



COMMUNITY CONNECTIONS

Partnering with our neighbors through science education and charitable giving

The Laboratory is an active member of local communities, offering a wide variety of activities to enhance science, technology, engineering, and mathematics (STEM) education. Outreach has a wider scope than just education—each year LLNL staff and LLNS donate more than \$3 million to local nonprofits, while hundreds of employees donate their time to local service agencies. In FY 2020, many of the Laboratory's efforts went virtual to keep these vital community connections firmly in place.

STEM GOES VIRTUAL

In December 2019, LLNL and Las Positas College celebrated the start of the tenth annual Science and Engineering Seminar Series, in which LLNL researchers present “behind the scenes” perspectives of how multidisciplinary science really works. The seminars help to connect students to potential career paths. This seminar series and other STEM outreach efforts were forced to go virtual after the COVID-19 outbreak.



Participants posing in T-shirts provided to them (together with workshop supplies) are among the more than 150 middle- and high-school girls that took part in a virtual Expanding Your Horizons conference.

For example, LLNL continues to sponsor Expanding Your Horizons, held several times a year throughout the San Francisco Bay Area, to introduce STEM careers to middle- and high-school girls. These free events pair women scientists and engineers with students to conduct hands-on demonstrations of science and discuss career paths. This year, more than 150 girls joined the virtual conference, participating in workshops and activities with supplies received in a special drive-thru pickup. Similarly, this year's Data Science Challenge with the University of California (UC), Merced was an all-virtual offering. The two-week challenge involved 21 Merced students who worked from their homes through video conferencing and chat programs to develop machine learning models.

LLNL also successfully pivoted its annual summer student program to

an entirely online “virtual” experience. Teams quickly organized and devised ways to hire students remotely, onboard students virtually, and provide them secure cloud-based computing as well as enriching activities. These efforts enabled Livermore to engage approximately 500 students over the summer, enabling them to continue their career growth and the Laboratory to sustain an essential workforce pipeline.

VIRTUAL TOURS, CLASSROOM VISITS, AND EXPERIMENTS

The Laboratory's education outreach begins with fourth and fifth graders. In a typical year, more than 12,500 students, along with their chaperones, are introduced to scientific concepts through the Fun With Science program. The ever-popular Fun With Science program offers young minds a tour of LLNL's Discovery

Center, followed by a presentation of hands-on experiments that introduce students to scientific curricula. The Laboratory also offers special tours for high school students, who get to visit the inner workings of biology and chemistry labs and interact with scientists at popular tour stops such as the Additive Manufacturing Laboratory or the National Ignition Facility.

In FY 2020, these activities have gone virtual (see st.llnl.gov/sci-ed/class-visits-resources). Fun With Science segments were added to LLNL's YouTube page, allowing students and teachers to have this educational resource available at the click of a button. High school teachers are invited to bring their class for a virtual visit to one of our premier facilities at the Laboratory. In addition, LLNL partnered with the Livermore Lab Foundation and the Livermore Valley Joint Unified School District for “Ask a Scientist” events, virtually bringing Livermore scientists into classrooms and giving hundreds of local students a stimulating learning experience. An innovative “Physics with Phones” learning series offers downloadable physics lessons and experiments for high school students and teachers.



One of more than 20 LLNL CERT employee volunteers provides assistance while staffing Cal Fire's fire information call center at the Alameda County Fairgrounds during the SCU Complex Fire.

LLNL'S CERT TEAM ANSWERS THE CALL

In August, a lightning-storm-sparked conflagration threatened communities in the Livermore valley. CalFire, through the State's Office of Emergency Services, reached out to LLNL's Community Emergency Response Team (CERT) for assistance. Team members are trained employee volunteers ready at a moment's notice to support local first responders. More than 20 Laboratory volunteers answered phone calls from concerned residents, reaching 800–1,000 calls per hour at its peak, and helped with food delivery and training activities. CERT members worked 57 six-hour shifts, including overnights, with many individuals volunteering more than 30 hours.

SATURDAY IS SCIENCE DAY

LLNL's Science on Saturday (SOS) lecture series for middle- and high-school students plays to sold-out crowds every year. More than 3,000 people attended this shortened season with only four lectures. The presentations highlighted cutting-edge science and technology, and paired Laboratory researchers with local science educators. The SOS lectures took participants into space, featuring the geological evolution of a young moon, development of new health tools for future voyages to Mars, and the science behind planetary defense. The events are recorded for UC's TV website as well as LLNL's YouTube channel.

HOME CAMPAIGN AND COMMUNITY GIFTS

Employees and LLNS raised a record \$3.9 million in the 2020 HOME (Helping Others More Effectively) campaign, a charitable drive that benefits community and nonprofit agencies in the Tri-Valley, San Joaquin Valley, and greater San Francisco Bay Area. Employees pledged more than \$2.9 million, while LLNS contributed \$1 million in matching funds.

In December, LLNS announced the recipients of the 2020 Community Gift Program, totaling \$150,000. Many of the awards serve children in the Tri-Valley area as well as Contra Costa, San Francisco and San Joaquin counties, with a focus on literacy, STEM education, and cultural arts. Other award recipients focus their charitable efforts toward children, families, senior citizens, and individuals in need of assistance.



An LLNL scientist presents a special virtual session of the Laboratory's popular Fun With Science program, available on LLNL's YouTube channel.



A 2020 National Ignition Facility (NIF) summer scholar poses with her laptop sporting the NIF logo from her home, where she remotely conducted analyses for the Neutron Imaging System project.