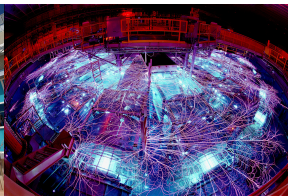


*Exceptional service in the national interest*



## Working at a National Lab

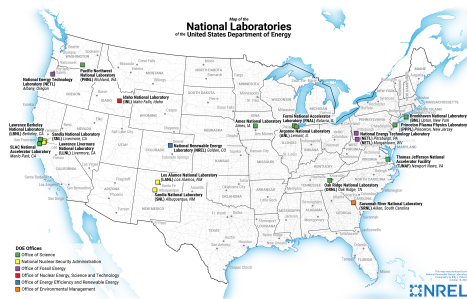
Christian Glusa  
caglusa@sandia.gov

Center for Computing Research, Sandia National Laboratories  
March 28, 2025



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# The US DOE National Laboratories



- **Federally Funded Research and Development Center:** Sandia is operated by a private company (Honeywell) as a contractor for the US Department of Energy's (DOE) National Nuclear Security Administration (NNSA).
- 16,700 employees primarily at 2 locations, Albuquerque and Livermore with a budget of \$4.6B in 2023.

## DOE EXECUTES ITS MISSIONS THROUGH DIVERSE NATIONAL LABS



- Somewhere in between academia and industry
- No teaching, but lots of interns
- Management structure
- Work needs to be specifically funded. All time worked is charged against projects.
- Research directions are determined by funding and requirements.
- Can apply for funding to work on particular topics of interest.
- Projects are team efforts. Team size can vary a lot.
- Academic backgrounds in my center:  
mostly PhD, mostly from math, CS, engineering, physics, ...  
Common theme: "Computational sciences"
- Career ladder:  
postdoc → [limited term employee] → senior MTS → principal MTS → distinguished MTS
- My background:
  - Mathematics undergrad in Germany and France
  - PhD @ Brown in Applied Math.  
Thesis: "Multigrid and Domain Decomposition Methods in Fault-Prone Environments"
  - At Sandia since 2017.
  - Work on scalable solvers and preconditioners, finite element discretizations, inverse problems, UQ, hierarchical matrices, computational electromagnetics, HPC, GPUs.
- At Sandia, foreign nationals are overall a small minority, but varies a lot by center
- Work-life balance



## Internships at Sandia



- Each year, we welcome high school, undergrad and grad student interns.
  - Seminar series about research at Sandia
  - Group activities
  - Facility tours
  - Proceedings article about your work
- Internships can be over the summer or year-round.
- Some internships may require US citizenship.

### ■ Sandia Internships

[sandia.gov/careers/career-possibilities/students-and-postdocs/internships-co-ops/](https://sandia.gov/careers/career-possibilities/students-and-postdocs/internships-co-ops/)

### ■ Internship at the Center for Computing Research

[sandia.gov/ccr/csri-summer-programs](https://sandia.gov/ccr/csri-summer-programs)

### ■ Mathematics and Analytics Research Technical Internship for Advanced National Security (MARTIANS)

[sandia.gov/careers/career-possibilities/students-and-postdocs/internships-co-ops/institute-programs/titans-technical-internships-to-advance-national-security/titans-mathematics-analytics/](https://sandia.gov/careers/career-possibilities/students-and-postdocs/internships-co-ops/institute-programs/titans-technical-internships-to-advance-national-security/titans-mathematics-analytics/)

### ■ NSF Mathematical Sciences Graduate Internship [**not offered in 2024**]

[orise.ornl.gov/nsf-msgi](https://orise.ornl.gov/nsf-msgi)

### ■ NSF INTERN program

[new.nsf.gov/funding/opportunities/dcl-non-academic-research-internships-graduate-students-intern](https://new.nsf.gov/funding/opportunities/dcl-non-academic-research-internships-graduate-students-intern)

## Other opportunities

- DOE Computational Science Graduate Fellowship [krellinst.org/csgf](https://krellinst.org/csgf)
- Argonne Training Program on Extreme-Scale Computing [extremecomputingtraining.anl.gov](https://extremecomputingtraining.anl.gov)

Feel free to email me with questions: [cag1usa@sandia.gov](mailto:cag1usa@sandia.gov)