



Exceptional service in the national interest

Sandia National Laboratories

Information Session

Presented by Douglas A. Dederman, Manager
Terminal Ballistics Technology Department

November 14, 2013; dadeder@sandia.gov



Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000. SAND 2013-7019P

Sandia National Laboratories is an equal opportunity employer and a drug-free workplace. 8/2013

Welcome

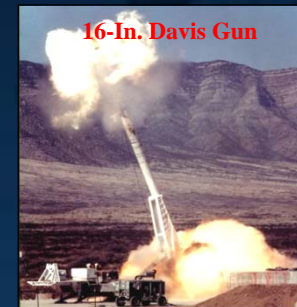
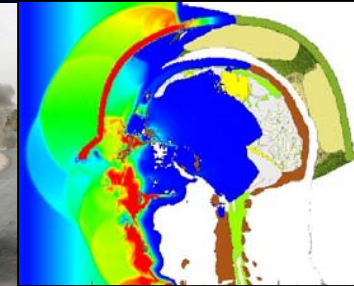


- My Background
- Who We are
- Our Workforce & Culture
- What is a career like at Sandia
- Employment Opportunities

A little about myself



- Douglas A. Dederman (a.k.a. – Doug)
 - Lincoln East High School
 - Spouse – Grand Island High School
 - Daughter Recent UNL Graduate 12/2011
 - Son a Senior at UNL Graduating in May 2014
- Employed at Sandia for almost 30 years
- Went to University of Nebraska – Lincoln from 1977-1983
 - BS Civil Engineering '81
 - MS Engineering Mechanics '83
- Past Positions
 - Shock & Vibration Test Engineer
 - Engineer & Project Lead for STARS SRM Boosters
 - Lead Engineer for Red Crow Mission
 - Missile Defense Countermeasures
- Current Position (Nov.'03 to Present)
 - Manager, Terminal Ballistics Technology
 - Mission: Technology Development for Characterization, Defeat & Protection of Targets



Defense Systems & Assessments Programs



- Information Operations
- Integrated Military Systems
- Proliferation Assessment
- Remote Sensing and Verification
- Space Missions
- Surveillance & Reconnaissance
- Science & Technology Products



Why I am here



■ Sandia National Labs is an awesome place to work

■ Husker Engineers make a difference at Sandia

- Late '70s thru early '80s SNL actively recruited graduate students
- Making an Impact with my fellow UNL graduates/colleagues
 - Dave Foral, Lincoln, BSME '81 (MSME – Wisconsin)
 - Jim Nelsen, Nebraska City, BSME '79 & MSME '81
 - Kevin Eklund, Omaha, BSME '81 & MSME '83
 - Doug Dederman, Lincoln, BSCE '81 & MSEM '83



■ Reestablish/Expand the Big Red Pipeline with Sandia

- Building Faculty Relationships & Recruiting
- Ryan Terpsma, New Hire, BSME '09 & MSME '11
- Student Interns, Masters Fellowship Program, Employment
 - Ryan Student Internship at Sandia Summer 2011
 - Now is the time to apply for internships ...

■ Exceptional Service in the National Interest

- We are hiring looking for the Nations best & brightest
- Let's look at the opportunities at Sandia...

Up for the
Challenge ?...
you could be next !!

Sandia's Impact



Cleanroom invented 1963

\$50 billion worth of cleanrooms built worldwide. It's used in hospitals, laboratories and manufacturing plants today.



2008 Satellite Takedown

Red Storm computing helps shoot down rogue satellite.



Fukushima Quake

Sandia helps cleanup radioactive wastewater.



9/11

Sandia sets contingency plans for release of materials and aircraft attacks on critical facilities immediately after 9/11. Search dogs are equipped with cameras for search and rescue K-9 handlers. The capability allowed search efforts to be carried out in spaces inaccessible to humans.



Hurricane Katrina

Sandia is called to assess flooding and infrastructure failures.



Gulf Oil Spill

Sandia works to help to develop an approach for securing the damaged well head, stopping the leak, and minimizing the severity of the oil spill.

Sandia - Today



As a multi-faceted national security laboratory, Sandia has delivered essential science and technology for more than 60 years and plays a critical role in ensuring U.S. technical superiority.

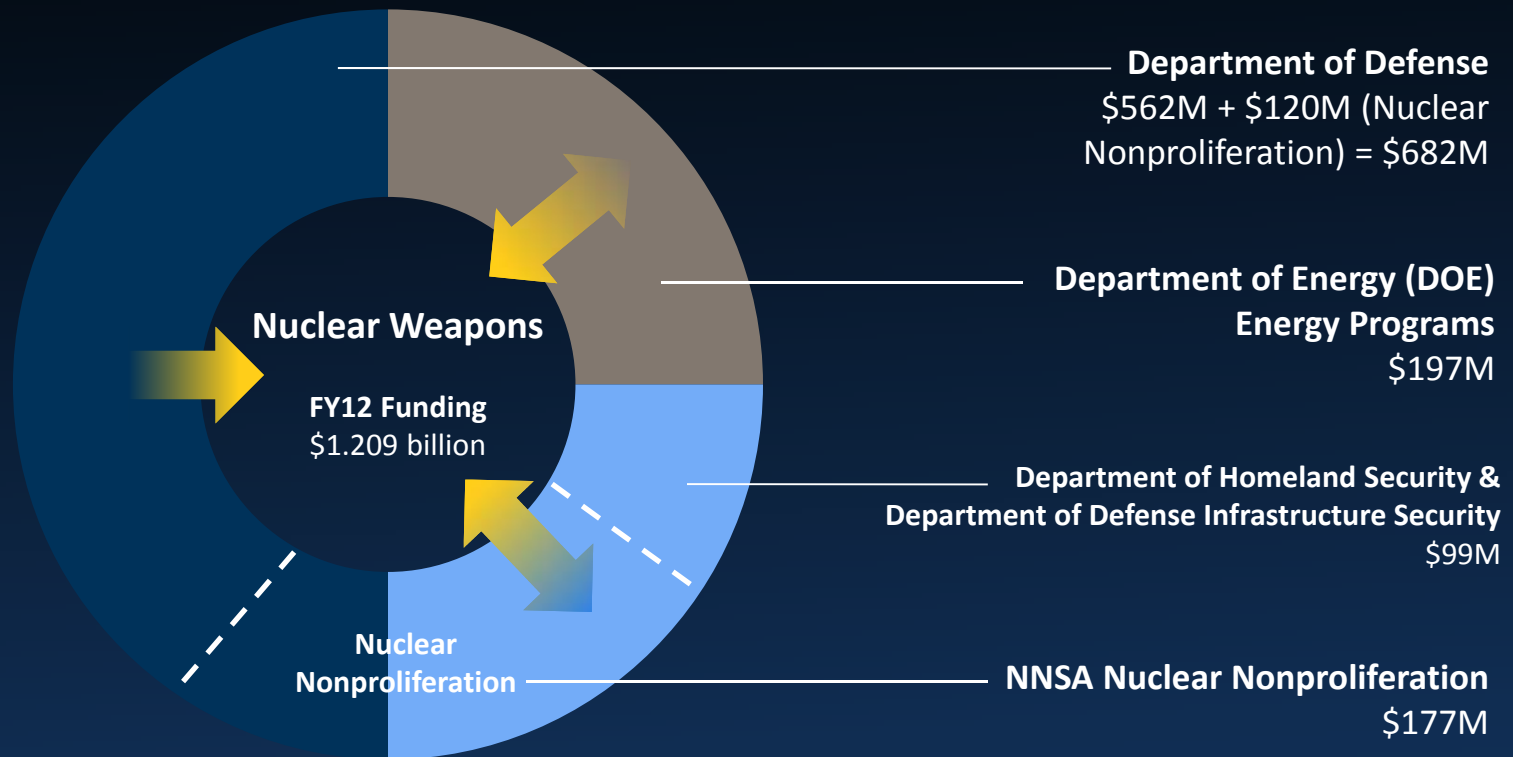
At Sandia, you can become part of something more—and contribute to our quest to render exceptional service in the national interest.



Sandia is a National Laboratory



Sandia's Funding



Note: Other DOE and non-DOE Funding
\$200M

High reliability, high consequence of failure, challenging environments, and technology solutions

Fulfilling Our National Security Mission



Modernize the Nuclear Deterrent



Work to Solve Global Security Challenges



Secure America's Energy and Environmental Future



Address National Cyber Security Issues



Deliver Advanced Solutions to Our Military

Modernizing the Nuclear Deterrent



Sandia assumes an increasingly pivotal role in sustaining the nation's nuclear deterrent.



Working to Solve Global Security Challenges

Nonproliferation



Securing America's Energy and Environmental Future



Energy Security
Climate Security
Infrastructure Security
Enabling Capabilities



Anne Ruffing

Cyanobacteria Engineering
for Liquid Fuels

*Ph.D. Chemical Engineering,
Georgia Institute of Technology*

Addressing National Cyber Security Issues



Bringing Advanced Solutions to Our Military



We support our troops around the world and help to keep them safe

SAR image of
Dodger Stadium



Our Foundations in Research



We support essential research-and-discovery activities that translate into invention, innovation, entrepreneurship, economic opportunity, and public benefit.



- Bioscience
- Computing and Information Science
- Engineering Science
- Geoscience
- Materials Science
- Nanodevices and Microsystems
- Radiation Effects and High Energy Density Science

Our Workforce & Culture

Our Workforce



Regular Employees	Highest Degree
-------------------	----------------

1,728	PhD
-------	-----

3,580	Masters
-------	---------

1,721	Bachelors
-------	-----------

8	Doctor of Medicine
---	--------------------

31	Doctor of Law
----	---------------

Regular Employees	Years of Service
-------------------	------------------

3,098	Less than 5 years
-------	-------------------

1,554	5–9 years
-------	-----------

2,541	10–19 years
-------	-------------

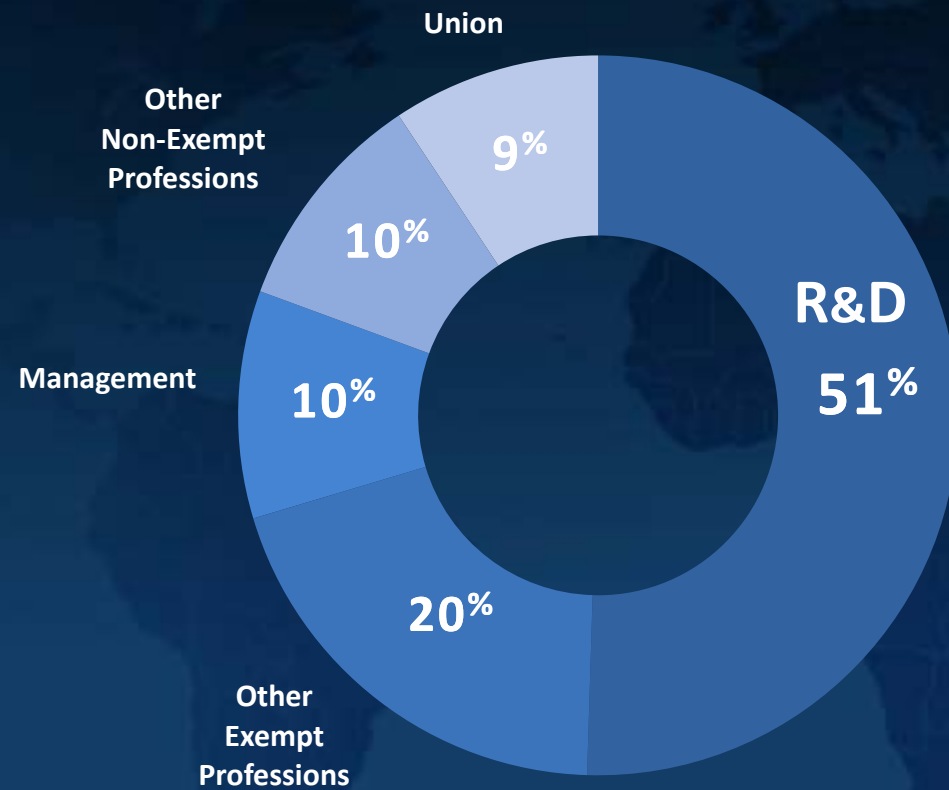
1,652	20–29 years
-------	-------------

766	30–39 years
-----	-------------

25	40+ years
----	-----------

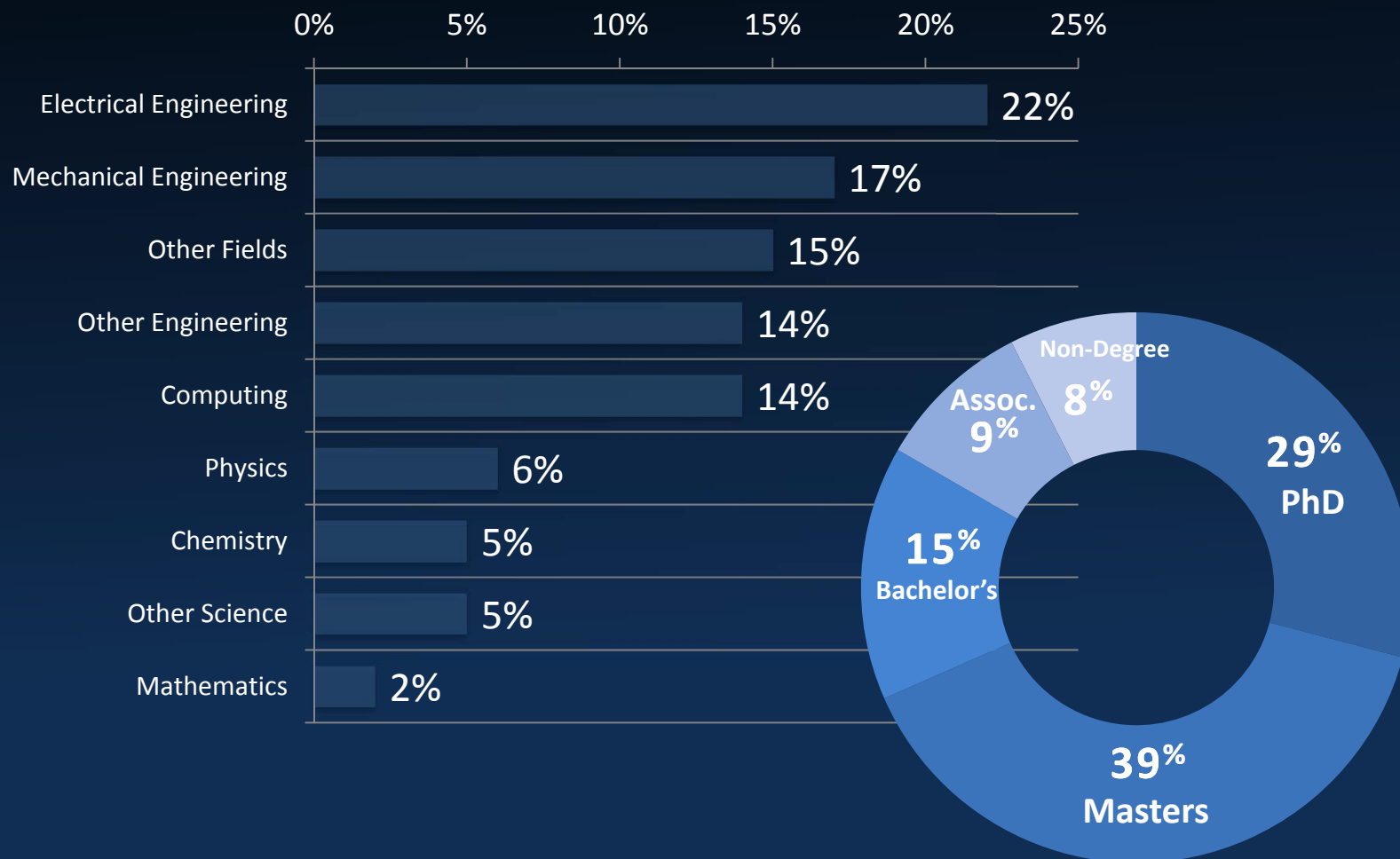
9,633 Regular employees

1,743 Temporary employees and contractor associates



Data as of July 15, 2013

R&D by Discipline & Degree



Our Workforce spans the Nation



Sandia New Mexico - Albuquerque

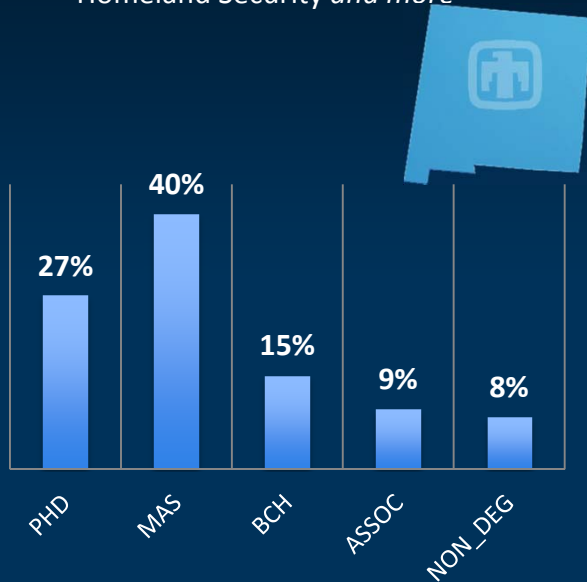


On-site workforce: ~8,500

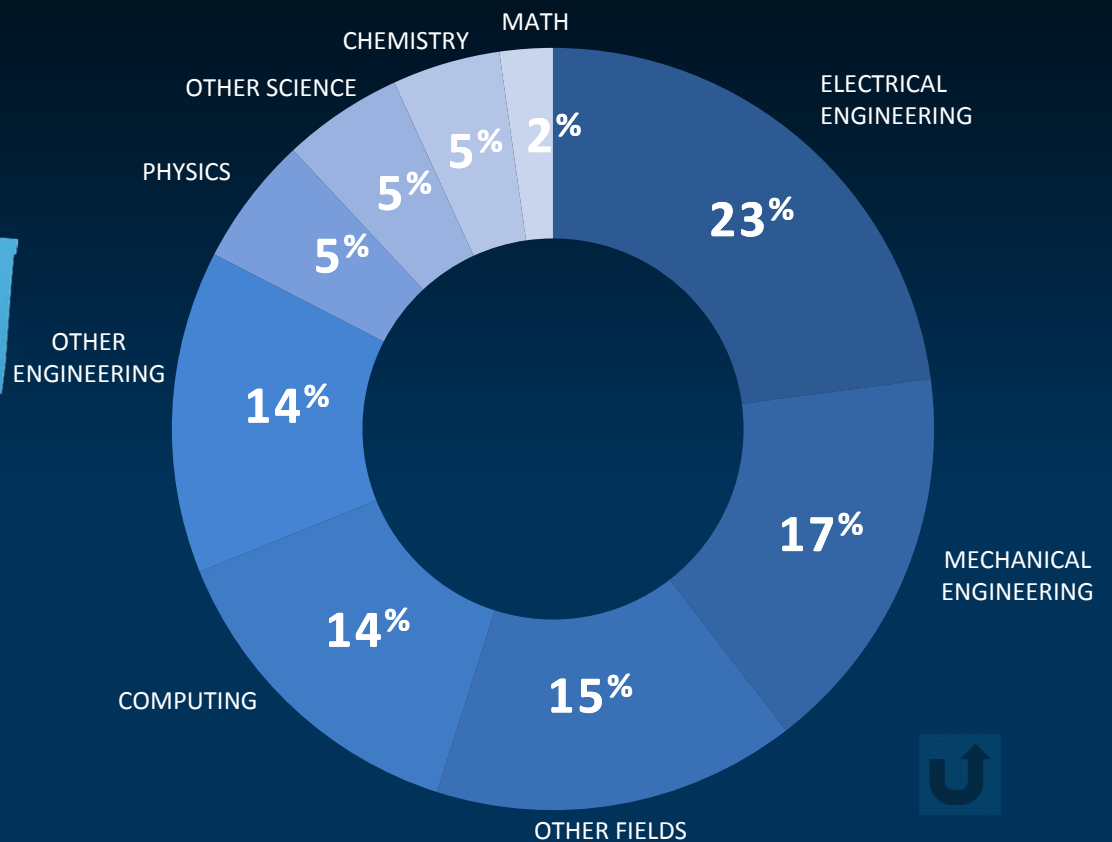
R&D staff: ~4,000

Distinguishing research capabilities:

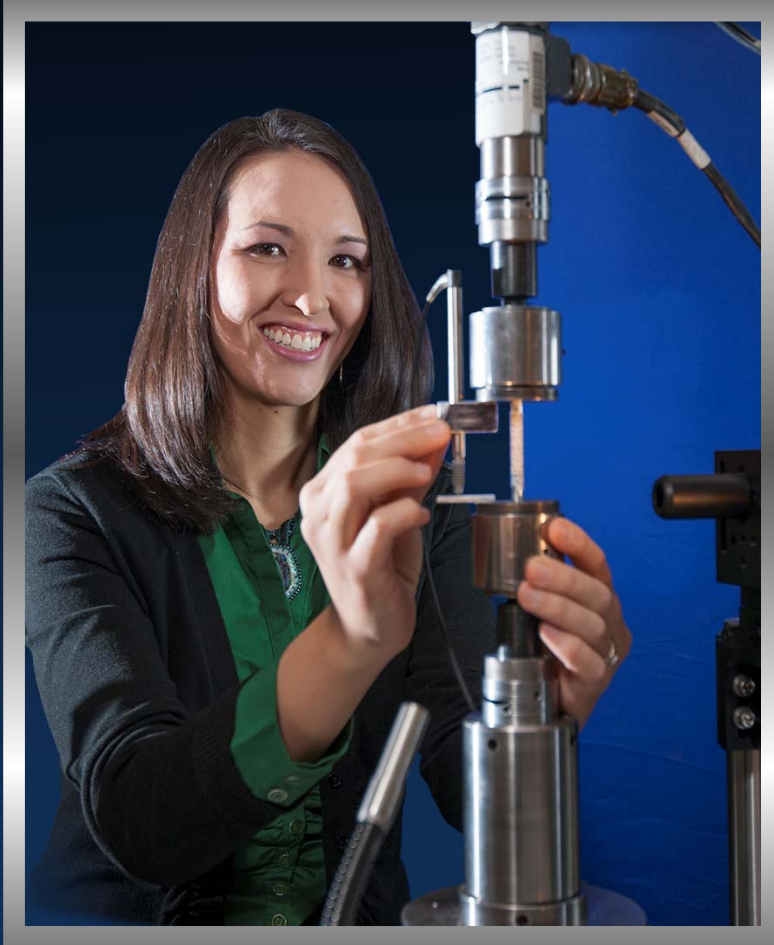
- Renewable Energy
- Micro-electronics/Semiconductors
- Cyber Security
- Homeland Security *and more*



R&D Staff by Discipline



Our Culture – Our Values



- Serve the nation
- Deliver with excellence
- Respect each other
- Act with integrity
- Work as a team

Sharlotte Kramer
PhD, Aeronautics
California Institute of Technology

Community Involvement



Sandians volunteer 110,000 hours annually

- Coaching/food banks/community boards
- Science Bowl
- Junior Achievement
- Education programs - STEM
- Habitat for Humanity – 12 homes built
- Make a Difference

\$5.5 million donated to United Way in 2012



[>>Watch Video](#)

Special Programs, Education and Mentoring



University-based Education

- Tuition assistance programs
- Special degree programs
- University part-time program
- Special Master's program
- Doctoral study program



In-house Education, Training and Mentoring Programs

- Business
- Communication
- Design and drafting
- Energy
- Health and wellness
- Information technology
- Manufacturing
- Marketing
- Project management
- Sciences

What's a career like at Sandia?

The Work Experience



- Take on challenging assignments in state-of-the-art research facilities
- Work with internationally [recognized scientists and engineers](#)
- Receive recognition through service awards, employee recognition awards, [R&D 100 Awards](#) and more
- Take a leave to pursue qualifying research and professional opportunities
- Receive patent royalties, if eligible
- Pursue multiple careers through retraining and rotational opportunities
- Participate in diversity training and awareness programs that promote an all-inclusive workforce

Quality of Work/Life



Flexible Work Schedules

- 9/80 – work week
- Telecommuting arrangements
- Part-time options
- Vacation Buy Plan



Family Life

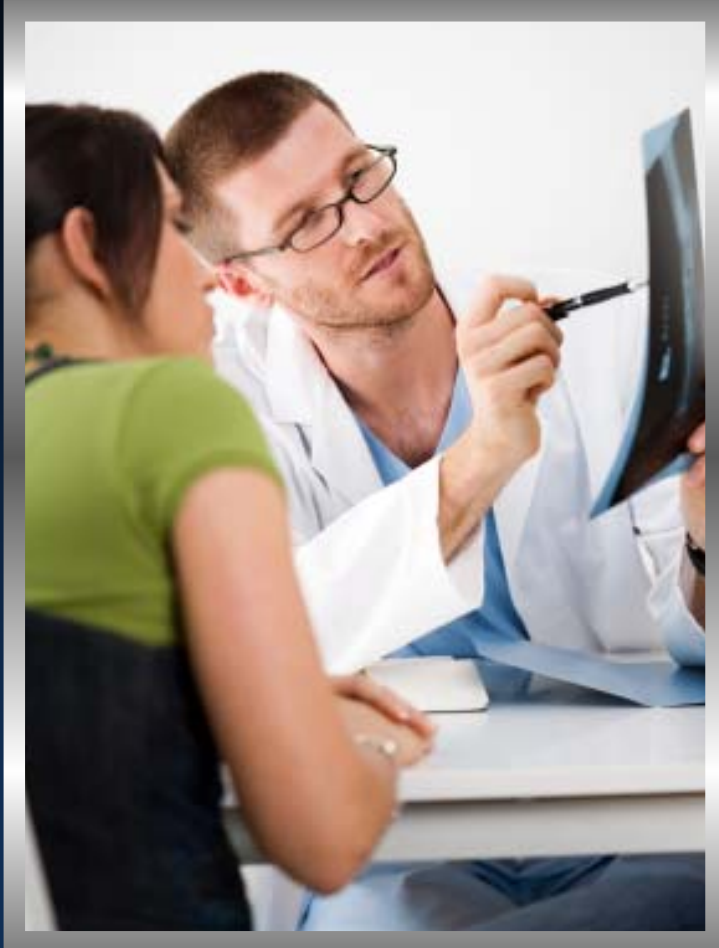
- Referral services/Workplace options
- Adoption assistance
- Family recreational activities



Health

- Health risk assessment screenings
- Onsite fitness facility and fitness programs
- Onsite health clinic
- Health education
- Behavioral health
- VirginHealth Miles Program

Convenience



On-site Amenities

- Medical Clinic
- Sandia Laboratory Federal Credit Union
- Café
- Fitness Center
- Access to group exercise classes, clubs and sporting activities
- Employee self-formed sports teams

**These amenities are available at CA and NM sites only*

Living in Albuquerque



Life in Albuquerque

- Albuquerque is the largest city in New Mexico with a population of over 500,000
- Affordable housing, reasonable cost of living
- Minimal traffic congestion

Albuquerque Environment

- High desert climate with 278 annual days of sunshine
- Average temperatures between 78° and 40°
- Wide-open spaces

Things to Do

- Outdoor recreation - Ski, snowboard, hike, etc.
- Santa Fe – rich culture
- International Balloon Festival
- Explore Indian pueblos and our Hispanic
- Green chile – N.M. Cuisine
- Museums, Parks, Sports

Living in Livermore



Life in Livermore

- Livermore's relaxed lifestyle populates nearly 81,000
- Close proximity to first-tier universities, Silicon Valley companies, and other top research laboratories and facilities
- Access to California's finest public and private schools

Livermore Environment

- 260 annual days of sunshine
- Average temperatures between 73° and 46°
- Annual average rainfall: 14.8 inches

Things to Do

- Vineyards
- Beaches
- State Parks
- Sports – Nearby are six major league franchises
- Art haven
- Proximity to SF Bay Area

Employment Opportunities

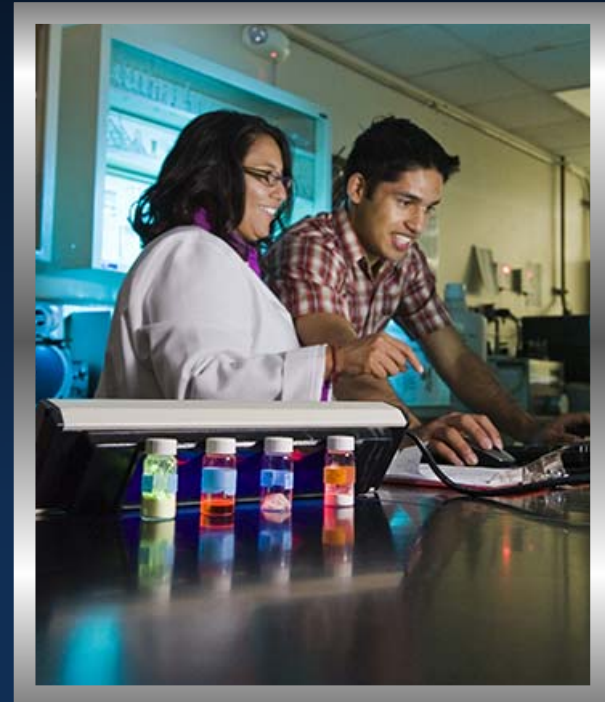
Internships



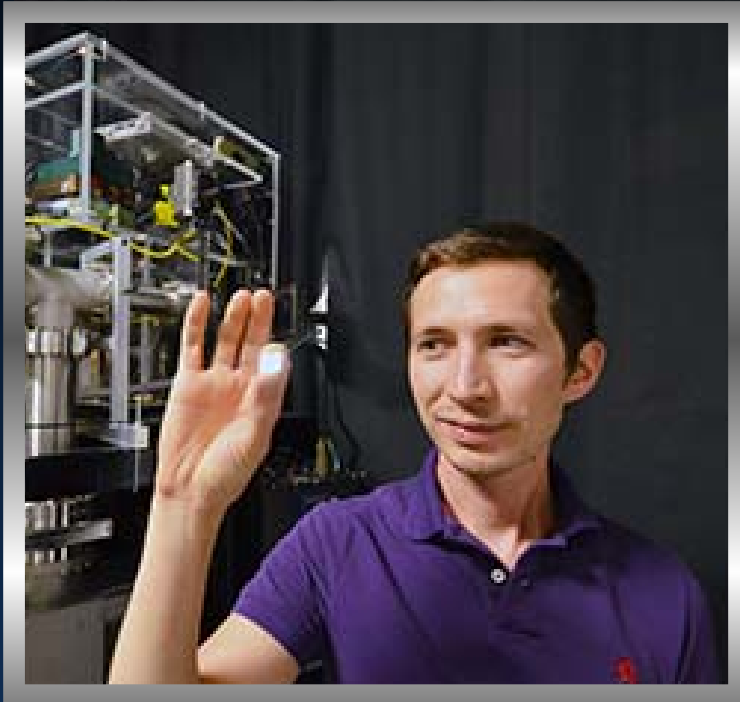
Encourages qualified students to develop interests in critical skills areas related to our mission, with the ultimate objective of developing our pipeline for our future. Available for Summer, Year Round and Co-op.

Requirements

- Min. cumulative GPA (3.2 Undergrad/3.5 Grad)
- U.S. citizenship
- Full-time enrollment status at an accredited college, university, or local high school
- At least 16 years of age



Post-doc opportunities



Key areas for postdocs at Sandia:

- Biosciences and biotechnology
- Chemistry and materials science
- Combustion
- Computational mechanics
- Computer science
- Hydrogen
- Microelectronics and microfluidics
- Nanotechnology
- Physics

Requirements

- Min. cumulative GPA (3.5 Undergrad/3.7 Grad)
- U.S. citizenship
- A recent PhD (awarded within the past three years) or the ability to complete all PhD requirements before beginning
- No previous postdoc appointments at a national laboratory

Special Degree Programs & Fellowship Opportunities

Special Degree Programs

- Critical Skills Master's Fellowship Program
- Master's Fellowship Program

Ph.D. Level Fellowships

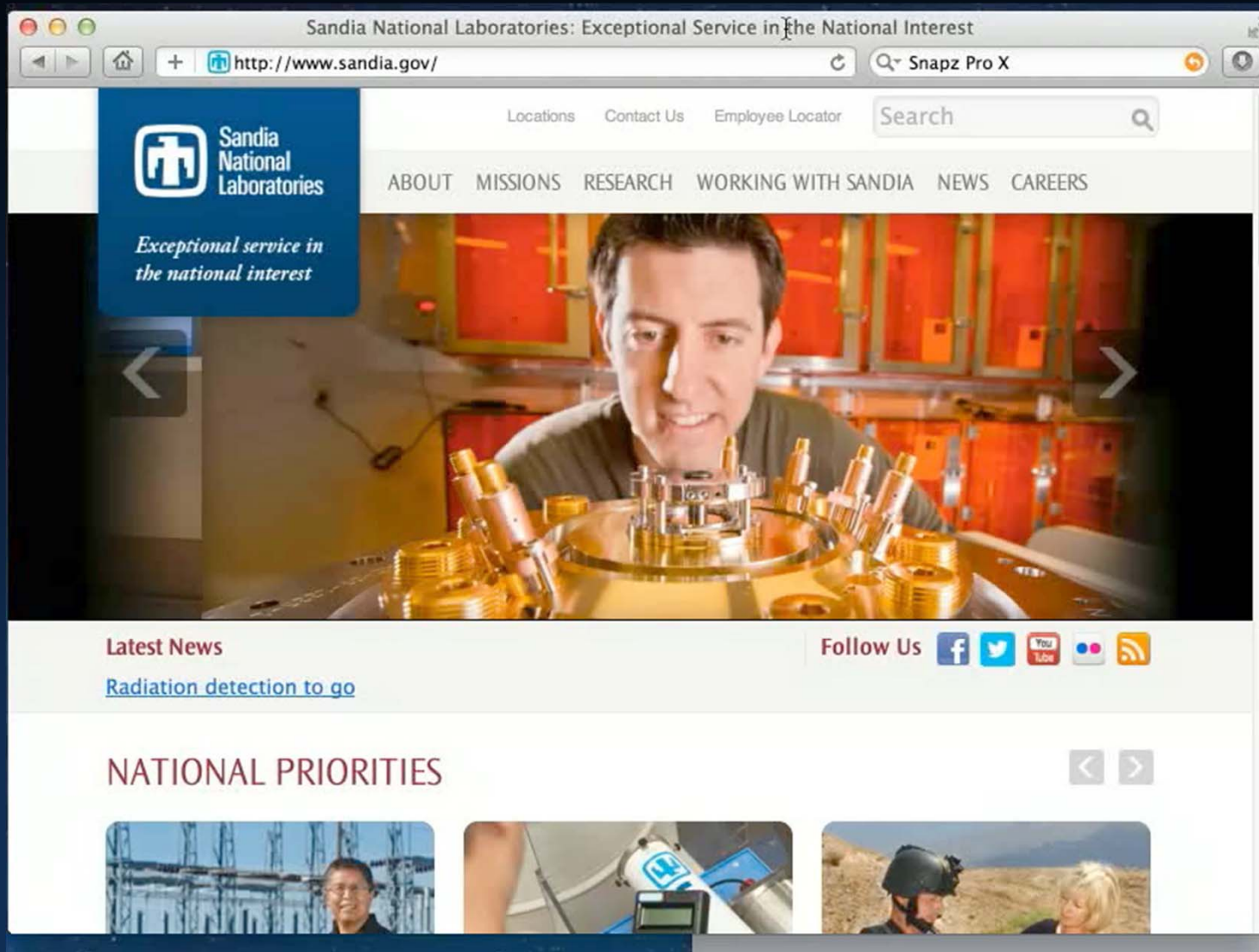
- Harry S. Truman Fellowship
- John Von Neumann



How to Apply - sandia.gov/careers



Advanced Search & Job Agent/email notification



Exceptional service in the national interest



Thank You

