



Hunter Howell

ARCHBOLD APRIL 2022 NEWS for curious minds



In This Issue:

1. A New Dawn on the Buoy
2. Award-Winning Angell
3. The Making of a Conservation Engineer
4. The Return of College Students
5. Happy 115th Birthday to Our Founder

A New Dawn on the Buoy



Dr. Hilary Swain and Dr. Evelyn Gaiser with Bert Crawford on the morning of the Lake Annie buoy deployment. Photo by Jennifer Brown.

As the sun rose over Lake Annie on March 31st, Archbold launched a new buoy bristling with high-tech sensors to collect data on the weather and lake. The yellow data buoy was funded by the National Science Foundation and custom-built by [Flydog Marine](#). "It floats!", joked Andri Laidre, Flydog Marine CEO and



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Engineer. Laidre traveled from wintery Estonia for deployment day, joining Hilary Swain, Archbold Executive Director, Evelyn Gaiser, FIU Aquatic Ecologist, Amartya Saha, Archbold Ecohydrologist, Kevin Main, Archbold Land Manager, and Bert Crawford, Archbold Operations Manager. Crawford designed a chain pulley system to transfer the buoy into the water. Powered by solar panels, the buoy will measure the amount of sunlight and the radiant energy of the sun that comes down to the lake's surface and through the water column. A large instrument probe under the buoy with multiple sensors migrates through the water column from top to bottom, collecting pH, conductivity, light, temperature, and dissolved oxygen data. The probe will also estimate algal chlorophyll and dissolved organic carbon. Other sensors on top of the buoy measure weather parameters like wind speed, air temperature, wind direction, and relative humidity. The real-time data are relayed via a modem to the cloud and will be available for anyone to access. Swain offered gratitude to the team and said, "This is going to be a new picture for our scientific eyes on Lake Annie." Gaiser added, **"One of the wonderful things about this new buoy is that it profiles the lake by sending a suite of sensors from the surface to the bottom every 20 minutes. This data profile will give us new insights into how this lake and other lakes function."** The Lake Annie buoy is one of the hundreds in the Global Lake Ecological Observatory Network [GLEON](#) revealing how lakes interact with land-use changes, human activities, and climate change.

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"Archbold Biological Station is one of America's iconic centers of continuous research and education in field biology. It is a prototype of what we need all across America."
— Edward O. Wilson

Award-Winning Angell



Portrait of Dustin Angell by Bill Parken.

Dustin Angell, Archbold Director of Education, won second place in the Faces of Biology contest sponsored by the American Institute of Biological Sciences and the Society for Integrative and Comparative Biology. Angell met the contest challenge of integrating art with science to illustrate the range of research practices. Angell's photo depicts Chelsea Moore, Archbold Herpetology Research Assistant, scoping a Gopher Tortoise burrow. The scope with the attached camera allows researchers to confirm the location and presence of tortoises for Archbold's long-term study on Red Hill. Burrows can be up to 30 feet long. The April issue of the popular journal [BioScience features the winning photo](#). Angell said, "I use photography primarily to teach about local science and conservation. Faces of Biology shows what scientists and science look like, which aligns with my [Florida Stewards photography project](#). I hope these

Maehr Florida Wildlife Corridor Applied Science Fellowship

Apply for a new fellowship opportunity at Archbold to create innovative science solutions for Corridor land conservation. Deadline for submitting proposals is August 15, 2022. [Learn more here.](#)

Director of Education

We are seeking an individual to lead and expand Archbold's science education program. Applications are due May 16. [Learn more here.](#)

Annual Giving Manager

We are seeking an individual to oversee activities related to annual gift fundraising and provide support to the Director of Philanthropy. [Learn more here.](#)

photos inspire people to go outside and experience nature, and maybe even become researchers or volunteers themselves." Angell's contributions to environmental education also received recognition at the LEEF Conference (League of Environmental Educators in Florida) on April 1-3. **He was honored with The Past President Award and the Golden LEEF Award for his outstanding contributions to environmental education.** Angell said, "The latter award is special and was a surprise. It is the closest thing LEEF has to a lifetime achievement award for our members." Angell, LEEF Conference Chair, served on the LEEF board for six of the nearly ten years he's been at Archbold including appointments as President-Elect, President, and Past President. This LEEF conference was Dustin's last one before leaving Florida. Look out for an upcoming newsletter featuring Dustin before he moves to Alberta, Canada this summer.

The Making of a Conservation Engineer



Portrait of Dr. Amartya Saha at Buck Island Ranch by Dustin Angell.

Online Events

April 28: 3:30 PM-4:30 PM

'Seed bank persistence, seed output and long-term seed viability of the non-native invasive wetland grass, *Hymenachne amplexicaulis*'

Akiem Gough, Archbold Agro-Ecology Intern

[Register here](#)

Watch all past virtual events [here](#).

One of the key stewards for Archbold's new Lake Annie buoy is Dr. Amartya Saha, Archbold Ecohydrologist. Saha will help manage the buoy sensors, power supply, and data communication to ensure they perform in their subtropical home. Initially trained as an engineer, his experiences in nature led him to a career in environmental conservation. He said, "As a kid, I was crazy about observing fish in freshwater and saltwater. While in college, I wanted to understand how deforestation in the Himalayas damaged water quality and dried up streams and springs, affecting fish and making life harder for village women who had to walk further and further to fetch a pot of water." Over the past 25 years, Saha has worked across India, Africa, South America, and the Florida Everglades with governments, local communities and scientists such as Dr. Evelyn Gaiser at Florida International University. **In a world with mounting demands on water resources, from agriculture to industry to nature, interdisciplinary specialists like Saha try to find balance for all.** For example, he designed low-cost instruments to measure the water cycle and water availability in East Africa. He maintains a variety of complex instrumentation for Archbold including: 1) Water level monitoring across 14 ranches and South Florida Water Management District reservoir projects; 2) Eddy Flux Towers and weather stations at Buck Island Ranch; 3) Lake Annie Buoy. He said, "On one hand, you have the Everglades, one of the most densely instrumented parts of the world. On the other, there are vast regions in the tropics with no instrumentation or data. **Water affects all aspects of life. So, measuring rainfall, solar radiation, and groundwater level is crucial for managers to know exactly how much water is available year-round. That way, they can make sound water allocation and treatment decisions.**" We are grateful Amartya Saha found his way to Archbold and the Everglades to monitor the liquid pulse impacting all of us.



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Happy 115th Birthday to our Founder



The Scrub Blog

Nature and Science from Florida's
Heartland

Explore [The Scrub Blog](#) by Archbold creative staff.

[Archbold Facebook Event Calendar](#)

Dr. Jim Layne holds a Gopher Tortoise alongside Richard Archbold in the 1960s.

In 1941, aviator and biological explorer Richard Archbold acquired the Red Hill Estate as a gift from John A. Roebling II and founded Archbold Biological Station. Mr. Archbold lived on-site as a full-time resident and very active leader for the next 35 years. Throughout the years, he built a tradition of scientific excellence by inviting scientists from around the world to visit and conduct their scientific research. In the spring of 1976, while hospitalized in Palm Beach County facing terminal cancer, Richard Archbold typed a new will that ensured the land, buildings, and his personal fortune would be dedicated to the Station. His sister, Frances Archbold Hufty, agreed to serve as Chairman of the Board of Archbold Expeditions. Guided by the Archbold family and our Board of Directors, we continue Richard Archbold's legacy. Since our founding, Archbold has achieved formidable growth thanks in part to the loyalty and generosity of friends like you—and with your continued support, we will expand our reach and share what we've learned, helping to build and share the scientific knowledge needed to protect Florida and beyond. **Richard Archbold would have turned 115th on April 9th. Please [click here](#) to make a special gift to Archbold Biological Station today and help us continue growing into the future.**



Directions to Archbold Biological Station

Eight miles south of Lake Placid. Entrance is 1.8 miles south of SR 70 on Old SR 8.

If you enjoy these stories from Archbold, please consider a gift to support our research and education programs. [Donate now](#). Your gift really makes a difference.

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