

How Can We Help You?

Do you have work that you want to share with the public? Want to join or start a project? Get in touch! We'd love to talk with you.

How Can We Help You?

Want to support our work? Interested in helping our volunteers succeed? Welcome aboard! Let's talk.



Join our mailing list
<https://lists.openresearch.institute/>

Where Are We?

We welcome participants from all over the world. Most of us are from the United States, but we have active members in Europe and Asia. The majority of our collaboration is online through the mailing list, Slack workspace, and GitHub repositories.

Here are some of the events where we have presented, exhibited or run workshops:

GNU Radio Conference, IEEE Radio and Wireless Week, TAPR DCC, Open Source Cubesat Workshop, AMSAT-NA Space Symposium, JAMSAT Space Symposium, Microwave Update, DEFCON, Burning Man, HamCation, Hamvention, IEEE IMS, and QSO Today Ham Expo.

Participants are active at local hamfests, as school volunteers, at radio club meetups, DEFCON groups, and maker meetups.

Board of Directors of ORI

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Contact us!

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2022

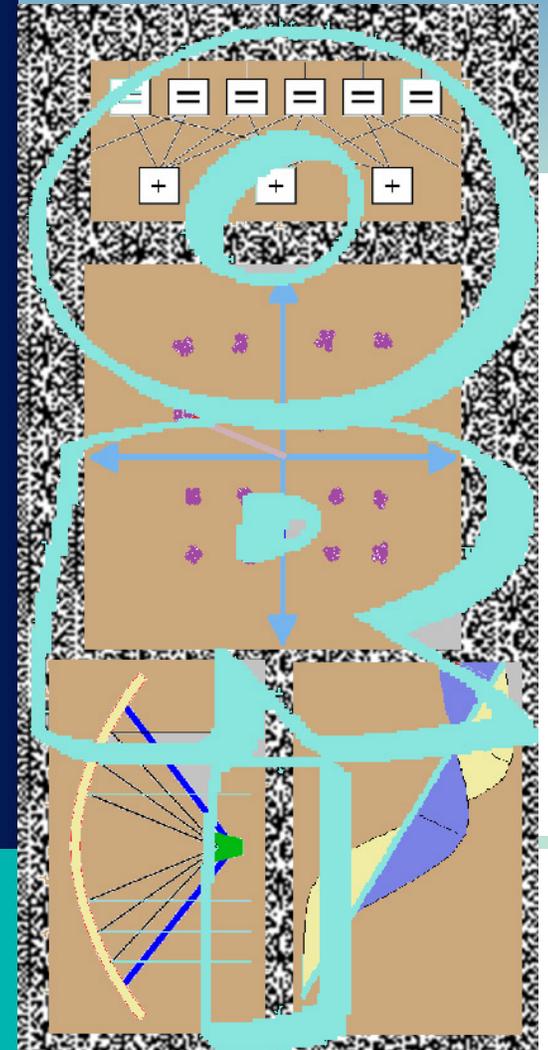
Open Research Institute will be at HamCation 2022, DEFCON 2022, NEARFest, and many other in-person events in 2022.

Our highest priorities for 2022 are the success of the M17 Project, AmbaSat at 70cm, and an end-to-end demo of the P4DX microwave transponder.

Thank you to all our supporters. You make it possible for us to make a difference in high-tech open source work.

The Exemplar of Open Research and Development

Open Research Institute



What are we about?



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Where will we go next?
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Open Research Institute (ORI) is a non-profit research and development organization which provides all of its work to the general public under the principles of Open Source and Open Access to Research.

ORI is a United States 501(c)(3) with contributors around the world.

There are no membership fees or applications to join ORI. You join by participating. We have a mailing list, a Slack workspace, and GitHub repositories.

We have Developer and Participant Policies, and a Code of Conduct. Both are available on our website along with our corporate documents and our bylaws.

ORI is a proud member of OSI, the Open Source Initiative and ascribes to the Open Space Manifesto from Libre Space.

Regulatory

ORI supports people peacefully working together on open source projects.

All of our work (source code, schematics, hardware designs) is available for public download, worldwide, from GitHub.

Our intent is for all of this work to be "Public Domain" under ITAR 120.11 and "Published" under EAR 734.7, and thus not subject to ITAR or EAR. These regulations are relevant in the United States.

In addition, it is ORI's policy not to provide services that might be restricted under ITAR or EAR, and we do not engage in projects involving the national defense of any country.

ORI is a member of the FCC TAC for 2022.

Technology

Recent technical achievements include:

Dual-band feed for 5GHz/10GHz and 10GHz/24GHz.

Generic Stream Encapsulation (GSE) protocol from DVB now in GNU Radio and Wireshark.

Low Density Parity Check (LDPC) open source codebases. This work is in GNU Radio, leandvb, and Xilinx Ultrascale FPGAs.

Current work: Open source implementations of LDPC, DVB-S2/X, and M17.

Open source broadband microwave digital transponder suitable for space and terrestrial use.

Open source heavy duty rotator.

Open source 6U GEO payload.

Teaching

We believe you do not have to be an expert to participate. You just have to be willing to become one along the way.

We believe that even the most complex digital signal processing algorithm can be broken down into components and functions, and understood by motivated participants.

Open source projects remove some of the barriers to sharing and learning, but not all. Advanced digital communications work is challenging. It does take commitment to work through the math and physics. We are here to help each other with that process.

We believe that this makes the community stronger and improves the quality of life of our volunteers.

Transparency

We believe that open source is the right solution for the types of problems we are trying to solve and the types of equipment we are trying to build.

We also believe that the process of creation, not just the product, should be as open as possible.

Design reviews should happen as early and often as they are useful.

Wireless designs should be tested over the air as soon as possible, and results disclosed quickly.

Mechanical designs should be prototyped early and often and failures discussed.

Fear of failure and unnecessary risk aversion should never hold anyone back.



International Goodwill

We build international goodwill and cooperation through open source research and development, primarily within the amateur radio service.

Amateur Radio

We believe that the amateur radio service provides the best way to learn, experiment, develop, and build modern open source communications systems.

Open Source Helps Businesses

Open source work accelerates business development. Using **and contributing back** to bodies of open source work frees commercial organizations to focus on business-differentiating technologies.