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Playing Lake Annie's Song

Have you ever thought about the "artistic" side of scientific discovery? In a famous lecture in 1959, British scientist and novelist C. P. Snow, lamented that 'intellectual life' was split into two cultures—namely the sciences and the humanities—and that this was a major limitation for addressing the world's problems. Nowadays scientists are increasingly reaching out to writers, poets, artists, and musicians to help them interpret and share their data and findings, not as tables, figures, and statistics, but rather by creating new works of art that reach a far wider audiences. One such arts-science alliance is a recent interpretation of the long-term data from Lake Annie, a 67' deep, 90-acre sinkhole lake located on the property of Archbold Biological Station. Lake Annie is celebrated by scientists worldwide for the data from the sediments at the bottom of the lake which document the history of Florida extending back nearly 40,000 years. The lake is also important scientifically for its long-term monitoring of many lake measures including water depth, temperature, pH, color, oxygen levels, and plankton communities.

Dr. Evelyn Gaiser, Archbold Research Associate and Associate Dean at Florida International University explained how one day, while analyzing some lake data, "I was looking at a heat map

graph of Lake Annie temperatures. Surface waters got warmer in the summer shown by darker red colors, and then cooler in the winter shown by yellows, greens and blues. As a scientist, I saw the graphed temperatures from the top, middle, and bottom of the lake as a typical series of data points. But as a musician, I saw something else. I saw music."

Inspired, she decided to combine her two passions, science and music, and convert a couple of years of Lake Annie data into a musical composition. She said, "I set the average temperature to middle C, and scoring every degree above or below this as a higher or lower musical note, I translated the seasonal shifts in lake temperature." Her result was an eerily beautiful melody. Partnering with student Marcus Norris from the Music School at Florida International University, her 'data notes' were transformed into a musical composition. You can listen to it online, as the premiere of "Lake Annie's Song" is performed by the University's student string trio during Gaiser's recent TED^xFIU talk. Repeat the song a couple of times and you will begin to recognize the joyful start to spring and the transition to deeper, darker, winter sounds.

Writing for science students who are interested in embracing their creative side, Gaiser mentioned, "I think the most important advice I can give science students is to embrace your creative side in expressing the science that you do. The possibilities are infinite. If you really get into this, then explore the possibility of a double major in science and arts, or take art courses outside your major or a summer workshop in science communications. Lots of universities also have 'artists in residence' in their science programs who can help you. You can join a group, or invite a friend in a fine arts discipline to work with you. Some programs offer degrees that bridge the liberal and fine arts with the sciences. Think about bringing artists on board to expand the broader impacts of your work."

You can listen to Evelyn's TED^xFIU talk and the moving performance of Lake Annie's Song on YouTube: <https://www.youtube.com/watch?v=m7fCmHG3h7k>.

Photo 1: Evelyn Gaiser giving her TED^xFIU talk. Photo by Luca Marazzi.

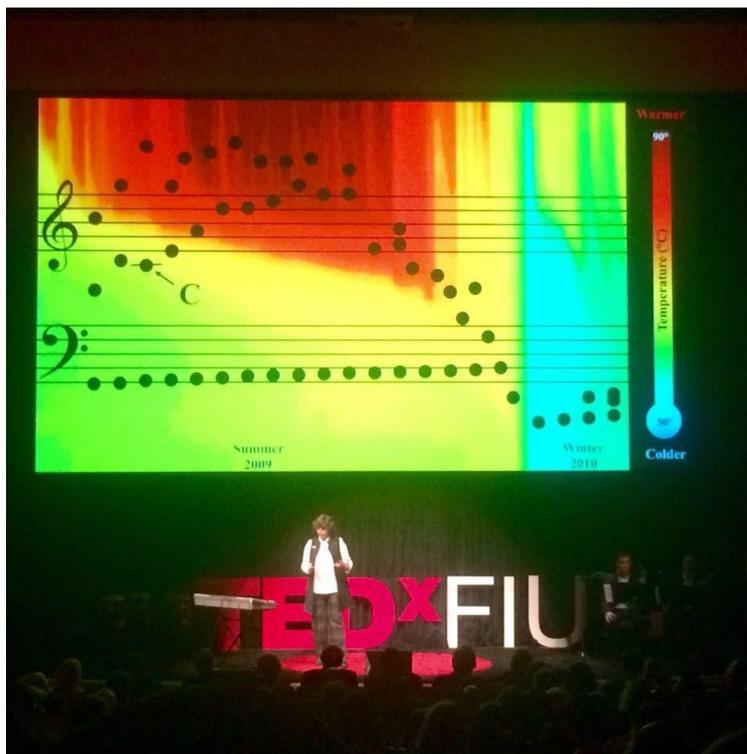


Photo 2: Evelyn Gaiser sampling from boat. Photo by Archbold Biological Station.

