Experimenting on Yourself: A Scientific Approach to Career Development

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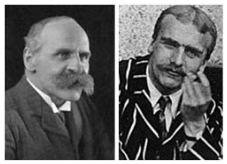
"The chief trouble in a long [self] experiment is that one tends to drop asleep and stop breathing…"

The Curies
Exposed themselves to radiation in discovering polonium and radium

Nathaniel Kleitman
Lived for 32 days in Mammoth Cave to study changes in circadian rhythm



The Haldanes
Tested diving compression effects on their physiology and also drank HCl

Isaac Newton
Stuck a needle in his eye to observe visual distortion

http://crosstalk.cell.com/blog/notable-examples-of-self-experimentation-in-science

Question / Observe

Research / Hypothesize

Experiment

Analyze / Conclude

Share / Report

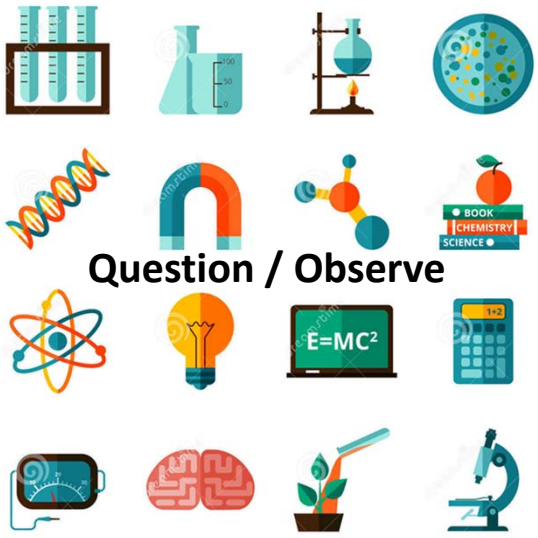
Repeat / Reproduce

Use the Scientific Method

Scientists learn a systematic process of observation, research, hypothesizing, experimentation, analysis, and sharing.

However, when facing a problem unrelated to research scientists abandon the scientific method.

Scientists need to apply this process to their research progress, career advancement, and professional development.



Question / Observe

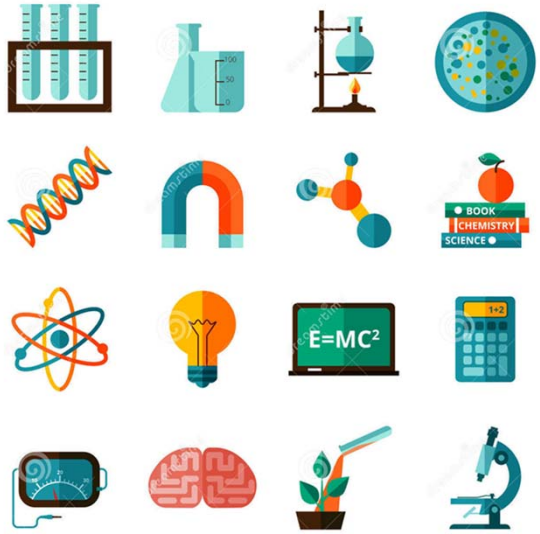
Are you puzzled?

How do I…

- build and maintain relationships?
- meet and talk to important people?
- network and clarify my career targets?
- showcase my diverse skills and interests?
- clearly convey a compelling career trajectory?
- identify next steps and transitional opportunities?

Scrutinize Your PhD

The PhD	***The Postdoc***	***The Training***
Creates opportunity and potential	Refines research and professional skills	Select correct problem
Hones critical thinking and problem solving skills	Develops an independent investigator	Critical examination
		Thorough analysis
		Eloquent communication



Study Your Situation

- Professional
  - (In)active network
  - (Un)known career target
  - (Un)polished career story
  - (Un)sure of marketable skills
- Personal
  - Analysis paralysis
  - (Un)realistic expectations
  - Exhausted, jaded, or burnt out
- Project
  - Near end date
  - (In)complete achievements
  - Mentor (dis)engagement

Imagine a Skills Continuum

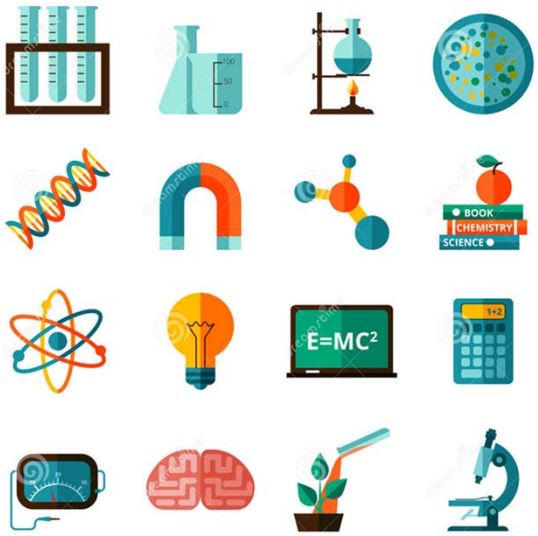
- Which skills and attributes will set me apart for my desired career track?
- What skills give me the "most bang for my buck" for a variety of career paths?
- How can I strategically build vital skill sets within and outside the lab?

Explore Transferable Skills

- Publication = project management
- Planning and organizing events
- Networking with others / relationship-building
- Collaboration = working in teams with unified goals
- Budgets, inventory, and workflow
- Time management and task-prioritization
- Supervising, training, and managing people
- Leadership, service, and outreach
- Teaching and mentoring

Conceive Your Training Purpose

- Gain independence
  - Funding, research, & collaborators
  - Mentor & supervise
- Build professional identity
  - Relationships & network
  - Field / technical expert
- Identify a vision for the future
  - Research & career



Assess Yourself

SKILLS: what you are good at?

INTERESTS: what you enjoy doing?

VALUES: what matters most to you?

- Analysis of activities, ideas, and motivations
- Affirmation of strengths and competencies
- Awareness weaknesses and gaps

Try New Things

Teaching:
community college, national lab day, mentor a student

Research:
new technique, grant writing, data analysis, lab management course

Public Speaking:
Toastmasters, science museum, undergrad career panel, seminar series

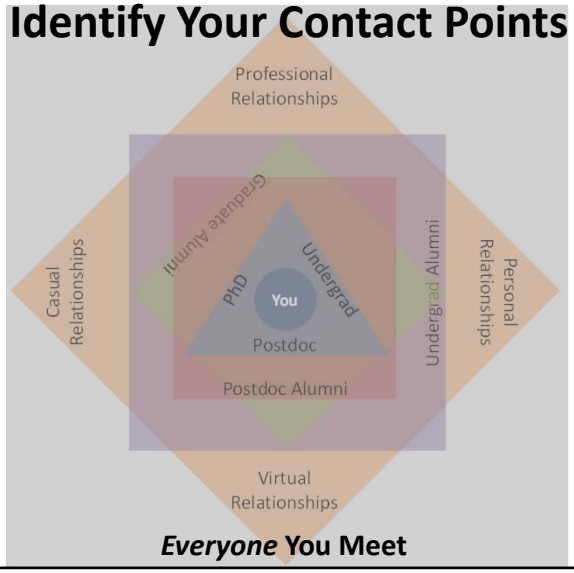
Leadership:
Postdoc Association, NPA, professional society

Policy:
"Hill Day", campus committee, prof society committee

Writing/Editing:
guest blogger, freelance writing/editing, reviewer

Adapted from Derek Haseltine

Identify Your Contact Points



***Everyone* You Meet**

Discover Common Ground

The *interests/challenges* I share with you are:

.

Of these, I have learned that

because_____.

Through my research, I noticed

because_____.

More specifically, I would like to know_____.

Inspired by Scott Morgan, The Morgan Group

Test Your 'Cold Call' Skills

- Include something personal and verifiable
  - saw them speak at a conference
- Say something nice that is true
  - their team blew you away
- Clearly excited to work with that specific company
  - not just any organization
- Include just enough background info
  - to demonstrate fit and understanding of needs
- Mention the name of a mutual connection
  - could easily be vetted
- Do not make an outrageous ask
  - specific but open-ended

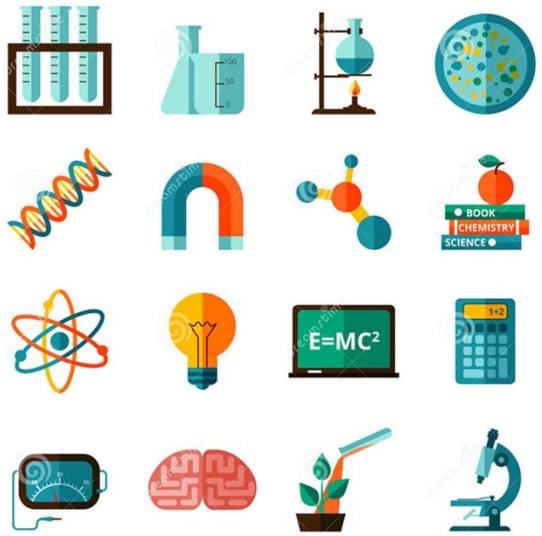
(Net)Work Strategically

Make everything you do *multi-purpose*

Unify *diverse* aspects of your training

Share your interests

- Department seminars and functions
- Career workshops & panels
- Seminars with external speakers
- Job fairs (even, if you're not looking)
- Introduce yourself and exchange business cards
- Reach out to speakers, if you can't attend
- Stealth network: Tap into mentors, colleagues, alumni, friends…AND church, daycare, salon, gym, bus



Investigate Job Opportunities

Find Opportunities

- Follow skills & interests
  - Remember transferable skills
  - Visualize ideal job
- Activate network
  - Tell others you are looking
  - Ask for guidance
- Attend meetings
  - Be visible
  - Show your brilliance
- Search online
  - Build search engines
  - Learn what is out there

Understand the Job Ad

- Minimum qualifications
  - education, years of experience, skills...
- Preferred qualifications
  - advanced degree, experience in environment/field…
- Relevant keywords
  - Skills and techniques
  - Teamwork, cross-functional, collaboration, manage, and lead
- The company / institution
  - "HR-speak" and instructions

Evaluate Your CV/Resume

Purpose impacts style

- Academia/Faculty
- Promotion
- Industry research
- Non-profit/Entrepreneur
- Postdoc/Residency
- Science-adjacent
- Non-science/Business
- Grant BioSketch

The more you know

- CV ≠ Resume
- Gets you an interview NOT a job
- One size DOES NOT fit all
- Job ad will guide you
- Read application submission instructions
- Avoid unforced errors

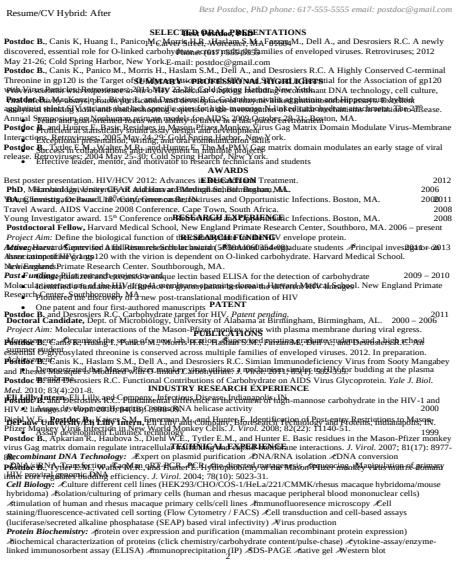
CV: Pedigree, Padding, Publications

"Look how brilliant I am! How could you not hire someone as smart as me?"

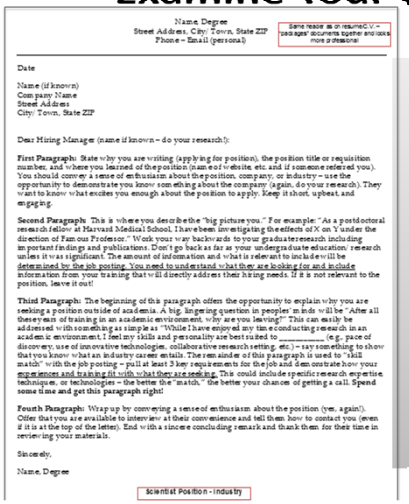
Resume: Pedigree, Proficiencies, Productivity

"Look how my skills and experience match your job listing! How could you not hire someone as well-suited as me?"

Resume/CV Hybrid: After



Examine Your Cover Letter



Opening paragraph

- Explain why you are writing
- Identify yourself
- Identify the position
  - include job #
- Refer to how you learned about employer or the job
  - Previous conversation, meeting
  - correspondence, or job posting

Consider How You Fit

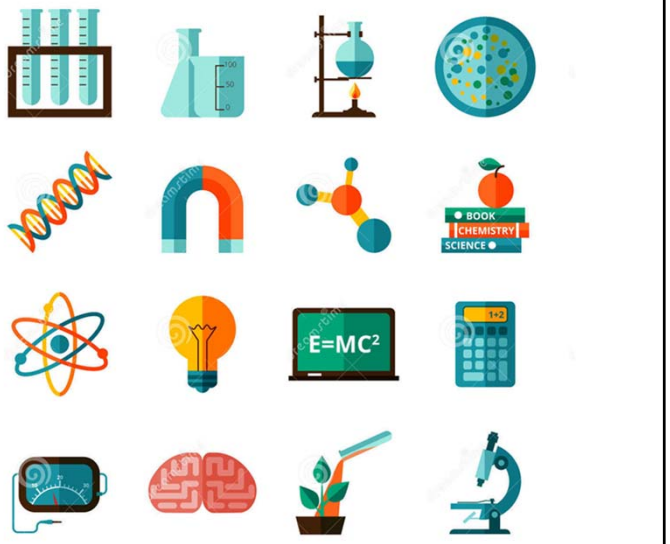
Paragraph 2
- Describe research and its significance
- Show breadth of expertise and experience

Paragraph 3
- Elaborate on distinctive qualifications, strengths, achievements, and skills
- Make obvious connection to job

Paragraph 4
- Align interests and mission
- State interest in employer and this specific position

Final paragraph
- Thank the recipient
- Restate your interest
- Reiterate a strength
- Items you have enclosed
- Indicate your next plan of action and/or offer a specific date of expected

Jim Gould 2016



Create P-A-R Stories

Describe your experiences systematically

Problem: Describe a problem/challenge YOU faced

Actions: Describe actions/approaches YOU undertook to address problem

Result: Explain measurable results/impact of YOUR actions

Tell Connected Stories

	PAR-A	PAR-B	PAR-C	PAR-D
Problem solving		X		X
Leadership	X		X	
Teamwork	X			X
Communication		X	X	
Drive to achieve	X	X		X

Adapted from D. Haseltine 2017

Do Your Interview Homework

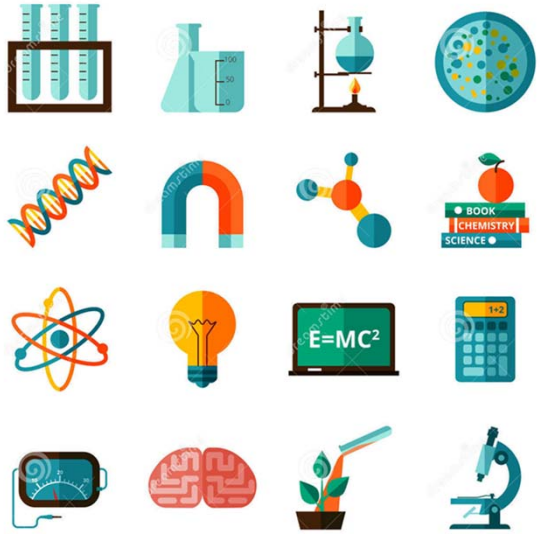
- Explore the website
- Research leadership (and admin) team
- Read the *Mission* and *Vision*
- Check *News* and *Media*
- Research interviewers
- Look for contact points:
  - Schools attended
  - Lab pedigree
  - Papers published
  - Relationships
  - Commonalities

Have a Conversation

- Practice your career story
  - "Tell me about yourself…"
- Aim to engage, not impress
  - Let them talk and be interested
  - Speak confidently and be humble
- Turn the interview into a conversation
  - Ask how you can make their job easier
  - Inquire about what they are looking for in this position
- Prepare PAR statements for questions
  - "Describe a time when you faced…"
  - "Tell me about a time when you motivated others"
  - "Explain your recent paper or greatest accomplishment"

Share Your Gratitude

- Reflect on information you gained
- Clarify timeline and next steps in the process
- *Brief* and *specific* thank you notes
  - Appreciate hospitality and time
  - Resolve lingering question
  - Reinforce interest and fit
- Touch base with references and connections
- Consider successes/challenges of process

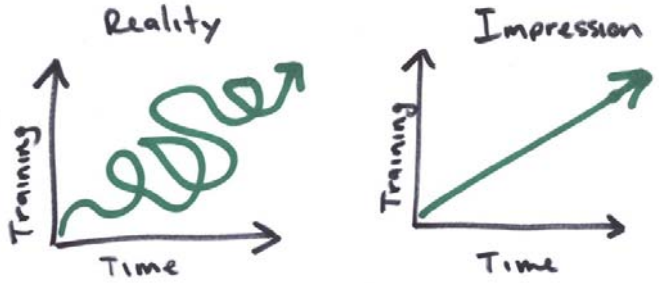


Remember Your Options

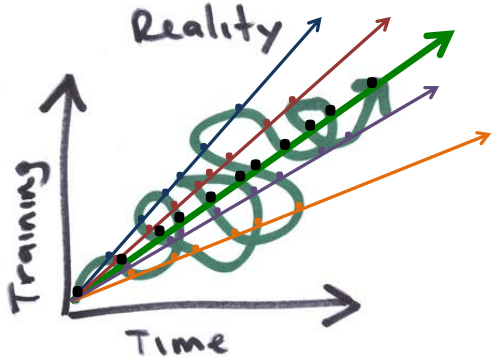
- Academic Research
- Academic/Higher Ed Teaching
- Biotech/Pharma Research
- E-Ship/Business Dev.
- Consulting/VC
- Policy/Outreach/Non-Profit
- Science Writing/Journalism
- Editorial/Publishing
- Regulatory Science
- IP/Patent Law/Tech Transfer
- K-12+ Teaching/Curriculum Development
- Government Research
- Student/Postdoc/Faculty Affairs
- Executive/Academic Administration
- Product Dev./Marketing
- Clinical Research

**Not ALL careers represented!*

Reiterate a Trajectory



Reframe Your Trajectory



Replicate Success

- Make a concrete, specific plan
- Build in benchmarks and milestones
- Share with mentors and colleagues
- Anticipate challenges
- Learn from hardships
- Celebrate your wins
- Review completed goals
- Repeat the process

Ask hard questions

Understand what you know

Know yourself & others

Apply for jobs

Interview

Repeat / Reproduce

Career Resources

https://bit.ly/2S18ru5

Thank You!

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office for postdoctoral fellows