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# Preparing for a Job Interview

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# Disclaimer

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- This is my own VERY Personal Point of View
  - Don't take this as gospel – but as a starting point.
  - Talk to other people and form your own opinions
  - Most of what I say will be obvious
  
  - My goal is for you to avoid the dumb mistakes that take you out of the game before the game even starts!
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# What This Talk is Not!!!

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- **A recipe book**
    - There is no single path to a successful career in HEP
    - Each person has to “find their own way” based on their strengths, interests, and desire
    - There is no right answer
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# Solving the Puzzle....

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- What qualities does an ideal physicist possess?
    - Ability to manage people and projects
    - Ability to perform original and important physics analysis
    - Able to solve Technical Challenges with grace and ease
  - Each hiring committee will eventually have to come to grips with how to weight each of the above...
  - Don't forget personality – or lack there of! It matters
  - Committees are not necessarily after the smartest person – but that they want that best that they can find and they want that person to be someone they WANT to work with.
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# What to think about

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- What do you enjoy about physics?
  - What kind of career do you want – faculty, researcher, faculty with emphasis on teaching, national lab, industry
  - What are you good at?
  - Where are you weak and want to improve?
  - Where are you weak and don't want to improve
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# A few "categories" that matter

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- Technical prowess
  - Physics acumen and the ability to perform physics analysis
    - Physics analyses: ability to work independently and get it done!
    - Physics choices-- tackling interesting or important problems, whether technical problems that the collaboration needs solved or physics problems that the community is interested in
    - Creativity in physics: coming up with new and interesting ideas.
  - Leadership ability
  - Commitment
  - Personality
  - Breadth and depth of knowledge
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# A couple of notes

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- Take on jobs, assignments, responsibilities that you will enjoy or that interest you
    - No one does particle physics for the glamour or high salary
    - We do it because we enjoy it – so make sure you keep it fun
    - If you like it – you will naturally excel
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# More Notes

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- Volunteer to do things
    - Gets you visibility
    - Stretches your abilities outside your “comfort zone”
    - Quickly become invaluable...
  
  - Do something unique
    - Something that “defines” you in the eyes of others
  
  - Get Senior people engaged in you in advance of the job market
    - Ask them for advice
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# Personal Opinion

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- Don't focus solely on “getting the job” as you go through your career.
  - It puts too much pressure on you
  - You forget rule #1 of enjoying what you are doing...

# Age old Issues facing Graduate Students

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## ■ Service Work

- what kind and how much?
- Do you want to strengthen something you are good at or get a new experience
- Do you like hardware or software
- Operations vs calibrations etc?
- Is there a weakness you want to work on?

## ■ Thesis

- What is the best topic?
- What is your personality – do you like the details of a precision measurement and sweating small effects or prefer to searches
- Do you want your own space or like to compete?

- Bottom Line – a students job is to finish. You don't need every experience as a grad student. You can learn as a post-doc as well
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# How to Apply

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- Get the word out that you are looking for a PD(or later a faculty) position – lots happens in this field by word of mouth
  - Check the Ads in Physics Today
  - The experiments keep a list... – check it
    - [http://www-cdf.fnal.gov/jobcorner/hep\\_faculty\\_job.html](http://www-cdf.fnal.gov/jobcorner/hep_faculty_job.html)
  - If there is a place that you really want to be at – write them a letter and follow up with a phone call. Be aggressive
  - Whether you should be “picky” or apply for every job under the sun is a very personal choice
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## How to Apply (2)

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- Call the contact person and ask him about the job – ask him what they are looking for
  - Read the ad and follow the directions
    - How many references
    - Do they want the letters sent or just a list of names?
    - When is the deadline?
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# Preparation

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- CV
  - Cover Letter
  - Expression of research interest (for faculty)
  - Publication List
  - Job Talk
  
  - Start early preparing these documents – as in NOW!
    - Keep them current during the year as you make additional contributions
  - Do NOT make job hunting your full time job. STAY PRODUCTIVE
    - You will be less nervous
    - You will have more things to talk about because you are working
    - Your visibility within the collaboration will remain high
    - Be disciplined – work on analysis during the day and job stuff in the evenings/one weekend day or whatever arrangement suits you so you can keep things separated!
  - Read enough to know what is going on in our field and be prepared to talk about it
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# CV and Cover Letter

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- **CV should not just be a list of accomplishments.**
    - Give enough detail and try to make it interesting.
    - Someone should be able to tell what you **ACTUALLY** did by reading it
    - Get comments on it from people you trust
  - **Cover letter – IMPORTANT**
    - Tailor it to the department you are applying
    - Talk about what you bring to the department and what features of their research program interest you
    - Emphasize again the highlights in your CV as well
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# The Talk

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- **Seminar vs. Colloquium!!**
    - Know what type of talk they want you to give -- ASK
    - Some schools may even want both
  - **Colloquium (rarely for a PD interview)**
    - Keep it simple
    - Can you teach a difficult subject to the non HEP community
    - Be enthusiastic
    - Take the time to really explain the plots you do show
    - Tell a story!
  - **Seminar**
    - It should be something you did
    - It should be technical but not overly technical – pick something like a systematic or acceptance and take them through the detail to show you know it – but NOT everything
    - Explain the plots – audience is HEP but doubtful in your specialty
    - There should be a “common thread” throughout
  - **Once your talk is prepared, call people and volunteer to give a seminar at their institution – PRACTICE IT!**
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# Letters

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- Letters are the single most important part of your application package. Without great letters, you will never get a chance to move to the next step!
  - Given the importance, you need to pay attention to them!
  - All places require letters – 3-5, some require more
  - Come up with a strategy for who would write one on your behalf – get 6 names and prioritize them in your own mind
  - What makes a good letter writer?
    - The person who wrote it can speak in detail about you and your work
    - That person thinks highly of you and your work
    - Letter writer is well known in the field
    - Letter writer knows how to write a good letter....
    - Most letters should reference your most recent work, not the work you did as a graduate/undergrad student
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# Letters – Part B

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- **People to ask**
    - Boss/advisor
    - People familiar with your analysis, a god parent for example, other faculty that are paying attention in the physics group in which you work
    - Select people from the most recent part of your career, one is more than enough from your graduate work
  - **People you may also want to ask**
    - Spokesperson – typically busy, write lots of letters and often times write “cookie cutter” letters that are neither helpful nor hurtful – how well do they really know you?
    - Physics Convener/Coordinator
    - Lab Personnel – may not be used to writing the type of letter that is required
  - **People you don't ask**
    - Mom -- obvious
    - Peers – their letter does not carry sufficient credibility/weight
    - Friends – puts them in an awkward situation
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# Letters - part C

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- **Help the letter writer**

- Give them names, addresses where you want letters sent and give them sufficient lead time to do your letter justice
  - Make it clear when the letter is due
  - Give them a copy of your CV
  - Don't assume they know all about you – prepare a one page list of your most significant accomplishments/strengths that they might use in their letter – don't make them search those out from your CV
  - Sit down with your letter writers and talk to them about yourself.
    - What are you looking for
    - What kind of career do you want
    - What is your “ideal job”
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# Appearance is Important

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- You have invested 4 years in college, 5 years in graduate school, and 3+ years as a post doc.
  - Shouldn't you invest in your job search?
  - Gentlemen
    - Day 1, suit and tie
    - Day 2, sport coat and slacks (again a tie!)
  - Ladies
    - Business-like and smart
    - Err on the side of conservative
  - Spend the \$\$\$ and get items that fit well (.e.g. altered properly)
  - Haircut, belt, shined shoes, matching dark socks, and clean finger nails are NOT optional
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## Once you get “the call” - its time to game plan

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- **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 expt.
  - **Talk to people here at FNAL who are familiar with the department**
  - **If you get your interview schedule ahead of time, find out what you can about your interviewers. What are their physics interests,**
  - **READ! Be broad. Understand the issues facing the field. Have an opinion. Be consistent. Most of the questions asked will not have a “correct” answer.**
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# Questions you may hear...

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- Tell me about yourself....
- Why are you interested in particle physics
- What are your short, medium and long term career goals
- What are you going to bring to this group
- How are you going to secure funding
- What are 3 words that best describe you
- What is your biggest weakness and what are you doing about it
- What achievement are you most proud of
- What motivates you
- Who is your hero and why
- Where do you think the field is heading
- What direction should Fermilab head in
- What do you think about X (RIA, NLC, NOVA,...)
- Who is the best post doc on the job market right now?

I have a list of all the questions I have ever been asked - I will send you that list to you if you are interested

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# Game Day

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- Stay calm and relaxed – after all, you get to spend an entire day talking about your favorite subject – YOU!
  - Have fun with it! It will show!
  - Bring a few copies of your CV and have backup of your talk (laptop + memory stick)
  - Take care of the simple things
    - Shake hands (firmly)
    - Look people in the eye
    - Listen and pay attention – they will be selling themselves at least as much as they will be asking you to sell yourself.
    - Remember to smile!
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# Interview Pointers

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- Interview usually means lunch and dinner with some portion of the committee.
    - This is STILL part of the interview – don't get too relaxed and do NOT drink too much – save that for the hotel room later!
  - Have some prepared questions for them
    - What type of physics is the group involved in?
    - What are the current service commitments
    - Is there flexibility in the above two?
    - Teaching, Travel, What is the group's/department longer term hiring plans and strategic direction
    - Tenure? – I typically stay away from this, as I do salary. Those can be answered once you get the job offer!
  - The Dean (faculty only)
    - His (or 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 with this individual
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## For Students looking for Post doc's

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- Decide what experiences you are lacking in your graduate student career and look for a post doc that can give you those
  - Ignore institutional names and salary - in the long run, neither matter
  - Look for a place where you feel comfortable - with a boss that you WANT to work with.
    - Its all about relationships!
  - When you are interviewing - ask where their previous post doc's are now...
    - Do they have a record of placing their people
    - Past performance does not indicate future success (and vice versa) but...
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## Dealing With Rejection

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- Getting a job means solving a complicated puzzle.
  - Once you make the short list, they are very interested. From that point on - it's a "beauty contest"
  - Departments are trying to evaluate whether you are a good "fit" or match
  - Don't take things too personally
  - Remember, you WANT your colleagues to get jobs too - otherwise it will be pretty lonely
  - ASK yourself the following question
    - "Am I doing the right things to be a good fit somewhere....?" If not - CHANGE!
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