



# Working in Industry & the Similarities with Academia

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# My Background

1999

1999-2002

2002-2005

2005-2011

2011-2018

Industry



- BA Chemistry
- Environmental Science



- Changed 3 times
- Lab Tech
- R&D Pharma



- R&D Pharma
- Helped start the company



- R&D Research Facility
- Specialized in Crystallography & Reaction Chemistry
- Did Chemistry & Engineering



- Develop new lab for mining
- R&D of new technologies

Academia



- Build LWA
- Tested/Build electronics LWA
- Studied Compact Galaxies
- Gamma-Ray Counterparts



- Compact Galaxies
- High-Mass Stars
- Low-Frequency Chemistry

# What is the difference?

I JUST WROTE THE MOST BEAUTIFUL CODE OF MY LIFE.



THEY CASUALLY HANDED ME AN IMPOSSIBLE PROBLEM. IN 48 HOURS AND 200 LINES, I SOLVED IT.



**ACADEMIA:**

MY GOD ... THIS WILL MEAN A HALF-DOZEN PAPERS, A THESIS OR TWO, AND A PARAGRAPH IN EVERY TEXTBOOK ON QUEUING THEORY!



**BUSINESS:**

YOU GOT THE PROGRAM TO STOP JAMMING UP? GREAT. WHILE YOU'RE FIXING STUFF, CAN YOU GET OUTLOOK TO SYNC WITH OUR NEW PHONES?





# Differences Industry/Academia

- The biggest commonality between researching in academia and industry is that the science remains the same
  - so it helps immensely to arrive at industry with a strong scientific understanding.
- Both offer platforms to develop professionally, but in very different ways.





# Responsibilities

## Academia

- Proposing for Grants
- Publishing papers
- Conducting self-directed research
- Teaching
- Mentoring Students

## Industry

- Research toward company goals
- Foster customer relationships
- Identify and convert profitable sales opportunities
- Mentoring Staff

Both include a large number of regular meetings but, in industry, most of them won't be around science.

# Flexibility:

- **Academia:**

- Freedom of when, where and how to work
  - But scientists are known to work more.
- Freedom to choose the work you are doing.



- **Industry:**

- Constrained by the needs of the company.
- Less concern over funding
- Short term plan, immediate action.





# Collaboration:

## Academia

- Work is collaborative and team-work orientated
- Open to cross-disciplinary discussion
- Sense of autonomy
  - Mostly your choice of whom & when to collaborate

## Industry

- Working toward a larger, shared goal
- Often non-competitive
- Work often across multiple departments
- Opportunities for training across departments



# Work Place Culture / Job Pressures:

## Academia

- Research & Discovery focus
- Pace is driven by the workers
- Long-term goals & education
- Pressures:
  - Funding
  - Publish or Perish
  - promote and advocate for your own work

## Industry

- Applied Science/clinical application
- Fast moving with deadlines
- Business-focused problem solving
- Pressures:
  - Deadline-driven
  - Fast-paced





# Individual Impact

## Academia

- Individual impact and receive recognition for your work.
- Academics can struggle to have their ideas adopted in practice

## Industry

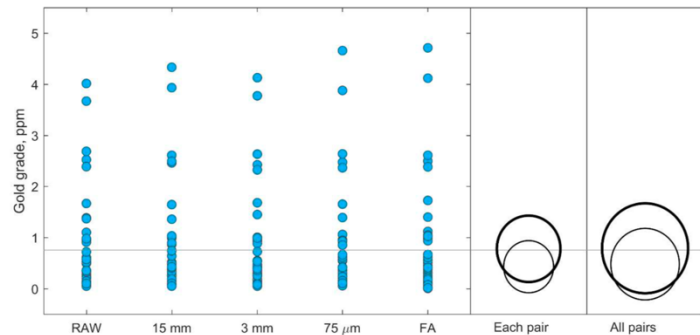
- Single member working on behalf of an organization
- Directly motivated by business goals

“To work in industry, one must be willing to work on a team and share credit. This teamwork aspect can also take off some of the pressure of having to individually achieve results.” Northeastern University Careers

# Evaluation of PhotonAssay for gold analysis in mineral ores

Sample preparation and fire-assay comparisons

November 2018



## Acknowledgements

ChrysoS would like to acknowledge the substantial contributions of the staff at MinAnalytical Laboratory Services in developing and running the Perth PhotonAssay evaluation, and assisting in the data reduction and analysis.



# Industry or Academia?

**Determine your priorities.** Consider what matters most to you. Whether you're most concerned about salary potential, intellectual freedom, or flexibility.

**Think about how you want to spend your time.** Consider how you actually want to spend your time day-to-day. Think about how you feel about teaching, publishing, managing, interacting, traveling, negotiating, collaborating, presenting, reporting, reviewing, fundraising, etc.

**Know your strengths.** Are you a self-starter who is able to proactively manage your own time? Or do you prefer to work in a more structured, process-oriented environment?

**Factor in your personality.** Do you prefer to work independently, or do you thrive when working alongside others? Are you comfortable with self-promotion, or would you be more comfortable sharing your successes with a team?



Going into Industry is the path of no return.





# Applying for Jobs

## Industry

- Resume & Cover Letter
- Group Talk

## Academia

- CV, Cover Letter, & Essential Criteria
  - Research Plan

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## Industry Resume

- Try to make 1-2 pages
- Targeted to the Job
- Only relevant
  - Publications
  - Education
  - Experiences
- Remove Scientific Jargon
- Increased White Space

## Academia CV

- Show your diversity in science
- Various methodologies used with correct nomenclature



# Applying for Jobs

Nature Article by Kendall Powell “How to sail smoothly from Academia to Industry”

- Industry focuses more collaborative accomplishments than individual accomplishments.
  - Highlight the value you bring to a team effort
- Identify vocational strengths & weaknesses
  - Communication & Management skills
- Ability to adapt and switch between complex tasks
- Companies like you knowing something about them
  - Possibly find a mentor or a person within the industry you are interested to discuss culture and other aspects of the workplace.



# Skills That Transfer

- Science!
- Technical Writing
- Presenting ideas/work
- Project Management
- Conflict Management
- Collaborative work/thinking
- Organisation skills – time and work
- Troubleshooting /Out-of-the-box thinking/Critical thinking
- Ability to say “No”

# Thank you

## Astronomy & Space Science

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