The physicist’s guide to interviews

For members in or seeking employment
The physicist’s guide series

The physicist’s guides are written to assist anyone with a background in physics, regardless of what stage they are at in their career.

These guides are unique because the writers have taken into account the skills and abilities possessed by someone with a physics training or background so they are specific and relevant to physicists.
We hope that these booklets will be of assistance when you consider your career-development plan.

IOP wishes you the best of luck in your career. If you require any further information or advice, please e-mail members.careers@iop.org.

Other careers guides in this series can be found at www.iop.org/careers.
This guide gives you all of the information you need to prepare for a dazzling performance at interview. From understanding the interviewer’s objectives, to deconstructing the job advert, this guide will help you to anticipate the questions that you’ll face and help you prepare compelling answers. The guide also includes a selection of possible questions, designed to help you plan a mock interview. With advice on what to wear and how to deal with nerves, it will help make a real difference to your interview performance.
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**Introduction**

An invitation to interview often brings mixed feelings. Obviously, you will (and should) feel delight at having got through the short-listing process, but most of us also feel some anxiety about the prospect of proving that we are the best candidate for the job being offered. In this guide we’ll look at the interview from both the interviewee and interviewer perspectives, to help you prepare as effectively as possible.

**The interviewer perspective**

A skilled interviewer will have a clear agenda for the interview. They will be:

- familiar with your CV or application and be ready to dig deeper to verify the claims made on it;
- interested in how you perform in a formal, stressful situation;
- looking for evidence of your suitability to the job;
- selling the job and the employer.

At interview we are mainly looking for the candidate’s motivation to work in our field. The interview should be an exchange of information because we are both involved in a decision-making process. It’s as important for the candidate to feel that we are a good fit as it is for us to know that we’ve found the right person. The interview is part of a process that allows these decisions to be made – they visit our work environment, meet the team and see the equipment."

If you face a good interviewer, they will manage the process and ensure that they probe to gather the relevant information. However, if you face someone less skilled or experienced, you need to control the interview subtly and clearly present the best evidence of your suitability.
In addition to reviewing your skills and experience, and relating these to the job description, also think about the interview from the other side. You can probably do this best by having one question in your mind:

“What can I do for this organisation better than the other candidates?”

This is no time to be coy about the bottom line – you have to prove to your interviewer (and possibly their colleagues) that you are better than anyone else. If you aren’t clear about your best attributes, you may lose out to someone who is less reticent about selling themselves effectively. Think about how you can answer the questions with memorable and relevant information that will stick in the mind of the interviewers hours later, when they compare candidates.

**Gathering information**

You should be aware in advance of the type of interview that you will face. If you have any questions, you must take the initiative and call for more information – the Human Resources (HR) department will be able to explain the recruitment process and what to expect. Talking to someone in the organisation also gives you an opportunity to start to form your own impressions of the way that their people conduct themselves and whether or not it is somewhere that you would like to work.

**Some questions that might be useful if you do call HR (assuming that this information isn’t already provided):**

- How long will the interview last?
- Will there be more than one interview?
- Can I expect a technical or specialist interview?
- Is there an opportunity to look round the workplace?
- Will I meet someone in a similar role for less formal discussions?
- Will there be any tests or presentations?
- Who will be interviewing me?
Preparation

“In the interview we are looking for evidence that you have done some research – have you looked for information about CERN and the job? You need to convince the recruiter that you want the job and are a good candidate.” — CERN

Use the vacancy information and any information you find on the organisation website (or one of the general careers websites in the resources section) to draw up your best approximation of the employer’s checklist. Think about how you have demonstrated the skills or expertise being sought through your education and work experience. Your outside interests are also important if you can show how you have made an impact with a group or in situations that relate to those in the new job. For career changers, these external experiences are even more relevant. There is much more information about this matching process in the CV guide, but here are some suggestions based on a recent vacancy from the brightrecruits.com website:

Successful applicants will take a leading role in supporting the development of new products and will be involved on a number of projects including both computational and experimental activities. Ideally, candidates will have experience of medical accelerator systems and the ability to contribute to several of the areas that the Physics group is responsible for. Projects will often offer interaction with research hospitals and other institutions; therefore exceptional written and spoken communication skills will be required. Our preference is for candidates to be educated to MSc or PhD level. The ability to work to tight deadlines and within a successful team is also essential for these roles.

[Editorial note: http://brightrecruits.com/job/2368/physicists]
This excerpt from a vacancy is only a small part of the information made available by the employer but from it we can draw out several things:

- the focus of the job is product development;
- I’ll be managing the demands of a number of projects;
- the job involves computational and experimental work;
- the technical interview is likely to focus on medical accelerators and related science;
- I need to understand all of the areas that the Physics group works on;
- communication skills are required for liaison with hospitals and other institutions;
- I’ll be working to tight deadlines;
- I need to show that I can work well in a team.

This helps us to think about getting the following information across during the interview:

- I need to show that I understand the process of product development and that I’ve got the skills and experience to develop some great, new products. When have I been innovative and helped push scientific work towards an outcome?
- I need to think of times when I have managed competing priorities and been successful with all of them. How do I tend to do this?
- I need to describe my computational and experimental expertise in the field of medical accelerators. If I have any weaknesses, I need to think about how to address these either by reading around the subject or talking to someone with more expertise.
- I need to find out what else goes on in the Physics group and think of ways in which I might contribute to other projects.
I need to think about situations when I have to talk to people about my work and their level of expertise. Do I know anyone in an institution or hospital who I could talk to about this job? This will help me understand the nature of the communication that they have in mind – expert, general, sales or technical support.

I need to think about when I have worked to tight deadlines and how I keep to time when under pressure.

I need to understand how teams work, what my preferred role is in a team and the things that I do to help people work together more effectively. I could probably benefit from getting some feedback from someone I work with, so I can understand my work approach more clearly.

This kind of information is a great starting point, but it is available to all candidates. If possible, go further with your preparation by talking to someone familiar with the job or employer. These personal insights can give you a far better picture of the actual demands of the job and will help you to prepare a broader range of answers that go beyond the skills mentioned in the job description. These might include balancing conflicting agendas between customers and internal departments, dealing with limited resources or being flexible about your responsibilities because of staff shortages. If you can give evidence of your ability to manage relevant challenges in your interview, you will increase your chances of success. This is particularly important if there is a lot of competition for the vacancy, because this usually results in a short-list full of appointable candidates.

Don’t worry if you don’t know someone with the precise insider knowledge that you seek, but do talk to people about the job on offer because they may have useful opinions if they work in related areas or similar organisations.
**Final checklist**

Before the interview day you should be familiar with:

- the organisation – its core business/activities; the market that it operates in (this is also relevant in the academic sector); the main challenges that it faces; future developments;
- the job – knowledge, skills, qualifications needed; key responsibilities; what a successful candidate will offer;
- yourself – how you match the employer’s wish-list; your personal strengths and weaknesses; why this job is perfect for you; your career aspirations.

As interview day draws near, make sure that the night before the interview is free so that you can do some final preparation, read over your application and get to bed early. Setting a second alarm could make all of the difference the next morning!

**Interview day**

You are likely to feel anxious on the day of the interview itself, but it shouldn’t be a stressful experience because this won’t help the employer make an accurate assessment of you. Most employers will try to make the day itself as easy as possible, unless there is a particular need to test your reaction to difficult circumstances – in which case, (having applied for this kind of job) you should thrive!

Wear a suit unless you’ve been expressly told that this isn’t necessary. If you can’t make the effort to look your best for the interview, what does this say about how you might look once you get the job?

> *If everyone is dressed casually, put on a suit for your interview – always aim to be one level above normal work wear. As an interviewer I want it to look like you’ve made an effort.*

**Civil Service**
Ensure that you have ample time to get to the interview location – assume that the worst will happen, so book early trains or allow extra time for driving. Aim to be at the interview location about 20 minutes ahead of time so that you can report to the right person and take a last-minute comfort break to be as relaxed as possible at the appointed hour.

“There’s nothing wrong with taking notes and a copy of your application form into an interview if it helps to refer to what you’ve said initially as you are answering questions. As an interviewer, I have a spare copy to give to applicant during the interview to help them with this process.”

Civil Service

Dealing with nerves

The main tactics for reducing nerves have already appeared in this guide.

- Be prepared and know your key selling points.
- Know what the organisation wants and be clear on how you can deliver this.
- Know the logistics of the day, so you can be early for the interview and arrive at the right place.
- Dress appropriately, but comfortably.

Some nervousness is to be expected and is actually a good sign because it will stimulate adrenaline and ensure that you are alert and fully tuned in to the interview. By arriving early, you can spend a moment or two in a nearby bathroom taking a few deep breaths and relaxing your shoulders. If you suffer from a dry throat, this is also a final chance for a mint or a quick drink of water. Obviously, don’t go into the interview chewing!
For some though, an interview is a much more daunting process and even the best preparation can be undermined or sabotaged by nerves. To minimise the stress that a job interview causes, take some time to work out what exactly caused problems in the past.

- Were you asked questions you hadn’t expected?
- Take time to develop your version of the employer’s wish-list and think of how you will present relevant evidence.

- Did you get on badly with an interviewer?
- You won’t be able to build rapport with everyone you meet, so don’t let one bad experience dent your confidence. A mock interview with someone you trust could help to identify issues such as eye contact or unintentionally abrupt answers, which you could make a conscious effort to change. Filming, and then reviewing, the mock interview is also particularly useful!

- Are there things in your career history that you feel uncomfortable talking about?
- If you have experienced periods of unemployment, difficult relationships with former colleagues or you have a poor academic record, the best preparation is to talk these things through with a friend or mentor and identify the positive spin that you can put on this – what you learned and how you have moved on. Don’t let difficulties in your past define you – practise discussing them briefly, identifying a positive outcome and then, stop talking and smile.
Typical questions

The questions asked during an interview will usually be tailored to the job and organisation. Many employers use a competency-based approach to interviewing that will be closely related to the job description and application form (if one is used). Competency questions are designed to look for evidence of a particular skill and often take the form of asking for evidence from your career history of specific examples that illustrate your use of the skill. They might start with a phrase like: “Tell me about a time when you have...”

The interviewer will be looking for positive and negative points in your answer and will often ask follow-up questions if they don’t feel that you have given enough evidence in your answer.

There are some general questions that can help with your preparation:

- Why do you feel that you’ll be successful in this position?
- What are your main strengths?
- What are the key things that you are looking for in a job and why?
- What have been your main achievements?
- What are your career goals in the medium and longer terms?
- How do you intend to meet them?

To answer the interview questions most effectively, start by listening carefully to what is being asked – many candidates are distracted by nerves, or stop listening early as they mentally start to prepare their answer. Always talk about your personal contributions in the workplace – even when talking about working with others and describe positive outcomes to even the most difficult situations. Your answers should be specific – talk about actual times and places, giving details that allow the interviewer to judge your contribution and impact.
Some candidates don’t listen, particularly when they are nervous. We ask a question and they start talking straightaway. We expect you to take time to compose an answer, so don’t fear the silence.

You’ll find many more questions on the websites shown in the resources section on p19 but remember to draw up your own list based on the job that you have in mind.

**Career-transition questions**

If you are planning to move from one sector to another, particularly from academia to the private sector, you will also face questions about the transition and your motivations.

Some will be explicit, others may be unspoken, but need to be addressed in the interview if you feel that the interviewer has misconceptions about academia. Think about questions or concerns that are not spoken but which perhaps need to be addressed in your answers. What question list might your interviewer use if they were allowed to ask anything?

1. How will you manage working to tight deadlines when you are used to taking five years to come up with an idea?
2. Do you ever make or do anything? Or just think about it?
3. How do you communicate with less academic colleagues?
4. How do you feel about working for someone younger than you?
5. How have you gained (or maintained) skills relevant to this role?
6. Won’t you just leave if an academic position comes up?
7. If you have already left one career direction, how do we know this one is what you really want?

Remember that you need to challenge any false assumptions about your background in the interview, so identify potential prejudices and prove them false by highlighting the relevance of your skills and experience.
Your chance to ask questions

The interview usually closes with an opportunity for the candidate to ask questions about the job or organisation. This is not the time to ask about salary! Instead you should think carefully about information that the interviewer can give you that isn’t on the website or job description.

“Being curious to know is a very attractive trait for us, so a good candidate is one who asks questions about the technical test or things they’ve seen during the day.”

CERN

The interviewer can tell you more about the day-to-day responsibilities of the role, typical projects you might be working on (obviously, not giving away commercially sensitive information in the process); they can tell you about the culture of the organisation and its structure. As an employee, they can also tell you about methods of performance assessment and what they like about working there. You might also like to demonstrate your own interest by asking questions about how the organisation plans to react to market changes, developments from their competitors or technical advances. Remember that your questions could be turned on you, so be sure to have your own opinions if you are going to start asking about these kinds of details.

“If you say, “I love physics”, be prepared to answer questions about recent physics news, especially if this is related to the activities of the institution!”

Civil Service

You should always try to ask at least one question, to show motivation and interest. If everything else has been covered, ask about the recruitment process – when will you hear? What is the next stage?
**What else might happen?**

The interview day may also include other assessment processes – some more obvious than others. Every interaction that you have on interview day could be part of the selection process. Your attitude when meeting the receptionist, your more candid comments during the tour, the amount of wine that you consume over dinner – everything adds to the impression the employer will want to build of you. Don’t fall into the trap of assuming that assessments are only made in the interview room!

Any additional activities should be described in advance and could include a presentation (particularly for a research role), group discussions, panel interviews and aptitude tests. There is advice and information about these methods online – see the Resources section on p19.

"The ideal situation for us is that everyone at interview is appointable. On the day there is also a technical test, a tour and we have lunch with them to see how they interact with others. If there have been weaknesses at interview, we can pick up on these during the day and discount them if we see evidence that they were caused by nerves. If people don’t answer questions during the interview we will tell them and push for a better answer if we need that information to be able to appoint them. The interview is part of a whole day of activities so you can overcome an average performance." – CERN
After the interview

Once you’ve left the employer’s premises, try to capture your impressions of the place and people as quickly as you can – you can revisit these notes when you hear from them and they will help you to decide whether to accept an offer. Make a note of the questions that you were asked (as you may eventually apply for another similar job) as well as your appraisal of your answers. Be sure to record anything that you feel you should have said and anything you shouldn’t have! Make a note of the interviewer’s name.

If you aren’t successful, ask for feedback and try to get some specific points from them rather than generalisations. This may be difficult because employers can be sensitive to accusations of unfair behaviour, so may give minimal information to candidates. If you can get good feedback, be sure to act on it! If the employer is one you are keen to work for, keep in touch with them and let them know if you gain additional relevant experience or qualifications.

In summary

Prepare for the interview by finding out everything you can about the job, organisation and your own suitability for the vacancy. Review the job description and advert, website, any press articles about the organisation, your personal contacts and general careers sites.

Focus on your personal contributions in your answers and be positive, even about negative experiences.

Be yourself, and present yourself in a positive light. The interview isn’t a normal conversation – you have a limited time to convince a stranger that you are the best person for their organisation. You won’t achieve this by playing down your achievements.

GOOD LUCK!
Resources: useful websites

www.trustyguides.com/interviews.html
This US site has a broad range of interview advice, including useful checklists.

career-advice.monster.co.uk/job-interview/careers.aspx
This UK site includes a series of videos and interactive tools to help you prepare for interviews.

http://www.businessballs.com/interviews.htm
Sample job interview questions and answers.