

Government Careers (with Insights from Industry)

Christian Hassell

Group Leader, Analytical Chemistry Sciences
Los Alamos National Laboratory

How I Got Here

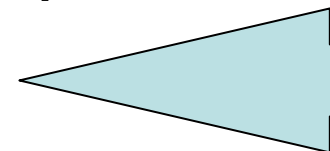
- PhD University of Texas, Prof. James Holcombe
- DuPont Chemicals
 - Analytical Technology Center
- DuPont Central R&D
 - Process Sensors and Analyzers
 - Bioprocess Development Center
- Los Alamos National Laboratory
 - Group Leader, Analytical Chemistry Sciences
 - Advisor, Iraq Survey Group (ISG)

What does a PhD mean?

- A doctoral program is meant to teach a process for learning and doing research
 - Also a means to specialize in a particular area
- The Dissertation Defense is not the end of the education process
 - It rather merely demonstrates that you can become an expert
- Successful people always learn new things, even specialize in them
 - Analytical Chemistry epitomizes this
- *These 4-5 years do not have to define your future*

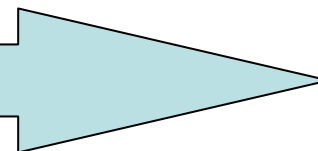
Specialist vs Generalist

Specialist



- Specialize in a particular technique
- Often proceed through Technical Ladder
- Many job ads target a specialty
 - HPLC for Pharma
 - Instrument companies
- Post-doc offers opportunity to hone this specialty, or pick up another

Generalist



- Possess a broad analytical knowledge
- Often proceed through Management Ladder
- Some companies target generalists
 - Discuss during interviews
- Post-doc may not be necessary, esp. if targeting an industrial position

Are you a Starter or a Closer?

- Do you prefer to generate new ideas or start new projects?
 - “Starter”
- Do you prefer to take an existing idea to completion?
 - “Closer”
- Both are needed, but uncommon to excel at both
- You can either work on your weak area, or partner with a counterpart

Research vs “Programmatic” work

Research

Programmatic



- Must obtain funding
- Independent
- Instrumentation Development, complex methodology
- Can be exhilarating, but can be stressful

- Funding often provided
- Support role
- Method Development, sample analysis
- Can become monotonous, but can be less stressful

Opportunities at Government Labs

- National Laboratories
 - Weapons Labs, Energy Science Labs
- Forensics
 - FBI, ATF, DEA, DHS, local LE
- Military Laboratories
 - NRL, ARL, Edgewood, many others
- Intelligence
 - CIA, NSA, DOE, DHS
- USDA, EPA, FDA, NIH, CDC

Many of these have citizenship and/or security clearance requirements

DOE National Laboratories

- Weapons research and manufacturing
- Threat Reduction
 - Nuclear nonproliferation
 - Other Weapons of Mass Destruction
 - Biological
 - Chemical
 - Explosives
- Energy Research
 - Clean coal, solar, nuclear
- Basic Research in chemistry, other science and engg.
 - Often start projects that are completed elsewhere
 - E.g., Human Genome Project

DOE National Laboratories

- Los Alamos (NM)
- Sandia (NM)
- Lawrence Livermore (CA)
- Pacific Northwest (WA)
- Argonne (IL)
- Oak Ridge (TN)
- Idaho (ID)
- Savannah River (SC)
- Lawrence Berkeley (CA)
- Brookhaven (NY)

Opportunities at National and other gov't labs

- Post-doc
 - 1-3 year assignment
 - Usual route to permanent position, but no guarantee
- Post-Bac or Post-MS
 - Usually only 1 year, then decide: Grad School or Technician?
- Graduate Research Assistant
 - Complete basic requirements at home university
 - Research performed at NL
 - Graduate from home university
- Summer/short-term students
 - High school, undergrads, grad students

"He who adds not to his learning diminishes it."
-The Talmud