

# Some guidance toward landing a postdoc or faculty job

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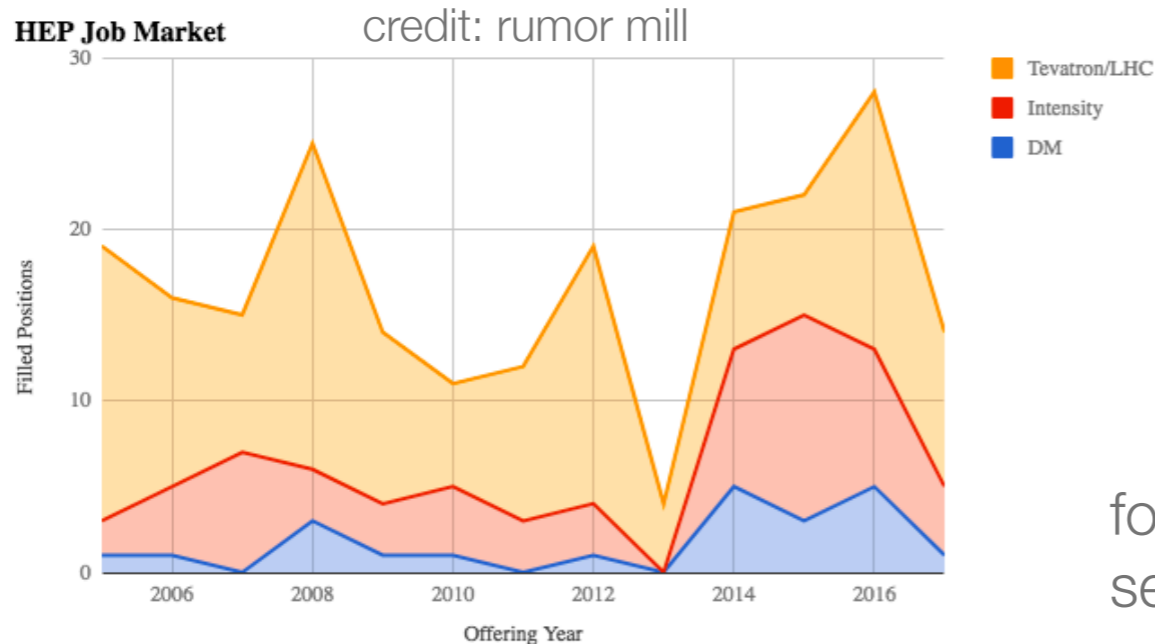
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*slides mostly reflect my personal views on the subject,  
consult others for a more complete picture*

*ask questions!*

# How many faculty jobs every year?

- unofficial source: rumor mill at <https://sites.google.com/site/hepexrumor/>
- only US jobs tabulated, collider positions also available abroad
- job ads explicitly targeting non-collider experiments not included in table



job search target area

US jobs	Collider only	Collider + other particle	All physics
2018	7	11	6
2017	4	6	1
2016	8	11	2
2015	4	6	2

~O(10) collider positions / year in US includes both lab & university

for more official job numbers from AIP, see <https://www.aip.org/statistics>

# The road to a faculty job

- Traditional route
  - Get your PhD [~5-8 years]
  - Postdoc 1 ... perhaps postdoc 2 [~3-6 years]
  - Faculty job [~6 years to tenure]
- Other routes are possible
  - Intermediate job in teaching college, government, or industry at earlier stage can work & be beneficial
- Length of time at each step can vary



# Job ads

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- web sites

- <https://atlas.cern/jobs>
- <https://twiki.cern.ch/twiki/bin/view/CMSPublic/JobOpportunities> [check advice at bottom of page]
- <http://inspirehep.net/collection/Jobs>
- <https://jobs.physicstoday.org/>

- word of mouth

- *talk to your collaborators*, ask if they are aware of job openings,  
—> let people know you are looking for a job
- get to know your group conveners/coordinators, they write a fair number of letters, ask them to write a letter, ask if they are aware of job openings

# Things to keep in mind

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- Hadron collider experiments are huge (~3000+ physicists)
- Challenge and opportunity
  - > many potential employers among those ~3000+ physicists!
- Visibility and recognition are key
  - > management of experiments work hard to improve recognition
  - > important at all stages of a career
  - > peer review!

# Landing a postdoc job

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- Think about your long-term goals
  - > what kind of postdoc job prepares you better for your dream job?
- Transition from PhD to postdoc is best opportunity to change experiment, area of expertise, or physics focus
  - > wider range of experience is valuable to land faculty job



- **Process**

1. Application: cover letter + CV + research statement + recommendation letters
  - > it may take ~2-6 months, so apply early, definitely by time of thesis writing
2. Interview: in person or video/Skype
3. Negotiations: try to negotiate, esp. if several offers

# Landing a postdoc job

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1. **Application materials:** Complete but *concise* is better
  - CV with list of publications and talks, various activities (e.g. outreach, leadership)
    - > what did you do? innovative contributions? areas of responsibility? impact?
    - > **make it easy for reader** to learn about your strengths and **specific** contributions
  - Cover letter (short) & Research statement —> interests, expertise, personality, drive
  - Share above materials with others and **seek advice** from the kind of people who may be reviewing your application + avoid silly spelling or grammatical errors
  - Letters of recommendation: identify 3-4 letter writers (not all from your institution!)
    - & **contact them early on** so they can follow your work more closely
    - > advisor, conveners/coordinators, people who can speak to your strengths & contributions and put them in a broader context, as well as comment on your potential for future growth

# Landing a postdoc job

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## 2. Interview

- Talk about the work you have done, this is what you know best!
- Learn and speak about how your work fits in the broader context of particle physics
- Keep the talk within the allotted time, moving material to backup slides is perfectly OK
- Try to be relaxed and engage in conversation, people are interested in you since they decided to interview you!

## 3. Negotiation

- Multiple offers may give you leverage to negotiate pay, benefits, etc.



# Landing a faculty job

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- A **really difficult step**: need 1) very strong application + 2) some luck in finding opening for which you are best fit
- A **major investment**
  - Collider position in a given Dept only every 5-10 years, position expected to last ~30 years (2-3 years for postdoc)  
Significant financial commitment as well (large start-up package)
  - New faculty member expected to be a future leader performing cutting-edge research, contributing to the teaching and diversity/inclusion mission of the Dept, and performing departmental and University service
- Consideration of your application is **much broader** than for postdoc *[earlier comments about postdoc job still apply]*
  - **Research plan**: likely to succeed in establishing and leading own research group? will secure funding? will attract interest from students and postdocs? sustainable long-term future? synergy with existing efforts at University?
  - **Teaching/mentoring plan**: more difficult if you have little experience —> grab teaching opportunities while in graduate school or as a postdoc; demonstrate interest in teaching and mentoring, describe general philosophy
  - Further **diversity / inclusion goals** of the University

# Landing a faculty job

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1. **Application:** cover letter + CV + research statement + *teaching statement* + *diversity/inclusion statement* + recommendation letters
  - **Breadth important:** with major detector upgrades under way it is a good idea to have both significant physics contributions and upgrade work to highlight
    - > successful research plan likely needs both aspects
    - > crucial for grant funding
  - **Letters crucial:** search committee includes physicists outside of your area of expertise, they will often rely on letters to assess impact of your work
  - Materials need to **make the case:** highlight contributions, **external recognition** a plus (e.g. awards, convenership, major responsibility, major talks, committees, etc.)
    - > **contributions** you can claim are **uniquely yours** are important

# Landing a faculty job

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2. **Interview:** 2-day visit of campus + possible video/Skype interview before short list of ~5-8 candidates is finalized

- Do your homework: learn about University, people and activities in Department  
Show you are interested in them and their work as much as they are in you
- Engage in conversation, show you are broader than just your area of expertise
- Remember that you continue being evaluated during lunch and dinner with students and faculty members
- Be sure to aim your talk to the right audience: seminar vs. colloquium

## 3. Negotiation

- DO negotiate offer package —> no leverage after you accept the job

# Tenure clock (specifics apply to my University, may be different elsewhere)

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- Assistant professor position typically lasts 6 years, then candidate is promoted to associate professor with tenure (if all goes well)
- Typical **time line**
  - mini-review in the 3rd year; materials: research and teaching statements, evaluation of teaching, and external letters solicited by Department (1/2 letter writers chosen by you)
  - tenure review in the 6th year; materials: same as for mini-review but more external letters; materials submitted at the start of 6th year
  - clock can be delayed for personal reasons or made faster if case is very strong
- Who reviews/votes?
  - Physics Department and Head first, then College and Dean, then Provost



# Summary

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- Think about your long-term goals early on
- Recognition is important —> advocate for yourself
- Communication is important —> make your case as well as you can
- Be involved in a wider set of activities and understand the overall context
- Landing a faculty job is really tough: quality is not always enough
  - great career path; to have a chance landing such a job you need to go for it
  - *but* many fulfilling careers outside of academia as well!

