

Hiring Survey Responses for JINA Horizons Junior Workshop

<https://indico.frib.msu.edu/event/39/page/381-junior-workshop>

November 30, 2020

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The results of this survey were collected from individuals with experience on hiring committees at academic institutions, national laboratories and research centers, as well as a few individuals in the private sector. Their responses were provided entirely anonymously.

Responses have been grouped based upon the category of employment that was selected within the questionnaire by the participant (blue for academic institutions, green for national laboratories or research centers, and grey for the private sector). The demographics of participants is: 19 from academic institutions, 12 from national laboratories or research centers, and 3 from the private sector (industry and consulting).

The area of expertise for those contacted includes nuclear theory, nuclear experiment, astrophysics theory, and observation. The affiliations of those contacted includes: Michigan State University, Ohio University, University of Notre Dame, North Carolina State University, University of Wisconsin-Madison, University of Washington, Massachusetts Institute of Technology, University of California Berkeley, Louisiana State University, University of Tennessee, Saint Mary's University, Indiana University, Arizona State University, California State University Fullerton, Australian National University, TU Darmstadt, University of Victoria, McGill University, Los Alamos National Laboratory, Oak Ridge National Laboratory, Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory, Brookhaven National Laboratory, Argonne National Laboratory, Pacific Northwest National Laboratory, Thomas Jefferson National Accelerator Facility, Idaho National Laboratory, the Space Telescope Science Institute, and TRIUMF. Note that this list only highlights the range of affiliations for contacted individuals but, due to the anonymity of responses, does not necessarily represent affiliations of participants.

1. Please list one to a few things that you scan for in application materials when first considering the initial pool of applicants.

List of publications, reference letters

Research accomplishments, educational and postdoctoral experience

number of publications, bibliometrics of those publications, letters of support, funding profile, teaching experience

I start with the education/professional history, specifically for the correlation between the profile I am looking for and the broad skills of the candidate.

Research interests, publication record, diversity

letters, pub list, work topic

interest in the position, papers (first/second author), research statement, outreach/diversity statement

publications, invited talks, independent work, mobility, grants, prizes

Publication record and research statement

Publication record; education & experience; cover letter showing interest in and knowledge of the position.

Research experience and productivity(publications), Role in research projects, Research presentations type, Leadership qualities

Experimental Postdoc: 1) Have they worked on something that gives them relevant expertise for the Job 2) Letters. Faculty: 1) Letters 2) Sufficient publication rate 3) Some invited talks 4) Research statement

For faculty at my research-focused university, I look at when they received their PhD and then their publication list (to see what they're working on and judge how productive they've been), and then I look to see what types of non-research experiences they've had (mentoring, teaching, grant-writing, etc.). I then look at their research statement, then lots of other things. For postdocs I also

start with the publications, but I then dig further into their technical skills to the extent that's available from their application.

advisor, year out of PhD, list of papers, talks, research plan

Research experience, to check how it aligns with the job description and the research plans I have in mind for the candidate, specific equipment they worked with, computational skills.

research statement, publications, reference letters, cv

Excellence of the candidate as documented by publications, talks, research accomplishments and plan. How the candidate would strengthen and expand the department.

I read the cover letter: is it personalized to our institution/department?

Overlap of research area with job ad, year of PhD, teaching experience beyond GTA

work experience, educational background, names of references, cover letter, publication record, presentation record, research vision (if requested)

Experience that matches the selection criteria; articulate voicing of a vision in the cover letter; evidence of genuine interest in the position.

Relevant degrees and majors, experience relevant to the position, evidence that the applicant has considered this particular position (versus a generic and un-targeted application package).

Relevance (is the person actually qualified for the position?)

1. The CV:

- first rapid glance at CV: does it *look* good and professional?
People sometimes neglect the aesthetic aspect of it, but it is literally the very first impression we get of somebody...
- deeper into the CV: does the applicant have the skills I need? Is the CV complete: short description of expertise, education, professional experience, paper/talks/posters, various skills (programming languages, software, foreign languages, etc.)

2. Recommendation letters

- are they *really* good? (one needs to adjust for cultural factors)
- do they come from people whom I would trust the judgement?

CV: Degrees, field, brief descriptions of the work completed, rigor of work, publications (are their first-author papers?), contributed and invited talks, participation in summer schools and conferences and other training opportunities, computing skills, other activities the applicant is involved in, and: is the CV well organized?

Overlap with funding; overlap with research area; long term career goals

- Name recognition (it is important to give talks)
- Number of publications and the topics
- Number of invited talks

publication record

Education, experience, leadership

Experience in (experimental) nuclear astrophysics or nuclear structure

Publication record, in particular, articles published as first author.

skill/experience, variety of "project assignments" (tells me about adaptability), publication / invited talk category (tells me about individual's drive), hobbies / interests (tells me about how the individual thinks on her / his own time), awards and honors (again, tells me about drive)

Adaptability, creativity

Job history, past professional experience

2. Please list one to a few things in application materials that can make an applicant stand out.

Publications, impact

Breadth, originality of research topics, evidence of creativity

number of publications, bibliometrics of those publications, letters of support, funding profile, teaching experience

A statement about the way the post doc candidate envision their way to contribute to my research group interest or the way they would provide complementary skills.

positive letters from respected senior researchers, leadership in publications

good and strong/high quality publications paired with strong letters.

research statement that is well suited for the position, discussion of diversity efforts (some positions ask for it but even if they don't ask)

important grant or prize

A well written research statement that describes past and future research.

A good cover letter that shows the candidate understands why we are looking for and that makes a good case that they are that person.

Highlight achievements, Awards and Honors, Future vision is better to have a defined focus. Context to the specific job.

For all: Good letters. Experimental postdoc: 1) Relevant experience for the Job, 2) Expressed interest in the science
Faculty: 1) Good research statement that focuses on what the person would do in the new job, and describes exciting research that fits in well. 2) Some activities that indicate standing in the field - organizing of conferences, invited talks,

Beyond strong research, for faculty I'm very interested in applicants who have done things that indicate that they'll be successful at the other things that are important to a department - have they displayed interest in student mentoring and teaching by getting training in it, or actually doing it? Have they participated in writing a grant proposal? Have they done some sort of service work that demonstrates they're interested in contributing to the bigger picture/greater good in addition to just their own research? It's very unlikely that applicants have all of those things, but some strong indication of a couple of them really helps an applicant stand out. At the postdoc level it's similar - I want postdocs in my group who are interested in many aspects of academic life, not just research, and that halo of other skills tends to correlate highly with overall success.

high impact publications, any awards, really exciting research plan, very strong letters

As silly as it is, the first thing that stands out is the format of the application. Plain Word document or the standard Latex templates for the cover letter and CV show lack of initiative and are boring. Use your institution letterhead or format a letter with a clean modern font. Develop your own style for a CV that works for what you want to show, instead of fitting the content to a format.

In the letter, show that you did some investigation to the posting, discuss how your experience can support the project of your (hopefully) future employer, how you would fit in. Mention specifics to show you tailored the letter to the particular job posting.

strong research statement, strong reference letters

Strong but concise cover letter. Clearly written research statement.

Well organized materials so that it is easy to find information. Research statement written both for experts and non-experts.

Enthusiasm in teaching and working with diverse groups of students. Showing some understanding of what it means to work as an (assistant) professor at a land grant university.

work experience relevant for position; educational background at high-quality institutions; work experience at high-quality institutions; excellent (and realistic) letters of recommendation customized for the particular position; cover letter appropriate for position/institution (not a form letter); good publication and presentation record; high quality research vision

Demonstration of familiarity with the institution, the job requirements; looking like the applicant has researched the background and tailored their application properly; awareness that diversity and inclusion are important elements in modern job searches.

Official awards and recognition, significant papers and invited talks, evidence of non-technical science community citizenship (mentoring, activity in various organizations, service to their local departments etc.)

A well written application gives a good first impression; good reference letters

1. Achievements first and foremost: many publications, in some good journals, perhaps with not too many authors (this is field-dependent). There are cases where publications can be delayed, typically because the project was very ambitious. In this case, I will rely more on the letters of recommendation, which should then explain why the track record is not so impressive but the applicant still outstanding;
2. Something in the letters that catch the attention and suggest a truly outstanding applicant;
3. Overlap, in terms of technical skills, with my research project. It's optional (I did hire people with little overlap), but it can sometimes make a difference;
4. Quality and professionalism of the application: does the application package look professional grade?

Signs of developing independence: Single-author papers, papers that are not only focused on the Ph.D. work, strong publication record (high-profile journal), invited talks, proposal writing/submissions (even if not successful), awards, time spend as guest researcher at another institution

A well-defined research plan; proven track record (publications); novelty of approach to science

- Attention to detail and following instructions [e.g. if a one page research statement is request, only send one page]

good first author publications

format can help, diverse experience, publications

Presentations in major conferences or working with scientists I know; knowing about my science program and addressing specific questions

Cover letter including a research plan.

any successes that the applicant sought to point out on application or resume, terse but sufficient description of accomplishments (ability to get to the point, the "elevator" speech)

Case studies, pamphlets, portfolios

description of previous positions with view on skills and tasks which may needed for new position

3. Please list one to a few things in application materials that can remove an applicant from consideration.

Lukewarm reference letters if justified.

Poor presentation, lack of adequate publications, orthogonality to my field, little sense of the interplay of theory with experiment

no publications, unsupportive letters, no teaching experience

Strong disconnect between their research (I regularly have nuclear engineer applying, their skills is in reactor physics) and my group interests. This can be mitigated with an explanation of the candidate interest and history.

Different research direction than the focus of the search

application that looks generic (not geared to the specific position), research statement that only talks about previous achievements and not the future, weak publication record

mainly working with PhD supervisor

A poor publication record.

Poor publication record is hard to overcome. Sloppy cover letter (e.g. incorrect institution name) tends to move applicants down the list. If neither cover letter nor research statements explains how research plans mesh with those of faculty at our institution that is bad.

Poor presentation of CV and research experience, unclear goals, poor research productivity or experience, skills don't match the job applied for, weak letters of reference.

Lack of relevant experience in what one is looking for (for postdocs) and work in an area that is not of interest (for faculty). Beyond that, for faculty, its usually a combination of some of the following: bad letters, unusual low publications, and no interesting research statement.

For both postdocs and faculty, if I can't tell what you are an expert in, I am not interested in hiring you - i.e., N publications in N different fields is far less interesting to me than the same number of publications in 1 area, or 2-3 closely-related areas. Dilettantes don't do well as junior faculty. If a faculty candidate has no meaningful experiences in anything other than research, I'm not going to be confident that they will do well as a professor, and that tends to remove them from consideration.

weak research plan, lack of publications, weak recommendation letters

Lack of recommendation letters or weak recommendation letters.

little to no publications, weak research statement

If the material is not put together professionally. If the candidate has not established independence, e.g., from PhD advisor.

Short publication list. No clear vision. Red flags in the letters of recommendation.

More than 8-9 years from PhD for Assistant Professor, clearly ignoring the job ad, recommendation letters either being less than strong, or from unorthodox letter writers (e.g. if current supervisor, and/or PhD advisor - if PhD recent - is not included it raises a red flag). For a tenure-track position the letter writers should come from academia and national labs unless, maybe it's a very applied field you're applying to.

no relevant work experience; no or little knowledge of position or institution; cover letter is a form letter; reference letters are generic and obviously "too positive"; missing documents or incomplete package

Obviously not meeting job criteria (i.e., a particle physicist applying for a position as a ground-based astronomer.); a generic application that looks like it was submitted to multiple sites en masse; a bad letter of recommendation.

The opposite of the things in my answer to 1: wrong degrees/majors, irrelevant experience and generic applications that do not present evidence of considerations specific to the position in question.

Clearly not qualified for this position; a poorly thought out application

If we are talking about 'consideration to make it to a shortlist', then it is a combination of lack of relevant technical skills, poor track record (with no explanation why it is so), and average letters of recommendation (after adjustment for cultural bias). In the very initial stage, I also get 'exotic' robot-like applications of people who are completely outside the field.

Anything that clearly shows the applicant has not read the job description. E.g. if it's a theory job and the applicant is an experimentalist it is critical that there is an explanation why the experimentalist feels qualified for the job.

Poor letters of reference; ill-defined research goals

- Incomplete application

weak publication record

limited activities outside academic studies, low grades

Top reason: Addressing me as "Mr. Dillmann" - means they have not checked my webpage and don't know who I am.

Others: Listing too many things (e.g. every detector they walked by or used in Physics class is listed as "have experience with this detector"); listed experience too far away from topic; overqualified (e.g. Assistant or Associate Professors applying for postdoc positions)

Attention to detail is needed to achieve a successful career, therefore if a cover letter and resume have inconsistencies, typos or are assembled in a sloppy way, then one will have doubts about the applicant's capabilities.

lack of accomplishment, lack of publication / talks, too verbose without getting to the point

Rigidity, lack of showing application or translation of skills

jumping between jobs and no consistency in performed work

4. Please list one to a few questions commonly asked during job interviews.

"Tell us what the next few steps are in your research."

What is your research proposal for the next few years? What are your long-term research goals and directions?

what is your anticipated research plan for the next few years?

How would you describe your mentoring/leadership skills?
 What attracted you in this specific position?
 Where do you see yourself in 3-10 years?

How would you use the facilities at our institution in your research?

-where do you see yourself in 5 years/what's the big 5 year research plan
 -why do you want to come to my institution (answer is not because it's a great place, i do know that. i work here...)
 -how do you (plan to) mentor students

why are you interested in this position? How does your research plan fit in the current department activities? How will you recruit a diverse pool of students?

What are your long-term plans? Plans to get funding?

What are the forefront question in your subfield and how does your research address them? Describe your contributions to research article that you are currently working on. Mention one idea that you believe should be pursued that falls in the category of high risk and high reward.

Tell me about the research you would do if we hired you

This depends on the job. Some examples of an academic research involving job are : What is the strongest motivator for your research, what would it take to sustain your research productivity, what are the challenges and risks, where do you see yourself in 10 years.

Give a specific example of a problem you solved.

All for faculty:

1. How do you see your interests fitting into this department? Who do you think you can collaborate with? Do you have any interdisciplinary research ideas you'd like to pursue, and if so, with who?
2. How do you anticipate that you'll integrate graduate and undergraduate students into your research program?

3. How will you support your research agenda? More specifically, what federal agencies/offices support your area of research, and how do you plan to go about pursuing that support?
4. What courses do you feel comfortable teaching, and why? If you could design a special topics course on anything, what would it be?
5. What do you think that it means to be a good mentor, and how would you go about giving your mentees a positive experience?
6. What's your definition of "diversity and inclusion"? How might you promote DEI at this university and in this department?

For postdocs, I ask similar questions but targeted more at assessing that they've thought about how they'd fit into my research group, that they're interested in mentoring grad students and undergrads, etc.

how would you connect your research interests to the local group? what is the broader impact of your work?

This depends on the type of position. But to focus on postdoc applications:

- Why do you think this place is right for you?
- What are your long-term career goals?
- Do you have any specific research projects that you would like to accomplish in the near future? (Some position allow for independent work)
- Are you open to frequent travel for experiments?

What are the current challenges in specific field? What are the limitations of your approach?

In addition to the standard interview questions, make sure to think about why this position and what are your connections to the department.

What are potential funding sources for your research? Who are your competitors? What size of research group do you envision? How can undergraduate students work in your research group?

In your opinion, what is the most interesting question in physics today outside of your field.

why did you apply for this position? what are your long term career goals? what is your technical background relevant for this position? why should we hire you? describe a recent success in your research; describe a recent failure in your research and what you learned from that; what are your strengths? what are your weaknesses? describe your current research

Why are you interested in this job? How does this job satisfy your career plans? Tell us about the hardest problem you have solved, and how you went about doing that. How would you help to advance our efforts to enhance diversity and inclusion in our community?

My favorite, not commonly asked in my experience is this: Your application is all about success. That's great, but also true for all the other candidates. Can you tell me about a major failure you have experienced and how you managed it and recovered from it?

What are your long-term career goals? How do you see yourself fitting in to the local group?

Generic questions include "When are you available?" "Where else did you apply?" "In this paper, what is really your contribution?" "Why do you want to work with us?" After that, it becomes very specific to the field. I would ask people if they have done a lot of programming or if they simply run codes from others, if they like pen and paper derivations, that kind of thing.

Why are you interested in this position? Can you describe the work you have done that demonstrates you are qualified for this position? Can you specify for which portion of the work that went into paper X you were responsible?

How does your research overlap with our department? Where do you see your research in 5 years?

- Where do you see yourself in 5 years
- What is the big problem you would like to research and why

What are your future plans (academia, research, teaching, industry, etc.)

what are you most proud of in your education experience

Why do you want to work with us here in our lab?

(a) What's your computing expertise? (b) Are you familiar with this article that our group published a couple of years ago? (c) Have you submitted proposals?

Tell me about your successes. Tell me about anytime you have overcome an insurmountable obstacle. Tell me how you figure things out (with an example).

What would you like to achieve while at the organization/institution

We take one of the job responsibilities and ask what the candidate would do to fulfill these, what ideas he has or what he would do to get this accomplished

5. Please list one to a few things that may make a candidate stand out during an interview.

Answer questions that were not directly asked.

Ability to articulate a research vision. Ability to present a logical seminar that stresses concepts and shows a deep understanding of the field.

a solid research plan, confidence in communicating past, current, and near-future research

Expressed desire to invest energy/time in research and in team, usually with examples.

A clear and well-organized colloquium

being a good fit across multiple axes

Excellent talk, research in advance the people they are meeting with and trying to make a connection with them, showing interest in the department and not just talking about themselves, connecting well with students.

the candidate is able to show the big picture of the research field and details
ambitions and realistic
clear ideas where to go and how to get them funded

Preparation and communication.

Research on our institution and our faculty; engaged & intelligent answers to questions.

Depth of scientific knowledge, Interpersonal Skills, Sharp but not overconfident, A clear presentation understandable by a non-expert, Demonstrates having done some homework to prepare for the interview, well framed answers, Proper dress code.

1) Give a great talk. 2) Give a great talk. 3) Give a great talk. 4) Be an expert on what you worked on and have good understanding of what you propose as research 5) Convey that your research fits in - the ideal candidate feels already like a colleague 6) Be interested in the research of the interviewers

For faculty:

1. If they've done a lot of background research, and have clear ideas about how they (in their research, teaching, mentoring, etc.) would fit into my department.
2. If they have thought ahead a few years, and can articulate specific and realistic ideas for student projects (PhD dissertations through undergraduate projects), as well as how they'd support their efforts.
3. If they specifically ask to meet with students and/or if they display a lot of enthusiasm about working with students.
4. If they have a lot of enthusiasm about teaching and have clear ideas of what they would do as a teacher.

I've seen a handful of on-campus interviewees who had put together a slide deck that had information about all of this stuff, and it absolutely blew my mind. Every single one of them got an offer, because that level of preparation screams "I'm ready to be a professor!"

For postdocs, it's relatively similar - if they've given some thought to the position and if they seem like they'd be a positive force in my research group (if they'd be an intellectual leader with respect to grad students and undergrads, for example), that's a huge deal to me. It also displays a level of initiative that I think is important to moving on to the next stage of their career.

ability to talk more broadly coupled to the ability to explain the work clearly and confidently. also a sense of genuine curiosity.

Asking questions and showing interest. Before meeting with people, read their bio, learn about their research and then ask questions about it!

In-depth knowledge in field and broad understanding of related fields, clear explanations

Clear vision for research (own and the field as a whole). How she/he will strengthen, expand and collaborate with existing faculty. Experience in teaching and mentoring.

Having a vision of themselves in a faculty position (their research, group structure, how they see themselves as teacher and researcher, etc) and being excited about their vision.

Being interested in aspects outside of their own research.

preparation for the interview; knowledge of position, institution; careful thoughts of research vision and career goals; well-spoken responses and excellent communication skills; good balance of humility and self-promotion

Genuine interest; ability to think on their feet; concrete examples that answer the relevant questions; succinct, articulate replies to questions.

I always appreciate a candidate that is comfortable with what they don't know, and are able to confidently and honestly talk about their shortcomings. I am actually suspicious of candidates otherwise.

Knowledge of and interest in the local program, ability to engage in discussions of topics outside their own narrow research area

1. Quality of the seminar first and foremost. Talks are a very deep probe into how well a candidate knows his/her subject and interact with others. I am not looking for overly technical details, but rather: pedagogy, (for a theorist: explain without equations, for an experimentalist: explain how you go from measurements to physics), context (why do you do this? why should anybody care?), overall presentation skills, ability to stay on time, to answer all sorts of questions from the most naive to the most technical, etc.

2. Overall behavior: are you listening when people ask you something? are you showcasing your research without bragging? are you a nice person? Some of this is subjective, but the people we hire will work with us, and we need to get on well. Also a postdoc is the future responsibility of his/her mentor until (s)he gets a job. This can take years, and again, it is much easier to make an effort for somebody we truly like.

Careful listening and deliberate answers, ability to back up claims with specific examples, thoughtful questions

Well poised when answering questions; knows the path forward and how to achieve success

- Understand their research area very well
- Excellent presentation

when she/he is passionate about the research he/she is going to conduct

communication skills

Enthusiasm for (nuclear) astrophysics

(a) Solid knowledge about the organization they are applying to, (b) friendly, respectful manners, (c) non-defensive attitude when asked difficult questions, (d) a well-organized and assembled presentation. This may be controversial, but I like candidates asking about cost of living, benefits, career development opportunities, and so on.

Positive, confidence, any indication of the person's value system or character.

Being yourself and relaxed

knowledge about the company, their products and the position he/she is applying for with a clear picture how he/she could do this job

6. Please list one to a few things that may hurt a candidate during an interview.

Being too nervous or too confident.

A seminar that focuses on technical aspects of work, and that is poorly matched to the audience. A failure to appreciate the work of others and thus to connect to others in my group who may have somewhat different interests.

a vague or generic research plan, an inability to clearly communicate the research

Desire to focus only on their own research

Guessing an answer to a question during a talk

most folks talk themselves out of the job. I usually just wait for it. at some point they'll say something that I or my institution fundamentally disagree with, or they just never say anything I can resonate with. so don't use motherhood statements about the quality of the place when i want to hear why you'd be doing a good job here, but don't toot your horn that much so that it's all about you and nothing about your future colleagues. if that makes sense...

No interest in the department, not connecting well with the students in their closed meeting, giving a talk that is too long

main focus on technical details

Poor communication and narrow vision of the field.

Little to no knowledge of hiring institution; failure to answer questions well.

Lack of enthusiasm, Poor communication skills, Not being prepared, Not hearing what the interviewer has to say.

1) A bad talk 2) Pretending to have knowledge

For faculty:

1. Coming across as a prima donna or difficult. If you're a pain in the butt during your interview, you're going to be a nightmare as a colleague.

2. Being rude to students or our support staff. It's like being rude to the server during a date - it's a sign that the person is awful, and will be a terrible colleague.

3. Having done no homework about my institution. At the very least, be aware that (my university) is in (my city) and have a general idea of who is in the department.

4. Clearly having given no thought to issues relating to mentoring, teaching, pursuing external support for your research, etc.

For postdocs it's basically the same, but I'd also add "displaying no intellectual curiosity outside of the work that they are doing right now." It's a deal-breaker if they want me to use my funding to support them doing whatever they want, and aren't even interested in collaborating with me.

not understanding questions, not being able to respond clearly, having no idea about the research of the local group

Attire, lack of interest in the research at a given institution.

Wrong physics, limited understanding of field, no clear answers

Not being well prepared for the research and teaching talks, or the interview.

passive attitude; entitlement; saying negative things about other people/institutions

Going overtime during their interview seminar. If people are looking at their watches, skip to the summary slide and stop talking.

poor communication skills; lack of preparation; too much bragging; no clear reason to apply for position; cannot articulate long term goals; lack of knowledge of current position and institution

Rambling, muddled answers to questions; seeming lack of awareness of the anticipated job, its requirements, or the host institution.

The opposite of my example in 5: overconfidence and refusal to admit that there are some things they just don't know. Inflexibility, inability to adjust their research and work style to match priorities of the hiring organization (e.g., insisting on continuing their basic research when the advertised position is clearly focused on applications).

Ignorance about the place/group where they apply; lack of interest in the local research activity

Short-listed applicants are usually 'good enough' at least on paper. Two common things that can hurt them are

- giving the impression that they simply 'obey orders' and don't really know why they are doing what they are doing. As a postdoc, you have to start making your own opinions of what matters in your field and of where you want to go. You need to show that you have some ideas, not just technical skills;
- being too much arrogant or sloppy and not taking things seriously. During an interview, you are asking a favor, and you should behave accordingly.

Overconfident statements that cannot be backed up, lack of interest in finding out more about the job or the institution, clear mismatch between applicant's expectations and job description

Ill-prepared for the particular interview; stumbling on physics based questions that they should know the answer to; inability to convey a coherent research plan, or to tie in with the particular institution

- Lack of understanding of their research area
- Poor presentation

lack of interest in research

communication skills, talking too little or too much

Being "too" quiet and not much telling about oneself; not knowing who we are or what the lab is doing

(a) Lack of knowledge about the organization they are applying to, (b) difficult disposition, (c) sloppy presentation, (d) lack of interest in the group's activities.

Confused, ambiguous, disinterest. Inability to communicate sufficiently.

Trying to give too much information that may not be relevant

not listening

7. Please share some things you know now that you wish you knew when you were applying / before your first interviews.

Sometimes, the hire is selected before the interviews. I wish I had a more clear sense of that.

Importance of stressing concepts over technical details in a

seminar

less slides are often better

It is OK to talk expectations from both side, yours and the hiring person.

How impressed interviewers are when you looked up their research before the interview

i knew it back then but: everyone only cooks with water. i.e. don't let anyone intimidate you just because they are more senior

It's good to have a solid plan for a startup package request because people ask about it, if not given ask you for your detailed schedule in advance so you can research the people you are meeting with

ask for advice to various senior researchers

1. An appreciation of the connection between my research and the important questions at the forefront. 2. Being familiar with the research program at the institution hosting he interviews.

How focused institutions are on hiring faculty who can get grants.

For faculty positions it's important to do your homework and have a good plan of what you would do at the new institution, taking advantage of local infrastructure

Interviewing is a skill, and it can be learned. It's not even that hard. Doing some homework on the institution/research group goes a long way. It really helps to talk to people who *interview* postdocs and faculty - my fellow grad students (and then fellow postdocs) were subject to the same information vacuum that I was, so I shouldn't have listened to them as much as I did.

Don't get discouraged and keep applying, it is a long process. Start months before your defense to lay out a job before you leave.

Start preparing early.

A department is not just hiring the next brilliant researcher but also a colleague for the next several decades.

Interviews work two ways. A good search committee should be selling the department, the university, and the region to the interviewee.

the importance of making contact(s) at the institution where you are applying, to learn about the institution/position

Every open position is an attempt to solve a problem, of potentially very wide variety. Hiring me is only a means to that end and not the end itself. Every organization is different and there is no such thing as the overall best candidate, there is only a best candidate for each unique position. Target your applications to jobs where you think you can solve their problem, and understand that not being offered every job is more likely a reflection of the uniqueness of the employers' needs than a failure on your part. Therefore, also be ready to persevere.

Before writing and submitting the application, find out about the expected work and who you will be working with/for, and then emphasize how you can fit in with and contribute to the local program.

I wish my mentors had explained me what I was going to go through: a failed interview is often the sign of failed mentorship from the PhD/postdoc adviser

- 1) It is important to achieve a good match between the candidate and the job. I applied to many jobs that were not a good match and that was a waste of time.
- 2) It would have been good to have a few conversations about how reviewers look at applications. That would have made it much easier to write them.

Know your target audience (lab hire vs academia is very different); any perceived failure, blemish or otherwise negative perception will be used to argue against your job application [this is human nature and cannot be avoided]

maturity of the candidate

Different interview culture between Europe and the USA

I'd get very nervous before interviews, and unfortunately have not found ways of dealing with that other than rehearsing the presentation as much as you can.

It's OK to ask more questions of the interviewer.

Applying to select jobs to avoid too many interviews

be yourself

**8. [For those in academia or at national labs / research centers]
Please list one to a few differences in the evaluation criteria for a
postdoc position versus a permanent position.**

For a permanent position you need to convince that you have the ability to get funding.

For a faculty position, factors such as ability to lead and inspire students, demonstrated research maturity that ensures the candidate can build an independent program, evidence through seminars or past experience of teaching potential, and an appreciation of and attention to DE&I issues come into play.

a tenure-stream candidate should have a significantly larger number of publications, more impressive bibliometrics of those publications, some success as PI or Co-Pi of grant proposals, and some teaching/mentoring experiences

There is no need to show a coherent scientific research trajectory for a postdoc. You can show that you are interested in, let's say, nuclear physics but not necessarily with a long term research plan.

For universities, teaching interest

permanent position requires an exceptionally good fit to the department since it's going to be for decades. postdoc needs to bring a lot of credit to the place by doing awesome science.

for a postdoc you don't need to have such a strong publication record, but for faculty you do. Research/teaching/diversity statements are not typically required for a postdoc. For faculty you need to show that you have your own independent ideas (for an experimentalist having an approved proposal or letter of intent counts a lot)

for permanent position: ideas to get funding are expected, how to organize and support the research group and the members of the group

Postdocs are expected to demonstrate that their research agenda is broad and have at least one area where it is deep. For permanent positions we are looking for major accomplishments which show that the candidate can come up with ideas and translate it into viable research projects and publications.

Permanent position needs to demonstrate leadership stature in research, i.e. leading experiments or theory projects, has extensive experience in the research field, has been lead author in publications, has a well framed research plan that is based on past experience, has demonstrated independent research ability. For post doc. positions need to demonstrate- has grasped the fundamental knowledge experimental and/or theoretical in the area of research. Is able to take on responsibility of carrying out an assigned project with greater level of independence, has good communication and presentation skills, is eager to learn new things.

Academia here: the things I care about for postdocs vs. faculty are similar, but for the scope is different. For postdocs, have they thought about my research group and what they'd do for 2-3 years, and maybe a project for an undergrad or two? For faculty, have they thought about the department and university, PhD projects, and funding for the next 5 years? (5 years is important for junior faculty since you put in your tenure paperwork at the

beginning of your 6th year). In terms of how I assess them, with postdoc candidates it's maybe 50-50 past performance and potential to excel, whereas with faculty candidates I use their track record as a much stronger prior in terms of how likely I think they are to do well as a faculty member.

the level of scientific maturity is different: for a permanent position you must show the ability to have an independent research program that will attract people and funding. as a postdoc, although independence is expected, you are still part of someone else's research program.

Long term plans for a permanent position need to be solidified. Ability to attract funding or at least knowledge where to look for it is important. For academic positions, teaching record or outreach, anything that shows that one is serious about teaching and is not treating it as a side-job or inconvenience in the path of research.

Permanent position - more attention to ability to write and secure grants, innovative research, teamwork and service

Clear sign of independence and vision for research. Leadership and skills to collaborate/work together for joint efforts.

A permanent position requires a lot more maturity and independence: For example, the research statement for a permanent position is much more focused on the next 5 years than a research statement for a postdoc position (which can be mostly about completed work and the immediate future).

A postdoc appointment is made fairly informally, a PI can select someone without much interference as long as it was advertised. A tenure-track position is filled through a formal process, with a search committee, and the department head as well as an associate dean being involved.

permanent position must be able to work independently, bring in new funds, supervise others, and work as part of a team; postdocs should be able to work as part of a team, supervise students, and work on their own for part of their effort

One can judge a successful postdoc applicant with greater weight on potential rather than a demonstrated track record.

For the permanent positions, independence of thought and action is critical. An applicant needs to present some evidence of working creatively and independently towards Lab and funding agency priorities. Most (probably all) national labs have publicly available material with statements of their priorities, as do funding agencies. Applicants to permanent positions should be familiar with those foundational documents. For those doing fundamental nuclear physics, the NSAC Long-range Plan is gospel. Applied nuclear physicists should look to documents such as the Quadrennial Defense Review or any number of documents from the NNSA (<https://www.energy.gov/nnsa/documents>)

The evaluation for a postdoc position relies more on potential and promise, whereas a permanent position requires a sustained record of research (and possibly teaching) as well as recognition/reputation in the larger community.

Both postdocs and staff must demonstrate they can execute; staff must also demonstrate they have ideas. Communications skills matter even more for staff because such a position implies that you will apply for funding: you must show that you can do this.

2 key questions for permanent job: 1) Will this person's attitude, capabilities, and style of work fit into the work environment (in reference to team work, number of projects that need to be juggled, communication skills, etc.) - 2) Will this person, after some initial mentoring, be able to define a long-term career?

Staff must have unique capability to generate funding and pursuit of independent research compared to postdoc

- Bigger emphasis on having positive attitudes around DEI for staff position
- Bigger emphasis on this person being a good colleague for staff position

short term project vs long term relationship. Be able to work with colleagues/peers for long time (not ~2 year - postdoc)

expect more experience and leadership in permanent position

For a permanent position you need to have a few publications as one of the lead authors and need to have a clear perspective what you are going to do in the next 10 years; being "too focused" is not good, look left and right and don't do exactly the same as your supervisor- find your niche! A few invited talks and lectures are also a bonus. Sometimes it is good to have publications without your PhD supervisor.

A staff member needs to show (a) ability to write articles and proposals, including clear and meaningful plots; (b) being able to perform independent research with minimum assistance; (c) resourcefulness; (d) willingness to work in a team, sometimes on high-level research, and other times on the most tedious paperwork; (e) a clear set of career goals. A postdoc should also have these traits, but one is willing to overlook them due to lack of experience or poor mentoring.

9. [For those in industry] Please list one to a few differences in evaluating a candidate with a PhD versus a candidate who also has postdoctoral research experience.

Critical in this case is the demonstration that the postdoc has not continued to work on his/her thesis, but instead has acquired additional breadth and broader interests through the postdoctoral experience. Expectations on publications are higher, though I look for quality and originality, not large numbers of publications.

The candidate with already a first postdoc experience needs to show measurable outcome out of their first post doc experience.

Generally, leadership experience. It is expected that a post doc led a group of students on an exercise or project. A graduate student typically doesn't get that opportunity (but if they want to highlight one, that's an added plus).