

Professor's acoustic research repurposed into relaxing listening sessions for all

Wellness Dome events cast sounds of the rainforest in ambisonic space for an immersive experience

By Mary Beth Faller, ASU News

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[Garth Paine](#), an expert in acoustic ecology, has spent years traveling the world to collect specialized audio recordings.

He's been to Costa Rica and to Ecuador as part of his research into innovative ways to [save the planet](#), and last year he was among four Arizona State University experts on a team that [won the prestigious XPRIZE competition](#). Team Limelight Rainforest invented a new technology to measure biodiversity by using a drone to drop acoustic recording devices onto the tree canopy to measure sound, record images and take insect and plant samples.

Paine, a professor of digital sound and interactive media in the School of Arts, Media and Engineering at ASU, created the bioacoustic recorders in the Limelight devices to analyze species density.

Now, Paine's recordings of life in the rainforest are available to the entire community at free listening sessions on the Tempe campus. The one-hour Wellness Dome sessions are held in the ASU ambisonic dome, a metal framework with 45 speakers that creates an immersive audio experience in Stauffer Hall B.

The event is a project of the [Acoustic Ecology Lab](#) in the School of Arts, Media and Engineering, which Paine co-directs with [Sabine Feisst](#), a professor in the School of Music, Dance and Theatre.

Research has shown that connecting with nature can speed healing and create a sense of well-being, Paine said. And he's found, after years of running listening workshops, that people report feeling more relaxed and grounded after listening to nature sounds.

People don't typically pay close attention to sounds, he said.

"But when we direct our attention to listening, it means that we have to be here now because sound only happens here and now, wherever we are. And that's a profound thing," he said.

The Wellness Dome listening sessions, which started during the fall semester, can draw anywhere from one to over a dozen participants, who can work on their laptops, relax with their eyes closed or do yoga while surrounded by the sounds of the Ecuadorian rainforest.

"It's a space where people can just come and be present in that sound field and just relax," said Paine, who also is a professor of music composition in the School of Music, Dance and Theatre.

The room is darkened for the sessions, with gentle colored lights and pillows and chairs on the floor.

The sounds include all of the life in the rainforest — birds, insects, frogs and mammals — so there's chirping, buzzing, hooting and screeching, plus the gurgling of water and the occasional murmuring of humans.

Celia Yang, a PhD student in the School of Arts, Media and Engineering, runs the computer program for the sessions, sometimes highlighting the cawing bird sounds and other times focusing on splashing water.

"For now, we are repurposing the sound to create a space, which is part of my interest in creating public spaces," she said.

"In the next month, I'll be adding certain frequencies on top of the rainforests to see if it changes peoples' experience."

She will eventually set up a questionnaire for participants to measure their responses for her research.

How you can participate

- The [Wellness Dome listening sessions](#) will run from 12:30 to 1:30 p.m. on these Thursdays this semester: March 6, April 17, April 24 and May 1. The dome is in Room B127 in Stauffer Hall.
 - The Community Environmental Listening Desert Citizen Science Project is part of Citizen Science Month in April. Everyone is invited to engage in environmental listening and to [make and submit a 10-minute recording](#), wherever they are, to assist the Acoustic Ecology Lab to better understand urban and natural environments.
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Paine also hopes that hearing the life sounds will inspire an affinity for the rainforest, and maybe even a desire to help save it, which was the point of the XPRIZE competition.

(Video: <https://youtu.be/C8HEoDh284w>)

Paine and Yang published "[The Environmental Listening Field Guide](#)," which includes exercises for listening.

"This is a really important step in regrounding ourselves to the planet, to the actual environments we live in, as a way of addressing climate change and climate impact, and giving agency and stewardship to people to feel that they belong in the places that they live," Paine said.

The rainforest sounds are relaxing and exotic, but to Paine, there are no bad sounds. All sounds are part of the environment.

"We ban the word 'noise' in our lab because it's usually just derogatory, and it's something that we want to push aside," he said.

"Our fundamental argument is that it's an acoustic ecology. You can't just extract part of it."

He's interested in balance. For example, there are spaces in downtown Phoenix with a lot of traffic and light rail sounds.

"Perhaps traffic sound is masking bird calls that we want to hear, and therefore, can we balance that in some way? Can we bring forward the bird calls so that we feel that we hear the natural environment more, rather than excluding certain sounds?" he said.

"Part of the question that we want to examine is, 'Can we introduce other sounds that would transform the perception of that public space without requiring huge budgets to plant lots of trees and completely revamp them?'"

Yang, who also is a sound artist, is working on this question in her research.

"My current focus is to develop a public sound work to see if we can reshape the public space to help people to feel more engaged and safer in spaces that were abandoned or ignored," she said.

This story originally appeared on [ASU News](#).

Main image



Gary Chung (front) experiences sounds of the rainforest in the Wellness Dome, an ambisonic dome in Stauffer Hall, during Open Door at the Tempe campus on Feb. 22. Photo by Samantha Chow/ASU News

Text image(s)



The ambisonic dome, which nearly fills room 127 in Stauffer Hall B, has 45 speakers to create an immersive sound experience. Photo by Laura Segall/ASU