



What opportunities are available to me after my doctorate? Can I and do I want to remain in science? What alternatives are open to me? How do I establish contact with a pharmaceutical company? Or should I obtain further qualifications? Am I even the type of person who wants to work in management consultancy? And if I decide to leave the science world, will I succeed in finding entry opportunities elsewhere? Or might I regret my decision after a few years?

Many of the over 6,000 doctoral students and postdocs at the 83 Max Planck institutes ponder these and similar questions. To provide at least some degree of guidance in this respect, we created the "Speed Informing" event in 2012 and have in the meantime tested it at six institutes.

The institute invited four or five alumni per event who have pursued very different career paths after obtaining their doctorate and/or postdoc. In our selection, we focussed almost exclusively on alumni who are no longer pursuing classic scientific careers. All doctoral students are aware of career opportunities in science, but many do not have an insight into the alternatives.

At the Speed Informing events, the junior scientists - in groups of five - have 15 minutes to ask an alumnus questions. They then move on until every group has had the opportunity to speak to each alumnus once. In addition to Speed Informing, a brief presentation is usually held on the general situation for doctoral students or about specific career opportunities for students with doctorates in biology, for example.

Some of the alumni who took part in Speed Informing present themselves in this brochure. The case studies are intended to inspire students and show that wide-ranging career opportunities exist beyond science for talented junior scientists. You just have to know where to find them.

I hope you enjoy reading this brochure and that it provides you with plenty of ideas.

» speed informing

We are continuing to organise Speed Informing events. Interested? If so, please contact me for further details.

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Dr Thorsten Baust
Senior Project Manager,
Boehringer Ingelheim Austria

- » 2002 – 2006 International Max Planck Research School for Molecular Cell Biology and Bioengineering, Dresden and at the Biotechnology Center of the TU Dresden (Professor Bernard Hoflack's research group)
- » 2007 – 2008 Post Doc Harvard Medical School/Immune Disease Institute, Boston, USA (Professor Tom Kirchhausen's research group)
- » 2008 – 2009 Head of quality control laboratory, Lonza AG, biopharmaceutical sector, Switzerland
- » 2008 – 2011 Quality control project manager, Lonza AG, biopharmaceutical sector, Switzerland
- » Since 2011 Senior biopharmaceutical project manager, Boehringer Ingelheim RCV GmbH & Co KG, Austria

At the beginning of your career in industry you worked as a laboratory manager in the field of quality control for a life science company. What tasks did you perform in this role? Would you recommend working as a laboratory manager to career entrants?

As quality control laboratory manager, I led a six-member team and was responsible for the GMP-compliant (good manufacturing practice) release analytics of biopharmaceutical medicines. My tasks included the implementation of new analytical methods and the optimisation of quality control processes. Initially focusing on technical tasks, career entrants usually start as scientists without line management responsibility. Responsibility for staff is only assumed later as a laboratory manager. If you possess strong interpersonal skills and good organisational ability in addition to technical knowledge, I would fully recommend direct entry as a laboratory manager.

What tasks do you perform in your current position as senior project manager?

A senior project manager's main responsibility is providing patients with a secure supply of biopharmaceutical drugs. To achieve this, I manage interdisciplinary project teams from process development, production, quality control, quality assurance and supply chain, and ensure that medicines are produced within defined timeframes and budgets and to a specified quality standard.

What advice would you give to junior scientists interested in entering and pursuing a career in the pharmaceutical sector?

Generally speaking, there are basically two different areas in the pharmaceutical industry: basic research and the production of medicines. Basic research aims to develop new drugs, while the production of medicines focuses heavily on the technical implementation and marketing of new drugs. Both areas offer attractive employment and development opportunities for scientists. It is undoubtedly advantageous in industrial basic research if career entrants possess a strong scientific track record. Technical expertise in process development and broad analytical knowledge of methodology are relevant in the second area, the production of medicines. Making direct contacts and internships are good ways of gaining an insight to establish whether a career path meets your personal interests.



Dr Esther Schnapp
Scientific Editor,
EMBO reports

- » 2001 - 2005 International Max Planck Research School, Dresden (under Prof Elly Tanaka)
- » 2005 – 2008 Post doc at the San Raffaele Stem Cell Research Institute, Milan (under Prof Giulio Cossu)
- » Since 2008 Scientific Editor with EMBO reports in Heidelberg

Was entering the scientific publishing sector straightforward or did you have to take an indirect route?

For me personally it was straightforward. Working as an editor requires very similar skills and attributes to those that a post doc should possess. No additional qualifications are required and you can apply for these positions directly as a post doc. Experience in the evaluation of scientific articles is clearly advantageous and something you should possess anyway as a post doc. In my letter of application, I indicated, for example, that I organised a journal club where scientific articles were critically discussed.

What advice would you give to junior scientists seeking to enter this sector?

This is covered in my first answer. A broad knowledge (of the fundamentals) and an interest in different areas of molecular biology are also required. The editor's task involves evaluating scientific texts within a short space of time and putting them into context. Tasks include writing polite but firm rejection letters, interacting and dealing with referees and authors, actively participating in conferences on a regular basis, involvement in the development of the journal and much more besides. Internships with scientific journals or experience in scientific writing definitely provide a good insight and may be advantageous in candidate selection, but are not requirements (at least at EMBO).

Does your job enable you to achieve a good work-life balance? Do you have to go into the office every day or can you also work from home?

Working as an editor is reasonably well suited to reconciling a career with family life. Theoretically, you don't have to go into the office every day. However, at EMBO, for example, manuscripts are discussed on a daily basis with other editors at a meeting attended by everyone. You can nevertheless work from home on certain days in exceptional circumstances. However, you have to bear in mind that attending six or seven conferences a year is not easy to reconcile with a family and children. A certain degree of coordination is required in this respect.





Dr Dorian Freudenreich
Management Consultant,
McKinsey & Company

- » 2006 – 2010 Doctorate at the Max Planck Institute of Molecular Cell Biology and Genetics, Dresden and at the Center for Regenerative Therapies, Dresden (Professor Michael Brand's research group)
- » Since 2010 Management consultant at McKinsey & Company; initially as an "associate/senior associate", since June 2013 as an "engagement manager" (project manager) with projects in the chemical and pharmaceutical industries, and in the public sector.

Who would you advise to apply to McKinsey and who perhaps not?

Anyone who enjoys working on exciting global issues, adapts flexibly and quickly to new tasks, enjoys close interaction with colleagues and clients to resolve problems and who has no or little (like myself) fear of flying should apply. Candidates who excelled at school or university, speak German and English fluently and, most importantly, possess strong powers of persuasion have a good chance. There is more than one way of achieving the latter. Above all, analytical capability, management and team qualities, the ability to convince others of your viewpoint and an interest in working on major issues are advantageous.

As you do not usually work in your place of residence from Monday to Thursday, you should also be aware that a career in management consultancy requires compromise which you have to find a way of coming to terms with. That is ultimately a very personal decision and I fully appreciate that this change of lifestyle may not suit everyone.

Were you able to start immediately with your existing qualifications and experience or have you learned much more on top?

Every "outsider" (anyone without a degree in business or economics, including myself as a biochemist) starts at McKinsey by undertaking a so-called mini-MBA, an intensive several-week course in business and finance. There are also various training courses held at three-month intervals, e.g. on communication, teambuilding or key topics, such as strategy, marketing and business organisation. But I've learned the most from other colleagues. When you watch experienced employees holding a workshop with clients or presenting project results to a CEO, this is often more inspiring and beneficial than any training course.

What career opportunities does McKinsey offer its workforce?

I will restrict myself to management consultancy, despite the fact that there are obviously many other jobs at McKinsey without which the company would not operate effectively. As a management consultant, you traditionally start as a "fellow" with a university degree or as an "associate" with a doctorate or a MBA. The range of tasks undertaken changes over several ca-

reer levels. Put in simple terms: You mainly focus on analysis during the first few weeks, then work increasingly closely with clients, and finally head a team. After several more years, any consultant can become a partner at McKinsey.

Many different paths can be pursued. You also have a great deal of influence over the path you follow. For instance, I took a one-month career break last year (on top of my regular holiday entitlement; this is known as "personal time" at McKinsey) to travel around Asia with my girlfriend. I was able to take another four-month break this year after the birth of our daughter without any problems. You also have a say in which countries and sectors you work in and with whom you work, or which topics are introduced to and developed at the company. There is certainly no shortage of career opportunities at McKinsey. However, moving into an industry that you know well or trying one's luck by setting up a start-up company is not uncommon either.



Dr Bettina Hermann
patent lawyer, head of the Vereenigte Octrooibureaux (V.O.) office,
Munich and Regensburg

- » 1995 – 1998 Doctoral student at the Max Planck Institute of Psychiatry, Munich (cooperation with TU München) (Professor Florian Holsboer's research group)
- » 1998 – 1999 Postdoc at the Max Planck Institute of Psychiatry, Munich (Professor Rupprecht's research group)
- » 1999 – 2001 Postdoc at the IGBMC, Strasbourg (Dr Emiliana Borrelli's research group)
- » 2001 – 2004 Qualified as a German patent lawyer, Frohwitter law firm, Munich
- » 2001 – 2005 Qualified as a European patent lawyer, Frohwitter law firm, Munich
- » 2005 – 2007 Patent lawyer at the Frohwitter law firm, Munich
- » 2007 – 2008 Patent lawyer at the Jones Day law firm, Munich
- » Since 2008 Patent lawyer at Vereenigte Octrooibureaux (V.O.), Munich
- » Head of office in Munich and Regensburg.

Did you know that you wanted to become a patent lawyer while you were working at the Max Planck institute?

Towards the end of my doctorate at the Max Planck institute, I was made aware of the patent system by an examiner at the European Patent Office. I then found out about a career in patent law through the "Blätter zur Berufskunde", a career information publication, and enquired about a training position with various firms. However, there were none available. By the end of my postdoc I had abandoned plans to become a patent lawyer when a friend sent me a job advertisement published by Frohwitter. I subsequently undertook training to qualify as a German and European patent lawyer there and worked for them as a patent lawyer.

How long does it take to complete the additional qualifications in patent law?

It takes around three years to qualify as a German patent lawyer. You spend 26 months of that time working at a patent law firm or in the patent department of an industrial company and undertake a distance learning course in Hagen at the same time. You then spend eight months working at the German Patent and Trademark Office as well as at the Federal Patent Court and sit the examinations to qualify as a German patent lawyer. The qualifications to become a European patent lawyer can be taken in parallel and also take three years.

What expertise and knowledge is required to pursue this career?

Extensive specialist knowledge, the ability to comprehend scientific and technical matters and the capacity to abstract and identify the core elements of inventions are important attributes. As working as a patent lawyer involves the provision of a service, strong interpersonal skills are advantageous.



Dr Armin Gieseke
secondary school teacher of
chemistry and biology (secondary
education levels 1 and 2) and physics
(secondary education level 1)

- » 1998 – 2001 Doctoral student, AG Mikrobielle Ökologie, Max Planck Institute for Marine Microbiology, Bremen (microstructure and in situ activity of complex nitrifying waste water biofilms)
- » 2001 – 2006 Post doc with the Microsensor Group of the Max Planck Institute for Marine Microbiology, Bremen (planning, application, supervision and implementation of various research projects in the field of microbial ecology)
- » 2005 Scientific consultant, Center for Genomic Sciences Pittsburgh, USA (scientific and technical consulting on research into chronic infectious diseases)
- » 2006 – 2008 Teacher training for secondary education level, obtained teaching qualification for chemistry and biology (second state examination for teaching in secondary education)
- » Since 2006 Full-time teacher with civil servant status, secondary education levels I and II at the Gymnasium Bremervörde teaching chemistry and biology (levels I and II) and physics (level II); bilingual education, school medical unit

You spent a long period working as an academic staff member at a MPI, but then decided to leave and enter the teaching profession. What led you to make this decision?

During my scientific career, the number of tasks that I found unfulfilling and uninteresting took up more and more of my time. My subsequent post-doc period primarily required management skills (project management) and therefore less scientific expertise. Due to the structure of the academic landscape, I felt obliged to pursue career progression to a level which, in my view, was incongruous with my abilities, talents and interests. As I became increasingly rooted in my social environment (friends, neighbours, local voluntary work), the "nomadic lifestyle" of an academic also became increasingly less appealing in the long run. The perceived personal cost involved in pursuing my scientific career seemed greater than the opportunities that I saw in other fields. As I enjoyed imparting knowledge before and during my career in science and due to the fact that I held a suitable degree qualification (first state examination), I (re) entered the teaching profession.

How did it feel to suddenly no longer be carrying out research but instead focussing on teaching? Did you undertake any specialist training courses?

It took some getting used to at first. I felt as though I had been uprooted from my familiar network and the international environment of science and replanted into a very regional one (also in terms of social interaction and outlook). Working with new colleagues and management was at times both strange and somewhat amusing in the beginning. However, I quickly adapted to mandatory education and working in a much less freely organised working environment by demonstrating the sporting ambition required. The contact with pupils, the immediacy of the job, the intensive interaction and the leeway that teaching still affords soon led me to conclude that my career change had been the right decision.

I decided, at the outset, to enter the profession as a trainee teacher for a two-year period and have not regretted that decision. This allows you to obtain the full teaching qualification and gives you more time to try out ideas and methods in the classroom. You are paid as a trainee during this period, which makes it financially challenging, but you obtain the didactic and methodological skills and the qualification to practice teaching and other

teaching activities during this stage. The subsequent start in a normal teaching post is another shock due to the large number of pupils and the enormous teaching workload, but you learn to manage this over the course of time.

Would you recommend going into teaching? What should you be aware of in particular?

The change is feasible and the prospects (depending on the subject) are really good - but it is certainly not a career for everyone. You really need to be aware of what awaits you in the classroom. I would advise people to take their time and find out about the profession either by doing an internship or working as a supply teacher. Teachers are always being sought short-term to cover absences. This gives you an opportunity to gain an insight into teaching and to make up your own mind.

Possessing suitable specialist expertise to teach two subjects is a formal requirement, as this is generally a standard criterion. One's scientific career (in particular titles, scientific expertise etc.) is usually irrelevant. More important is how well you performed in your degree, demonstrating competence in a second subject (in addition to your own subject). Evidence of teaching experience can also be beneficial. Anyone teaching in a shortage area, such as maths or physics, is in a really good starting position.

If you are genuinely interested, you need to obtain more specific information about career entry opportunities. Various options often exist (teacher training, lateral entry, etc.) which vary depending on each federal state. It is best to inquire with the school or school authorities concerned. People such as myself who have chosen this path are also happy to provide information and advice.

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UNLIMITED OPPORTUNITIES?
EXAMPLES OF CAREER PATHS
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