Career Options for Ph.D.s in STEM
Dr. Dora Musielak
About Dora Musielak

- NASA Fellow
- Chief Scientist
- Ph.D. in Aerospace and Mechanical Engineering
- Research Scientist and Professor
- AIAA Associate Fellow
- R&D Manager
- Author
Overview

1. Career Options: Ph.D.s in STEM

2. Competences and Skills

3. Networking

4. Application Process

5. Negotiation
Career Options for PhDs

NON ACADEMIC POSITIONS

INDUSTRY  GOVERNMENT  MANAGEMENT  CONSULTING  WRITING
Research Analyst - Aerospace PhD

- Institute for Defense Analyses (IDA) - strong applied research skills, to provide analytical support on S&T policy to White House Office of Science & Technology Policy …

Human Factors Design Engineer / PhD

- Lockheed Martin – NASA - Applies human performance principles, methodologies, and technologies to design of human-machine systems and products. Develops & implements research methodologies ….
- **Polymer Products Research Scientist**
  - Exxon Baytown Chem Technology - Responsible for conducting both fundamental and applied research into polyolefin polymer...

- **Manager of Technical Services**
  - Industry – requires PHD, strong technical, regulatory, and customer service ....

- **Patent Associate**
  - Law Firm - Requires PhD in life sciences or chemistry...
Find STEM Jobs in Industry

- BIOENGINEERING
- ENGINEERING
- PHYSICAL SCIENCES
- Entrepreneur Consultant Technical Writer Technical Trainer

Nature Jobs
Science Careers
MedZilla
BioSpace
BioCareers

IEEE job database
American Council of Engineering Companies
AIAA Careers

Materials-related employment
American Chemical Society job database
Spieworks

Simplyhired
Linkedin
Linkup
Career Options for PhDs

USAjobs.gov
Competences and Skills

What makes you special?

- Technical
- Management
- Communications
- Computational
- Analytical Research

Write down a job title and then answer this question.
Know Yourself

❖ Career Tests
  o **Career Planning Test** - Asks questions about your interests, temperament, aptitude, reasoning and relationships with other people. Test takes ~ 20 minutes to complete.
  o **Career Profile Test** - Designed to help you find your ‘authentic direction,’ revealing your top three fields of work, your personality type, your dominant career abilities and your key skills.
  o **Career Fitter Test** - 60 questions help determine your strengths, weaknesses, work personality and more.

❖ Field Specific Tests
  o **Entrepreneurial Self Assessment** - Free online assessment will help you decide if you are entrepreneurial type. 50-question test takes 15 minutes to complete.
  o **Management Aptitude Test** - This 56-question test to help you decide if you’re management material. Focus is on business management, but test is useful for other management fields.

❖ Personality Tests
  o **Job Diagnosis** - This five-minute test asks you questions about your skills to help your find an industry and job position that suits you. After completing the test, you will receive a complimentary job diagnosis.
Application Process

Application
- Online Application
- Direct Application
- Network, Network, Network!

Interview(s)
- Phone Interview
- On-Site Interview
- May Require Giving Seminar*

Negotiation
- Job Offer
- Negotiation
- Career Start!

Interview for Success
Know Your Worth

Chart 1 - Annual Base Salary (mean) by "Highest Degree" and "Years of Experience since Undergraduate Degree"
What is important to you?

- Salary
- Type of Work
- Location
- Benefits
- Advancement Potential
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<th>Ideal</th>
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<th>Comments</th>
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### Pros
- Sharpen your research focus
- Additional training in other aspects of original research
- More Publications
- Work-Family Flexibility

### Cons
- Low Salary
- Does not guarantee a position
- If you land an assistant teaching position, you’ll be older when attaining full tenure.

http://engineerblogs.org/2012/02/why-a-postdoc-is-basically-needed-in-academia/

Seek a postdoc position if you need it or wish to have, *but some jobs don't require a postdoc.*

Many engineering faculty positions, research positions at government labs and industry, consulting work, or publishing and communications jobs may not require a postdoc.
Leaving your Mark............

My Secret to Success