

# Research in the Government: Perspectives from NIST & Sandia National Labs

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# Two Types of National Laboratories

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- Federally run facilities
  - NIST
  - National Institutes of Health (NIH)
  - Dept. of Defense Research Laboratories
    - Army, Navy and Air Force
  - *Etc...*
- Federally Funded Research and Development Centers
  - National Security Labs (DOE)
    - Sandia, Livermore and Los Alamos National Laboratories
  - Basic Energy Sciences Labs (DOE)
    - National Renewable Energy Laboratory
    - Oak Ridge National Laboratory
  - Joint Propulsion Lab (NASA)
  - Lincoln Laboratory (DoD)
  - User facilities and beam lines (Brookhaven, SLAC, Argonne,...)
  - *Etc...*

## Differences in:

- Eligibility Requirements
- Position Security
- Workforce Rules
- Pay Scales
- Funding Sources

# Primary Difference: Mission Focus

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***Each Facility/Agency has a unique focus which defines and motivates the work.***

For Example:

**NIST Mission Statement:** To promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

**Sandia's Mission:** Exceptional service in the national interest

***As a Public Servant your job is to support the Lab mission.***

# How Does Mission Matter?

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Mission defines the national lab's purpose

- If you don't connect with the mission, this might not be the right place to make your career
  - Your value to the organization will be measured by how you support the mission
  - If you're not sure, try a post-doc!
- Job typically involves agency specific service functions
- Constraint on types of research possible
- “Politics” may affect research
  - Think about Congress deciding whether you are allowed show up to work on October 1<sup>st</sup>.
  - This is more direct for federal facilities than FFRDCs

# Benefits and Differences

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- Impact!
  - Your efforts will directly affect the nation through your mission
- “Professional” science – (people, equipment (neutrons), environment):
  - You will work together with top quality professionals
  - Leading edge experimental and computational capabilities are often readily available
- Can do research yourself:
  - If you like to be hands on rather than manage a group.
  - Greater opportunities for fundamental research than industry
- Institutional Prestige:
  - You will carry the prestige of your organization.
  - The labs have strong incentives to support, develop and recognize their employees.
- Funding:
  - Often some dedicated funding/funding areas: Focus energy on providing value to the public
  - National labs have many opportunities to propose PI driven research projects, but not like the competitive arena of academia
- Greater job security and work-life balance

# Benefits and Differences

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- **Constraints from being part of a cohesive organization:**
  - No Cowboying!
    - Managers/rules will limit your research options and constrain work activities.
    - More rules, regulations and bureaucracy than academia
  - Limitations on external activities
    - Potential for conflicts of interest with politics, forming spin-off companies, etc.
  - Intellectual property ownership
    - You might get a slice, but the pie belongs to your boss
- **No empire building:**
  - High \$/person levels and organization constraints mean learning to work in a people poor environment.
- **Fewer opportunities for teaching students (undergrads and grads):**
  - This is unlikely to be a primary duty.
- **Pay:**
  - You will be solidly in the top 10% but if you want to be a bazillionaire, the labs may not be the right choice (in fact, you might want to switch majors)

# Things to consider

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Are you motivated by wanting to contribute to public good?

Do you want to work in coordinated teams?

Do you enjoy performing research yourself?

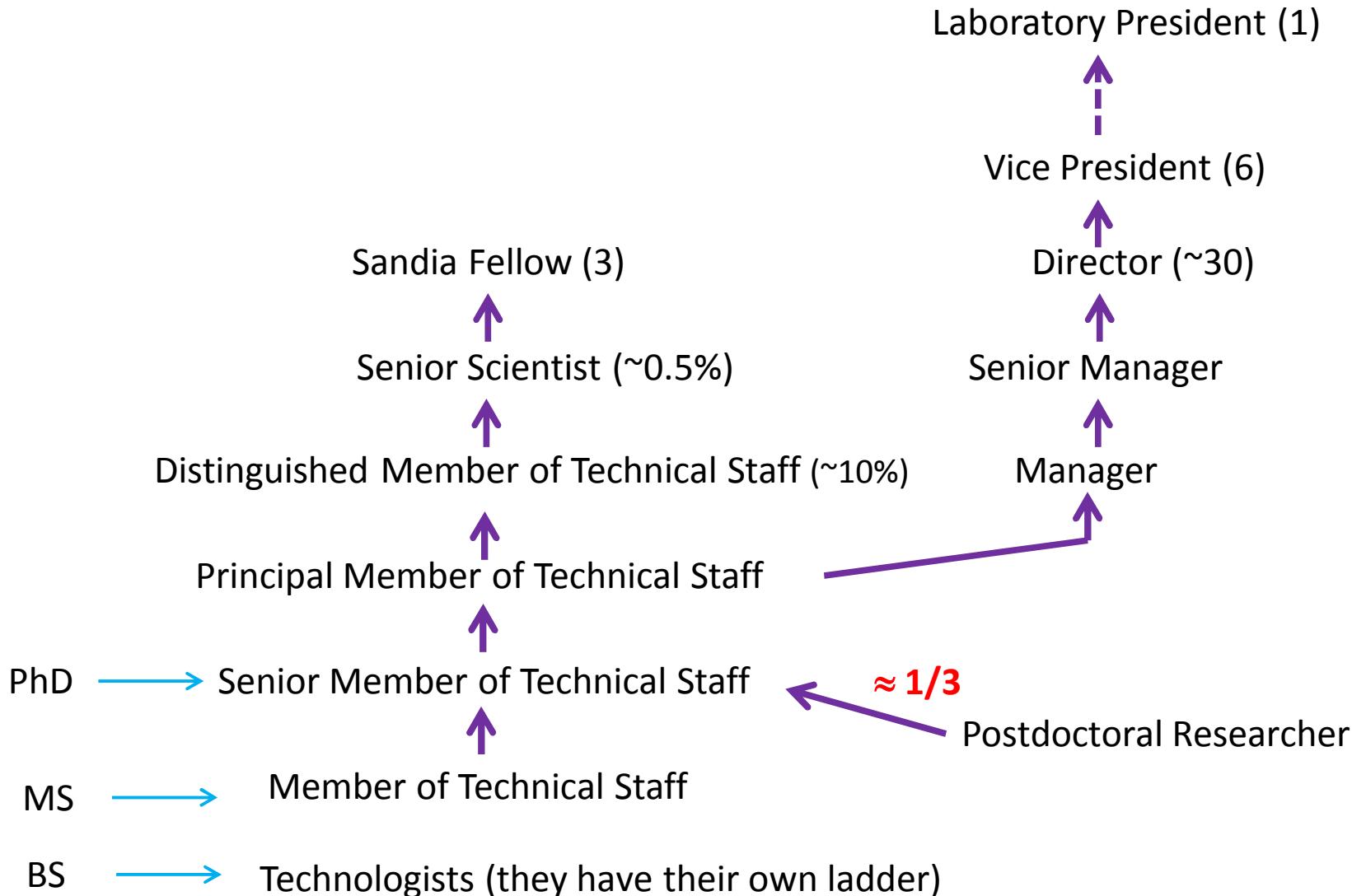
Can you be motivated by long range/mission goals?

# Entry points to National Laboratories

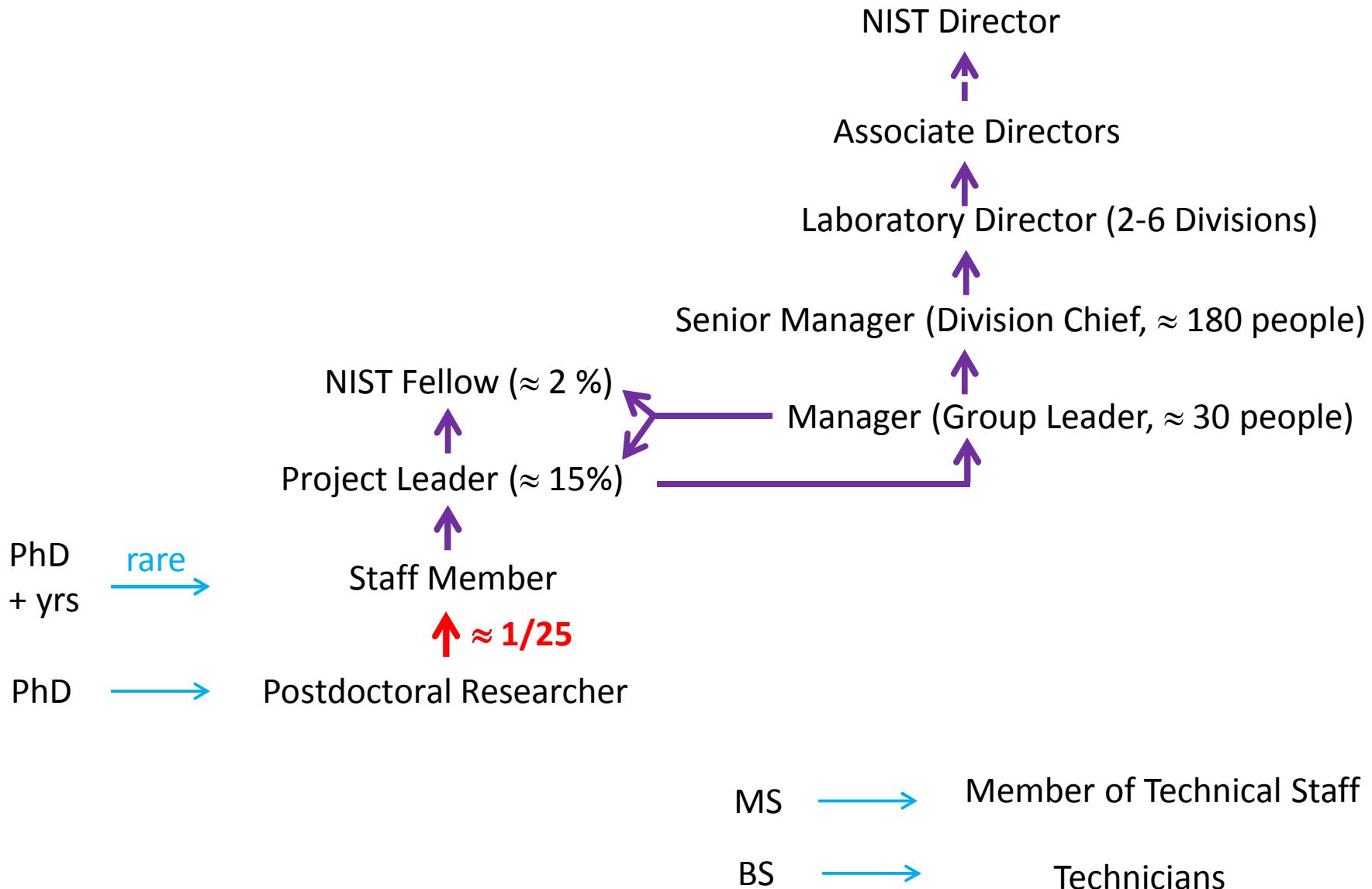
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- Permanent positions
  - usajobs.gov
  - Search at individual FFRDCs (i.e. [www.sandia.gov](http://www.sandia.gov))
  - Many jobs require security clearances (U.S. citizenship is generally a requirement)
- Postdoctoral Fellowships
  - National Research Council Fellowships (NRC-Post docs) at many Federal Labs.
    - NRC-NIST: US citizens Only, 2 yrs, ~\$70K, competitive application, Aug 1 and Feb 1 deadlines
  - All DOE labs hire post-doctoral researchers
- Guest Researchers
  - Postdocs, grad, sabbaticals, short, long
  - No preset schedule. Open to all, if available
  - Specific projects, Fall and Spring are best times to inquire
- Collaborations

# Sandia



# NIST





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# Questions?