

Introduction

Who is this book for?

This book is for people dreaming of a successful future in science: undergraduate and graduate students, postdocs and young research group leaders. It is also for the people providing support to help make these dreams come true, for example the staff of funding agencies, scientists who review grant applications, or university funding officers, career advisors, counselors, trainers, and mentors.

There is one type of grant that is becoming increasingly important for building a future in science: the career grant. There is perhaps nothing more attractive than being able to carry out plans you have proposed yourself early on in your career. A career grant can provide the funding for starting or consolidating your own research line. It is a unique and favorable feature of career grant programs that you will be competing only with applicants who are at the same career stage as you and not with more experienced people. Once you have been awarded a career grant, you will be much better equipped

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to apply successfully for other grants, where you will indeed have to compete with scientists from all career stages. Ideas for new projects will spin off from your career grant project and put you in the ideal position to apply for other grants.

This book will focus on this extremely important type of grant. Learn why you should apply for a career grant and how to write the application. So what's in it for you exactly? I'll outline some points in the next four paragraphs.

- **You're a student.** You are considering a career in science. You have a passion for doing research and are building up experience and a résumé by working on one or more thesis projects initiated and supervised by other people. Now you're starting to look for opportunities to achieve more scientific independence. "I have my own ideas and ambition." You are ready to become an entrepreneur. And career grants are exactly the type of grant to support people with such attitudes. A career grant would lay a strong foundation to place your career ladder on. You may want to climb up the ladder and become a postdoc, a young group leader, and perhaps eventually a professor. You may have 40 years of performing research ahead of you, which can easily account for over 80 000 hours at work, so you should take the time to build a solid foundation. Writing a career grant proposal is therefore a task that you should enjoy spending a fair bit of time on. You will likely benefit from reading this book.
- **You're a postdoc or young group leader.** Career grants recognize excellent achievements in the past, and fuel start-up, consolidation, or renewal of a cutting-edge research line. The leadership of the individual applicant now and in the future therefore matters much more than in other types of grants. You should not be surprised that career grant programs have become instrumental in selecting and supporting high potential individuals (Hi-Po's) and thus for advancing careers in academia. If you want to climb up the career ladder in science,

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then go for a career grant, but do take it seriously, very seriously. I trust that this book will make you think just that bit more, that you will pay more attention to developing your own talent and that of your students and colleagues in writing convincing career grant applications.

- **You work at a funding agency or review grant applications.** Career grants have become an important instrument for advancing a career and it is therefore evident that maximum care should be given to fairness, objectivity, accuracy, and transparency in all steps of the application procedure – to the text of the call for proposals, the rules for eligibility, the selection and training of a panel of peer reviewers, and the evaluation and adaptation of the procedure. You have an enormous responsibility and a difficult task. If you read this book, you will better understand the essentials of writing career grant applications and better use your staff's capacity to create the right conditions for providing top quality evaluations of the applications submitted to you.
- **You're someone else with a serious interest in careers in science.** Typically this category will include university funding officers, career advisors, counselors, trainers, and mentors. You may find the book useful in advising scientists about funding opportunities or in counseling students about what a career as a modern scientist entails. Today, writing grant applications forms a major component of a scientist's day-to-day business, and career advisors should certainly discuss this issue. Some students would not have gone into science research had they known they would have to spend so much time acquiring funding.

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When should you read this book?

This is a book you can best read several years before you plan to go for a career grant: it will put you on the right track. You could also read my earlier book *Developing a Talent for Science* to put your career plans in perspective. When the time comes to apply for a career grant – say a year before the final submission – you may benefit from re-reading this book and having it on your desk to refer to during your preparation and writing. *From time to time go back to specific chapters and sections while you are working on your application.* Once you are sitting on the other side of the table – as an evaluator or reviewer – it may serve as a guide on how to score the applications fairly, objectively, and accurately.

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How is the book structured?

This book describes the steps for you, the scientist, in developing a career grant application and for the funding agency in evaluating it. The guidelines are, however, general enough to be applicable to most types of grant offered by any funding agency or foundation. This is what the five chapters are about:

- Chapter 1 Getting well prepared before you actually start writing the grant application.
- Chapter 2 Understanding what career grant providers (funding agencies) want to see.
- Chapter 3 Developing a proposal with a convincing title, abstract, plan, impact, budget, and résumé (or CV).
- Chapter 4 Understanding how panel members and reviewers will evaluate you if they meet you “on paper” via your application, or “in person” at an interview.
- Chapter 5 Organizing adequate support to get your proposal into the best possible shape before submission.

The five chapters can be read sequentially or dipped into ad hoc.

The figure below visualizes the book’s structure. It also shows one important key message: many other people are involved apart from you! They may include, for example:

- the people at the funding agency who monitor the procedure and timing;
- the people in the panel who evaluate and rank the pile of submissions;

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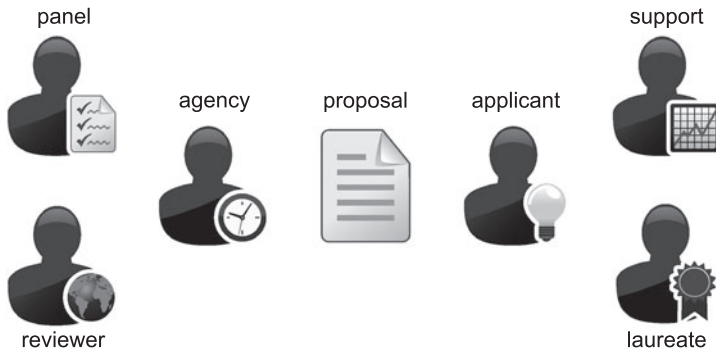


FIGURE INTRO.1 Structure of the book. The proposal is central (discussed in detail in Chapter 3). It is flanked by the two major players: the applicant (Chapter 1) and the funding agency (Chapter 2). The bodies advising the agency are shown on the left-hand side (Chapter 4), the staff supporting you in your wish to advance your career are on the right-hand side (Chapter 5)

- the external reviewers who may be located anywhere in the world and who will write in-depth reports;
- the people in your institute who can help you with the finances, writing, and presentation skills, or your head of department who needs to co-sign your application;
- an experienced scientist who has already received a career grant (a “laureate”) and who will take the time to criticize your proposal and all the revisions made until the application really shines (highly recommended).

There is a strong human component in funding your career in science!

Examples of successful applications can help you see the various factors in action. It makes sense to collect and study a large number of career grant applications from different fields and different people, but copying them all into this book would multiply the number of pages and increase the time you need to read it all. Instead I will present fragments from some

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applications as examples and some overall statistics. Several successful scientists agreed to share their applications with you – with the risk that you will criticize their text. Well, all the better, if you can critique work by others, then you will be more open to criticism from other people and more alert to your own (draft) application. I have changed some details to protect individual privacy.

Exercises can really help you to sharpen your thoughts. The “messages” in these chapters have therefore been translated into various “Try this” exercises. You can do most of these exercises on your own, but some may benefit from interaction with fellow students or colleagues in an ad-hoc group you can organize, in a tutor group meeting, research group retreat, or an academic skills training course. You can read the book and do the exercises as you come to them, or you can continue to read through the chapters and come back to the exercises later. The exercises will guide you through a process that ends with your concrete career grant application. As the final exercise, I describe a simulation of a full evaluation procedure in Chapter 5. Playing a role in such a simulation could be the final part of a course for career grant applicants. In this role, you will find out that being a panel member or reviewer is a tough job. The simulation will let you feel in your bones what these people experience when they deal with a batch of grant applications. And you can learn from this! Most likely you will see how blind or deaf most applicants can be to all kinds of things that consciously or unconsciously irritate reviewers. Chances are that you will learn much more about the dos and don'ts. This way you can get your application into the best possible shape, robust against a variety of objections or criticisms that the real reviewers might otherwise have raised.

Stories can speak louder than anything else. The “messages” in these chapters are therefore illustrated by anecdotes from post-docs, professors, and funding agency officers. All these stories are presented in the first person; some are from my own experience, but most are from other people who have shared

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their stories with me. Real life can produce wonderful and incredible stories: I have changed some details to protect privacy, but all the stories are based on true events. They could be your own stories in the future. If you would like to share your favorite story, please email it to me via info@talent4science.eu, or visit my website www.talent4science.eu.

Fields covered in this book through examples and stories are:

- Biology
- Economics
- History
- Informatics
- Language
- Law
- Medicine
- Philosophy
- Physics
- Psychology
- Sociology
- Theology

I have used science here in its broadest sense: my comments and tips can be used in most academic and research fields, while many of the issues, problems, and experiences are the same across many different disciplines. “Does it really make sense for me to study applications from outside my discipline?”, you may still wonder. It is my experience and strong conviction that it does: you will notice unnecessary jargon and mistakes in applications from other disciplines more easily, and thereby see how to write an application that can be understood and appreciated by a wider readership. Why is this important? Well, why not read on and discover the answer in the following chapters?

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978-1-107-04006-9 - Your Career in Science: From Research Idea to Personal Grant

Ritsert C. Jansen

Excerpt

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“A scientist in his laboratory is not only a technician: he is also a child placed before natural phenomena which impress him like a fairy tale.”

Marie Curie

Nobel Prize winner in both Physics (1903) and Chemistry (1911)