



LANL's Science, Technology Engineering and Mathematics Outreach and Pipeline Programs

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Managed by Triad National Security, LLC for the U.S. Department of Energy's NNSA



Our pipeline and STEM efforts are part of an integrated approach to community engagement

The Laboratory focuses on three main areas to support communities in the region:

1. Improving K-12 educational opportunities and by building workforce programs with regional colleges
2. Supporting nonprofits as they help address issues facing the community
3. Promoting economic and workforce development to grow small business and help people into jobs

These issues tackled in three ways:

1. Using Laboratory resources to implement partnerships and programs that benefit the Lab and the local communities
2. Support for employee volunteering and financial donations to nonprofits
3. Triad philanthropic investments through the Community Commitment Plan target our focus areas



High school students take part in the LANL-organized annual Summer Physics Camp for Young Women in 2019



Regional Pipeline Programs support the workforce of the future and are critical to LANL's growing missions



Supporting students in our region

- The Los Alamos Employees Scholarship Fund awarded \$743,000 in scholarships in 2020, with a needs-based focus
- The Regional Partnership School supported by LANL at a neighboring public school district demonstrates a new model for teacher professional development in high needs schools.
- Laboratory annually hosts a free two-week Summer Physics Camp to inspire and provide opportunities for young women in the region.
- 321 LANL employees provided 3,018 service hours to nonprofit and educational organizations in Northern NM, impacting an estimated 6,420 students, teachers and community members.



Fifth- through eighth-grade girls take part at the Lab-supported Expanding Your Horizons conference organized by Los Alamos Women in Science, which included hands-on workshops and a STEM-related careers fair.



Triad gives back to Northern New Mexico

- Triad invested \$2M in nonprofit programs in the region under its Community Commitment Plan in 2020, and will be investing \$2.5M in 2021.
 - LANL Foundation: K-12 STEM education, career pathways development, and support for teachers
 - Regional Development Corporation: small business loans and grants, and workforce training and education programs
 - United Way of NNM: addressing the issues of addiction and violence; capacity building in nonprofits
- A \$0.50 on the dollar match for employee contributions to Northern New Mexico nonprofits

Appendix L Community Commitment Plan (non-reimbursable)

Triad funding helped support the online STEAM Hub of NNM
Santa Fe-based Bicycle Technologies International was awarded a no-interest loan from the Regional Development Corporation to grow their business and hire more workers.



Regionally partnering for education

New Mexico is investing \$321K to expand the LANL “Pojoaque Project” or Regional Partnership School

- This project helps prepare the future teachers of NM

New pipeline programs address critical skills for a growing workforce

- Radiation protection degree for ~40 students every year (Northern NM College) — have already hired 9 graduates from this program
- Engineering machining degree for students who also intern at LANL (Santa Fe Community College)
- Established high school program to prepare seniors for craft trades with NM Building & Construction Trades (Taos and Questa high schools)



Above, a billboard promoting one of the new degree programs. Below, SFCC faculty member Miguel Maestas works in the Machining & Tooling Lab.



Multi Core Craft Curriculum

- In partnership with NM Building and Construction Trades Council
- After completing curriculum, students transition via direct entry into an apprenticeship in a participating union (e.g. UA 412 Plumbers and Pipefitters)
- NMBCTC provides licensing fees and teacher training is free (provided by the National Association of Building Trades Unions in partnership with NMBCTC)
- Promotion of program includes presentations by both Union partners as well as Laboratory Logistics Director regarding need and LANL as a career destination



Santa Fe Public Schools Early College Opportunities
Welding students working on a project.



New Workforce Efforts: UNM-LA Collaborations

Associate of Applied Science in Nuclear Enterprise Science and Technology

- Training program for current LANL employees working in nuclear facilities
- Collaboratively designed curriculum will be taught by LANL experts with UNM-LA Joint Faculty Appointments
- One-year Academic Certificate can ladder to an AAS degree
- Pilot program started with 15 students in January 2021
- Target 300-400 employees through the program by FY24

Bachelor's of Science in Mechanical Engineering

- Finalizing details on a collaborative program led by UNM-LA that partners with UNM-Albuquerque, main campus
- Program brings in-person upper division ME courses and supporting laboratories to the UNM-LA campus
- Targets current LANL staff and interns for development
- Current engagement is ~35 individuals



Emerging Educational Partnerships

Bolstering our regional educational engagement both for workforce and for technical excellence

A pipeline of Procurement Specialists for ASM

- Focus is regional colleges with strong Business Programs
- Student internships and collaborative recruiting describing LANL needs

Project Management and Project Controls to support Lab Missions

- Support for our expanding missions and site transformation
- Certificates, Bachelors and MS programs are targeted

NNSA Plutonium Manufacturing Workforce Development Program for Minority Serving Institutions

- FY21 Energy and Water Conference language directed funding to support LANL and SRNS pit production workforce development and training
- Partnership with Historically Black Colleges and Universities (HBCU), Hispanic Serving Institutions (HSI), and Tribal Colleges (TCU) near sites



LANL's broader student program

Total student population at the height of summer season

2018	2019	2020	2021*
1,861	1,880	1,144	~ 1,600 (*estimate)

Number of offsite students

2018	2019	2020	2021
~ 25	~ 25	~ 900	~ 700

Percentage of total LANL population
who were former students or postdocs

36%

All LANL
employees
(Reg, TRMA)

61%

All R&D
scientists &
engineers

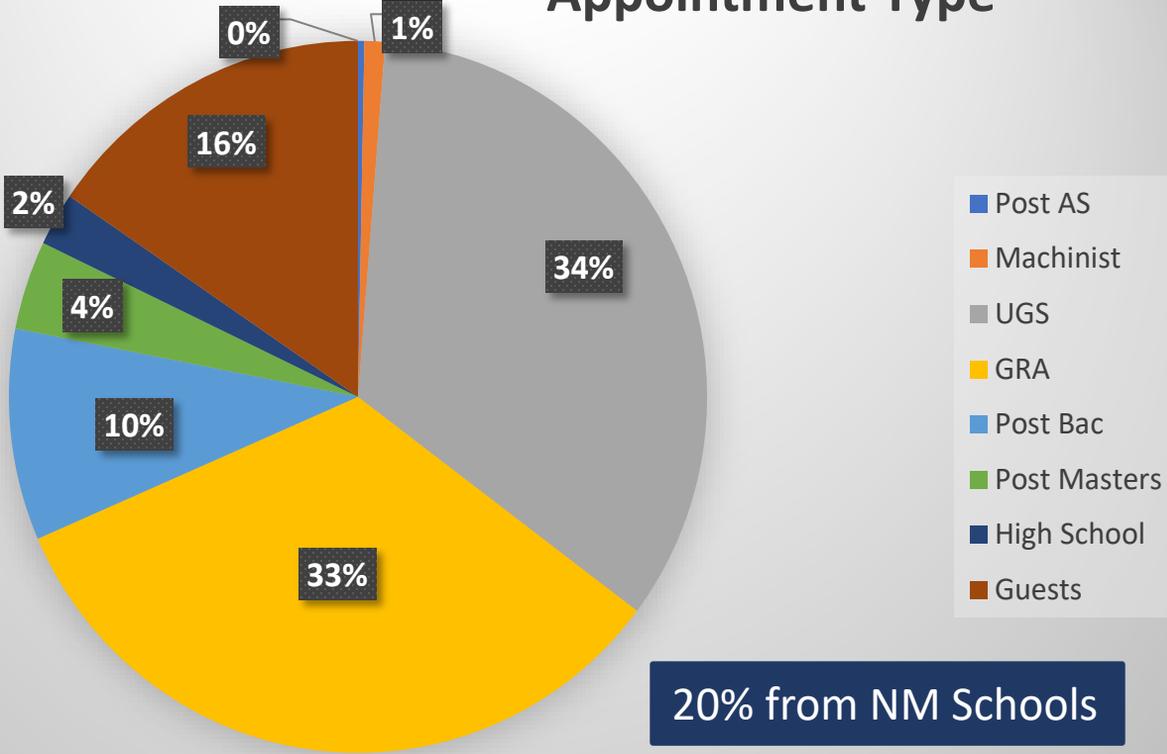
33%

Managers



Summer Student Interns for 2021: 1640!

Appointment Type





LOS ALAMOS
COMMERCE AND DEVELOPMENT
CORPORATION



Lab Embedded Entrepreneur Program supports external innovators to advance their technology into a first product and build their company in New Mexico that address national security challenges in the areas of:



Advanced Materials



AI & Advanced Computing



Biotechnology



Space Systems

Successful Outcomes



Accelerate emerging technologies & products crucial to national security & global economic competitiveness



Strengthen regional commercial technology base for NM research labs & growing high tech community



Create new venues for economic growth, jobs & entrepreneurs in New Mexico



Supported with
EDA grant, Triad
royalties, &
Appendix N funds

Applications
are open &
close May 21

Up to \$400K to
jumpstart a
venture

World-class
national lab
collaboration

“Scale-up”
training
curriculum

Experienced
network of
mentors &
business
resources

First cohort
onboards
November 2021

Questions?

Simultaneous
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MISSION-FOCUSED SCIENCE,
TECHNOLOGY, AND ENGINEERING

MISSION OPERATIONS



COMMUNITY RELATIONS

