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# Navigating Graduate School and **Beyond**

Sundar A. Christopher



... to reap big later!

A Career Guide for Graduate Students and a Must Read for Every Advisor





# Navigating Graduate School and Beyond

A Career Guide for Graduate Students  
and a Must Read for Every Advisor

**Sundar A. Christopher**



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**Front cover:** From seed to harvest, this image represents the enormous potential of the graduate student to succeed in every aspect of their career.

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Printed in the United States of America.

To  
Sheba, Grace, Samuel, and Abigail Christopher  
—true champions

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# Preface

First, a huge thanks to the students who have taken the Professional Development course that I teach every year. And thanks to those who have provided valuable feedback. I really do enjoy the discussions, both in the classroom and outside. Next, special thanks to the people who have encouraged me to write this book (you know who you are). However, I would be remiss if I didn't mention Sue Glenn and Rita Sutton for believing in this even when I didn't! Special thanks to Kristi Caudill for diligently editing the manuscript. Finally, to my wife Sheba and my three precious kids, Grace, Samuel, and Abigail—thanks for believing in me!

*Sundar A. Christopher  
Huntsville, Alabama*



# Introduction

## *In the beginning...*

Several years ago while I was a graduate student trying to finish my Ph.D., I knew that there was a real world beyond the exams and research. I was working on a dissertation and trying to finish a degree, but very few professors had time to advise their graduate students let alone mentor them in the next steps of their professional career. Oftentimes, the advising of graduate students was left to postdoctoral candidates (postdocs as they are affectionately called). The postdocs were also trying to navigate their careers sometimes without much success. Yet I saw some researchers and professors being successful, giving good lectures, presenting their work elegantly, and keeping all of their ducks in a row. They seemed to enjoy what they were doing.

At the same time, whether in academia or otherwise, I saw other professionals who were dejected and disillusioned with the whole system. They liked the research and work environments but hated the process—maybe because no one had ever provided guidance to them about how to maneuver a career path.

There were no courses or specific guidelines that taught graduate students how to navigate life in and beyond graduate school. Years later when I became an assistant professor, I was determined to develop a course that would help guide a graduate student through the numerous hurdles of graduate life and provide help for their upcoming career. I was and still am fully convinced that we need to

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provide students with the necessary tools to become successful in our respective disciplines and not lose them to disillusionment. Advisors have a professional obligation to empower students beyond just the classes and research.

Senior graduate students who are getting ready to defend their research have not even thought about writing a proposal. Neither do they know how to prepare and manage a budget for a project. They have very little information on what is expected of them when they graduate. Yet most students find that a place of employment requires them to communicate effectively, manage a myriad of projects, and write competitive proposals.

I distinctly remember several years ago, when I was a junior faculty member, apprehensively suggesting a course called “Professional Development.” I wanted to teach the students the basics of proposal writing. The senior professors and the others in the room looked at me with glares that said, “Are you serious?” One even questioned why I would create more competition for myself since my livelihood also relied on writing and winning proposals. Finally, after some deliberation, they did approve a one-credit course that was to be taught only to Ph.D.-level graduate students. The course was initially centered on proposal writing and involved all the nuts and bolts of budget preparation, agency requirements, and templates and guidelines. The students loved the course and gave me some of the highest ratings. They felt that this was a skill that they needed.

They wrote an actual proposal for the NASA New Investigator program although they did not submit it. I walked them step by step through the entire process including writing letters of intent, drafting a 15 page proposal, reviewing the proposals of their peers, and understanding the selection process. I also discussed the bliss of getting a proposal accepted and how to develop a thick skin when one gets rejected.

Every time I teach this class I do get one common complaint: there is more work in this course than the one credit that they get at the end of the semester! Since then I have continued to talk with my colleagues in and outside my department, and I have listened carefully to the students regarding what they might like to learn in a course like this. Still called “Professional Development,” the current course has a wide variety of topics including managing time and stress, presenting effective talks at conferences, and (get this—the most animated discussions I have ever had) managing your advisor!

## Introduction

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I also have a steady stream of master's-level students wandering in to take this class. I continue to learn from these students and add topics of interest that will enable them to make a smoother transition from a graduate degree to employment. I also find myself giving more talks at student conferences these days, and the issues appear to be the same.

More than a dozen years have gone by, and I have been asked numerous times to put my thoughts down on paper. Well, here it is. This book is what I believe, and it is a sincere attempt to help the students navigate their graduate school lives and position themselves for success.

My colleagues may or may not agree with me when I say that most of us are too busy to do a proper job of advising students, let alone mentor them. I deliberately make a distinction between advising and mentoring as you will learn in this book. Mentoring takes effort, time, and discipline. This book, while a good read for students, will also be a useful one for advisors and faculty members both young and seasoned. While this book is not a substitute for proper advising and mentoring, it does take some of the mystery and haziness out of some topics that students always have questions about and might not get straight answers for.

I want to note upfront that it is next to impossible to capture the dynamics of a classroom when writing something like this. The discussions in the classroom continue to be an eye-opener for me, and I strive to include the topics and concerns that are important to the students. This one-credit class behind closed doors is something I look forward to every year. After a few "lectures," students fully warm up and won't stop talking. If instructors choose to use this as a text or reference of some sort, I have included some discussion questions at the end of each chapter to help lead discussions. This course was taught to a group of atmospheric scientists, and I am hesitant to state that every chapter in this book will be applicable to every discipline. However, I do believe that graduate students who embark on a journey to get a master's or a Ph.D. have some core set of issues that they deal with in their graduate life. I have tried to address these issues honestly.

I do realize that there seems to be a dichotomy that exists between students who only want a master's degree versus students who want a Ph.D. I strive to provide discussions that will help those on both of these paths. Regardless of which path one might take, most of these topics are highly relevant. After all, both are

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graduate degrees with high expectations from the student's future employer. I have tried to make the student "think" about what their future careers might demand of them so they can better prepare. This is one of the major focus areas of this book.

Finally, I have to say this about myself. I am optimistic by nature. I believe that you the student have an excellent seed within you called potential. Through hard work and the right preparation, you can succeed at whatever you put your mind to. I have seen students who, through sheer determination and hard work, outshine some who were "talented." Preparation and hard work seems to be the greatest equalizer. Another thing, I grew up in the American graduate school system and the way of competitive research, so a lot of the discussions will tend to lean that way.

So get a cup of coffee or boysenberry juice or whatever it is that you drink and enjoy the read!

I am hoping to hear from everyone who reads this book. So e-mail me or post notes for me. Let's get this started. . . .

Best wishes for a brilliant career!

## Introduction

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### Notes





# Sowing

## Cast a Vision

*Without vision there is chaos.*

One of the first things I ask the students in my Professional Development course is this: When should you start planning your career? After a few moments of silence, various responses start to crop up. Trust me. I have heard the gamut from “I will think about career planning before I defend my thesis/dissertation” all the way to “I have been planning my career since I was five.” Admirable (or not) as that might be, most graduate students have given very little thought to career planning. While some may have thought about career-related issues, a deliberate plan has not been formulated to achieve those career goals. Many of us change our minds when it comes to careers. I should know. I used to be an engineer, but I am now an atmospheric scientist! However, when we get to graduate school, it is important to know where we would like to be after we graduate so we can formulate a plan of action while in graduate school—and do it while smiling!

I am not going to write about short-, middle-, and long-range career planning. Lots of self-help books already do that. What I would like to discuss are some simple steps that constitute career planning. I fully realize that your career aspirations can be very diverse. This book may not cover every single path, but the basic principles are the same.



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I've said this several times during my course. You are in graduate school because you choose to be and because you are willing to work hard to achieve your goals and get to your destination. You had other choices when you finished your undergraduate degree, but you chose to come to graduate school either to learn more or to make more money. Maybe, if you are like me, you like everything about academia. Whatever the reason, you were willing to put in 3 to 5 years (I know some who have spent 10 years getting a Ph.D.!) and long hours to get this degree.

The myriad of classes, exams, presentations, projects, and papers is often grueling as you negotiate the good and the bad instructors, the competent and incompetent staff, the paperwork, and the all-encompassing bureaucracy. You try your best to maintain a decent semblance of a social life, but everything draws you back to one thing, "***I need to FINISH my degree.***" As human beings, we like closure and are propelled to final destinations. When we get there, we start driving again!

Given this backdrop, I have always maintained that you should think about where you want to be when you graduate when you start graduate school. If you already have a plan mapped out and know how to position yourself for success, then you don't need to read this book. Jokes aside, it is important to have a game plan for what you would like to do after you graduate. I say this because if you don't, you will never have focus during graduate school. ***You become a wanderer!*** If you know what you want to do afterward, then you can prepare accordingly in graduate school, fully geared toward that plan.

For those of you who have not done an iota of planning and wished you had, it is never too late to get back up on that horse and start riding it. I have had several students who postponed taking my class until just before graduation and have remorsefully remarked, "I wish I had taken this class earlier!" The major take-home point for these students is that they squandered their time in graduate school without focus and without learning how to position themselves for a successful career. They never stopped to think about what their future employer will be looking for and how to empower themselves for a successful career.

It is absolutely critical that in the first week of graduate school you buy a journal for your career planning. Write down notes and thoughts during your time in graduate school. This journal is not meant to be a daily entry, because I know that will drive you crazy. Write down your career plans, successes, and anything career related. Note that this will continue to evolve during your graduate career.