



Di-Dah-Dit

Official Newsletter of the Parkersburg Radio Klub
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Next SpaceX Commercial Crew to ISS Comprised of Radio Amateurs

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Four radio amateurs will head to the International Space Station (ISS) aboard a commercial flight, thanks to Amateur Radio on the International Space Station (ARISS). They are Raja Chari, KI5LIU; Tom Marshburn, KE5HOC; Kayla Barron, KI5LAL, and Matthias Maurer, KI5KFH, a European Space Agency (ESA) astronaut. The targeted launch date is no sooner than October 31, from Kennedy Space Center in Florida. The launch will mark the third SpaceX Crew

during pre-flight training at SpaceX headquarters in Hawthorne, California.

Dragon spacecraft and Falcon 9 rocket launch combination as part of NASA's Commercial Crew Program, which provides transportation to and from the ISS. The crew is scheduled for a 6-month stay aboard the orbiting laboratory, living and working as part of what's expected to be a seven-member crew.

The launch will be the first spaceflight for Chari, Barron, and Maurer, and the third for Marshburn.

NASA's SpaceX Crew-3 will be the third crew rotation mission to the ISS with astronauts on a US rocket and spacecraft and the fourth flight with astronauts, including the Demo-2 test flight in 2020, the Crew-1 mission in 2020 - 2021, and the ongoing Crew-2 flight as part of the Expedition 65 crew.

Crew-3 astronauts plan to arrive at the station to overlap with NASA Astronauts Shane Kim-

brough, KE5HOD, and Megan McArthur; Japan Aerospace Exploration Agency (JAXA) Astronaut Akihiko Hoshide, KE5DNI, and ESA Astronaut Thomas Pesquet, KG5FYG, who flew to the station as part of the agency's SpaceX Crew-2 mission in April 2021.

Mission teams have a target launch date of no earlier than April 15, 2022, for the launch of the SpaceX Crew-4 mission. "NASA's Commercial Crew Program is working with industry through a public-private partnership to provide safe, reliable, and cost-effective transportation to and from the International Space Station, which will allow for additional research time and will increase the opportunity for discovery aboard humanity's testbed for exploration," NASA said. "The space station remains the springboard to space exploration, including future missions to the moon and Mars."

For launch coverage and more information about the mission, visit the NASA website.



The SpaceX Crew-3 astronauts (L-R) Matthias Maurer, KI5KFH; Thomas Marshburn, KE5HOC; Raja Chari, KI5LIU, and Kayla Barron, KI5LAL,

HamSCI Founder Nathaniel Frissell, W2NAF, Awarded \$481,260 NASA Research Grant

HHam Radio Science Citizen Investigation (HamSCI) founder Nathaniel Frissell, W2NAF — an assistant professor in The University of Scranton's Physics and Engineering Department — has been awarded a \$481,260 grant through the NASA Space Weather Applications Operations Phase II Research Program. Frissell will serve as principal investigator for a research project entitled, "Enabling Space Weather Research with Global Scale Amateur Radio Datasets." He'll collaborate with Philip Erickson, W1PJE, of the Massachusetts Institute of Technology Haystack Observatory and Bill Engelke, AB4EJ, at the University of Alabama.



"This grant includes significant funding for participation of Scranton undergraduate students in this research, as well as support for new computation resources," Frissell said. He explained that the grant will fund "the development of an empirical model for the prediction of traveling ionospheric disturbances (TIDs) in high-frequency radio communications while investigating the geophysical drivers of these dis-

turbances." The grant will cover 2 years of work.

Frissell said that the predictive, empirical TID models will be developed using data collected by the Reverse Beacon Network, WSPR, and PSKreporter — automated, global-scale radio communication observation networks operated by the amateur radio community. Undergraduate students will help the faculty researchers to create algorithms used for the model development.

This new NASA award complements a 5-year National Science Foundation grant of more than \$616,000 that Frissell received in 2020. That investigation aims to understand the source of TIDs observed in amateur radio and other scientific datasets.

In 2019, Frissell received a \$1.3 million National Science Foundation grant to fund a 3-year initiative to measure modulations produced in the Earth's upper atmosphere. The grant supports a collaborative team to develop the HamSCI Personal Space Weather Station, a modular, multi-instrument, ground-based space science observation platform used to study variability in the coupled geospace system and to better understand HF radio propagation.



This is Frissell's second NASA grant. A space physicist, he is among the researchers working on a NASA Living with a Star Program (LWS) project, "Wave-Driven Asymmetries in the Ionosphere Thermosphere due to Asymmetries in the Northern and Southern Polar Vortices." That project is being led by Richard Collins of the University of Alaska Fairbanks Geophysical Institute.



Radio station WBZ in Boston (1030 kHz) is celebrating its 100th anniversary in 2021. It is the oldest broadcast station in New England and one of the oldest stations in the US. The Billerica Amateur Radio Society and the Hampden County Radio Association will commemorate the anniversary with a special event, starting on September 17 at 1300 UTC and wrapping up on September 20 at 0359 UTC. Look for W1W, W1B, W1Z, and WB1Z on all bands, SSB, AM, CW, and digital modes. New England operators interested in operating one of the special event stations should contact Larry Krainson, W1AST.

ARRL Board Establishes Program to Cover Initial FCC License Fee for Young Applicants

The ARRL Board of Directors has formally endorsed a proposed program calling on ARRL to cover the \$35 application fee for license candidates younger than 18 years old. The FCC is not expected to implement the \$35 application fee schedule until sometime in 2022. The Board approved the "Youth Licensing Grant Program" at its July meeting in Windsor, Connecticut. The program concept, first raised at the Board's annual meeting in January, was reviewed by an ad-hoc committee, which expanded the scope of the original motion by ARRL Southeastern Division Director Mickey Baker, N4MB.

Goals of the program include expanding the reservoir of trained operators, technicians, and electronics experts within the amateur radio community, and removing a financial obstacle to young people who wish to acquire an amateur radio license, as a means of encouraging potential careers in science, technology, engineering, and mathematics.



Under the program, ARRL would cover a one-time \$35 application fee for each qualified candidate who passes one or more amateur radio exams taken on the same day at a single examination session. Tests would have to be administered by a Volunteer Examiner

(VE) team working under the auspices of the ARRL Volunteer Examiner Coordinator (VEC). Qualified candidates would also pay a reduced exam session fee of \$5 to the ARRL VEC.

The new program would also "enhance ARRL's position as the leader in volunteer testing," the Board motion said. "The Board believes that the recruitment and training of young amateur radio operators is a necessary mission of ARRL, and that subsidization of the \$35 fee will reduce the number of new amateurs that otherwise would be lost from these groups," the Board said.

The Board said ARRL Headquarters staff would determine the method of qualifying applicants and instruct VE teams, giving the teams flexibility to determine that a candidate is eligible for reimbursement in the absence of documented proof. The Board envisioned that the VEC would pay the FCC directly. The new program would initially serve up to 1,000 new license applicants younger than 18 years old.

The motion gave ARRL staff "complete latitude" to determine how payment is delivered to the FCC or to reimburse eligible applicants. This program length is indefinite; it may be renewed or terminated by the Administration and Finance Committee or by the Board of Directors. The motion carried with applause from Board members.



ARRL Learning Network Webinars

Visit the ARRL Learning Network (a members-only benefit) to register, check on upcoming webinars, and to view previously recorded sessions.

ARRL members may register for upcoming presentations and view previously recorded Learning Network webinars. ARRL-affiliated radio clubs may also use the recordings as presentations for club meetings, mentoring new and current hams, and discussing amateur radio topics.

Introduction to DMR and Digital Voice by Tim Deagan, KJ8U / Thursday, September 9, 2021 @ 3:30 pm EDT (1930 UTC)

NOTE I know that this is passed but I might be able to get it on audio file. Jerry KA8NJW

Minutes of PARK Meetings

July 12, 2021

The meeting was called to order at 6:32 pm by Mike WD8BTI. Introductions were made by 29 members and guests.

The 50-50 drawing was won by Brenda in the amount of \$13.50.

John W8IDW gave the minutes of the June meeting.

Jane N8MOW gave the treasures report, which included expenses for field day.

Unfinished business:

Field day report was given by Jerry KA8NJW, a copy with photos was emailed to the Klub Roster.

Total points = 2258; Bonus points = 1050.
CW contacts = 90; Digital contacts = 57; Phone contacts = 310.

Replacement for the 146.97 repeater was discussed. Further examination of the operating parameters to be included in a replacement unit need to be evaluated.

An updated Klub roster was issued by Earl KB8HRG.

New Business:

Hamfests in the area which are scheduled are Huntington on August 14 and Wood County Emergency Communications on October 9 (not confirmed).

Earl discussed an Arduino project that creates a low cost CW decoder / writer project. Multiple

videos are available on YouTube.

Motion to adjourn was made by Bob KB8EFB second by Blaine WA8IOE and approved at 6:50 PM.

Minutes by Klub Secretary John W8IDW

August 19, 2021

The Parkersburg Amateur Radio Klub met at Western Sizzlin for the August meeting.

The meeting was called to order at 6:33 pm by Mike WD8BTI.

Introductions were made by 24 members and guests.

The 50-50 drawing was won by Denny AC8MW in the amount of \$20.00.

John W8IDW gave the minutes of the July meeting.

Jane N8MOW gave the treasures report, which included dues and Field Day checks clearing.

Unfinished business:

Replacement for the 146.97 repeater discussion continued.

Two types of equipment were described. DMR or (Digital Mobile Radio) which is in the k\$3 range and Fusion which is a digital communications mode for voice and data, including pictures. What sets this new technology apart from other digital voice technologies, such as D-STAR, DMR, etc, is its

backwards compatibility with analog FM. Fusion equipment would be in the k\$8 range. Echo Link will continue to function. The MESH system currently being developed, will be tied into the new repeater equipment. Amateur radio mesh networking uses commercially available WiFi radios and antennas operating on amateur radio spectrum using FCC Part 97 rules to provide automated WiFi networking.

Earl KB8HRG will research and develop info on multiple Mfrs.

The Klub roster file which Earl KB8HRG issues by email includes "tabs" with Net Control schedule, silent keys, and dues status.

New Business:

Annual election of officers; Blaine WA8IOE and Libby KA8FUA will serve as nominating committee for election of officers at the September meeting. John W8IDW expressed desire to end his term as Klub secretary.

Miscellaneous:

Jerry KA8NJW, has packets prepared for handout to prospective members.

Motion to adjourn was made by Bob KB8EFB second by Glen K8PSK and approved at 6:59 PM.

Minutes by Klub Secretary John W8IDW

September 13, 2021

Meeting was called to order my Mike at 6:30.

There were 21 members and guests in attendance.

Treasures report was given by Jane, n8mow.

Denny won the 50/50 and donated it back to the club, Thanks.

The minutes were read of the August meeting off Canard's phone because nobody had a copy, They were approved as read.

Old business

It was discussed about replacing the repeater with an analog and digital capable one. Allen gave a demonstration of a DMR digital repeater. The demonstration showed how you could subscribe to different groups and I have a worldwide or a nationwide audience from your local machine. There was much discussion whether we want to do invest in a new repeater the old one is getting old at least 25 years

It was the consensus of the group that if we're going to replace the repeater we might as well add the digital modes so we can be up-to-date.

The motion was made by Jerry and seconded by Phil for Earl get the price of a repeater with digital capabilities and we can about to approve it at the next meeting that motion was passed.

New business

The report was made by the nominating committee consisting of Blane and Libby Auville.

Their recommendations were:

Mike President
Earl Vice President
Jerry Vice President
Conard Vice president
Jane Treasurer
Mary Secretary

The slate of officers was approved by unanimous consent.

Jerry moved a proxy vote for Bob that we adjourn, it was approved we adjourned at 7:15.

Minutes by Mary Wharton