

Concert 5: 7:00 PM Lecture Hall

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Time Garden: skull bridge by Charles Nichols, Scotty Hardwig, and Zach Duer

Time Garden is a multimovement choreographic work completely in virtual reality. The work exists at the intersection of physical and imagined virtual spaces where many hyperreal performance options become possible. The work hybridizes the human body and technology in digital space, where body and movement become replicable and simulateable. The collaborative process between dance, music, and visual art has involved scanning the human body to transform it into digital landscapes, recording vocal sounds for processing into the musical score, retargeting movements onto virtual avatars through inertial motion capture, mapping dancer joint motion and distance to audio synthesis and processing parameters.

The music for Time Garden: skull bridge was composed by performing interactive computer music, glitching, spectrally resynthesizing, and granulating samples of a male voice speaking a poem, singing pitches, and performing vocal percussion, in response to the choreography of the avatar dancers and the camera perspective in the virtual reality.

Composer, violinist, and computer music researcher **Charles Nichols** (www.charlesnichols.com) explores the expressive potential of instrumental ensembles, computer music systems, and combinations of the two, for the concert stage, and collaborations with dance, video, and installation art. His research includes spatial audio, data sonification, motion capture for musical performance, and telematic performance. He teaches Composition

and Creative Technologies at Virginia Tech and is a Faculty Fellow of the Institute for Creativity Arts and Technology.

Scotty Hardwig is a movement and media artist whose work investigates the spaces between the human and the technological, the real and the digital, the body and the environment, and the anatomical/evolutionary and the social. He is an active creator of contemporary works for stage and screen, and an educator teaching courses in movement, performance and integrated media at Virginia Tech.

Zach Duer is an Assistant Professor teaching in the Creative Technologies Program in the School of Visual Arts at Virginia Tech in Blacksburg, Virginia. His work lies at a series of intersections: sound and visualization; careful composition and improvised performance; intuitive musical spontaneity and structured digital systems.

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Dancing in the Ether by Mikel Kuehn

Dancing in the Ether (2020) is a fixed media Ambisonic work composed of synthesized sounds that explore three dimensional sonic space. The title serves as a metaphor for sounds coming “alive” through their movement in physical space and our need to continue the act of creativity through the constraints of social isolation caused by the global pandemic. The material is designed to play on references to “real world” sounds, perhaps conjuring occasional déjà vu moments for the listener.

The music of American composer **Mikel Kuehn** (b. 1967) has been described as having “sensuous phrases... producing an effect of high abstraction turning into decadence,” by New York Times critic Paul Griffiths. A 2014 Guggenheim Fellow, he has received awards, grants, and residencies from ASCAP, BMI, the Banff Centre, the Barlow Endowment, the Chicago Symphony Orchestra, Composers, Inc. (Lee Ettelson Award), the Copland House (Copland Award), Eastman, the Flute New Music Consortium, the Fromm Foundation at Harvard, the League of Composers/ISCM, the MacDowell Colony, the Ohio Arts Council, and Yaddo. His works have been commissioned by the Civic Orchestra of Chicago, Ensemble 21, Ensemble Dal Niente, Flexible Music, the International Contemporary Ensemble (ICE), violist John Graham, clarinetist Marianne Gythfeldt, cellist Craig Hultgren, guitarist Dan Lippel, Perspectives of New Music, pianist Marilyn Nonken, Selmer Paris, and the Spektral Quartet, among others. Kuehn is Professor of Creative Arts Excellence at Bowling Green State University and received degrees from the Eastman School of Music and the University of North Texas. In 2016, New Focus Recordings released *Objet/Shadow*, a portrait album of Kuehn's music; a second portrait album will be available from New Focus in 2022.

www.mikelkuehn.com

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A Certain Way of Discourse by Steven Lewis

A Certain Way of Discourse is an experiment in designing an interactive, computer mediated system for electroacoustic drum set performance. It is a performance-driven system that uses transformative response methods to broaden the sonic possibilities of the acoustic drum set. In an effort to expand the spectrum of these timbral possibilities, motion-tracking technology and real-time audio analysis were applied to the original performance, providing the drummer with the flexibility to combine orthodox drumming gestures with more elongated physical motions. The data from a wearable MUGIC® sensor acted as a gestural control source for the processing of a drum solo, providing the acoustic sounds with alternative timbral and sonic morphologies. Using data generated from smoother, broader motions can be leveraged to expand the scope of timbral options at a drum set players' disposal. This would yield a sonically diverse palette to which the drummer can then access simultaneously to their original, acoustic performance, and represents a systemic method of designing "extended" techniques" for the drumset without modifying the physical characteristics of the instrument in any way.

The MUGIC® sensor also controls visual processing, and manages the triggering of all the disparate components of the piece (spoken word, effects sends, dry signal amount). However, while the MUGIC® sensor control audio effects processing, camera vision techniques (namely blob tracking) are employed to track up to eight ""spheres"" prominently featured in the visuals. Spheres are continuously tracked as "blobs" in the virtual television space. These active blob counts- which change as the number of spheres increases or decreases - control the spatialization of sound. The piece is programmed for 8 speakers, with each speaker receiving signal based upon the number of blobs currently being tracked in space.

This leads to a context of cross-modal contingencies, where the musical and visual considerations behind the gestural options at a drummer's disposal become far more consequential than they would under normal acoustic situations. While the MUGIC® controls certain salient audio processing and visual effects, a secondary, seemingly passive surveillance and tracking technology is used to determine a position for each sound in space. Ultimately, no matter what the technical considerations in building such a system, the program is designed so that the performer is enabled to simply play their instrument and musically respond to the processed audio around them. There should not be any excessive mindfulness given to the technology while engaged in the piece, and implemented in a way so as to augment the sound rather than hinder the natural movement of playing the drums.

Steven Lewis is a drummer, technologist, and multimedia artist. His creative work and scholarly research has been accepted for presentation at the New York City Electro-Acoustic Music Festival (NYCEMF), The International Computer Music Conference (ICMC), and

GameSoundCon. His current focus is in creating music from surveillance technologies, creating multimodal installations, and deriving methods for constructing computer-mediated systems that facilitate live sound processing and real-time improvisation between virtual avatars and their human counterparts within immersive environments. His music, visual art, and research can be found at www.smlewisportfolio.com.

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Usynlig by Stewart Engart

Usynlig is an acousmatic piece created by analyzing 64,533 audio files through MIR corpus analysis and constructed from the bottom up by means of querying, clustering, classifying, measuring similarity/dissimilarity, navigating latent space, and musical intuition. The piece was commissioned by Carolina Performing Arts (UNC-CH) for Compose Carolina 2021 with the prompt of "In The Now". The piece addresses this prompt by constructing gestures of concrète iconic and referential sounds. These sounds have consistent inner logic through the MIR analysis and the piece asks the listener to listen beyond the recognizable sounds to the larger phrase and structural construction.

Stewart Engart (b. 1991, he/him) is a Southern California based composer, performer, sound artist, and software engineer working in the fields of experimental electronic music, audiovisual installation, and innovative chamber music. His work explores computer-assisted musical form and gesture, as well as experimental synthesis techniques. Stewart recently completed his PhD at the University of California, Santa Barbara, along with his dissertation, titled "Composing in Latent Space: Music Information Retrieval Driven Algorithmic Composition".

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block by Joshua Biggs

block (2021) is constructed from three recorded improvisation sessions with a bass clarinet and double bass duo. The performers were offered a variety of iterative prompts – from graphic scores to earpiece cues containing material they had recorded previously – and with these, improvised extraordinary portraits of their respective instruments. This ambisonic realization of the work is my love letter to the expressive power of low and loud sounds. Several thousand samples come together to form dense contrapuntal shapes from which a lifelike organicity emerges. I imagine small, busy creatures navigating and interacting with a demanding, and sometimes overwhelming, environment.

NB: The submitted piece is decoded for binaural stereo listening and should be listened to with headphones, and not stereo monitors, to avoid phasing artifacts if possible.

Josh Biggs (b. 1993) is a composer and sound artist from Cape Town, South Africa. Biggs writes acousmatic and electroacoustic music with materials gathered from recorded improvisations. Drawing from extended cognition research as well as phenomenology and affect theory, Biggs focuses on music making that draws explicit attention to the formation and reception of expression as transduced through sound: how instinct, enculturation, and self-rehearsal surface through listening, composing, and performing practices.

Biggs is currently a doctoral student at Cornell University, studying with Marianthi Papalexandri-Alexandri and Kevin Ernste, and holds a BM in Composition from Oberlin Conservatory (2017), where they studied with Lewis Nielson, Aaron Helgeson, Jesse Jones, and Tom Lopez. Among others, Biggs has written for Wet Ink Ensemble, Yarn Wire, Unheard-Of Ensemble (NYC), the Formalist Quartet (Los Angeles), the Tilikum Percussion Trio (Toronto), and Tacet(i) Ensemble (Bangkok).

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Automaton by Paul A. Oehlers

Paul A. Oehlers is most recognized for his “extraordinarily evocative” film scores. (Variety) Films incorporating his music have won the Grand Jury Prizes at the Atlanta International Film Festival and the Hamptons International Film Festival. His music has also appeared in broadcasts on PBS, NBC, and other commercial venues.

As a composer of concert music, Paul’s compositions have received hundreds of performances in the United States and abroad. For his achievements in concert music composition, Paul was awarded the 2006 Margaret Lee Crofts Fellowship from MacDowell. He is currently Associate Professor of Audio Technology at American University in Washington, DC.

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Quiet places elude me (AnxStudy3) by Carey Campbell

Carey Campbell is Professor of Music at Weber State University, where he teaches courses in music history and music in culture. Carey is Artistic Advisor and Host for NEXT Ensemble, a non-profit chamber music collective dedicated to transforming the concert experience.

Carey’s electronic compositions and improvisations tend to explore notions of decay, deformation, and delirium. Representative works include PBD19 for fixed-media electronics, Stratum for live and fixed-media electronics, and Something Old, Something New for live electronics, flute, and dancers. He frequently collaborates with theatre and dance productions, most recently the fully improvised work The Birthday of Folly (for live electronics, dancer, and author).

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Coalescence by João Pedro Oliveira

Coalescence is the process of joining or merging of elements to form one mass or whole. In this visual music piece, both visual materials and music join and separate themselves in distinct units, forming shapes and sounds that are the combination of elements joined together.

Composer **João Pedro Oliveira** holds the Corwin Endowed Chair in Composition for the University of California at Santa Barbara. He studied organ performance, composition and architecture in Lisbon. He completed a PhD in Music at the University of New York at Stony Brook. His music includes opera, orchestral compositions, chamber music, electroacoustic music and experimental video. He has received over 70 international prizes and awards for his works, including three Prizes at Bourges Electroacoustic Music Competition, the prestigious Magisterium Prize and Giga-Hertz Special Award, 1st Prize in Metamorphoses competition, 1st Prize in Yamaha-Visiones Sonoras Competition, 1st Prize in Musica Nova competition. He taught at Aveiro University (Portugal) and Federal University of Minas Gerais (Brazil). His publications include several articles in journals and a book on 20th century music theory. www.jpoliveira.com

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