Preparing for a Tenure-Track Job Applications and Interviews

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Based on previous talks given to CDF and DØ applicants by the experiments Spokespersons
Overview

- What Labs/Universities are looking for
- How to apply
- The written application
- CV and cover letter
- Recommendation letters
- The talk
- Answering questions
- Some questions you may hear
- Interview day
- Follow up
- Dealing with rejection
- Other recommendations
Disclaimer

- Don’t take this as prescription how to get a job – but as a starting point for:
  - Discussions today
  - Talking to other people and forming your own opinions

- Most of what is contained in the talk is
  - “obvious” and “common sense”

- There is no “guaranteed way” of getting a job:
  - The goal is for you to avoid mistakes that can take you out of the selection process on early stages

- Most of the advice is useful for applications to any “beyond postdoc” position (US tenure-track faculty, Wilson fellowship, UK lectureship or “advanced fellowship”, Germany Heisenberg Stipendium, … etc.)
  - But make sure you understand all requirements of the particular job you have applied for
    - ask people who know!

- There are many specific situations and cases and no lecture could prepare you for every situation
  - Use common sense, ask others and keep your long term goals in mind!
What Universities/Labs are Looking For?

- What qualities does an ideal tenure-track professor/scientist possess?
  - Ability to perform original and important physics
    - detectors, algorithms, analysis, ….
    - … wide range of technical skills and achievements
  - Ability to manage people and projects
  - Ability to teach/supervise/inspire undergraduate and graduate students
  - Integrity, dedication, enthusiasm, “personality”
  - Someone they want to work with for the next 30 years!
  - Potential to develop further:
    - secure funding
    - become a leader in the field

- Almost all of the above need highly developed (i.e., practiced) communication skills
  - Interviewers will be looking at all aspects of your application (written and oral) with this in mind
  - Remember: communication is about listening as well as talking
    - body language as well as verbal communication

- Keep in mind different aspects are important for faculty hires than for postdocs
How to Apply

- Get the word out that you are looking for a faculty position – lots happens in the field by word of mouth
  - Make sure the Spokes know you are looking – we have “the list”
- Check the ad’s periodically
  - D0 News, Spires
  - Physics Today, CERN courier
- Read the ad carefully and follow the instructions
  - How many reference letters?
  - Do they want the letters sent or just a list of names?
  - When is the deadline?
- Call/E-mail the contact person and ask about the job
  - Find out in direct contact what they are looking for
  - Keep in mind they want candidates to apply
- If this is the place you really want to be?
- It is a matter of personal choice of whether or not you should:
  - Be “picky” or apply at many places
  - Apply a year before you think you’re really ready as “practice”
  - Apply to places you’re not really interested in “for practice” or “just in case”
The Written Application

- Typical list of documentation
  - CV
  - Cover letter
  - Summary of research/teaching interests
  - Publications list
  - (Talk)

- Approach this with the same professionalism and attention to detail you devote to the rest of your work

- Being overly modest (and/or unspecific) is perhaps on of the worst mistake you can make!
  - If you proposed, designed, constructed/implemented, commissioned, and maintained a particular piece of hardware or software – say so
    - how the interviewers will figure this out if you don’t provide details?
    - you need to distinguish your contribution from the many others who can claim to have “worked on Y”
  - It is possible to describe your work in a way that is factual, explicit, and complete, without sounding arrogant or immodest

- Get comments on all of the above from people you trust

- Start preparing the documents well before actual application process starts
  - Keep them current during the year as you make additional contributions
  - Make a list of things you do as you do them
    - (Good idea even after you get tenure-track job)
CV and Cover Letter

- CV should not just be a list of “plain” accomplishments
  - Give enough detail and try to make it interesting
  - Convey the significance (to DØ, to HEP) of your contributions
  - Stress the most important contributions
  - Interviewer should be able to learn what you(!) actually did
  - Consider putting a summary of your most important achievements on the front page
    - Interviewers may use this to refresh their memories immediately before (or during) the interview
    - Don’t spend this valuable space with half a page of contact details…

- Cover letter important details
  - Learn as much as you can about place you are applying
    - Web, talk to senior people you know, ask locals questions – E-mails, phone calls
    - How detailed should be the letter?
  - Tailor it to the place/job description you are applying
    - Shows you are really interested in the job
  - Talk about what you bring to the place and what features of their research and education programs interest you
Letters of Reference

- Letters are the most important part of your application package. Without good letters you will not get a chance to move to the next step.

- Given the importance you need to pay careful attention to the letters.

- All places require recommendation letters, usually 3-5.

- Come up with a strategy for who will write letters on your behalf – get ~6 names and prioritize them in your own mind:
  - Get advice from experienced people you trust
  - You might have different list of names for different places.

- What makes a good letter writer for you and for this job/place:
  - Describes in details you and your work
  - Evaluate you and your work as excellent
  - Well known to the people who will be reading the letter
  - Well known within (and ideally outside) the field
  - Knows how to write a good letter…
  - Most letters should reference your most recent work, not the work you did as a graduate/undergraduate student.
Letters – Part B

- People to ask
  - Advisor
    - If you don’t have such letter it will look strange
  - Senior people familiar with your analysis, e.g.,
    - a senior physics group convener, or EB chair, or other faculty who is paying attention in the physics/detector group in which you work

- People you may also want to ask
  - Spokespersons
    - are busy, but it is part of their job description to do a good job on your behalf
    - they will need your help (see next slide)
  - Technical, Computing, Algorithms, Physics Coordinators

- People you don’t ask
  - Peers – their letter does not carry sufficient credibility/weight
  - Those who are clearly not familiar with your job, even if they won Nobel prize
Letters – part C

- Help the letter writer!

- Don’t assume they know all about you or details about position you are applying

- Supply them with
  - Names, addresses where you want letters sent
    - Make sure they have to send a letter and not wait to be asked
  - Date when the letter is due
  - E-mail address where to send the letter
  - URL of the relevant ad
  - A brief summary of what you have found out about:
    - the institute, group, to which you are applying
    - if they are looking for something very specific
  - A copy of your application (CV, research proposal, etc.)
  - Prepare a one page list of your most significant accomplishments and strengths to use in the letters
    - consider making this the first page of your CV
  - A list of people whom the letter writer can ask for extra material
  - The names of others you have asked to write a letter for this job
  - Sit down with your letter writers and talk to them about yourself

- Give writer sufficient lead time to do your letter justice
What makes a letter not perfect

- Too short or too long
- Too general - shows no specific knowledge of the work of the candidate
- Contains “killer phrases”
  - In the US it is not common to describe weaknesses of the candidate, while that would be considered normal in Europe
  - US interviewers expect to judge the weaknesses of candidates by noticing what has not been said
    - which means the letters have to be comprehensive
    - places serious responsibility on the letter writers
- Letter arrives too late
- Letter is not supportive of your application
  - Not often, but happens
Confidentiality of Letters

- Almost all places have confidentiality rules for recommendation letters

- If you have a weak letter you should get it out of the packet
  - Easier said than done…

- Options
  - Talk to selection committee member
    - While not providing details they might give you hints
  - Apply early to a place where you may have a friend on the committee and ask that person to read your letters and provide feedback
  - Ask your supervisor – it may be easier for him to get this info
  - If you can’t – it’s not that critical, but it does help
You are Invited for Talk and Interviews

- If you haven’t already done so, ….. do your homework
  - Get on the web and check out the department
    - How big is it
    - What do they do
    - What are its strengths
  - Then look at the HEP group – theory and experiment
    - Talk to the people who are familiar with the department

- In most departments the decision whom to hire is a collective one
  - Ask for the interview schedule a few days in advance
  - Find out what you can about your interviewers
  - What are their physics interests?
  - Read a recent paper or grant proposal from each group
    - or even each individual

- Your knowledge of the department will help you greatly to establish contact with individuals who will make the decision
The Talk

- Seminar or Colloquium
  - Know exactly what type of talk they want you to give
    - phone the chair of the selection panel to ask
  - What is the target audience
    - HEP specialists, general physics faculty, undergraduates?
- Colloquium
  - Keep it simple
  - Can you communicate a difficult subject to the non-HEP community?
    - Remember HEP people will be looking to hire a good ambassador
  - Take the time to really explain the plots you show
  - Be enthusiastic
- Seminar
  - It should be about work you did
  - Keep it (relatively) simple
  - It is possible to convey technical details without going into all of them in your talk
  - Take the time to really explain the plots you show
  - Be enthusiastic
- Get yourself invited to give a seminar at a few institutions for practice
  - Good to do anyway to raise your profile
Appearance is Important

- Ideally
  - Business-like and smart
  - Something that you feel comfortable wearing
    - (Items above may be non-overlapping sets)
  - Err on the side of being conservative

- Spend $’s and get items that fit well

- Haircut, belt, shined shoes, matching socks, clean finger nails are strongly encouraged

- Asking for guidance from the department interviewing you in advance is a good option
  - Different places might have a little different customs
Answering Questions

- The tricky detailed questions about your work are the “easy” ones
  - Help interviewers to ask such questions by presenting talk clearly

- It’s the more “fuzzy”, general questions that are more likely to floor you

- In preparation
  - Understand major tasks facing the field
  - Have broad understanding of the modern science
  - Have an opinion on most important issues

- Answering questions
  - Be consistent in your answers
  - Most of the questions asked will not have a “correct” answer
    - Be inventive and show you could think “out of the box”
Some Questions You May Hear

- Tell me about yourself
- Why are you looking for a career in particle physics?
- How would you explain
  - what you do
  - what the Higgs boson is and why finding it would be interesting
    - to
    - an interested member of the public
    - an undergraduate physics major
    - a biology professor
- What makes you think you’d be a good undergraduate teacher
- How would you use your research in your teaching
- Have you participated in programs to teach physics to the general public
  - If not, then sign up for the Fermilab Ask-a-Scientist program
- Particle physics experiments and collaborations are so huge …
  - How is it possible for an individual to make original or significant contributions?
  - How can we judge the significance of your individual contributions?
And Even More Questions

- What are your short, medium and long term career goals?
- What are you going to bring to the group?
- How are you going to secure funding?
- What are your weaknesses and what are you doing about it?
- What achievement(s) are you most proud of?
- What motivates you?
- Other than your own research, tell me about a piece of work you’ve seen recently in DØ that you particularly admire …. and why
- Where do you think the field is heading?
- What directions should Fermilab, CERN… head in?
- Where and when will the next large accelerator be built?
  - and why do you think so
And Even More Questions

- Your experiment – know what's going on
  - How different detectors performed during Run II
  - How much Luminosity has the experiment acquired in Run II, over last year
  - When Run II started
  - How much Luminosity has been used in the already published papers
  - What do you consider the main strengths and weaknesses of the DØ with respect to the CDF

- Practice
  - Ask a few senior people to interview you
    - ideally not just particle physicists
    - you need to practice explaining particle physics to non-specialists
  - Talk to last years hires and ask for advice/pointers

- Interview skills (just like your hardware or analysis skills) require thought, effort, preparation and practice in order to be developed
Interviews Day

- Stay as calm and relaxed as you can. It will help you
  - Think straight and be yourself
- Remember
  - By virtue of your hard work and ability you deserve to be at this interview
  - Stay calm under fire
    - It is part of the qualification for the job
  - You are there because these people consider you as a possible future colleague
    - Act like one
    - Show them you’d be a great person to have around for many years
  - The better prepared you are the easier it will be to feel confident and stay calm
- Simple things
  - Body language is an important part of the communication
    - Shake hands
    - Look people in the eye
    - Remember to smile
  - Listen well
    - They will be looking for good listening skills
    - They will be selling themselves at least as much as they will be expecting you to sell yourself
  - Have backup of your talk (laptop+memory stick)
Interviews

- Have prepared questions for them
  - What will be teaching load
  - Travel guidelines – are they used to HEP types?
    - Be careful:
      - You need to make sure they will give you sufficient freedom to do your research
      - But don’t make it sound like you’re not interested in being a “good citizen” within the department
  - What is the group’s/department longer term hiring plans and strategic direction?
  - Ask to talk to current assistant professors
  - Ask to see the workshop(s), talk to the engineers, discuss the group computing facilities
  - Things to reserve until after you have got an offer?
    - Tenure, salary, position for spouse…

- Interview usually means lunch and dinner with some portion of the committee
  - This is still part of the interview – don’t get too relaxed

- The Dean (or equivalent)
  - His/Her role in the process differs from place to place
  - Impress him/her! If you get the offer – (s)he is who you negotiate with for start-up funds. Best to start off on the right foot
Follow Up

- Ask what is the next step before you leave

- Send a written thank you note the next day?

- They may ask you to do some homework – do it as requested and promptly
  - Typical example would be to prepare a start-up package budget

- Be patient
  - Don’t keep calling for progress/status reports every day

- If you haven’t heard by the agreed upon date, go ahead and call

- If you are not a finalist after the interview, it is OK to ask why. Where did you fall short, what could you improve, what experiences are you lacking…
  - Not everyone is comfortable telling you this, and you may not like the answers, but you need to hear it
Dealing With Rejection

- Getting a job means solving a complicated puzzle

- Once you make the short list, they are very interested in you!
  - From that point on – it’s a little “beauty contest”

- Departments are trying to evaluate whether you are a good “fit” or “the match”

- Don’t take things too personally
  - Famous physicists got rejections…

- Look back at the “What are they looking for” page
  - Is your CV balanced or overloaded in one direction or another?

- Ask yourself the following question
  - “Am I doing the right things to be a good fit somewhere…? If not – adjust!
What Can Your Home Institute or DØ Help You With?

- Feedback on written material
- Practice talks
- Mock interviews
- De-briefing after the event
- Arrange for talks/seminars
- …???
  - Let us know!
- Don’t be shy about asking for help or advice
  - Most experienced people will be happy to help and feel responsibility towards the younger members of our community and the experiment

There is no future for science without YOU getting a job!