



Academic Job Search

February 14th, 2024

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(slides adapted from a previous
workshop by Bonnie Fleming)

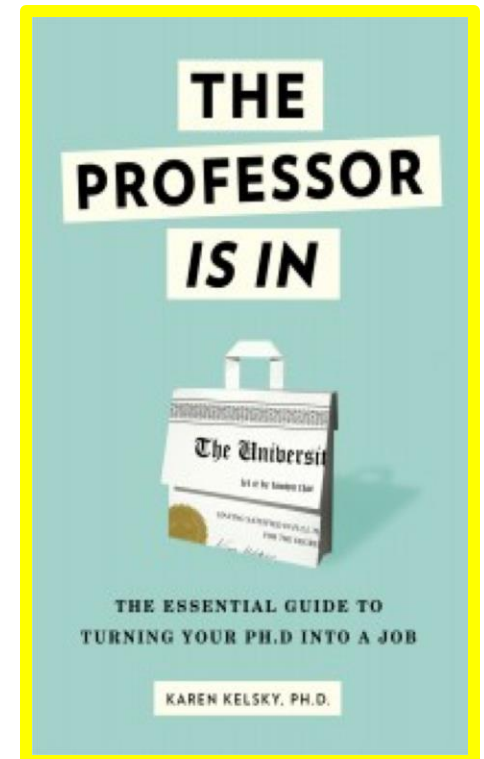
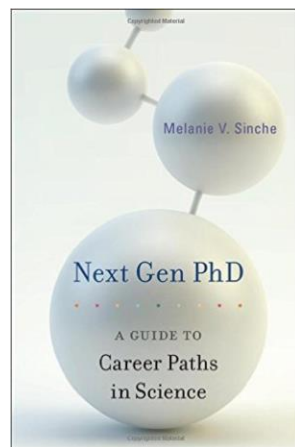
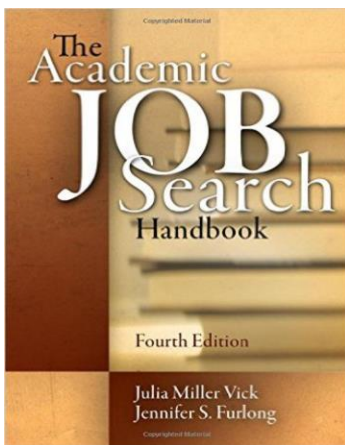
- Goal: Help you prepare for the job market!
 - How the process works
 - For those who will apply in coming years – what to do now....
 - Applying for jobs now...
- This discussion for academic jobs....
 - US University faculty positions
 - Non US University positions (a little....)
 - Lab Scientist positions

Today: provide information to add transparency to the process, but you must be proactive!

Be Proactive! 

resources

- There are an **incredible amount of resources** out there! (not just specific to physics, it's all very similar)
- Your colleagues are also great resources
- Find the most recent person in your field to go on the job market and ask them questions.
- **Discuss with faculty in the department**
- Ex: Postdoc association had an academic job series last year and faculty at Yale were very helpful



Resources (lots of credit to these resources for the content in these slides): <https://theprofessorisin.com/>
<https://career.ucsf.edu/gsp/finding-applying>

How the process works:

University side (US jobs): faculty jobs are on the academic calendar

- Ads go out in early fall (to collaborations, physics today, HEP jobs, CERN courier, ...)
- Applications due as early as October and as late as January/Feb
- Committees are typically several from HEP/nuclear and at least one from outside the field (sometimes the chair) and/or from theory
- Typically interview 4-6 candidates
- Interviews typically in January/Feb
- Offers as soon as possible after this -- March

Job Rumor Mill

Experimental High Energy Physics

<https://sites.google.com/site/hepexrumor/>

University side (non- US jobs): timing can be the same as US university jobs, but often the process is outside the academic calendar.

- Some differences: interviews can be conducted all at once and decisions made very rapidly
- Ask a colleague from that country how the process works there!

Lab side (US jobs): Mostly on the academic calendar, but can be outside

- Can be different for different labs
- Some differences in expectations:
 - Experience in managing projects a plus
 - Teaching experience not as necessary but mentorship is important
 - Some have significant research fraction, some less so.

What can you do now to prepare yourself for the job market in coming years?

"A postdoc should be transitioning to becoming a leader in their sub-field" -

from Yale physics faculty at Navigating the Postdoc in spring 2023

(try to understand what this means for your field but keep in mind everyone's path is unique)

Stay focused on goals but also don't forget we do this because we are passionate about science so be a creative, passion-driven scientist that is also a team-player!

Learn your strengths and weaknesses early on – play to strengths, grow weaknesses (learn how to be uncomfortable!)



What can you do now to prepare yourself for the job market in coming years?

- Experimentalists: Make sure you have a good mix of hardware/software and analysis work
- Help write your group grants if you can
- Find opportunities for mentorship if possible
- Don't spread yourself too thin: if you are on different experiments/activities, how does the sum combine together? (Can you imagine writing a coherent research statement?)
- Make sure you have or are working towards leadership positions
- Give talks*: ***Every talk is a job talk!!!***
 - *Seminar visits where you meet people in the dept is as similar as it gets to faculty interviews so treat it that way
- Think about who your letter writers may be
- Network, at conferences etc. Talk to people, Have an ***Elevator Speech*** ready
- Academic-related online presence i.e. website (some fields more than others)
- Go to colloquiums and seminars: you should be able to engage in scientific discussions with people not in your field

- Applying for faculty positions
 - When and where to apply
 - Putting together an application
 - Research Statement
 - Teaching Statement
 - CV
 - Recommendation letters
 - Interviewing
 - Responding to an offer

<https://career.ucsf.edu/gsp/faculty-samples>

When and where to apply

Apply broadly

sometimes departments search programmatically and sometimes more broadly

Good rule of thumb: If you are sure you would not accept a position somewhere, consider not applying...

Ask around – you will hear different opinions! Take or leave at your own judgement

Consider if it's a good fit new program? Step into existing effort? What works for you? A good fit is one that works well for you and for the institution!

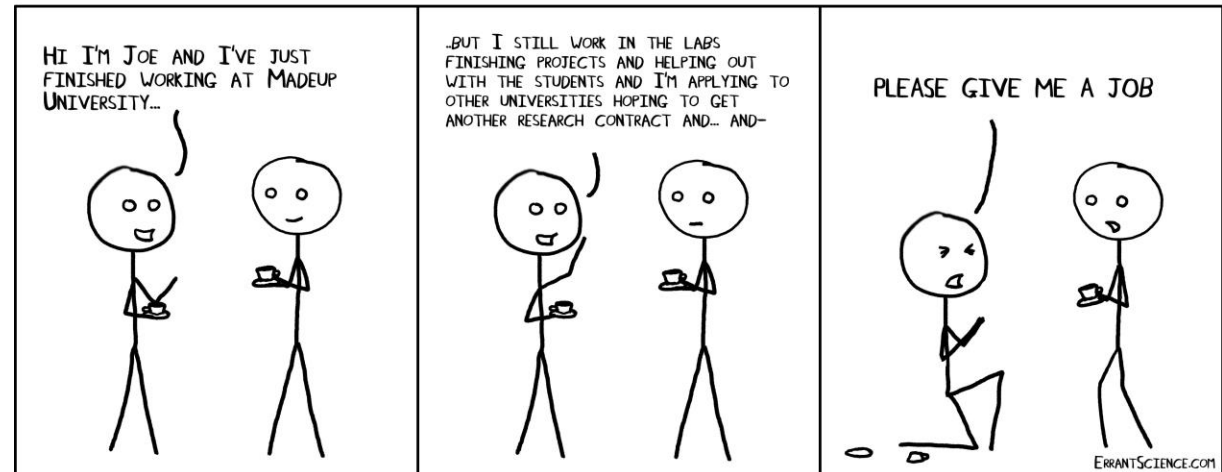
You may never feel ready – learn how to be comfortable being uncomfortable!

Coverletter

- Express **enthusiasm** for specific position
- Explain why you are the **best candidate**
- Narrate the most **relevant** parts of CV
- Demonstrate your **writing skills**

- address the letter to the chair or whomever else you are supposed to be sending the application
- Include relevant information for that institution

THE PROPER WAY TO INTRODUCE YOURSELF WHILE UNEMPLOYED



1 page. An opportunity to hit some high points you really want them to remember (like an abstract for your research statement)

Sample cover letter template

Adapted from: <https://career.ucsf.edu/gsp/faculty-samples#Write-your-cover-letter>

Laura B. Havener
Wright Laboratory
Yale University
laura.havener@yale.edu
February 13, 2024

Department of Physics
Yale University
New Haven, Connecticut

Dear Members of the Search Committee,

Par. 1: What position are you applying for, and where are you currently

Par. 2: Make them want to read your CV! Share your area of expertise, what you are working on, and what you have accomplished. Highlight your strengths and most important research accomplishments.

Par. 3: Your big-picture research vision. Name the big questions you want to pursue and say, "My research will..." and then explain how you answer these questions.

Par. 4: How will you execute at that specific institute? Including connections to other members of the institution or groups. Show your enthusiasm and fit for that specific job! Tailor your application!

Par. 5: Other relevant information like teaching and outreach.

Par. 6: Re-express enthusiasm. It is common to mention your letter writers' names.

Sincerely,

Name

Title

Research Statement: 3-4 pages which should cover

- Your research experience: **PHYSICS FIRST!** Tie different components of your research together where possible – show complementarity
- Hardware experience
- Leadership roles in both
- Be specific for both
- **Awards and prizes and papers (mention them!)**
- What you will bring to an institution as a faculty member
- How what you will bring will tie into the program at that institutions (either with an existing group or as a new effort which is complementary to existing groups)
- **Tailor your application!** Make them feel like they have to have you at their institute :)
- Active word choice (ie: I led, **not** I am part of a team)
- Cite others work as well as your own

Sample research statement template

Important: *Someone should be able to look at your first few paragraphs and outline and get an idea of your planned program.* (imagine you are planning for a grant; this sets apart a postdoc statement from a faculty statement)
Cater to the institute you are applying to!

Adapted from: <https://career.ucsf.edu/gsp/faculty-samples#Understand-the-application-materials>

Introduction: 2-3 paragraphs. *It could be the only thing some read, so it should say it all.* A research statement should succinctly summarize past and future research plans, emphasizing their significance and relevance to the field. It should articulate a clear research vision and outline a path to tenure at the institute. It should be **well-written**.

- **Paragraph 1:** Introduce and **sell your field**. Build up to your sub-field.
- **Paragraph 2:** Introduce your subfield using your and others' work to **establish yourself as a leader in the sub-field**.
- **Paragraph 3:** Clearly outline the major scientific questions you intend to answer and **how you will execute them**, i.e., the methods and datasets you will use and the overall **timeline**. Mention **leadership** or technical experience and **connect to the department**.

Research plan outline: Outline your research program with 2-3 **overarching themes** or **questions** anyone in physics can appreciate, with **sub-bullets explaining specific projects** to address them.

1. **Big question or theme**
 - + :: Introduce the topic. Use your past work (and cite other scholars' work!) to motivate the open, interesting questions you want to address with the projects.
 - **Project 1** [Project name should be engaging]: Discuss the tools or methods you will use and how they address the question. Mention challenges and how you will solve them. State what you plan to learn from the result.
 - **Project 2:**
 - ...
2. **Big question or theme**

Intro/past work and future questions...

 - **Project 1:**
 - **Project 2:**
 -
3. **Big question or theme**

This one could be more forward-looking and **future work**.

 - **Project 1:**
 - **Project 2:** |
 - ...

End with a strong conclusion.

Teaching Statement

“A **teaching philosophy** is a self-reflective statement of your beliefs about **teaching** and learning. It should also discuss how you put your beliefs into practice by including concrete examples of what you do or anticipate doing in the classroom.”

- Describe teaching philosophy
- Describe your teaching experiences
- Include mentorship of students (grad and undergrad) and develop a mentoring philosophy (ask mentees to describe you as a mentor)
- Include outreach experience
- If you know: include things you'd like to teach (avoid listing only graduate experimental particle physics...)
- Cater to the department!

Diversity Statement

”A **diversity statement** is a personal essay that is a depiction of your past experiences and explains how these experiences have contributed to your personal and professional growth. It allows the applicant the opportunity to explain to a search committee the distinct qualities and commitments s/he can bring to the table.”

- These are relatively new so look for examples online...
- This is a place to show who you are as a community member and what you value.
- Some overlap with teaching statement but focus more on diversity, equity, inclusion and belonging
- Think about what are you passionate about and why? What matters to you and how do you actively plan to foster the physics communities you are in
- Again, cater to the department! Have some common themes through your teaching and diversity statement.

CV



- Academic experience
- Honors/awards
- Research positions and leadership positions (but don't repeat what is in your research statement)
- Teaching/outreach
- Service work (committees etc)
- Publications (highlight YOUR contributions)
 - Peer review papers with which you had significant involvement
 - Peer review papers overall
 - Reports/Whitepapers/Proposals
 - Your conference proceedings
- Talks (separate into conference/seminar etc. and invited/parallel etc to call out specific talks...)
- Ask people in your field for specific advice on how to showcase your work and contributions best (especially in low publication fields)

Nice template: <https://career.ucsf.edu/sites/g/files/tkssra2771/f/wysiwyg/SampleCVAnnotatedUCSFOCPD.pdf>

Overall

- Consider what the committee is looking for.
- Think about what you **want the committee to learn about you as a scientist and community member** and make sure the evidence for that is throughout your material
- Provide examples to **show (not tell)** that you possess these skills/interests.

See the forest through the trees!

- Only discuss your **main research interests**, your **most relevant experiences** or specific skills and techniques that you will bring, and **major achievements**
 - **Context** and broader **impacts** of your work
 - **Future** research
-
- Find people to review that know you and your work well and can be honest – and do it with time for substantive changes!
 - **Should be well-written** - consider developing your (scientific) writing skills now; Yale has resources!



Recommendation Letters

- Choose 3-5 depending on position (not 6-8!) Talk with your advisor about who to ask
- Good to have people who are leaders in the community but don't pick someone who cannot talk specifically about your work.
- Choose writers who will span your research experience and who you think will write a good letter but not who may say the same things
 - (you can ask them if they can write you a strong letter)
- Give them enough time (for a new letter – at least 2 weeks advance warning if not more)
- Send them your CV and your research statement at minimum
- Can also send them a separate doc with useful information for your letter describing all your work including what they may be less familiar with
- Send them a spreadsheet or document of where they need letters sent and when
- Remind them and hear back from them (spam can catch things it should not!)

You got an interview!

If you get asked to come for an interview (on the short list) reply immediately!

It's time for a **mindset shift**: You demonstrated through your application material that you are qualified. Now it is about fit for you and the institute.

Stay calm and confident! You are there because these people already consider you as a possible future colleague!

Be collegial, act like you are their colleague! This is someone you could be spending the next 20 or so years with

You are selling yourself AND your field, prepare as such :)

Be prepared!!! Don't spend the next month rushing to make more plots, you've proven you are qualified. Focus on transitioning from the role/mindset of a postdoc to a P.I. (don't overbook yourself during interview season, remember it's very time-consuming and mentally draining!)

Try to think of it as fun and exciting!

Again, be comfortable being uncomfortable and see the forest through the trees

Interview logistics

Could be a zoom interview before in-person interview (longer short list)

- Discuss past research and future research vision: keep short, sweet, and focused on main points from statement if not given guidance, something like < 10 mins, can use a couple of slides
- Answer a fixed set of standard questions on research, teaching, fit, DEI (be prepared to answer "Why Yale?")

Could be straight to in person (shorter list)

- Usually over the course of 1-2 days
- Job talk (i.e. seminar)
- Possible chalk talk (i.e. guided discussion between you and the search committee, think of it like showcasing your research statement)
- One-on-one interviews/discussions with faculty in department, including chair
- Sometimes meet with dean
- Lab and/or university tour
- Lunch or something similar with students and postdocs (this is a very valued part of the interview, prepare and do not disregard)
- Dinner with search committee

Interview prep to-do list

- ✓ Your **talk is REALLY important** so spend time on it and give practice talks well ahead of time! **BU T do not spend all your time on your talk** (giving talks over course of career helps)
- ✓ **Learn the department:** research, teaching, students
- ✓ Ask for your schedule of meetings and **prepare for each one-on-one:** make sure you know who's who on your schedule and what their research is (why are they talking to you?)
- ✓ **Prepare for and PRACTICE for interview questions** (The Professor is In has standard templates to common ones <https://theprofessorisin.com/2011/11/29/the-facepalm-fails-of-the-academic-interview/>)
- ✓ **What would you teach,** prepare to discuss 1. grad course 2. undergrad course 3. develop a course
- ✓ Develop your **teaching** and **mentoring** philosophy (use your statements)
- ✓ **Make a tenure plan,** i.e. a detailed year-by-year plan with projects and publication timelines, also think of your **long term plans** and big picture
- ✓ Be prepared to discuss your **current research** AND **future research** (i.e. your research vision) - use statement should be a guide
- ✓ **Have ideas of projects** for **students** (grad and undergrad) and **postdocs** prepared (including timeline)
- ✓ Learn about grants and funding in your field (imagine your grant and make an outline)
- ✓ **It will be a LONG day so be well rested**
- ✓ Have some **non-physics topics** prepared for meals and downtime
- ✓ Plan for **what you will wear**
- ✓ **Plan and practice your chalk talk** if you have one

<https://career.ucsf.edu/gsp/interviewing-faculty-position>

Interview talk

- Watch some examples and read about giving a good job talk, NIH video: <https://videocast.nih.gov/summary.asp?Live=6911&bhcp=1>
- **“tell a story”** weaving in your work on the experiment.
- Give a compelling and accessible **intro to your field**, show some pedagogy
- **Know your audience:** likely be talking to more than just your field so you have to hit the big message while talking about your specific contributions...
- **Find ways to show off your work** without too much bragging (photos with you in them! write your leadership roles on slides even if you don't say it verbally)
- **Make sure you understand everything on every single plot on your slides!!!!**
- Give a **practice talk** and give **AMPLE TIME** (ie: not the day before your talk) to amend your practice talk in preparation for your interview
- **Don't go overtime!**
- **Dress for the job you want**
- **Practice answering questions** without getting defensive. practice contentious question (it might be a test, see post from Professor is in: <https://theprofessorisin.com/2012/07/10/mastering-public-speaking-for-women/>)

The illusive chalk talk

- It is **NOT a lecture** on your topic
- But it is a demonstration of **pedagogy** – suggest to use the chalk board
- Much more open ended but **YOU should lead** the discussion and have a plan!
- Suggest to begin by writing a structure on the board that you fill in as you go
- **Focus is more on research plan** than past work
- Suggest to begin with a brief summary of field like you did in job talk and past research to motivate the detailed research plan discussion (draw some **pictures!**)
- Map out your research plan, **big questions**, and **specific projects** (on the board); imagine you are walking them through your research statement or a grant proposal
- **Practice** with someone in front of a board - it's awkward but seriously do it
- **Prepare for tons of questions** about projects – who, what, when, where, why, how. Come off prepared and ready for anything, but don't get defensive. Imagine it is a constructive discussion, not a quiz. **These are your future colleagues whose feedback you should value!**
- They will also ask you a series of other more interview style questions
- You will also have the opportunity to **ask them questions** (and you should!)

Some info taken from example from UCSF:

<https://lecture.ucsf.edu/ets/Play/9057514080804f6c851ab8ca330eb95c1d>

Interviews

<https://theprofessorisin.com/2014/02/07/dr-karens-rules-of-the-campus-visit/>

- "Make a **cheat sheet** for each meeting to refer to during the visit" and "**Each interview is different** – some can be formal and some can be a discussion or lab tour, be ready for anything!" -from Postdoc Session on Interviews in Fall of 2022
- **Know their research** and what they might be interested in with respect to your research (find a connection)
- Have **tailored questions** prepared for each person you meet with
- **Prepare other common topics** (teaching, computing, outreach, hardware)
- Be mentally **prepared that someone could be contentious** – think of it is as a test. Remain calm, take their criticism with respect and value it.
- **Meeting with students/postdocs**: so important, you will spend a ton of time with them over the course of your career, their opinion matters!
- Think through your group vision and how you will mentor/engage with students and postdocs; what is your management style and how would you deal with conflicts?
- Have questions for the students and postdocs
- Send thank you notes afterwards

Questions you may get asked



- Tell me about your research?
- What is your teaching experience? What kinds of classes are you interested in teaching?
- What is your hardware experience?
- What is your experience working with students/mentorship?
- Why “Yale?” (Institution name here)
- If you came here, what kinds of needs would you have in terms of space and resources? (\$)
- What questions do you have for me?
- What are the biggest open questions in the field in general? (have an opinion!)
- Where do you think the field is heading?
- How would you explain your research to a general audience?
- Particle physics is huge! How do you distinguish yourself on a large collaboration? (non HEP folks ask this)
- What are your short, medium, and long term career goals?
- What are your weaknesses and what are you doing about it?
- What achievements are you most proud of and why?
- What happens if everything works, what is its impact?
- What if everything fails? Backup?
- If a theorist – what is important to experimentalists in your field? If an experimentalist – what is important to theorists?

Be prepared with questions



You can ask the same question in multiple interviews - what questions you ask show your thoughtfulness for a position and the institution, and you may get different answers from different people! Useful for you.

- Any questions you have about a particular person's research program.... (people love to talk about themselves, but don't ask just for this reason...)
- How many faculty are there? How many graduate students? How many undergraduates?
- Does your department have a 5 year plan moving forward? What is it? What is the direction of the department
- What is the process/path to promotion/tenure?
- What is the typical courseload for universities?
- What support does the department have within the university?
- What service work is expected in lab positions?
- For lab positions, what is the research fraction?

What you don't have to discuss (and may not want to)

- Anything related to your family (kids, position for spouse, etc)
- Any other positions/options you are considering
- Any other personal information not related to what your job duties would entail.
- They shouldn't ask you about marital status and if your spouse needs a job. If you have or plan to have kids. Your age or ethnicity.
- Some people are well meaning in asking these, some may not be. Most know not to ask but be prepared. (there is a chapter in the Professor is In book on how to respond, read it, key is a quick response then deflect and change topic)

Responding to an offer.....



- Early searches may require early answers – this is tricky....
- Ask for the salary you deserve (a good starting point is really important!) Research what is average in the area/at that institution
- Ask for startup to cover what you need en route to getting funding (this is tempered by what the department thinks they can ask for from the university)
Ask for the office and lab space that you need!
- Once you've signed on the dotted line, asking for (getting things) is MUCH harder
- This is the time to ask about childcare, relief for dependent care and impact on tenure clock, home loan programs,

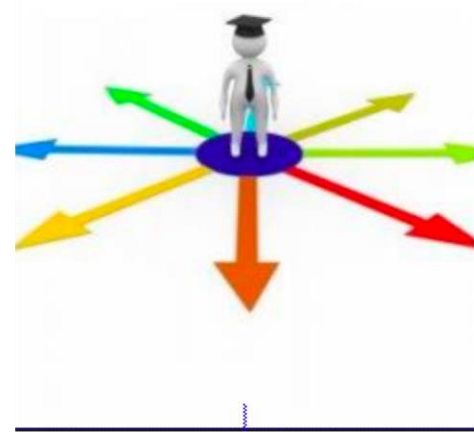
Dealing with not getting an offer....

- Important to remember that some things are in your control and some things are not. The best you can do is to do a great job at the things that are in your control! (talk, materials etc).
- Don't take things personally
- Try to learn from a rejection to do better the next time!

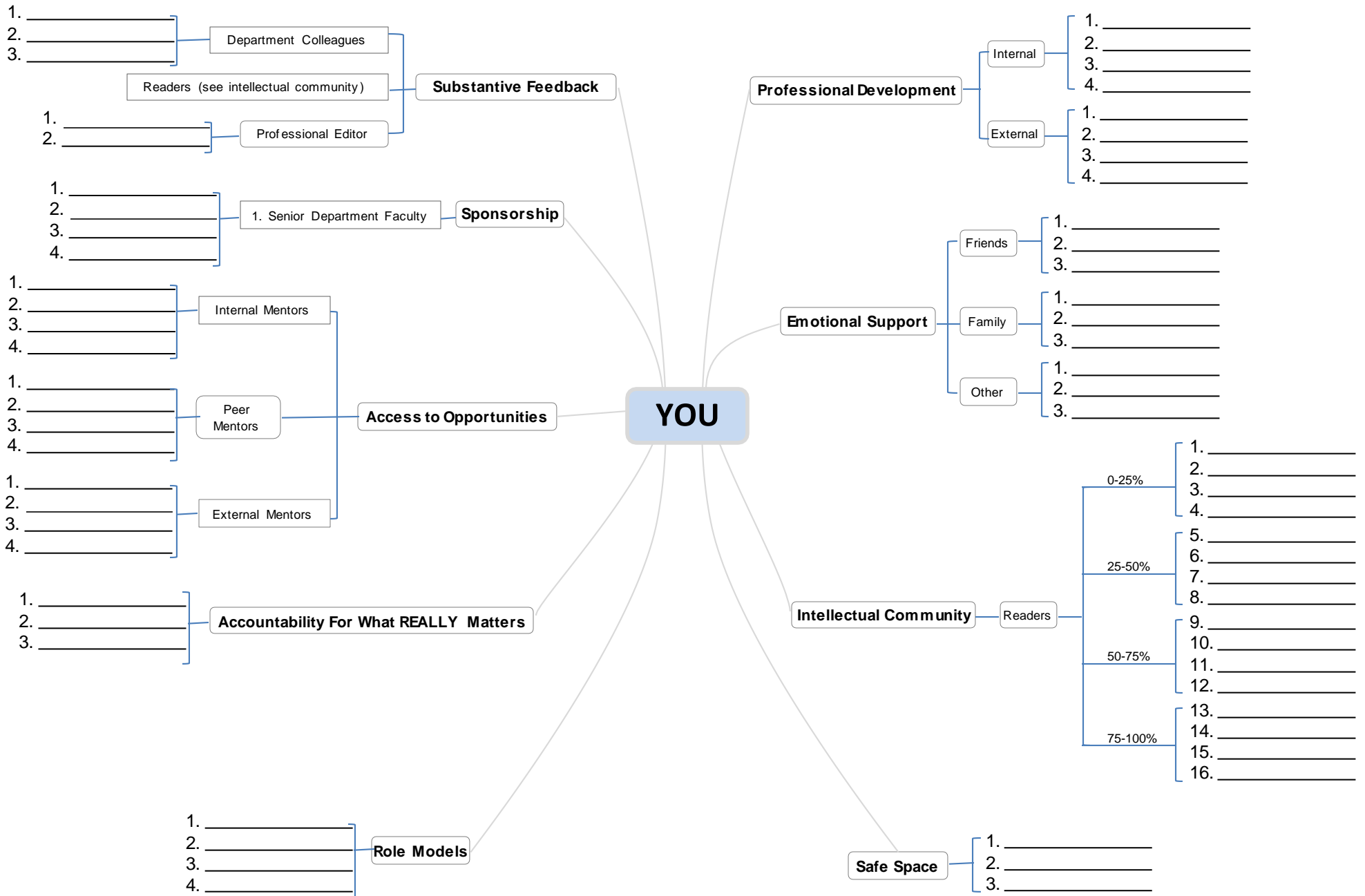
Final Words

- Be pro-active!
- Ask for advice/help!
 - Your advisor
 - Your colleagues who most recently got jobs
 - Other faculty in your department
 - Be resourceful and use the resources out there!
- Think strategically: where do you want to be in 5 years? What are you applying for and doing now to get there?
- Think about building your “team” of mentors/advocates/supporters. Do you have the team you need to succeed?

➔ Mentoring map!



NCFDD MENTORING MAP



BACKUP



- The purpose of this talk (workshop!) is (just) to give information/advice
- Your job search and success depends the most on you – you are your best advocate
- Be pro-active!

formatting

- 12-point
- One-inch margins
- Times New Roman



writing

- Have connecting phrases/sentences between paragraphs or topics.
- Use strong action verbs
- Outline the specifics of *your* involvement



action verbs

- **Research skill verbs:**

Clarified, collected, evaluated, examined, identified, investigated, surveyed

- **Technical skill verbs:**

Calculated, designed, operated, repaired, solved

- **Teaching skill verbs:**

Adapted, communicated, developed, enabled, evaluated, facilitated, instructed

Correspondence in general

- If you see someone from a search committee at a conference – say hi! (even if its on zoom) Tell them/remind them you've applied for their position
- If you know them, send them an email when you send in your application to let them know (particularly important if they are NOT on the committee)
- Don't be dismayed if you don't hear back right away – search committees are busy and sometimes are limited in what they are allowed to tell you....