

# Introduction

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## Who is this book for?

This book has been written for people serious about science: students, postdocs, professors, trainers, and support and other staff. So what's in it for you? I'll outline this briefly in the next three paragraphs. You could read only the paragraph relevant to your involvement in science but why not read the other paragraphs as well.

- **You're a student.** As a Bachelor, Master's, or PhD student you take classes in science subjects. You are (for now) at the bottom of your career ladder, but it's good to know what's going on higher up the ladder, so that you can better understand, appreciate, and communicate with your teachers and supervisors in that special type of organization called a university. It may also help you in deciphering whether a career in science in a university or in a company would be attractive if it's not your vocation. Some of you will already be involved in research projects and indeed feel you want to become a

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scientist at a university. Many of you will look for jobs outside the university and perform tasks in which you will nonetheless benefit greatly from having developed your talent for science as much as possible. So if you are a student, starting off on the road to becoming a scientist or something else, you will likely benefit both personally as well as professionally from reading this book.

- **You're a postdoc or professor.** As your talent for science grows, you climb up the career ladder and may become a postdoc or even an assistant, associate, or full professor at a university. Alternatively, you may become a junior or senior scientist at a research institute or in industry. You start recruiting people with a talent for science, even top science, to join you in your research. How can you recognize and develop their talents, how can you retain these talented people? I trust that this book triggers your thoughts just that extra bit, that you will find it useful to fuel discussions with students and colleagues, and that you will pay more attention to developing your own talent and that of your students and colleagues.
- **You're someone else serious about developing talent.** Typically this category includes all researchers and heads of research groups in industry, but also nonscientists in universities, industry, or government. As a responsible manager, administrator, policy maker, or trainer, you can make all kinds of plans, but top students and scientists may have strong criticisms of your plans. Do you actually know what your scientists do every day? Do you offer them the right facilities and possibilities? Is success celebrated so that everyone knows what the real goals are? Is the support and training you offer adequate? If you read this book, you will better understand the essentials of science and use your staff's powers to create the right conditions for making top quality science happen.

### 3 HOW IS THIS BOOK STRUCTURED?

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## How is this book structured?

Some of you are born with a head for mathematics, while other people are more gifted in biology, physics, chemistry, economic, or behavioral sciences, or some other science subject. It is encoded in your genes, so to speak. It's in your nature. Is it that static? No, in reality it is much more dynamic. Even the most gifted child has to pass primary school, secondary school, and high school, before he or she has the knowledge and skills to crack an outstanding problem in science. So nurture counts as well, and this is what I mean by "developing a talent for science". This book offers you lots of practical advice on how to do so.

Chapters 1 to 4 describe the four successive steps in developing a talent for science. Chapter 5 encourages and empowers you to apply these four steps immediately in your daily life, and as a direct result you will become a much more effective student, postdoc, or professor.

- **Step 1: Develop your talent.** You help your talent to flourish by doing the right things right. You do the right things if you combine a basic talent with a strong passion. You do things right if you have acquired and improved the essential skills such as prioritizing, giving presentations, and writing. So the emphasis in this chapter is on *you*.
- **Step 2: Use other people's talent.** You can make more of your own talent by combining it with the talents of other people. This may seem obvious: of course, other people can help you do better. Nevertheless many (young) scientists are convinced that they, and only they, can do their particular job well and they therefore don't look for help. So the emphasis in this chapter is on setting up useful directed connections from *other people* to *you*; for example, how to listen to them effectively, ask them relevant questions, or collaborate with them to your benefit.

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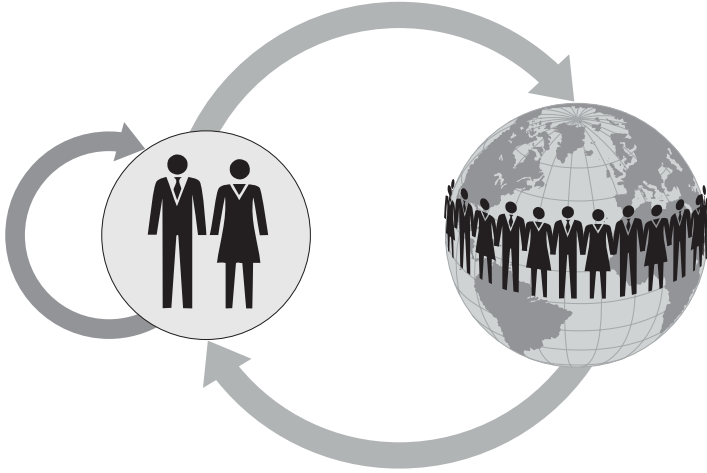
- **Step 3: Develop other people's talent.** You can make the most of your talent if you inspire not only yourself but also other people to make the most of their talents. This may seem like a strange and inefficient road: why invest in other people and not directly in yourself? Try seeing it this way: your team members and students learn from you how they can do the right things right, and you will have the best performing team to create more and better output (e.g. a nice PowerPoint presentation, and the beginning of a scientific paper at the end of a student project done in your lab). So this chapter is about how you can set up useful directed connections from *you* to *other people*; for example, how to inspire, educate, or unite them to their benefit.
  
- **Step 4: Make it happen.** To quote Goethe: “A really great talent finds its happiness in execution.” You will be triggered to act and continue to act to make the most of your talent. Chapters 4 and 5 give you many practical guidelines on how to implement the ideas from the first three chapters in your daily life as a scientist, so that your dreams may come true. But there is no “free lunch”; you will really need to become active.

The figure below visualizes the structure of the book.

The “messages” in this book are illustrated by 24 stories, 29 exercises, and 4 self-reflection forms:

- **Stories** can speak louder than anything else. The “messages” in these chapters are therefore illustrated by anecdotes from students, postdocs, professors, and other people serious about science; all these stories are presented in the first person. Some stories are mine, but most are from other people who shared their stories with me. This introduces some bias for biology and mathematics, but readers from completely different fields such as behavioral sciences have assured me that the messages appeal to them as much as they do to readers from

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**FIGURE INTRO.1** Structure of the book. Chapter 1 describes how you can develop your own talent (left arrow pointing to yourself), Chapter 2 describes how you can use other people’s talents (arrow pointing from the outside world to you), and Chapter 3 describes how you can help develop other people’s talents to their benefit *and* yours (arrow pointing from you to the outside world). Chapters 4 and 5 encourage and empower you to make all of this happen (the arrows together forming powerful circles).

my field. Life can produce wonderful and incredible stories: some details may have been changed to protect privacy, but all the stories are true. They can be yours in the future. If you would like to share your own favorite stories, please email them to me via [info@talent4science.eu](mailto:info@talent4science.eu), or visit the website [www.talent4science.eu](http://www.talent4science.eu).

- **Exercises** can boost your talent more than anything else. The “messages” in these chapters have therefore been translated into various “try this” exercises. Most of these exercises you can do on your own, but some may benefit from interaction with your fellow students or colleagues during an ad-hoc group (organized by yourself) for example, or a tutor group meeting, or research group retreat, or academic skills training course. You can read and do the exercises as you come to them, but you can also read on (without breaking the flow in

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the chapters) and come back to the exercises later. But doing them at some point is essential, since they will guide you through a process that ends with your concrete aims and action plans for the short, middle, and long term. Doing these exercises is the way to water, nourish, and weed your ideas. But growing takes time. You can do these exercises at your own speed and maybe even repeat them from time to time.

- **Self-reflection** holds out prospects for a really interesting career. There are four **web figures** to help you visualize your strengths and weaknesses. The scores on these figures are calculated from a questionnaire that you fill in at the beginning of each of Chapters 1 to 4. You can then set your ambitions for preferred scores in, say, one year from now, and doing the exercises in the final Chapter 5 on “Use your webs” will help you define the appropriate actions to help you get there.

To finish the introduction: this book aims to give you many ideas rather than to be comprehensive. It will plant seeds in your mind, although the watering, nourishing, weeding, and final harvesting are up to you. Good luck with your career, whether you decide to stay in science or not.

Cambridge University Press  
978-0-521-14961-7 - Developing a Talent for Science  
Ritsert C. Jansen  
Excerpt  
[More information](#)

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“I have no special  
talent. I am only  
passionately  
curious”

**Albert Einstein,**  
Nobel Prize winner, Physics, 1921

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# Develop your talent



## 10 DEVELOP YOUR TALENT

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### 1.1

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# Introduction

Maybe you're following a scientific course at a university as a Bachelor, Master's, or PhD student. Or you're already working as a postdoc or professor at a university, or in industry, or in the service sector. At each stage of your career other people are appealing to your unique knowledge and talent for science. This book cannot tell you how talented you are in math, biology, physics, chemistry, behavioral sciences, or any other subject. So what can it do? It emphasizes the essentials you need to add to your talent. It's all about doing the right things right. You do the right things if you combine a basic talent with a strong passion for the chosen subject. You do things right if you have acquired and improved the essential skills such as prioritizing, giving presentations, and writing. So the emphasis in this chapter is on *you*. The factors I see as being most essential are:

- **Passion.** Is science your ultimate job vocation or do you want to use your science training in other ways? Does scientific thinking energize you? Do you say YES to science?
- **Prioritize.** Can you do more than one or two things at the same time at a top level? Do you know what to do if you run out of time? Do you know when to say NO?
- **Persevere.** Do you have the resolve to persevere? Once you have solved one problem, you'll immediately bump into the

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next one. How do you deal with cumbersome problems, setbacks, and stress?

- **Speak.** Do you know how to report your work? What makes a presentation a great one? What would you say if you unexpectedly met your professor or dean in the elevator?
- **Write.** In science you have to report your findings. What makes for successful writing? Do the slogan “sense and simplicity” (used by the multinational company Philips) and the saying “less is more” ring a bell?
- **Fund.** Do you want to shape your own future in science, industry, or elsewhere? How can you increase your chances of getting your plans funded now or in the future?