

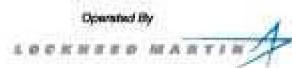
nal service in the national interest



Sandia National Laboratories

Heermann, Joe Castro

Initiation Session: Life After Graduation



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



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

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.



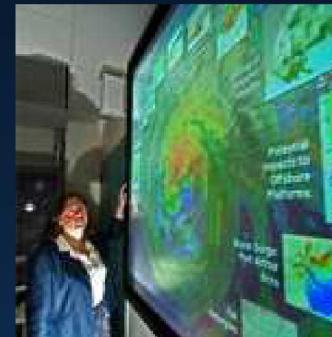
Fukushima Quake

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

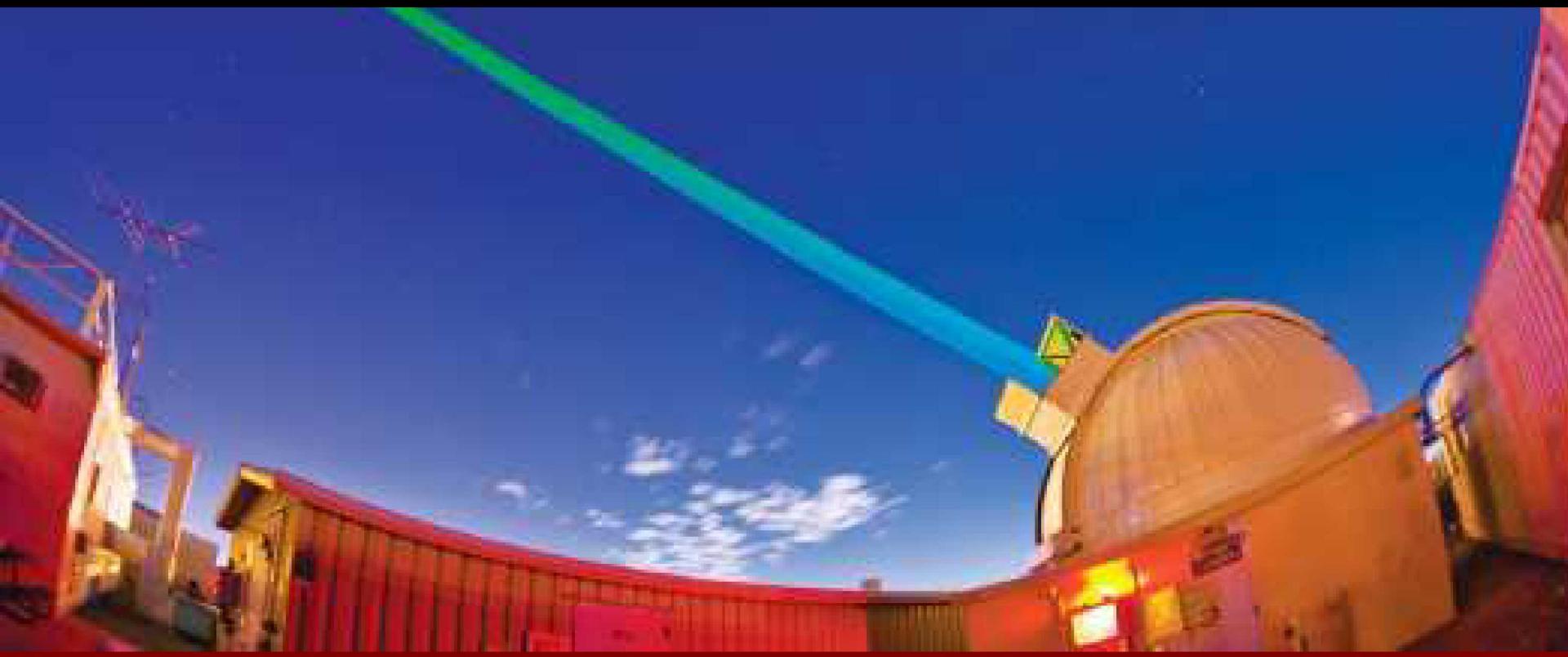
Sandia works to help to develop an approach for securing the damaged well head, stopping the leak, and minimizing the severity of the oil spill.

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.



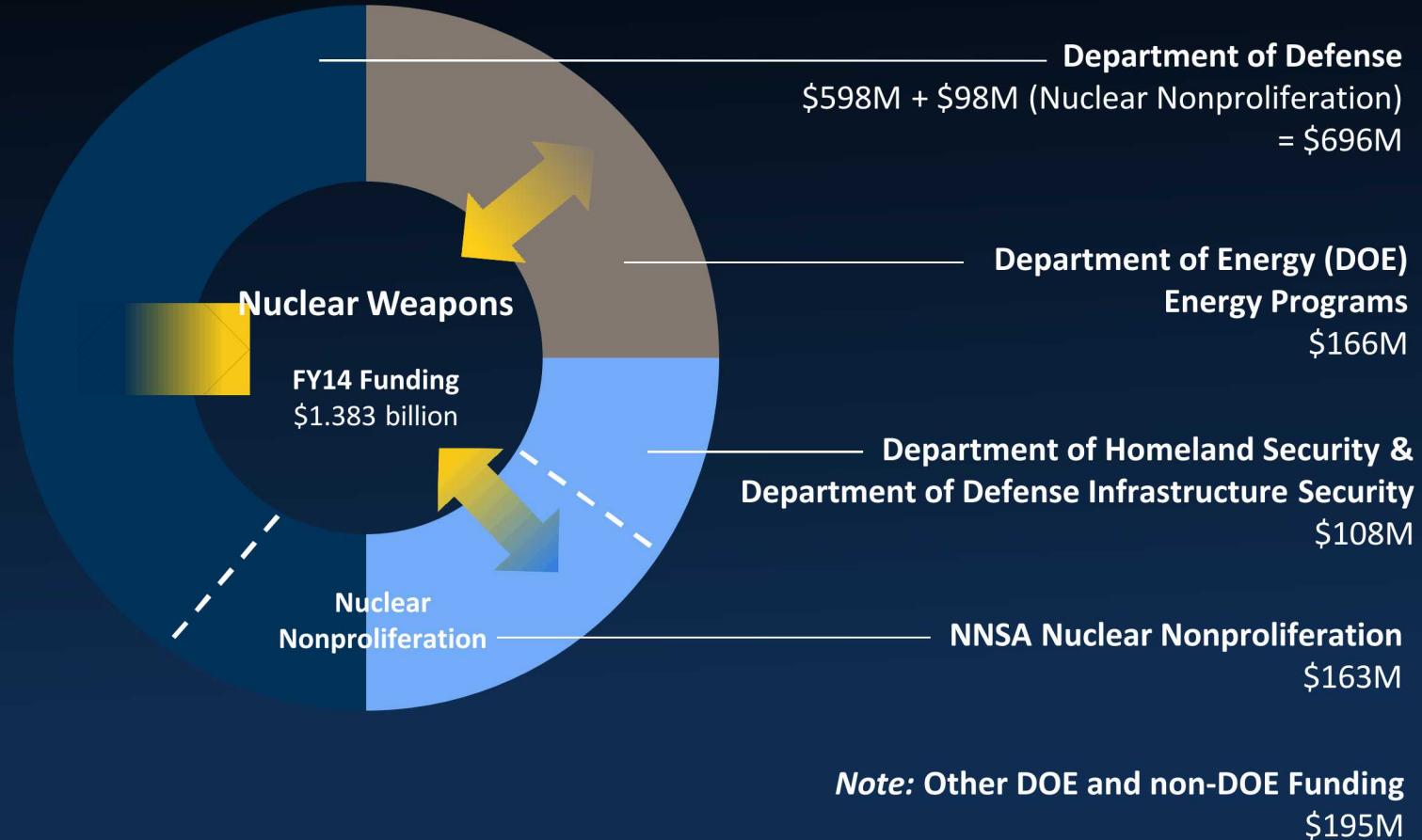
Sandia is a National Laboratory



Sandia has two main locations



Sandia's Funding - ~\$2 Billion



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

Fulfilling Our National Security Mission



Nuclear Weapons



International, Homeland & Nuclear Security



Energy & Climate



Defense Systems & Assessments

Nuclear Weapons

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



International, Homeland & Nuclear Security

Nonproliferation - the prevention of an increase or spread of the number of countries possessing nuclear weapons



Energy & Climate



Energy Security
Security
Structure Security
ing Capabilities

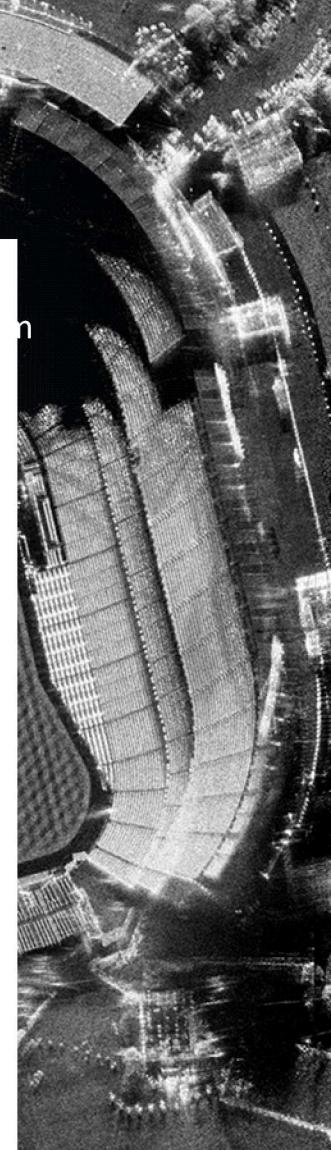


Defense Systems & Assessments



We support our troops around the world

and help to keep them safe



Our Foundations in Research



ential research-and-discovery activities that support invention, innovation, entrepreneurship, community, 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

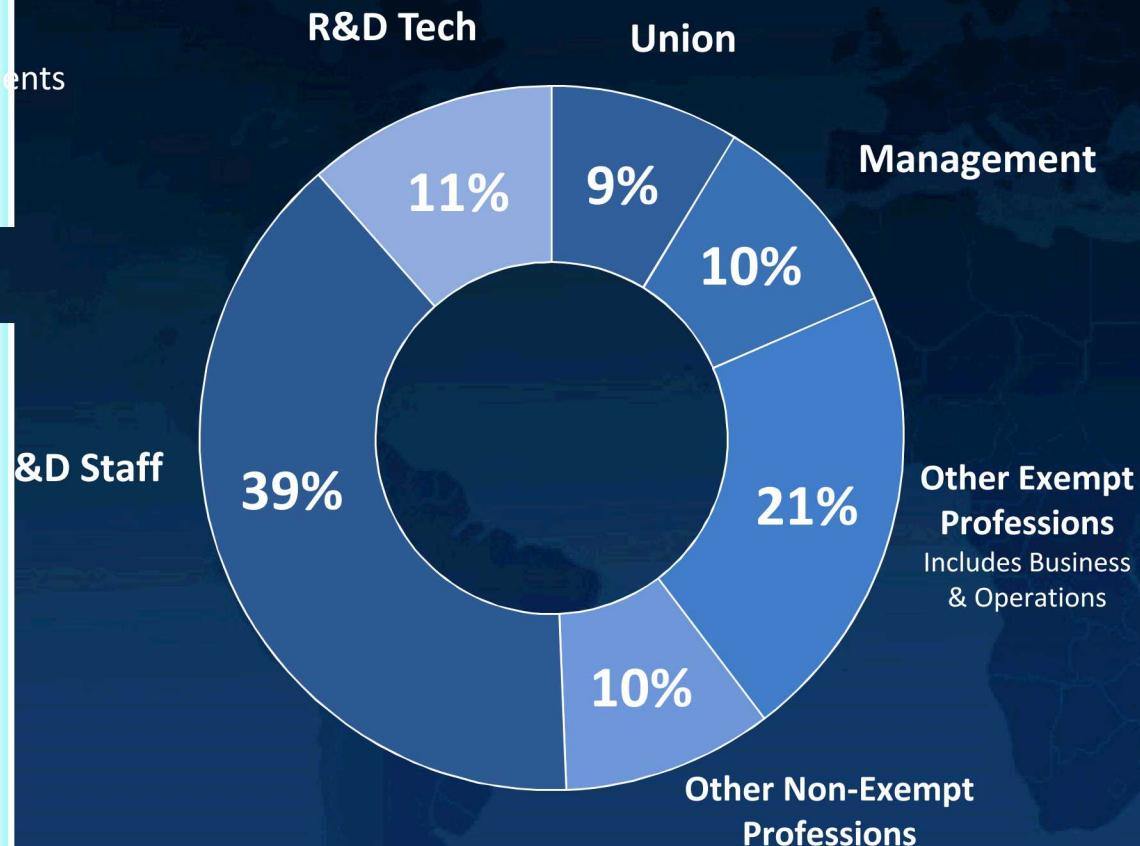
Our Workforce ~11,700 employees



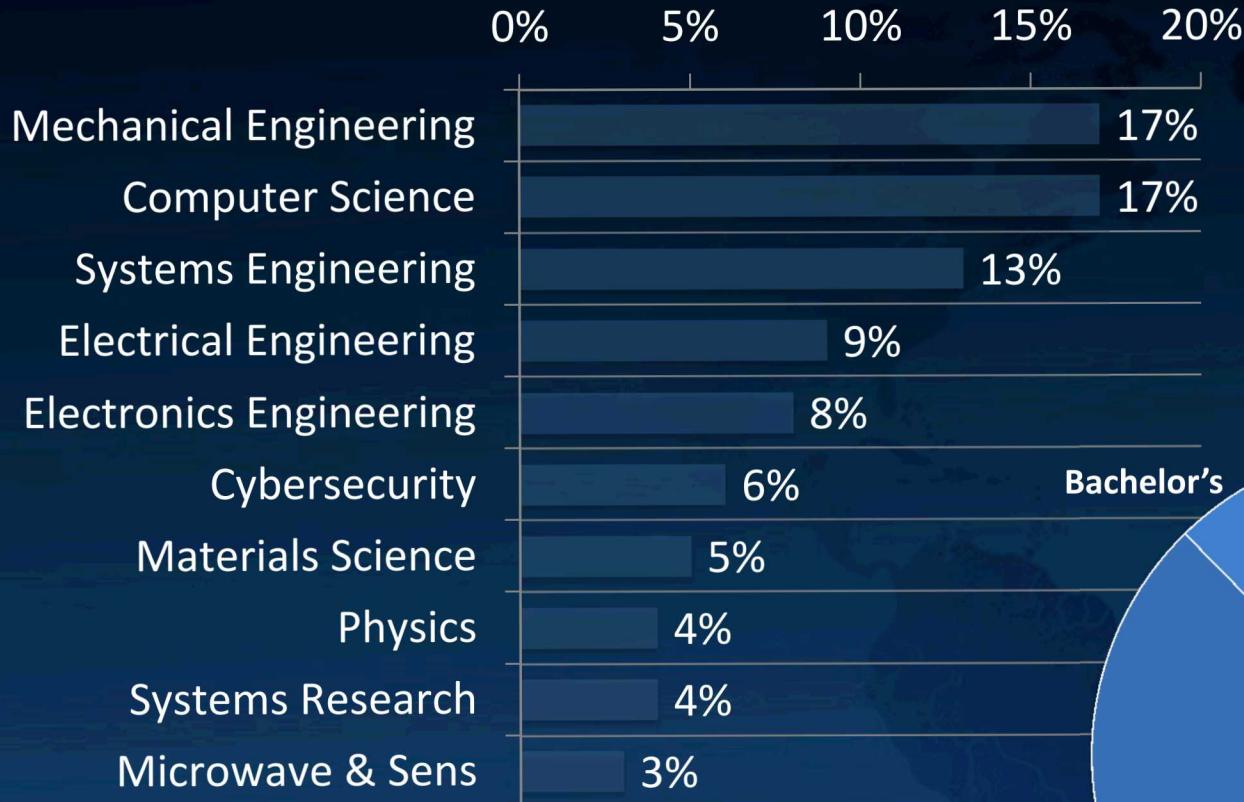
~10,300 Regular employees
~1,400 Temporary employees, students & postdoctoral appointees

New Mexico Site:
Workforce: ~10,500
R&D employees: ~4,700
(*R&D Staff & Technologists*)

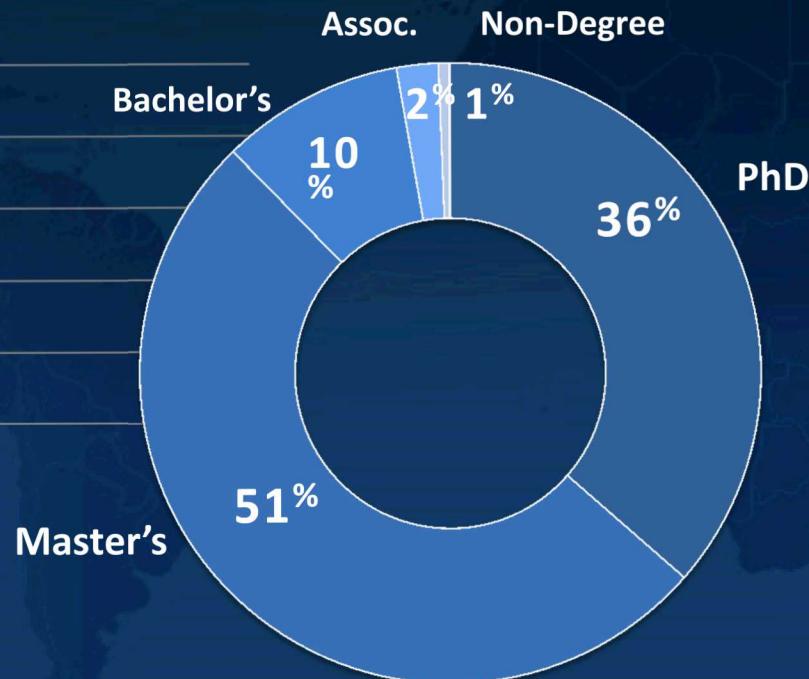
California Site:
Workforce : ~1,200
R&D employees: ~600
(*R&D Staff & Technologists*)



R&D by Discipline & Degree



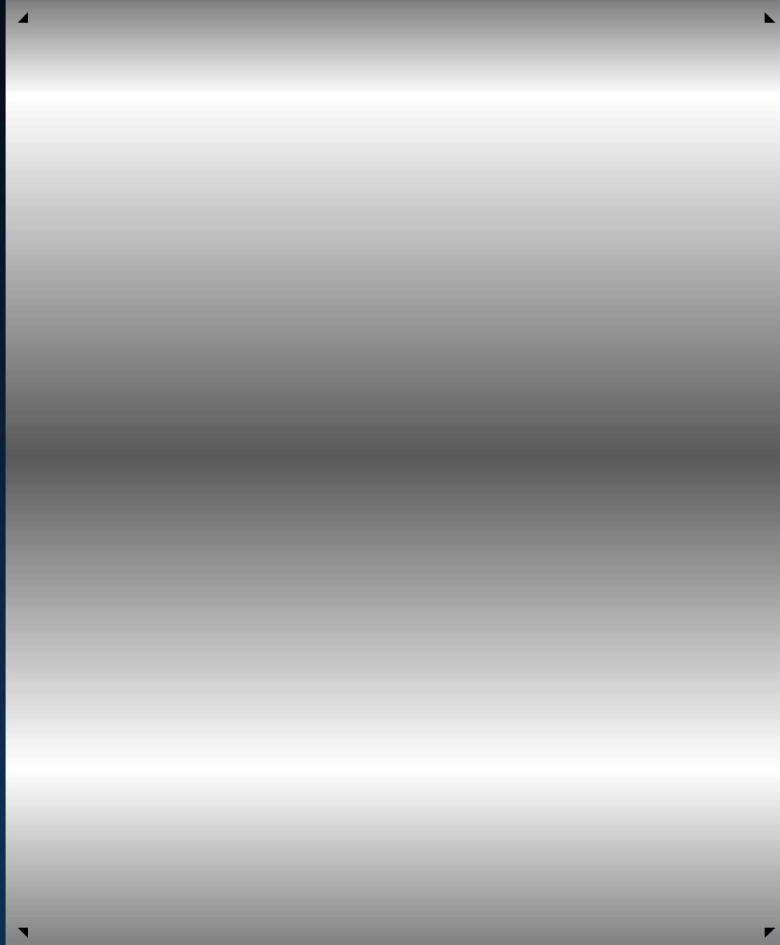
Top 10 job descriptions shown, Regular exempt non-management employees only



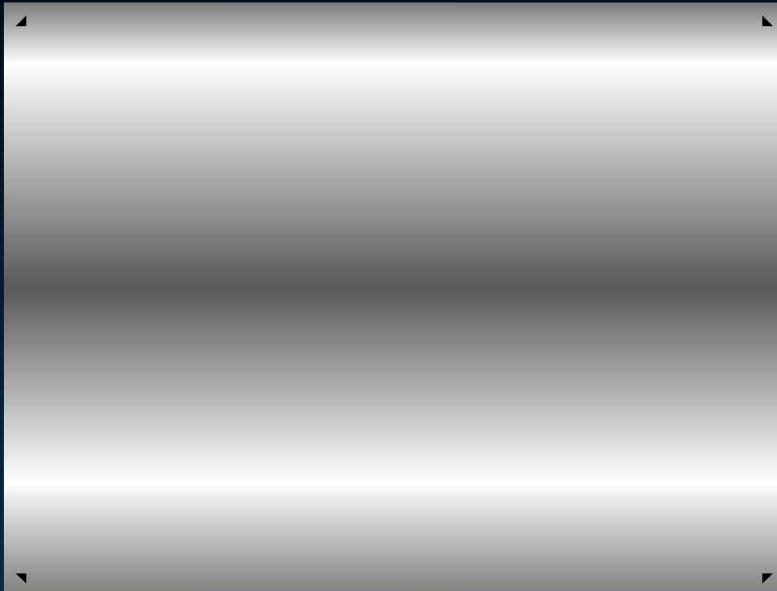
Our Culture – Our Values



- We serve the nation
- We team to deliver with excellence
- We respect each other
- We act with integrity
- We live safe and healthy lives



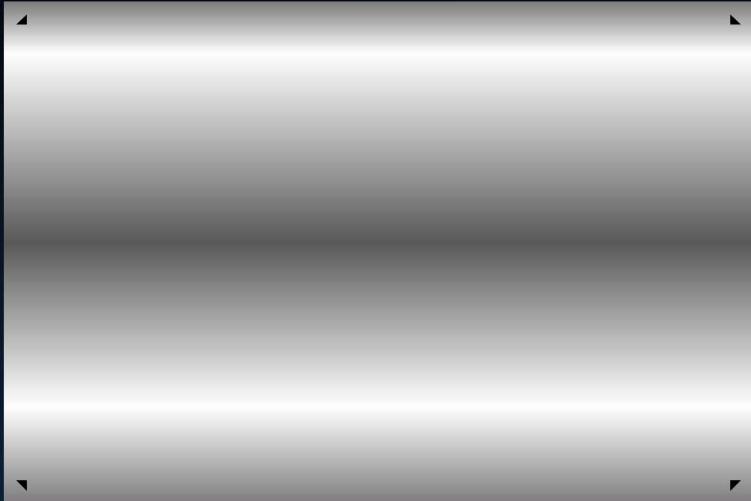
Our Culture – Giving Back



+ 100,000 Volunteer Hours Annually
~ \$6 Million Donated to Nonprofits Annually

- Animal Adopt-a-thons
- Coach sports teams
- Lead scouting troops
- K-12 education outreach
- Help at food banks
- Build homes
- Contributions and drives

Special Programs, Education and Mentoring



University-based Education

- Tuition Assistance Program
- 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?

Joe Castro (PhD, NEEP, Class of 1995) Undergrad Years (1984-1989)



Berkeley on the Brain

- Planned to transfer after freshman year
- 1st semester grades suffered

Refocused – graduate school is the next goal

K-State was a great school and a great experience

Obtained B.S. in Nuclear Engineering – Dec. 1989

- Emphasis on physics and math



Lesson Learned:

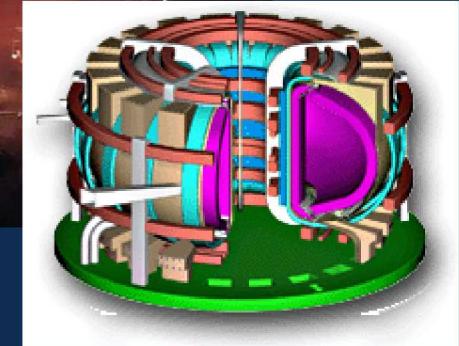
“High Profile” School was not a critical need for my academic goals

Graduate Years (1989-1995)



Lessons Learned:

- ❖ On-site visit is critical – if not offered a visit take the time and expense to do it yourself
- ❖ The school is not only important but also the location – you'll live there for 5-8 years of your life!
- ❖ Grad school choice is more critical than undergrad – make sure to do your homework
- ❖ Your academics are important but have a broader perspective about your future. Transition to next slide...



Desert Period (1995-1997)



Lessons Learned:

- ❖ Assumed Would Receive a Post-Doc position (no money) – communicate with advisor!
- ❖ Should have been pro-active on job search early! (saw it coming)
- ❖ Should have made more contacts – involvement in intern program, university organizations, etc.
- ❖ Job market tends to be cyclic – don't give up!

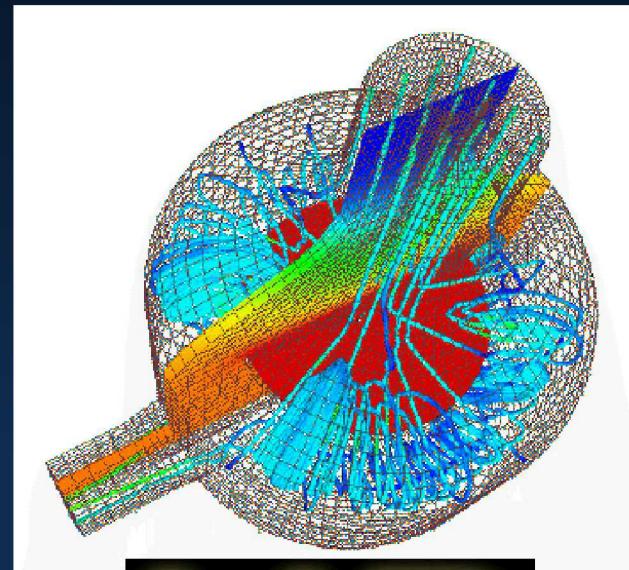


Sandia: Early Years (1997-2001)



Lessons Learned:

- ❖ Always re-educate yourself when you have the opportunity (something I should have done more during grad years)
- ❖ Be flexible and willing to transition into something new – you may find you like it!
- ❖ Be persistent and communicate with your management – was able to be hired during a very difficult time



Sandia Years: Middle Years (2001-2010)



Lessons Learned:

- ❖ Again, always be open to change:
 - Unforeseen change
 - ✓ Budget
 - ✓ Priority
 - New Opportunities
 - ✓ Technical
 - ✓ Programmatic
 - Good for growth!
- ❖ Sandia gives you the opportunity to transition to different things and wear different “hats”
 - If it doesn’t work for you – have the ability to transition back



Sandia Years: Later Years (2008-Present)



Converted to Primary Member of Technical Staff

Continue technical and programmatic lead on the QASPR project

- Programmatic and research

Developing skill set for management

- Begun bidding on management positions in 2014

Why management?

- Higher level impact
- Helping others succeed

Hired as manager of Electrical Models and Simulation org. in October of 2014



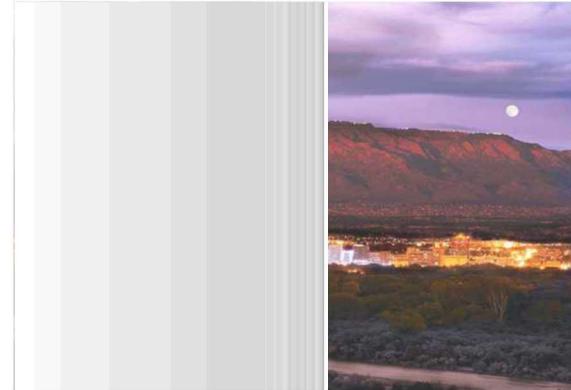
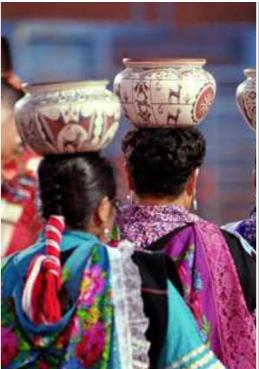
Lesson Learned:

18+ years at Sandia I've transitioned to areas I never would have predicted at the beginning of my career. I look forward to the continuing opportunity and change!

Working at Sandia / Living in New Mexico

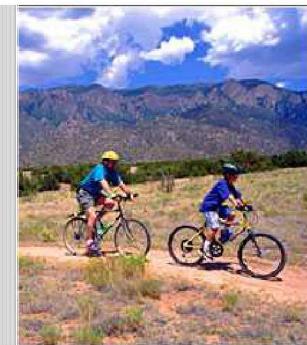
■ Working at Sandia:

- Diversified portfolio and work opportunity
- Great amount of freedom
- Many opportunities for self-investment
- Meaningful work
- Good work/life balance



■ Living in New Mexico

- Gorgeous scenery and year-round outdoor activities
- 300 days of sunshine
- Unique culture



Nathan Heermann (MS ISYE Class 2013)



- Hometown: Albuquerque, NM
- Undergrad: University of New Mexico EE
- Graduate: University of Wisconsin-Madison ISYE
- Favorite food at UW: Wings at the Library



My Career at Sandia

Internship

Critical Skills
Master
Fellowship

Quality
Engineer

Internship 2008-2012

- Explosives (for national security: packing into laptops, liquid explosives of common household liquids to measure yield)
- Photovoltaic reliability (database and analysis work)
- Fault Trees
- Power Sources



Critical Skills Masters Program

- Fully funded master's of science degrees are available through Sandia's Critical Skills Master's Program. Successful applicants will become full-time Sandia employees, work at Sandia for at least two months, and then enter graduate school full-time. While in school, participants will receive benefits and a stipend from Sandia. Upon graduating with their master's degrees, participants are placed in a regular position at Sandia.

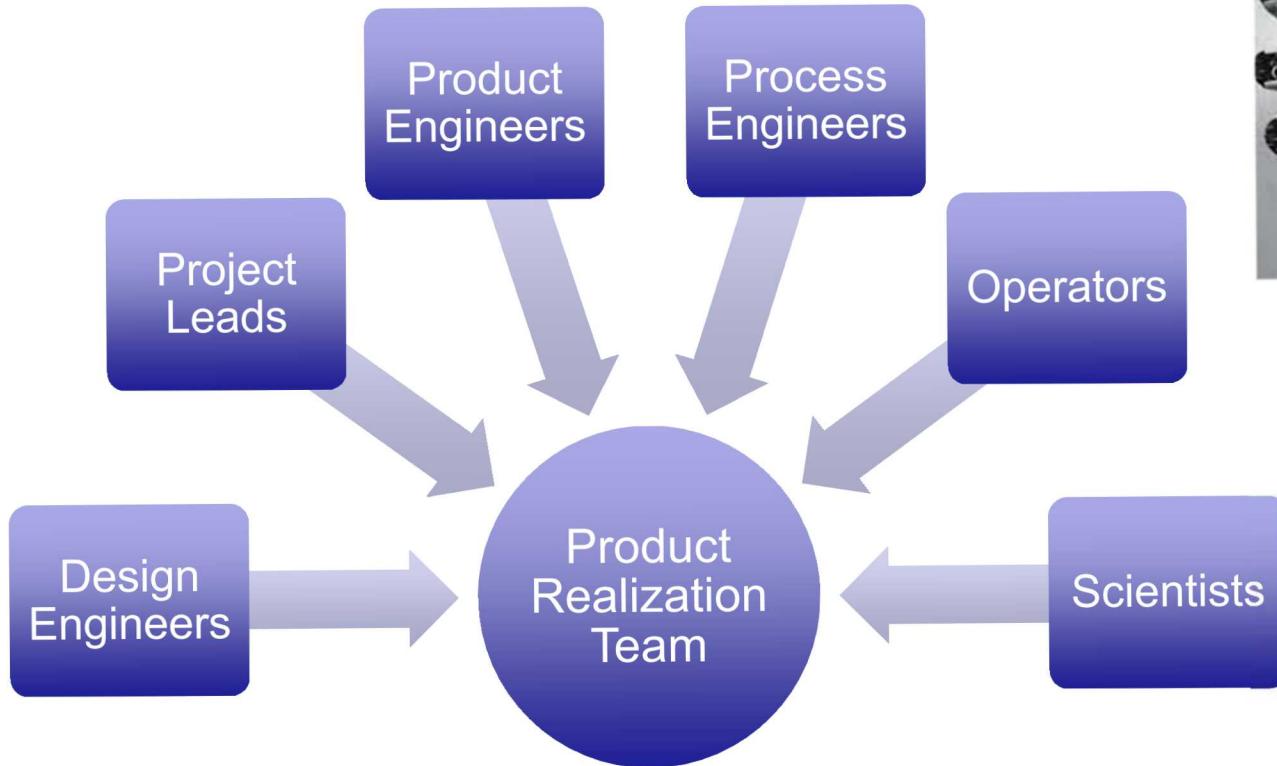


What I do at Sandia National Labs

- Quality Engineer for nuclear weapon components
- Variety of components on many different systems
- Work with all stages: concept, feasibility, design, development, production, and dismantlement
- Surety of components



Great people to work with



With ~10,000 people at Sandia there is someone who knows the answer!

Developing my skill set

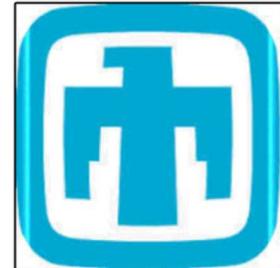


Undergrad + Graduate School



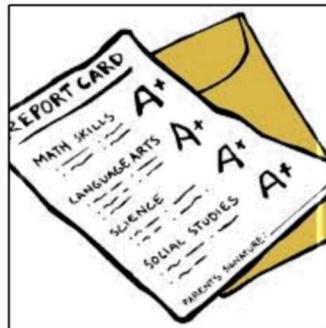
- Continuous Improvement
- Quality Systems
- Circuits
- Power Systems
- Senior Design Project

Sandia National Labs



- HALT & HASS
- Defect Prevention
- Product Qualification
- Government Systems Operations

How to prepare for a career at Sandia



GPA

Applicable
course work/
knowledge base



Internship/ work
experience

Questions?



Employment Opportunities

Internships

Features

- 16+ yrs to PhD
- Variety of majors
- Technical institute programs (8)
 - Perform leading-edge research
 - Guidance of a Sandia research mentor
 - State-of-the-art equipment and facilities
- Tours, workshops, seminars

Requirements

- U.S. citizenship for positions that require clearance
- Full-time enrollment status
- GPA: 3.5 grad, 3.2 undergrad



Fellowships & Postdocs

Features

- Ph.D.-level candidates
- Harry S. Truman
 - Salary: 110K
- Alexander Hollander Distinguished
 - Focus on life, biomedical, and environmental sciences
- John Von Neumann Postdoctoral
 - One-year
 - Applied/computational mathematics

Requirements

- U.S. citizenship for positions that require clearance
- GPA: 3.7 grad, 3.5 undergrad
- Research in areas of interest to national security



Full-time

- U.S. citizenship for positions that require clearance
- 13 majors listed on website
- Work-life balance
- Diversity programs, community outreach, 401(k) matching, patent royalties, wellness programs



Wounded Warrior Career Development Program

- A unique limited-term career development employment opportunity that enables veterans to acquire career-based skills at Sandia through training, mentoring and real-world work experience while supporting mission success.



- Actively pursue an appropriate college degree
- Continue to develop and refine job related skills through training
- Share experiences to improve understanding of combat theater and enhance connections with Sandia work

Apply Online! sandia.gov/careers



Locations Contact Us Employee Locator Search

ABOUT PROGRAMS RESEARCH WORKING WITH SANDIA NEWS CAREERS

Students and Postdocs Benefits and Perks Hiring Process Life at Sandia Special Programs

Careers

Turn your passion for engineering into a career.
Solve challenging national-security problems that defy easy textbook answers.

Career possibilities

[View All Jobs](#)

» Aerospace Engineering	» Computer Science	» Mechanical Engineering
» Bioscience	» Cybersecurity	» Nuclear Engineering
» Business Support & Operations	» Electrical Engineering	» Physics
» Chemistry & Chemical Engineering	» Geoscience	» Systems Engineering
	» Materials Science	

Is your career missing from the list? [View all job openings](#) instead.

Announcements

- Download our [recruiting iPad app](#) from the App Store today
- Transitioning Military: Learn about our [Wounded Warrior Career Program](#)
- Check out our [recruiting brochure](#) (PDF, 2.3 MB)

LOCATIONS

in the national interest



Sandia
National
Laboratories



Link You



Backups



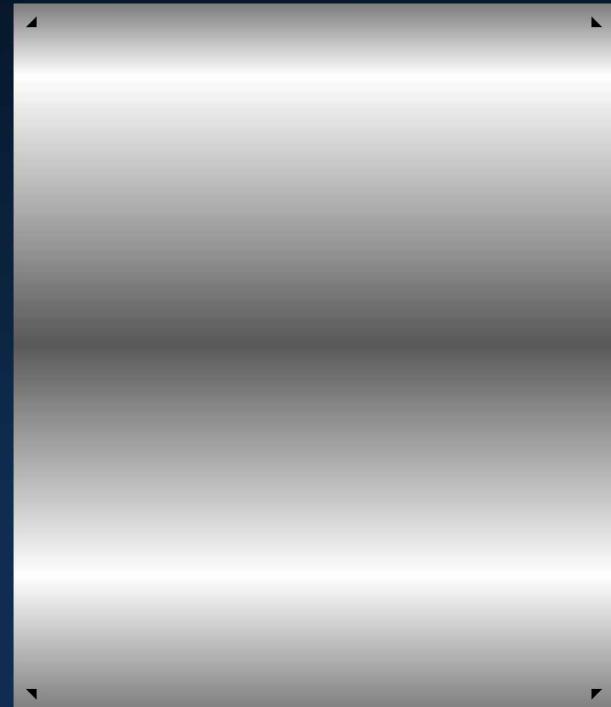
Internships



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.

Eligibility Criteria

- Min. cumulative GPA (3.2 Undergrad/3.5 Grad)
- Have U.S. citizenship for positions that require clearance or as stated in the job posting
- Full-time enrollment status at an accredited college, university, or local high school
- At least 16 years of age



Technical Institute Internships



Technical institute interns perform leading-edge research under the guidance of Sandia research mentor and use world-class equipment and facilities.

- Computer Science Research Institute (CSRI)
- Enabling Predictive Simulation Research Institute (EPSRI)
- National Security Engineering Institute (NSEI)
- Physical Sciences Institute (PSI)
- Sandia Institute for Modeling and Simulation (SIMS)
- Science of Extreme Environments Research Institute (SEERI)
- Energy Surety Incubator (SENTINL: ESI)
- Interns for Security, Arms Control, and Force Protection Engineering (SENTINL: iSAFE)
- Center for Analysis Systems and Applications (TITANS: CASA)
- Center for Cyber Defenders (TITANS: CCD)
- Monitoring Systems and Technology Intern Center (TITANS: MSTIC)



Post-doc Opportunities



Key areas for post-docs at Sandia:

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

Eligibility Criteria

- A recent PhD (awarded within the past five years) or the ability to complete all PhD requirements before beginning
- No previous post-doc appointments at a national laboratory

Special Degree Programs & Fellowship Opportunities

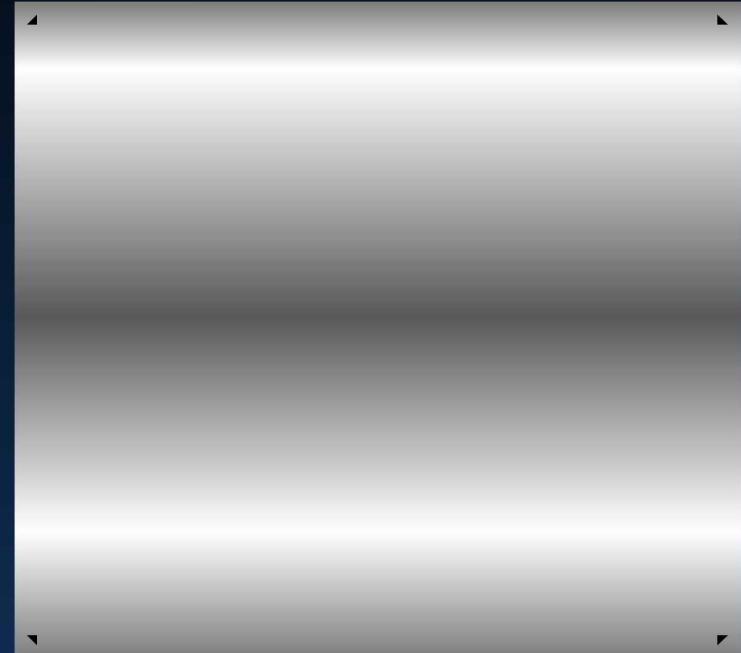


Special Degree Programs

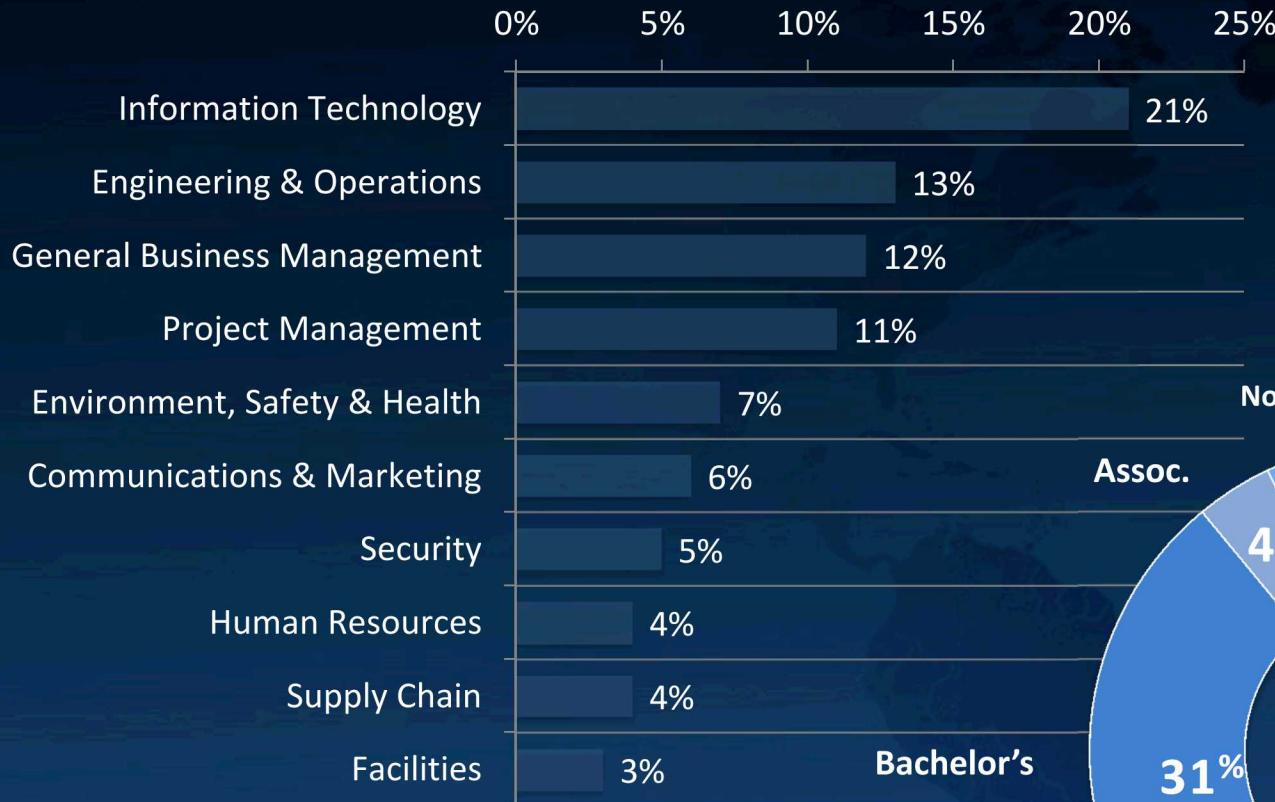
- Critical Skills Master's Fellowship Program
- Master's Fellowship Program

Ph.D. Level Fellowships

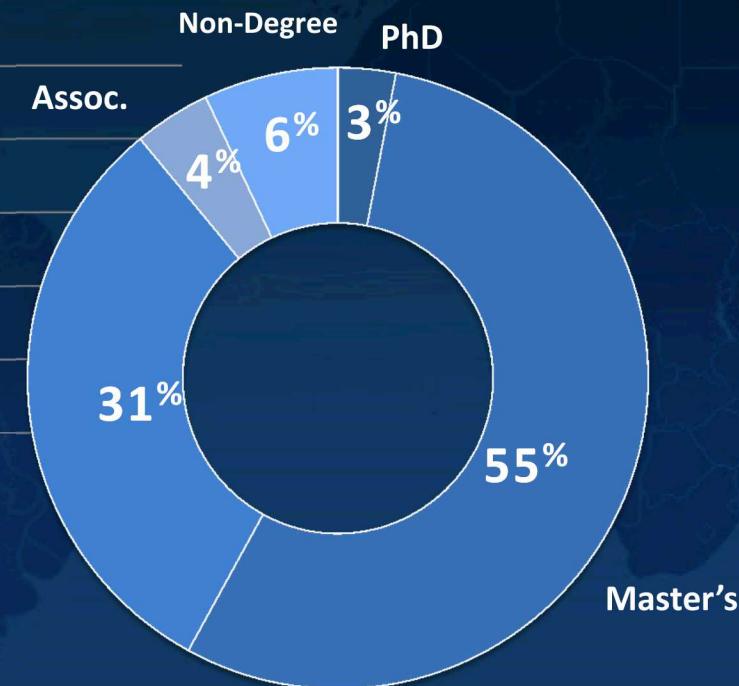
- Harry S. Truman Fellowship
- John Von Neumann



Business & Operations Staff



Top 10 job families shown , Regular exempt non-management employees only



SNL Ipad Site



YouTube Site



Facebook Site



Careers Site



Twitter Site



LinkedIn Site

