

Goodbye Arecibo Observatory -- Essay by Lauren Likkel

When I visited the famous Arecibo Observatory in Puerto Rico in 2019, I didn't know that its astronomical observations were soon to literally come crashing to a halt. Research was ongoing and the visitor center was one of the best small museums I've seen. I loved the displays of meteorites and moon rocks, and all the information on the discoveries made by the observatory. In December 2020, support cables suddenly failed completely and about a thousand tons of the receiver and the equipment platform crashed down to the radio dish far below. Originally many were hopeful of repairing the telescope, but the reality was that the observatory was too expensive to maintain and no longer was a cutting-edge facility.



Figure caption: Visitors to the Arecibo Radio Observatory in 2019 had no hint that by 2022 the observatory would be closed and the radio dish partly dismantled.

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Arecibo Observatory had been used for research in atmospheric science as well as radio and radar studies for half a century. Important research included work on pulsars and asteroids, finding the rotation rate of Mercury and mapping the surface of Venus through its clouds. Puerto Ricans and other Americans were proud of its status as “the largest single-dish telescope in the world”. But China in 2016 completed a radio telescope that just happened to slightly exceed the size of Arecibo telescope. And now that I think about it, not all the damage caused by Hurricane Maria in 2017 had been fixed when I visited in 2019. I had also been surprised at how old the equipment was in the control room. The giant radio telescope was an aging hero looking at forced retirement when the catastrophe occurred.

The National Science Foundation (NSF) had been trying to get someone to take over the cost of operating the site, and finally has accepted a proposal to create a science education center that will focus on biology. The NSF will fund construction of a center named “Arecibo C3”, which will focus on the C’s of the Spanish words for “ciencia” (science), “computación” (computation), and “comunidad” (community). The name “Arecibo C3” is much better than its longer name of “Arecibo Center for Culturally Relevant and Inclusive Science Education, Computational Skills, and Community Engagement”. And it is short enough for their new website of AreciboC3.org.

Cold Spring Harbor Laboratory (CSHL) says that it has the lead role in the proposal accepted by the NSF to revamp the site. CSHL is a large private not-for-profit biomedical research company. Arecibo C3 will be operated jointly by CSHL, two Puerto Rican university campuses, and a university campus on the mainland.

They hope to open in 2024 and continue developing resources for educational outreach, biological research, and tourism.

I hope one day to visit Arecibo C3, making the 1.5 hour drive from the city of San Juan in a rental car with the final 10 miles on narrow mountain roads with minimal signage. And visiting would give me a chance to pay my respects to the ghost of Arecibo Observatory.

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