

APRS Developer Bob Bruninga, WB4APR, SK

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The creator of the Automatic Packet Reporting System (**APRS**), Bob Bruninga, WB4APR, of Glen Burnie, Maryland, died on February 7. An ARRL Life Member, Bruninga was 73. According to his daughter, Bruninga succumbed to cancer and the effects of COVID-19. Bruninga had announced his cancer diagnosis in 2020. Over the years, he readily shared his broad knowledge of and experience with APRS, among other topics in the amateur radio and electronics fields.

While best known for APRS, Bruninga was also a retired US Naval Academy (USNA) senior research engineer who had an abiding interest in alternative power sources, such as solar power. In 2018, he authored *Energy Choices for the Radio Amateur*, published by ARRL, which explores developing changes in the area of power and energy, and examines the choices radio amateurs and others can make regarding home solar power, heat pumps, and hybrid and electric vehicles. Bruninga drove an all-electric car and had experimented with a variety of electric-powered vehicles over the years.

APRS originated in 1982, when Bruninga wrote his first data map program that plotted the positions of US Navy ships for the Apple II platform. A couple of years later, he developed what he called the Connectionless Emergency Traffic System (CETS) on the VIC-20 and C64 platforms for digital packet communications to support an endurance race. The program was ported to the IBM PC platform in 1988, and was renamed APRS in 1992. The recognized North American APRS frequency is 144.39 MHz, and APRS is globally linked via the internet. Bruninga founded the Appalachian Trail Golden Packet (ATPG) event, which fields APRS nodes from Stone Mountain in Georgia to Mount Katahdin in Maine each July.

ARRL Contributing Editor Ward Silver, N0AX, remembered Bruninga this way: “Bob kept pushing APRS beyond its origins as a position reporting system. He developed and helped implement numerous other uses of APRS in support of what has become the ‘Ham Radio of Things,’ with great potential for future amateur radio applications. Bob’s far-reaching vision and imagination were as good as it gets.”

Bruninga mentored USNA midshipmen in building and launching amateur radio satellites and CubeSats, beginning with PCsat in 2001. PCsat was the first satellite to directly report its precise position to users via its onboard GPS module. Subsequent USNA spacecraft included PSK31 capability (HF to UHF) and other innovations.

Amateur Radio on the International Space Station (ARISS) ARRL liaison Rosalie White, K1STO, recalled that Bruninga attended many ARISS-International meetings and contributed “enormously” to ARISS APRS activities, leading a team in developing protocols and software for rapid message exchange via a packet “robot.”

White said APRS remains a key staple in the new ARISS InterOperable Radio System (IORS) that’s now on board the ISS. She added that Bruninga offered input for future NASA Lunar and Gateway opportunities in which ARISS hopes to take part.

Last year, ARRL CEO David Minster, NA2AA, on behalf of ARRL, honored Bruninga with a brick in the ARRL Diamond Club Terrace at ARRL Headquarters. ARRL sent him a letter of appreciation along with a replica of the brick.

Bruninga held a bachelor’s degree in electrical engineering from Georgia Tech (Georgia Institute of Technology) and a master’s degree in electrical engineering from the Naval Postgraduate School.

Bruninga was a 20-year US Navy veteran. Dayton Hamvention® honored him in 1998 with its Technical Excellence Award.

Bruninga authored and co-authored numerous academic papers over the years, and was frequently in demand as a speaker and presenter at amateur radio gatherings.

Survivors include his wife, Elise Albert; daughter, Bethanne Bruninga-Socolar, WE4APR, and son A.J. Bruninga, WA4APR. Arrangements are pending, although his daughter said that a celebratory memorial service will be held this summer in Annapolis, Maryland.