Interview skills for research in industry for researchers in science and technology

This guide is designed to help you with interviewing for research roles in industry. It is aimed primarily at PhD graduates and postdoctoral researchers in science and technology subjects, although some of the material will be relevant to researchers from all disciplines. It has been put together using feedback and information from Cambridge researchers who have attended industry interviews across the UK and abroad, and from employers from industrial research firms in a range of sectors.

This guide covers questions which are relevant to a range of different sectors. Some of the questions are specific to a particular sector as they are taken from genuine interview feedback, so think about how to adapt them for the sector(s) you are looking at.

Understanding the challenges that research industries face

Even if you are applying for a specialised technical role, it is important to gain an understanding of the main challenges a company faces. For example, pharmaceutical companies traditionally rely on patents to protect their products, but what happens when the patent runs out? Research companies can have long lag times from development to market: are you aware of what the company’s research pipeline or portfolio is?
General interview tips

Preparing for an interview

1) Review your application material

It’s important to be familiar with the job description and how you presented yourself and your research in your application, as this will be used as the basis for the interview.

2) Anticipate questions and prepare your own answers

Think about the questions you might be asked and how you would respond, preparing both the content and structure of your answers. You will almost certainly face something unexpected, but the more you prepare, the less frequently this will occur. There are lots of example questions in this guide – think about different ways the same question might be phrased. You can also see detailed feedback by company in the feedback folders we keep in the Careers Service library.

In most cases it is important to respond with more than a simple yes/no answer, so think about giving context and specific examples in your answer. The STAR model (Situation, Task, Action, Result) is a useful way to structure answers.

It is also important to think about the questions that you would like to ask.

3) Practise presentations with peers and supervisors

If you are asked to give a presentation, chalk talk or whiteboard test, find out who will be sitting in on it. Check that you are delivering it at the right level for the audience, and rehearse your timings so that you don’t run over. Ask your academic colleagues to critique the scientific or technical content of your presentation.
4) Use informal contacts

Use your department networks, your PI’s networks and fellow researchers, to find out as much as you can about the company. In many cases, there may be Cambridge researchers already employed there. The Careers Service website hosts many career stories of former postdocs working in industry, and our online alumni database GradLink is also a useful source of inside information.

5) Arrange an interview training session

You can book an appointment for an interview training session with a Careers Adviser, who can discuss the interview with you and/or take you through some of the typical questions you might expect. If you wish, the interview can be recorded so that you can see afterwards where you need to improve. If you want to practise answering more technical questions on your subject, ask colleagues or your PI if they could mock interview you.

On the day

- First impressions count – a firm but not crushing handshake and a smile are important!
- Make eye contact, be enthusiastic and positive, and avoid drawing attention to negatives.
- Structure your answers – don’t ramble.
- Listen carefully to questions and make sure you are answering the question you have been asked.
- Be specific in your responses; focus on your personal achievements.
- Dress appropriately – if in doubt, go smarter.
- Always think about what is unique about you.
Typical structure and questions for industry interviews

Most companies organise more than one short interview, or the interviews may be combined into a whole day assessment. You are likely to meet a range of staff including your future line manager, HR staff, research group team members, and in small companies the chief scientific officer (CSO) or chief executive officer (CEO). You may be given a lab tour, so be prepared to discuss technical details with the lab members. Larger firms may invite you to dinner the night before. Be aware that you will be assessed during these social events.

The interview may cover:

- Questions about your career history
- Scientific/technical questions
- Your motivations for moving to industry
- Your knowledge of the company/industry/sector
- Your scientific presentation and/or a presentation given by the company
- General HR questions, including competency/behavioural questions

Industrial employers are keen to know about your transferable skills and how you interact with colleagues. The ability to work well in a team is usually assessed as this is very important in industry. Enthusiasm is also important. In your interview, talk about any examples of where you have really got involved with something, whether in or out of work. Some industrial employers are keen on self-development, so if you can think of examples in which you have ‘grown’ in your current role, stretched yourself, put yourself out of your comfort zone, learned a new skill, taken on a student etc, mention them.

The following sections give a range of example questions collected from genuine interview feedback. Don’t forget to check the interview feedback folders in the Careers Service library for examples from specific companies and roles.
Your career history

- Tell me about your research career to date.
- Why did you choose to do your PhD at X department or university?
- What was your rationale for choosing your postdoc at Cambridge?
- What has been the highlight of your research career to date?
- What were you passionate about in your previous work?
- What was the low point of your PhD/previous postdoc, and how did you deal with it?
- Can you mention any experiences that have influenced your career choice to date?
- What aspects of your work do you find particularly motivating?
- Why are you leaving your current job? (Or, if at the end of your contract: Why isn't it being prolonged?)

Scientific/technical questions

Scientific/technical questions are likely to comprise the majority of the questions you will be asked. Be prepared to discuss your approach to your research in technical detail. It’s important to understand the techniques and approaches the employer uses. If you are not familiar with them, look for their scientific publications, read up on the theory and try to talk to someone who has practical experience. Researchers are often asked to describe in detail how they would approach specific experiments.
Questions relating to your research experience

- What methods/techniques have you used in the past? Can you give an example of a technique that you find particularly powerful?
- What experience/skills from your previous position do you think are most useful for our project and company goals?
- What experience do you have of the techniques we use?
- What methods have you set up yourself in your current/former lab?
- What are the limitations of the main techniques you have used, and how can these be overcome/taken into account?
- What was the thinking behind your current/previous project; why was it important to pursue this line of work?
- Did you contribute project ideas of your own? Which ones?
- You saw some nice results in vitro in your project; how would you go about testing this in vivo?
- Once you had the in vivo data how would you apply this to a patient group?
- Here are a few scenarios of the types of issues faced by drilling engineers. Describe how you would approach solving these technical problems.
- If I gave you an unknown polymer sample, how would you identify what it is?
- How would you screen a compound library, which outputs would you analyse?
- Have you experience in display or LEDs?
- How can you increase the density of a material in solution?
- How can you justify the difference in performances between evaporated materials and deposited by liquid?
- How is the conduction in single crystals compare with a system deposited by solution processing?
- Could you please go to our whiteboard and write [code] a function that does X?
- How might you invent and characterise a new printing ink?
• How do optical techniques like STED work?
• When you write code that you will share with others, what do you do differently?
• Explain how a spinning top works?
• Tell us about a time you’ve designed a project, what data analysis did you use?

Questions relating to general research experience:
• How would you look for a collaborator/contractor, and how would you judge their data?
• How would you scale up this study? (For a process R & D job in pharmaceuticals)
• Give an example of when you have trained someone else.
• Did they learn the method quickly/well from you and manage to generate good quality data after you trained them?
• How can you make sure users get good data?
• How do you document your lab work currently?
• Have you been involved in any quality control processes?
• Do you plan projects from beginning to end or just plan at the beginning and see how it goes?
• Can you give me an example of where you had to change your plans with a project?
• How has your research to date been innovative?
• Do you have any experience of running a lab/research group?

Questions relating to the broader scientific field
• What do you think will be the next big breakthrough in this field?
• Tell me about a paper or talk which recently excited you.
• What do you understand to be the different regulatory challenges in agrochemicals versus pharmaceuticals?
Questions about industry

Your motivations for moving to industry

- Why do you want to leave academic research?
- Why are you looking for a job now?
- What do you enjoy about your current position? Why are you thinking of moving on? What do you think you'll miss?
- Why do you want to move to industry?
- What attracts you to our company? Why specifically our company and not others?
- Why have you chosen a small company rather than big industry (or vice versa)?
- Are you moving to industry for the higher salaries?

Questions about the company or sector

- Are you aware of our X technology or Y disease area?
- What do you think our company is best known for?
- Describe the drug discovery process
- How would you do you consider patients’ needs?
- What external factors affect the aerospace industry (e.g. environment, oil price)?
- Why are you interested in our research, as it is not directly related to your past research?
- What do you think are the biggest discoveries made to date in X (the company’s area of research)?
- What are the UK’s current challenges with X technology/disease/drug?
Your knowledge/perception of industry in general

- What differences do you think there are between working in academia and industry?
- In our firm, projects can be cancelled at any time. Can you deal with that?
- What's your perception of working in a company in terms of personal freedom?
- What's your perception of working in a company in terms of publishing?
- What new challenges do you think you’ll face working in industry?
- What is your knowledge of the position you are applying for?
HR/General questions

About you

- What relevant skills do you have for this role?
- What are your strengths/weaknesses?
- How would your colleagues describe you?
- What would your ideal job here look like?
- Do you prefer to have your own project or work with others?
- How is the quality of your work currently assessed?
- In this role, ideally how would you like your effectiveness to be assessed?
- What is your notice period? When are you able to start?
- Are you willing to travel?
- Are you willing to relocate?
- What is your current/expected salary?
- What are your longer term career goals, and how do you think this position will help you to achieve them?
- Where do you see yourself in 5/10 years’ time?

Soft skills questions

Employers value your soft skills too! They might probe these using competency or values based questions. Competencies are behaviours an individual must have, or acquire, to perform effectively at work. Values-based interview questions look to see if you have the same values as the company to fit into their workplace. Don’t be put off by any HR jargon; these types of questions just need some preparation. You will have more to say that you think!
Teamworking

- Give an example of when you’ve worked on a cross-departmental team.
- Have you ever worked in a multidisciplinary environment?
- Can you give me an example where you have worked well as part of a team?
- What is most important in ensuring a successful team?
- Describe a time when a peer in the team was not performing well. How did you deal with it?
- Describe a situation where different expectations in a team caused a stalemate and where you resolved it
- What potential problems might arise setting up collaboration with industrial or academic partners?

Deadlines/project management

- Give an example of when you had several deadlines and how you managed them.
- How do you deal with stress in the workplace?
- How do you prioritise your workload if you are working on multiple projects?
- How do you deal with tight deadlines or an overload of work?
- Can you give me an example of a time when you have switched projects?
- If you receive many tasks from senior staff, and every one of them says their task must be your top priority, how do you actually prioritise?
- Working hours in industry are less flexible than in academia: how do you manage your time at work in order to complete your tasks every day?
Communication

- Can you give me an example of when you've had to communicate with groups of people with different expectations?
- Give me an example of a time when you had to explain something difficult to someone.
- How would you convey your research to our different stakeholders?

Conflict/interpersonal skills

- Can you give me an example of a time when you have resolved a conflict?
- Can you recall a time you had a disagreement with your supervisor?
- What kind of manager would you like to work for? If there is a defect in your current boss’s management style – what is it?
- What irritates you about people/colleagues?
- What would you do if you hear a scientist giving a talk about exactly what we do here, and he/she is not completely right about the conclusions/methods they use. Would you approach them?
- Tell us about a situation where you had to manage a delicate situation, what was the outcome?

Decision making

- Can you recall a time when you had to make a hard decision – what was the risk?
- Can you give an example of when you have acted decisively?
- Can you tell us a decision you have made that you regret? What did you learn from it, and what would you do differently now?
- Can you give an example of when you have realised that you have made a mistake/something has gone wrong in your work – what did you do about it? What would you do if the situation arose again?
• Which would you do: the right thing, or what the company says you should do?

**Supervision/people management**

• Have you ever supervised another colleague’s work? If so, how did you do this?

• Have you ever motivated someone? If so, how did you do this?

**Leadership**

• What leadership experience do you have?

• Give us an example of where you were innovative

• How can you convince others (senior members of team) to change the research strategies?

**Customer focus**

• When have you gone beyond what was required to add value to a customer?
Your presentation

In some companies, you may be asked to give a scientific presentation on your current or past work, particularly part of your work that would be relevant for the position. In some cases, candidates are asked to give a presentation on their plans for the project described in the job description, though this will depend on the amount of detail you are given.

Interviews’ questions during/after your presentation

• What are the applications of your research in general?
• How much of the work you presented have you done yourself?
• How is this project going to be continued?
• Could the principles presented be applied in an industrial setting?

Their presentation

The CSO or senior scientist may give a presentation on the research or technologies of the company. Try to make as many knowledge based remarks/questions as possible, to show that you have read up on their research.
General questions to ask the interviewers

- What are the biggest challenges in X technology or disease area?
- What are the future plans of the company?
- Can you give me more details on how these projects are structured?
- How is the company organised, by individual projects or by teams based on technical expertise?
- What typical training do you offer someone at my level?
- What kind of jobs do people progress to within the company and beyond?