

# RADIO WAVES

News you can use for license instruction  
and radio science education

2025 - Issue 5



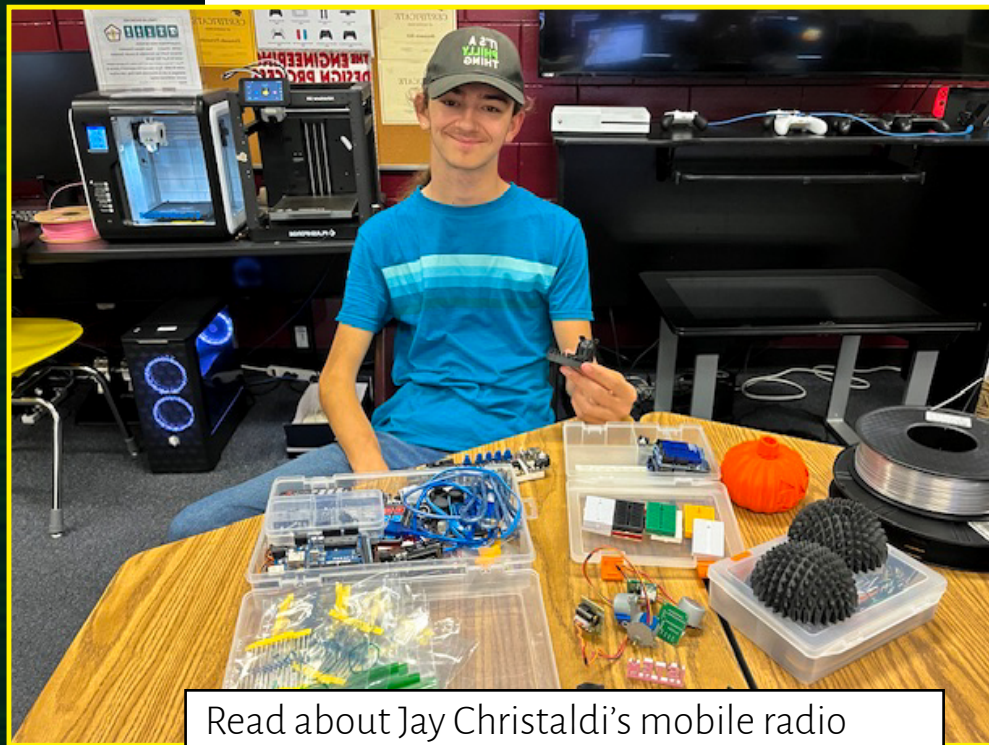


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Cover Photo: ASCTE Amateur Radio Club launches a weather balloon and payload in April 2025.



Read about Jay Christaldi's mobile radio communication system project on page 3!

## Countryside High Cougars Top the Charts in Enthusiasm for Ham Radio!

Written by Julie Yaeger, KQ4TVM  
Submitted 2025



A group photo of Countryside Cougars Who Code and volunteers from UPARC learning with the ARRL grant equipment items.

Countryside High Cougars Who Code/Girls Who Code clubs were full of excitement as iSTEM students completed Etron and Arduino kit labs and programmed Geochron technology overlays on the big-screen TVs. While gaining skills in basic electronics and hands-on equipment assembly, club members collaborated to problem solve and use critical thinking to produce their own innovative designs.

ARRL awarded Countryside High three equip-

ment grants after their teacher, Julie Yaeger, attended a Teachers Institute session in the summer. This enabled club members to raise campus-wide awareness about how fun radio communication technology can be! At the April 29th Lab Advisory Board Meeting, iSTEM students showcased club highlights to an audience of visiting business professionals, nonprofits, and community members. Enthusiasm soared at the Advisory Meeting as Club Officer Dana Puga explained the kit creations, the impact of ob-

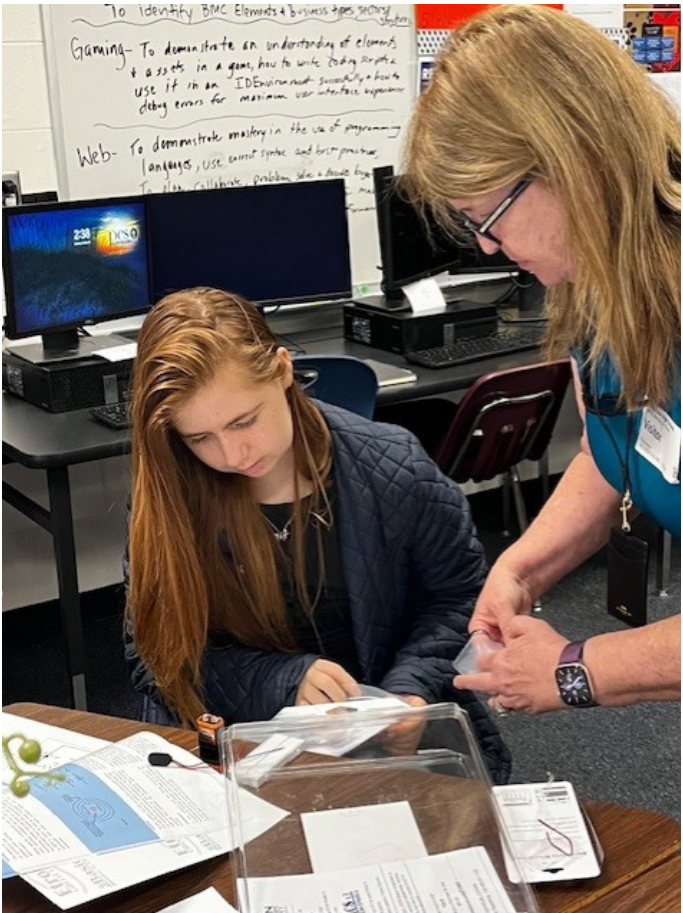


taining a Technician license, and the important role ham radio plays worldwide.

Countryside partnered with Upper Pinellas Amateur Radio Club (UPARC) volunteers who shared what they loved best about being a ham. The volunteers helped teach about Ohm's law, circuits, and radio waves using ARRL donations. On one visit, UPARC demonstrated making contacts — including one with Chile — with their remote system and logging them.

Student Jay Christaldi topped the charts with his project that involved building a mobile radio communication system to use while kayaking from Anclote to Egmont Key. The Arduino kits granted by ARRL are what inspired him to do this project. This complemented his passion for creating with hardware and software technology. Students used 3D printers, Tinkercad, Blender, and Scratch as iSTEM students helped teach their peers.

What's next for Cougars Who Code? On May 19th, we are holding our Officer Elections, Arduino Kit Builds, and our Social to recruit more students to become ham radio enthusiasts. The next number-one goal is for our students to become FCC-licensed Technicians.



Cougars Who Code Club Officer Dana Puga is building an Etron kit (above). After the ham radio contact with Chile at our Cougars Who Code meeting, UPARC volunteers Carol and Fred talk with students. This really fueled interest in getting Technician-class licenses and getting involved in ARRL Field Day events (left). Club members explore their Etron kits and also hear from volunteers (page 3).





# Flying High at ASCTE

Written by Christopher Brown, W9SBS  
Submitted 2025

The Alabama School of Cyber Technology and Engineering, a statewide residential magnet high school in Huntsville, last checked in with Radio Waves after our Amateur Radio on the International Space Station (ARISS) contact in 2024. With the generous support of ARRL, we're flying high again with an amateur weather balloon project.

At the beginning of 2025, ARRL provided equipment for a weather balloon and payload. Students spent our weekly club meeting time, from late January to the beginning of April, working on the equipment and preparing the balloon. The payload was housed in a polystyrene container and included an APRS tracker, a GoPro camera, and a power source. These, along with the balloon itself, the parachute, and the helium supplies, were all provided under the ARRL ETP Progress Grant. The club added an additional small transmitter we had on hand to aid in locating the balloon after descent.

The balloon was launched on the morning of April 17th. We intentionally overinflated the balloon to facilitate a shorter flight and a final landing location closer to the school. A large crowd of students, faculty, and parents gathered as we prepared for the launch. Liftoff of the balloon went perfectly, and the tracker registered on APRS immediately. We tracked the balloon for approximately 50 miles, but it lost contact on APRS at an altitude of approximately 53,000' — very near the expected balloon rupture

location.

Unfortunately, no location data was available during the descent. As faculty advisor, I took a school vehicle to the area in which the balloon should have landed. I traversed the area with a radio, hoping to get a signal from the secondary transmitter. Sadly, I never picked up the signal.

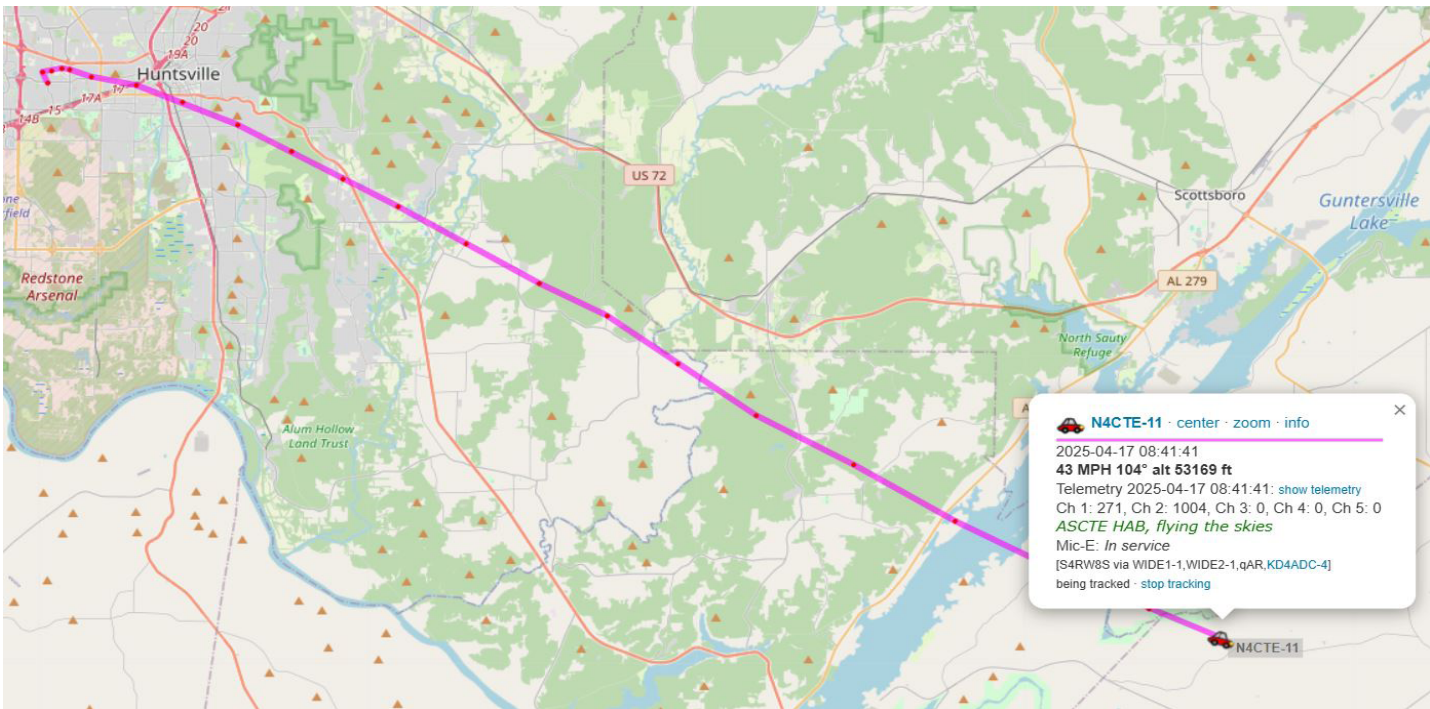
The payload has school contact information on it. Local radio amateurs were notified of the loss of the payload, and local businesses mentioned our search on Facebook, so we hope that it will eventually be discovered and returned. If you are reading this from the wilds of DeKalb County, Alabama, you may be the one to find our gear!

Nonetheless, we consider this a successful first foray into weather balloons, as the liftoff and tracking worked as expected. We also gained a lot of attention, which is drawing more student and faculty interest in the club, and the students

are already excited about attempting another balloon launch next year.

I will be attending the ARRL Teachers Institute Balloons and Amateur Radio session this summer, which — I hope — will lead to an even better experience next time. We greatly appreciate the ongoing support of the wider amateur radio community. None of our club accomplishments would have been possible without the generosity of ARRL.

ASCTE Amateur Radio Club members in a meeting pictured left to right are Gaby, Keegan, Cade, Hilton, Landon, and Nolan (below).





# 2025 World Amateur Radio Day at Kettering University

Written by Prof. Ronald Kumon, K8DTJ  
Submitted 2025

The Kettering University Amateur Radio and Electronics Club (K8HPS) sponsored a Ham Radio Open House on April 18, 2025, for World Amateur Radio Day. This year, the day commemorated the 100th anniversary of the founding of the International Amateur Radio Union. The event also served as an opportunity to participate in Citizen Science Month, in collaboration with HamSCI (Ham Radio Science Citizen Investigation) and SciStarter. To publicize the event, we put an announcement in the weekly email newsletter sent out to students, faculty, and staff, and we had announcements placed on digital monitors throughout campus.



Kettering University students and members of the Genesee County Amateur Radio Club at Ham Radio Open House on World Amateur Radio Day.

During our event, students were invited to stop by during their lunch hour to learn about amateur radio and antennas while our club members worked to make contacts on the air. To this end, we set up several radios in the lobby of our Learning Commons building, including the club's HF radio, which was connected to an external display showing a real-time waterfall plot. We also had available for demonstration a variety of antennas, including an off-center-fed vertical, an adjustable dipole, a magloop, a random wire, a Yagi, and a mobile VHF/UHF with a magmount. To contribute to SciStarter's goal of documenting "One Million Acts of Science," we had an antenna analyzer available so students could measure the standing wave ratio of an antenna over various amateur bands. As part of our outreach efforts, we invited members of the local

Genesee County Radio Club (W8ACW) to attend, and three members were able to make it. Despite limited operating conditions due to thunderstorms, we were able to make "eyeball contacts" with more than a dozen students, faculty, and staff, most of whom had not heard about amateur radio before. We were also able to promote an upcoming "foxhunt" event, where students were given a home-made "tape-measure" Yagi and handhelds to search for beacons paired with actual fox stuffies!

*Acknowledgments: The club would like to thank Kettering Student Government for club funding, the Kettering University Center for Excellence in Teaching and Learning for funding for radio and curricular materials, and ARRL and its contributors for their support of the Collegiate Amateur Radio Program (CARP) and the ARRL Teachers Institutes.*

## As seen in this issue of *Radio Waves...*

Rolling admission to 2025 Teachers Institute (TI) is open for the upcoming October sessions now. TI-1 is open to all US educators, and it is the only prerequisite for any of the 2025 TI Electives offered. Please visit our [TI webpage](#) to learn more about the sessions offered and complete an application if interested.

A big thank you to all those who made this edition possible.

*Radio Waves* aims to showcase how educators and license class instructors are getting their students and local communities involved in ham radio. These efforts deserve to be documented and shared. The contributors are teachers and instructors who are currently bringing amateur radio into the classrooms and beyond, just like you.

Many instructors and teachers made mention of materials and resources created by ARRL. Click any bullet to learn more about the item.

- [ARRL Teachers Institute](#)
- [ARRL Scholarships](#)
- [ARRL Instructor Resources](#)
- [ARRL Teaching Lesson Plans](#)

**Add Your Voice:** Write a short narrative about a specific teaching struggle, success, or learning breakthrough. We are seeking submissions of 300 – 500 words, and you are highly encouraged to send any pictures of yourself, your students, and the activities you introduced. Submissions can be sent to our email: [radiowaves@arrl.org](mailto:radiowaves@arrl.org). Please use our [Model Release Form](#) for photos. Explore our [previous publications](#).

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