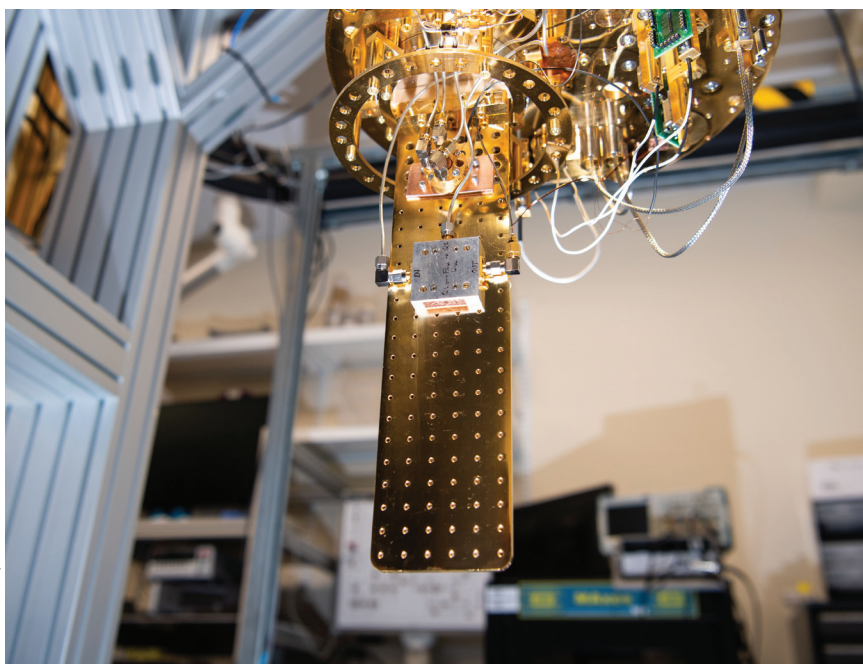




A SUPERCONDUCTING QUBIT (inside the gray box on the copper pegboard) is prepped to undergo testing at Pacific Northwest National Laboratory.

shared challenges in combating radiation effects in their research.

Under the 2018 National Quantum Initiative, the Department of Energy and other agencies were called on to create and fund at least two quantum

research centers each. DOE invests a total of \$125 million per year in five centers. One of them, the Quantum Science Center, based at Oak Ridge National Laboratory, funds QUIET. The center's director, Travis Humble, says

the experiment costs on the order of \$1 million, with the dilution refrigerator alone clocking in at about \$500 000.

QUIET also may aid in the search for dark matter. Traditional dark-matter detection techniques are mostly limited to electron volt and higher energies, but qubit sensors could detect lower-energy dark-matter candidates. "It turns out that bad quantum computers make good quantum sensors," says Humble.

In addition to QUIET, the Northwestern Experimental Underground Site, located in the same cavern, is used for related work. Pacific Northwest National Laboratory in Washington State, the Sudbury Neutrino Observatory in Canada, Gran Sasso in Italy, and the Stawell Underground Physics Laboratory in Australia are also taking advantage of overburden shielding to investigate the effects of cosmic radiation on superconducting qubits.

At QUIET, says Baxter, electronics have been tested over the past few months to "get the noise and attenuation just right." The detector should be ready for data collection by the end of the month.

Hannah H. Means

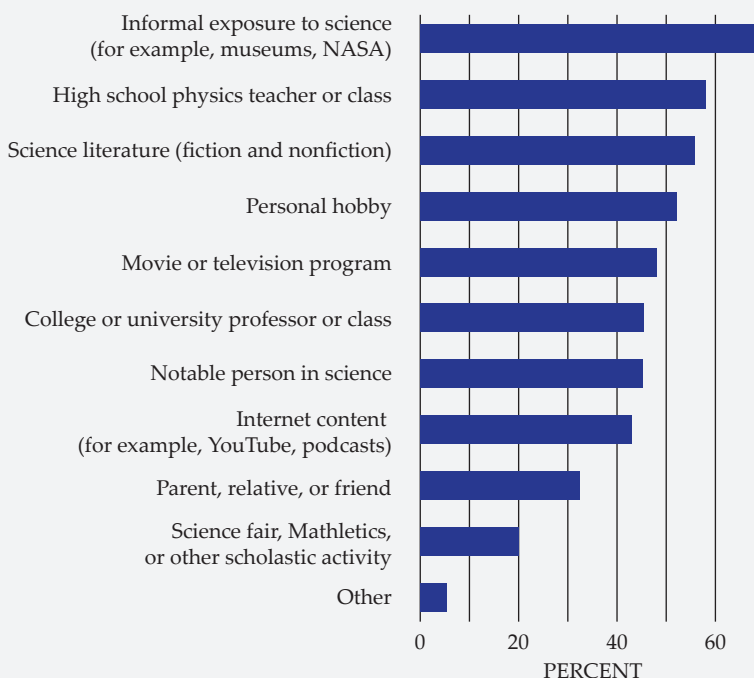
Survey asks majors: Why physics?

Informal exposure to science was cited by nearly 70% of new physics bachelor's degree recipients as influencing their choice of major. Examples include visiting science museums, partaking in science camps or programs, and attending science events. The next most frequently cited influence, selected by nearly 60% of graduates, was a high school physics teacher or class.

Those data come from the survey responses of more than 3000 people who received bachelor's degrees in physics at US institutions in the classes of 2021 and 2022. The question about influences is a newer addition to the survey of recent physics graduates that statisticians at the American Institute of Physics (publisher of *PHYSICS TODAY*) have been conducting since 1976. For more information, see <https://www.aip.org/statistics/physics-bachelors-influences-and-backgrounds>.

Sonja Boettcher

Influences on physics bachelor's degree recipients' decision to pursue physics, classes of 2021 and 2022 combined



Source: [aip.org/statistics](https://www.aip.org/statistics)