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Lei Liang Awarded First Research Artist in Residence at UC San Diego Qualcomm Institute

Department of Music professor and composer to focus on integrating art, science and technology in three-year residency

World-renowned composer Lei Liang has been named the inaugural Research Artist in Residence at the UC San Diego Qualcomm Institute. Appointed for three years, the Department of Music professor will expand his research on the sonification of coral reefs, highlighted in his “Hearing Seascapes” interdisciplinary courses.

“My partnership with Qualcomm Institute has been barrier-breaking,” Liang said. “It is the main reason I regard UC San Diego as a unique place to reinvent and re-envision our disciplines, and I hope to find completely new ways — both technically and artistically — to explore the expanding relationship between music, science and technology.”

The residency supports three years of work with Qualcomm Institute’s Sonic Arts group, with the possibility for renewal up to two additional years. Liang said he will continue the research he began in 2017, which used coral reef images and audio to highlight the dangers facing reefs around the world.

“Hearing Seascapes: A Collaborative Seminar on the Sonification of Coral Reefs” began as a partnership with Falko Kuester, the Kinsella Heritage Engineering Director at Qualcomm Institute and professor of both computer science and structural engineering at the UC San Diego Jacobs School of Engineering. The course sees graduate and undergraduate students



Lei Liang in front of “Hearing Seascapes” at the UC San Diego Qualcomm Institute. (Photo by Alex Matthews/ UC San Diego Qualcomm Institute)

use data collected by Scripps Institution of Oceanography researchers Stuart Sandin and Ana Sirovic to compose interactive, multimedia performances that meld sound, images and movement.

“Lei is truly remarkable and brings a fresh, open perspective to integrating music, science and technology. He has a unique ability to immerse himself fully in all that technology can do and use it as the basis for creating something new,” said Ramesh Rao, Qualcomm Institute director. “Lei is also committed to training the next generation of students — artists, musicians, technologists — to develop a deeper understanding of what is possible. I look forward to experiencing what emerges from our partnership.”



From left, Falko Kuester and Lei Liang work with “Hearing Landscapes,” the initial project Liang led while Composer in Residence, 2013 – 2016. (Courtesy the UC San Diego Cultural Heritage Engineering Initiative/ Qualcomm Institute)

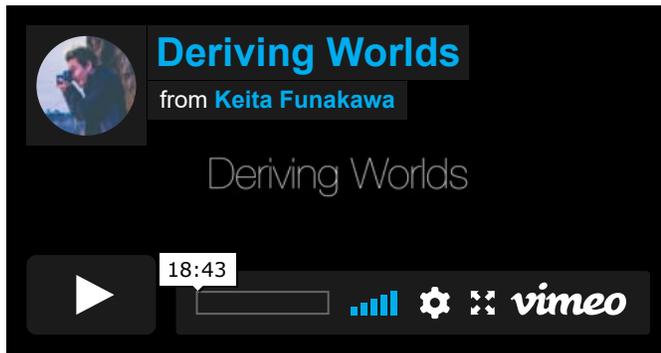
Starting in 2006, the Qualcomm Institute has appointed a series of experts in the arts to engage with the community through residency positions, giving them opportunities to push the technological envelope of their respective disciplines. The appointments are meant to honor and incentivize artists to work across disciplines with scientists and technologists of all kinds.

In addition to Liang’s appointment as Research Artist in Residence, the Qualcomm Institute has appointed four composers in residence as part of a joint program with the Division of Arts and Humanities and Department of Music. In 2015, the burgeoning residency was named fourth of “Seven Uniquely Inspiring Residences for Composers” around the world.

“My earlier residency at Qualcomm Institute was one of the most inspiring experiences I’ve had since I arrived at UC San Diego,” said Liang, who was Composer in Residence from 2013 to 2016. “Being invited back to Qualcomm Institute is a testament to the extraordinary environment for collaboration and interdisciplinary experimentation of the institute and UC San Diego.”

As Composer in Residence, Liang worked with Kuester to explore the sonification of Chinese landscape paintings. “Hearing Landscapes” — which continues to be developed — paired a contemporary musical composition by Liang with high-resolution, multispectral scans of 12 rare paintings by 20th-century artist Huang Binhong.

“Disruptive research such as the ‘Hearing Landscapes’ and ‘Hearing Seascapes’ projects embody the amazing things that can happen when science, technology, engineering, arts, mathematics and music converge for scientific story-telling,” Kuester said. “Who would have imagined historic paintings or coral reefs to find their own voice: a voice that captures one’s imagination, stimulates curiosity, creates an informal path towards exploring harder questions and, with a bit of luck, one that helps create future stewards for these precious artifacts and sensitive natural habitats.”



For “Hearing Landscapes,” the multispectral scans gave insight into painter Binhong’s creative process by capturing detailed information about the materials, techniques and artistic processes, Liang said — insight he then used in composing the music. A documentary about the project, called “Deriving Worlds,” premiered in 2015, and the Boston Modern Orchestra Project commissioned “A Thousand Mountains, A Million Streams” based on the research. It premiered in April 2018.

“These projects changed my own musical approach in a fundamental way,” said Liang, whose work has been commissioned by the New York Philharmonic and the Taipei Chinese Orchestra, among many others. “When you bring together gifted and inspiring people from seemingly unrelated fields, something magical emerges, and that’s what happens here.”

Liang has received numerous honors, including a 2015 Koussevitzky Foundation Award, the 2011 Rome Prize, a 2009 Guggenheim Fellowship and a 2008 Aaron Copland Award. His saxophone concerto “Xiaoxiang” was a finalist for the Pulitzer Prize in Music in 2015.

Born in Tianjin, China, Liang came to the United States as a high school student. He earned degrees from the New England Conservatory of Music and Harvard University, studying composition with contemporary composers Sir Harrison Birtwistle, Robert Cogan, Chaya Czernowin and Mario Davidovsky.

Liang joined the UC San Diego Department of Music in 2007. In addition to the Qualcomm Institute residency, Liang will be premiering a chamber opera Oct. 24 with Department of Music soprano Susan Narucki, titled “Inheritance.”

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