assistant in the Technology in Music and Related Arts (TIMARA) department, she spends a lot of time working on electronic and textile based projects. She is currently pursuing a double degree in TIMARA and Studio Art at Oberlin College & Conservatory, where she is also a secondary Jazz vocal student. Penina Biddle-Gottesman is a third year Technology in Music and Related Arts (TIMARA) major and musicology minor at Oberlin Conservatory. She studied the cello growing up in Berkeley at The Crowden School of music, and started composing music in the eighth grade at the John Adams Young Composers program. Penina has worked as a sound designer for several films and theatre productions, most notably composing music for multiple productions at Marin Theatre Company. As a performer she has opened for notable experimental musicians, including Lydia Lunch and Aaron Dilloway. Her current areas of study are instrument design, film scoring, installation-based performance, and Jewish music history. Penina works as a promoter for Oberlin's Dionysus Discotheque, and as a singer at the Christ Episcopal Church in Oberlin. She is also an organizer of Oberlin's Modern Music Guild. She now spends her summers teaching kids about graphic scores and

contemporary music at the John Adams Young Composers program - the place where she was first brought into the world of composition.

Phantom of Utopia

Phantom of Utopia is a three-movements collection using the poem, Peach Blossom Spring. The project endeavors to decipher the intricate elements of pictorial, ideological, and semantic Chinese characters through embodied interactions, subsequently encoding into collective bodily movements and gestures into a manifestation named Chinese Calligraphic Dance. This dance form is sonified by means of both categorized and uncategorized gestures under artificial intelligence gesture recognition system and machine learning generative audio-visual system, facilitated by camera-based motion tracking. The system is designed to provide immediate visual and sonic feedback, effectively transforming gestures into a canvas for dance movements and harnessing motion tracking data to inform generative audio-visual composition. It is proposed that people who interact with the system are the music making instruments who uses their embodied movements to create electronic music. The categorized gestures are the representation of the eight fundamental components of Chinese, Japanese, and Korean (CJK) Strokes, including dot (點), rightward (橫), downward (豎), hook (鉤), raise (提), curve (彎), short slant (撇) and wave (捺). These components, encompassing the lines and patterns characteristic of Chinese calligraphic strokes, can be combined to create a myriad of distinct Chinese characters. The gesture recognition system excels at discerning these gestures and subsequently triggering sonic events integral to the overall musical composition. Calligraphic Dance emerges as an artistic discipline, embracing somaesthetic principles within its audio-visual dance framework. This approach seeks to heighten our awareness of bodily perception, foster a deeper connection between individuals and their immediate environment through self-expression, nurture spiritual bonds tied to personal identity and appreciation, and embolden individuals to explore the creative potential of their bodies in the context of generative arts. Furthermore, this innovative art form serves as a conduit for individuals to engage with and understand Chinese calligraphy culture through immersive, embodied experiences. The demonstration of this system revolves around a classical Chinese poem, "The Peach Blossom Spring," authored by Tao Yuan-ming in 421 CE. The narrative of this poem explores a mythic, celestial realm—a utopia—set against the backdrop of societal turmoil and political instability during the Jin Dynasty. The dancer, in this context, employs varying contours, characterized by different speeds and spacing, to translate traditional two-dimensional Chinese calligraphy into her original compositions, seamlessly blending the art of writing, painting, and dancing within a three-dimensional space.

Ka Hei Cheng is pursuing her Ph.D. in Music (Experimental Music and Digital Media) at Louisiana State University, and she studied at the Education University of Hong Kong, Hong Kong Baptist University, and Bowling Green State University. Born and raised in Hong Kong, Cheng approaches a diversified culture and philosophy that extend her musical dimensions and nourish a similarly diverse approach to her artworks by using "brush strokes" with a sonic palette. She has composed various genres of music, including music jingles, music for animation, tailor-made event music, electroacoustic music, and acoustic compositions with or without programming. Her piece, "The Trigger Machine," was performed at the Earth Day Art Model 2020, which was organized by IUPUI. Her works were accepted by the Exchange for Midwestern Collegiate Composers, and she has written music pieces for the Screen Music Program and the Collaborative Composition Initiative (CCI). One of her works was recorded on a CD, "CCI//Sessions, vol. 2." In 2020, she composed a chamber orchestral piece, "Nibiru," for the Cleveland Chamber Symphony, and she was commissioned to create a commercial promotional music video for the CNA Group. Her works, "The Entangling Turner" and "COVID-19 Genomic Navigator," were performed at NIME 2021 and 2022 (The International Conference on New Interfaces for Musical Expression) and presented at ICAD (International Community for Auditory Display). She served as the presenter and project developer of her research papers related to data sonification in NIME, ICAD, and NYCEMF. In 2022, she hosted a 40-minute presentation on Weather Reporting and Sonification at NYCEMF. Apart from data sonification, she has been involved in the development of projects related to digital fabrication, extended reality, motion tracking, and EEG sensors. She has composed pieces for laptop orchestras, and one of her compositions, "Who is the Leader?," was commissioned by EdUHK. Recently, she collaborated with three other artists on the project "Shifting

Datum," which was displayed at the Contemporary Arts Center of New Orleans. She also worked on a project called "Contingent Dream," which employs a collaborative robot to create algorithmic compositions derived from audio recordings, rendering the sounds of the city in sumi-e ink. This innovative project is set to be presented at TEI2023 (17th International Conference on Tangible Embedded and Embodied Interaction). One of her previous work, Resonance: Collaborative Musicking Through Tactile Ecologies was also accepted by TEI 2024. Her recent work, "PhoeniX – Mixed Reality Performance for Dance and Viola," was accepted by NIME 2023, and she was honored to receive third prize at the Graduate Research Conference at Louisiana State University. The Lettering Judges of TDC69 have also selected the capacitive sensing plant piece of Ka Hei Cheng and two other collaborators as worthy of the citation for typographic excellence and for showing in the Annual Type Directors Club Exhibition for 2023 and The World's Best Typography.

On Circe

This piece draws on recordings I was doing for another work of mine using homemade metal instruments and live processing, in which the intimate tiny contact sounds were amplified. In Resonants my desire was to step into the performance role and improvise but also capture more tangibly the delicate but very resonant metal sounds which included many homemade instruments with handmade resonators. The piece demonstrates a seminal use of collage technique of a novel sort, to create new timbral, gestural, and spatial sonic forms.

Elizabeth Hoffman's computer music includes acousmatic and electronic music approaches. She often creates mixed music works that explore interactive dsp and are simultaneously instruments, compositions, and structures that allow delimited but free responses and interplay between the computer performer, the computer itself, and the instrumentalist. Hoffman has also composed a number of works for high density loudspeaker arrays. Compositional focus points include micro-timbre, texture, tuning, spatialization, algorithmic applications, and collaborative work. She received her MA from Stony Brook (with Bülent Aral), and received her DMA from U. of Washington where she studied with Diane Thome, Richard Karpen, and John Rahn. She teaches at NYU as faculty of Arts and Science, and is serving as president of SEAMUS since 2022.

Azalea Twining (she/her) is a eighteen year old soprano and composer. As a 2020-2021 fellow of the Luna Composition Lab at Kaufman Music Center, Azalea studied composition with Ellen Reid and composed Under Her Voices for piano trio, which was the winner of the 2021 G. Schirmer for Luna Lab Prize. She has continued to study composition and create pieces with a focus on singing her own work. Azalea's most recent and current projects include "Echo" for solo flute commissioned by Intersection, The Red House for saxophone quartet commissioned by Second Stage and Composers Now, and Evelyn: Four Bodies One Life, a dance opera created and performed by her family, Ensemble InterTwining. Azalea has been studied voice with Eileen Clark from 2014-2023 and is alumni of the WNO Opera Institute, Eastman Summer Classical Studies programs, and NYU MPAP Summer Classical Voice Intensive. She is currently a music major at Columbia University where she studies voice with Josephine Mongiardo-Cooper and is a member of the early-music choral ensemble, Collegium Musicum. She is also honored to work outside of university— premiering works by composers Elizabeth Hoffman and Cecilia Olszewski. Azalea hopes to foster a career as a composer/performer.