Department of Music Stanford University

CCRMA

more bing for your buck

an evening of 3d immersive sound and music diffused through the Stanford GRAIL

Chapman
Gu
Naranjo
Li
Peterson
Rush
Shi
Shu Yu
Walker

Bing Studio Thursday May 21st, 2015, 7:30pm

PROGRAM

Lights Out Damn'd Spot	Joel Chapman
Bad Day No.418	Gina Gu
Water Imagination	Jia Li, Zhengshan Shi
Sounds in Space	Byron Walker
Re-trazo IV	Ivan Naranjo
Coexistence	Shu Yu Lin
Sonagon	Alison Rush
Swarm of echoes (2011)	Daniel Peterson (DXARTS)

The GRAIL is our "Giant Radial Array for Immersive Listening", the speaker array and diffusion and control environment which we have been using to present full 3D surround concerts since 2011. It has grown since then to span as many as 25 main speakers and 8 subwoofers, all digitally equalized for a transparent sonic experience that tries to be as close as possible to a studio environment. Close your eyes, open your ears (wide!) and let yourself be transported to places unheard...

PROGRAM NOTES

Lights Out Damn'd Spot **Joel Chapman**
3d soundfield, 9:00

Lights Out Damn'd Spot is a production of *Macbeth* in total darkness with five actors: Dante Belletti, Adi Chang, Weston Gaylord, Audrey Moyce and Nora Tjossem. The play was performed live in the Listening Room at CCRMA earlier this month. As sound designer for the show, I sought to place the actors in different rooms and spaces by using 3rd order ambisonics to spatialize both ambient noise and cued sound effects. Additionally, I placed four AKG 414 microphones positioned strategically throughout the Listening Room to capture the actors' voices and process them through real-time reverb convolution. Using impulse responses of a cave for the witch scenes, a large chamber for the banquet scene, large and small rooms, and a forest for the battle scenes, the actors were transported to the spaces in which their scenes took place. The complete darkness of the Listening Room (made possible by a black curtain covering the Linux machine and lots of black tape) guided the audience to focus intently on the beauty of Shakespeare's text, and the intimacy of the space allowed for a quietness and subtlety in acting that almost no stage can accomplish. Special thanks to Jonathan Abel, Jay Kadis, and Fernando Lopez-Lezcano for their insight and logistical assistance.

Bad Day No.418 **Gina Wu**

MUOWAAAAAAA.....

Sounds in Space **Byron Walker**

Please read in Don LaFontaine's voice (the "In a world that...."-trailer voice guy)

In the post-apocalypse, only two things are certain: giant robots, and resource scarcity...and death. Well, make that three things. At least taxes didn't make the list.

In this interactive performance, I will be piloting a virtual giant robot, defending a small resource station from destruction by pirates. Having forgotten to bring weapons, I will have to deflect their attacks until help arrives with palm energy-shields. It's a good thing they always say that the best offense is a good defense, right?

Water Imagination **Jia Li, Zhengshan Shi**

Water gives birth to all things and does not compete. As an essential element in the universe, it nourishes creatures, and it hears things.

Scientific research about water crystal shows that the water's response was truly majestic when exposed to music.

This piece consists of sound from water and its variation, reflecting an imagination of water through ambisonics.

Re-Trazo IV **Ivan Naranjo**

re-trazo IV is the fourth of a series of pieces in which sound material previously used in the context of a multichannel installation ("To Cut-Out", 2014), is re-contextualized and transformed.

Coexistence **Shu Yu Lin**

This piece is a part of the interdisciplinary project, field recording, composition and performance for ecology conservation in Patagonia, Chile, that the composer works with the Sub-Antarctic Bioculture Conservation Program, which is run by the University of North Texas, Universidad de Magallanes and Institute of Ecology and Biodiversity in Chile. The project requires the composer to do field recording on Navarino Island, Chile and compose a piece that incorporate these recordings.
The recordings were the main sources of musical gestures in this composition. For the interest of accentuating the idea of conservation, symphonies of birdcalls and natural sounds such as river were incorporated into the piece. The composer intended to obtain a balance between her musical ideas and the concept of conservation through the process of manipulating the sounds and the structure of the piece.
This project is funded by the Center for the Latin American Studies.

Sonagon **Alison Rush**

Sonagon is an homage to the geometry of the Circle of Fifths. Bouncing tones trace polygonal pitch constellations in the performance space, adding a perceptual element to the mathematical harmony of the Circle.

Swarm of echoes (2011) **Daniel Peterson (DXARTS)**
3d soundfield, 18:50

"... intermittently escorted by the diligent swarm of echoes, many di-

mensions of the same echo."
Adolfo Bioy Casares, The Invention of Morel

Swarm of Echoes was influenced by the short novel The Invention of Morel by Adolfo Bioy Casares in which a fugitive escapes to a mysterious deserted island only to find a group of tourists appear seemingly out of nowhere. Full of imaginationand the fantastic, the novel questions boundaries between fantasy and reality". Swarm of Echoes attempts to create real environments consisting of rain and waves that evolve and are juxtaposed with synthetic environments of strange bird-like sounds and impossible crashing waves, taking influence from the imagery and metaphysical ideas of the real and the immaterial. The listener is taken on a journey into worlds that are believable, yet strange and mysterious.

In March 2010, I was fortunate enough to bring a 3D microphone and recorder from the University of Washington to my home island of Oahu in Hawaii to record the sounds of the ocean, which became the basis for the piece. For my masterthesis, I was interested in the ability to use wavelet analysis data to synthesize the 4-channel B-format recordings taken in Hawaii. Wavelets are small, finite waveforms that are used in mathematical analysis of time-based signals, and result in time-accurate frequency information. Swarm of Echoes then became an experiment in this resynthesis. The piece is comprised entirely of filtered white noise convolved with wavelet coefficients (the result of the analysis of the sound recordings). The idea is to synthesize 3D sound fields that sound similar to the original, but have interesting new qualities. This project was completed in part with the support of the Center for Digital Arts and Experimental Media (DXARTS) at the University of Washington.

ABOUT THE ARTISTS

Joel Chapman, conductor and bass-baritone, recently graduated from Stanford with a B.A. in Music ('14) and now is pursuing a co-terminal Master's Degree in Music, Science, and Technology ('15). Joel music directed Fleet Street, an all-male a cappella group, for two years and has sung in the Stanford Chamber Chorale for five years, where he has served as a student conductor. Recent credits: *The Last Five Years (*music director), *Sunday in the Park with George (*music director), *Company* (music director), *The Fantasticks* (El Gallo), *My Fair Lady* (music director), *[Title of Show]* (music director).

Gina Gu
-Professional Game Audio Designer & Composer since 2004
-MST @ CCRMA Stanford University
-Castlevania Girl => Sound Witch
-Maker?!..or Just A Nerd...

Jia Li is a current CCRMA visiting scholar from Shanghai Conservatory of Music. She has devoted herself to composition of electronic music and traditional music, which has produced many works of unexpected and unusual combinations of materials and media.

Shu Yu is a composer, pianist and flutist and currently a graduate student at Stanford University, pursuing a Master's degree in Music, Science and Technology. She also holds a Bachelor's degree in Theory Composition from National Taiwan Normal University in Taipei, Taiwan.

Daniel Peterson was born and raised in Honolulu, Hawaii. He moved to Seattle to attend the University of Washington and completed a B.A in Comparative Literature studying under Willis Konick. During that time he became involved in computer music through the Center for Digital Arts and Experimental Media (DXARTS), culminating in his first major attempt at composition being featured in the semi-annual DXARTS concert. Recently, he completed a Master of Music in Composition at the University of Washington under Juan Pampin, where he focused on the use of wavelet analysis to resynthesize ambisonic recordings for the purpose of creating acousmatic music. He has had works shown at the International Computer Music Conference in Montreal, New York and Perth, Australia, Art Basel in Miami, Henry Art Gallery and Meany Hall in Seattle, and at the Reykjavik Art Museum in Reykjavik, Iceland. Most recently, he collaborated on a light and sound installation with Maja Petric as part of her dissertation for the Ph.D. program in DXARTS at the University of Washington. His interests include spectral analysis, ambisonics and the exploration of the relationships between literature, philosophy and music.

Alison Rush is a songwriter, visual artist, and Masters student at CCRMA. As an undergraduate in Linguistics and Psychology at Columbia University, she researched human gesture and speech acoustics, as well as acoustic properties and behavioral correlates of dolphin vocalizations. As a co-founder and artist at Nyx Records (Merced, CA), she became fascinated by the loud and heavily trafficked intersections between art, science, and society. Her creative work examines such intersections and poses hard questions, like: “What would happen if we put a whale here?”, and “Shouldn’t this be a roundabout anyway?”.

Zhengshan (Kitty) Shi is a phD student at CCRMA. She is a musician and a music technologist. Kitty is interested in interactive sound design, and exploring auditory perception and machine listening.

Byron Walker says: I'm a current Undergraduate Music student moving towards CCRMA's Masters program next year, focusing on Music analysis, engagement, education, algorithmic composition, game design...well, the list goes on. Realistically speaking, I'm focusing on whatever I can get my hands on.

Sound in Space, Music 222

“Sound in Space” is a course that deals with the historical background, theory and techniques on the use of space in music composition and diffusion. We do listening and analysis of relevant pieces in our 3D Listening Room, Stage and Braun Rehearsal Hall experimental and concert spaces. And experimental hands-on work in spatialization techniques leading to a piece or short study to be diffused in a student presentation session or concert at the end of the quarter (this concert!). Examples in various computer music languages are also discussed during the course.

In addition to the Listening Room 3D space (22.4 3D audio system) and the Stage (16.8 3D audio system) , Studio D and E are also available for class work with 8.1 systems. The Recording Studio can also be used with a more specialized (but limited) 5.1 audio setup. This year we also had the Braun Rehearsal Hall available with a 25.6 deployment of our concert diffusion system (the GRAIL – Giant Radial Array for Immersive Listening).

Thanks for funds generously provided by the Shenson Family we were able to invite some of the finest artists and practitioners in the field to participate in master classes, colloquiums and concerts during the Spring quarter. The first one to visit was Hans Tutschku (from Harvard University) on the week of April 6th, he participated in the class lectures during that week and presented a concert of his works on April 10th in the Braun Rehearsal Hall. Both Juan Pampin (DXARTS, University of Washington) and Åke Parmerud are visiting this week and are presenting master classes, colloquiums and pieces in concert (tomorrow's concert!).