Success Strategies from Women in STEM: A Portable Mentor

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Book Review

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This book contains a wealth of information for women interested in career paths in science, technology, engineering, and mathematics (STEM). The 2nd part of the title, "A Portable Mentor," is an accurate descriptor as this book focuses on advice and useful tips for career advancement, success, and balance of work with a personal life. This is the 2nd edition of the book Success Strategies for Women in Science, which was originally published in 2005.

The contributors to this book provide insight and experience from a broad collection of professions and departments. These range from faculty in biology and other science departments, medical schools, a college of engineering, a department of human development, and businesswomen from companies such as Industrial Engineering and Management Systems and Alberta Climate Change and Emissions Management Corporation. Immediately in the prologue, the book does a good job of connecting with many readers by stating, "*I never thought of myself as a scientist, at least not in the way scientists are conventionally portrayed to the public.*" Many women who pursue career paths in STEM fields in all probability relate to this idea. This type of sentiment continues to be used throughout the book to connect with readers, keeping the audience engaged.

The 1st chapter focuses on career management and contains several accounts from women in STEM fields about the path that led them to their current STEM positions. It gives a firsthand point of view of challenges these women faced when progressing throughout their education and careers. The chapter goes on to describe steps for effective career management and provides examples of how to self-assess decisions when making major career changes.

Chapter 2 discusses the importance of networking. This includes the importance of networking in STEM, who can and should be involved in your network, and how to network effectively. It gives examples for how to increase your network, such as attending meetings and conferences, using social media, and attending seminars. It also provides suggestions for preparing a networking event, and what you should include in a 30 s introduction about yourself. In addition, it provides examples of several online networks designed for women in STEM.

The next chapter explains mentoring, both how to successfully find and become a mentor. It introduces types of mentors and their relationships, expectations for mentors and mentees (Table 3.1), how to identify a potential mentor, and how to initiate and maintain the relationship. Examples of opportunities and organizations to connect with other practicing STEM professionals are given and are very up-to-date in this edition.

Next, chapter 4 details the mental toughness that one must have in STEM fields, and how to attain this toughness. Table 4.1 compares and contrasts mental and physical fitness and gives examples of engaging in positive self-talk and how to change a triggering, stressful thought into a diffusing thought to become a more productive scientist and mentor. This flows well into chapter 5, "Time Stress," where readers are given suggestions for time management, including how to develop a daily activity log and how to classify activities based on a time management matrix. Time management is a crucial aspect of balancing everything necessary in a STEM position, and this chapter is helpful in addressing ways to excel in this endeavor.

Chapter 6 switches the focus from mental aspects of STEM fields to personal style and discusses how to dress appropriately for any type of work-related situation, including formal, general, and casual work attire. There is a very helpful set of guidelines on page 181 in the "Summing Up Dressing Up" section for dressing well in a work environment.

As a professional interested in STEM education, I believe chapter 7 is one of the most important chapters in the book; this chapter focuses on science communication. Here the authors do an excellent job of discussing how to explain the importance of your work by knowing your science, understanding your audience, developing a clear message, and then transmitting that message. We learn about verbal and nonverbal communication, the importance of media communication, and are given references for further reading on these topics. This chapter is a nice transition into chapter 8, "Strategically Using Social Media." The author of this chapter discusses why social media is important, how to get involved, when to use social media, and details about different media platforms. The term "altmetrics" is explained, and examples of dos and don'ts of social media are addressed. These altmetrics are complementary metrics to the traditional method of measuring scientific impact and link scientific publications to nonscientific audiences. They are gauged by use of online blogs and websites, radio, newspapers, and social media platforms. With social media becoming more prominent in today's world, this chapter does a good job of addressing every aspect of social media engagement so that these tools can be used successfully.

In chapter 9, readers learn about negotiating and how it can be thought of as a process, a strategically focused conversation, and a balancing act. In this chapter, you will find very useful exercises that are provided as readers progress through the chapter, including an exercise on mentally and emotionally preparing for negotiations. In Table 9.2, a 7-step, principle-based negotiating process is also given.

Chapters 10 and 11 address leadership and climbing the ladder in STEM careers. Oftentimes, women are thought of as less likely to establish themselves in a leadership role, and the book provides a list of leadership behaviors to incorporate along with tips on becoming a better leader. In chapter 10, I identified with several meaningful quotes for recognizing your passion, pressing on until you succeed, and committing to what matters. When I read into chapter 11 (Climbing the Ladder), it seemed to have a lot of repetition of concepts from previous chapters, but it integrates these important steps for career advancement.

The next chapter focuses on the balance of personal and professional life and understanding what is right for you. There are several portrayals that were submitted by women who have gone through this process and how they came to their decisions to move forward. Each story provides a different outlook and decision made by the individuals. This chapter is very important because it is a topic most, or all, women in STEM will experience at some point.

Most women will be able to relate to the final chapter, "Transitions." It is broken into several sections about moving from one part of life to another. It gives details and personal stories about every stage, including high school to post-secondary education, post-graduate education to employment in and out of academia, all the way to retirement. This chapter lets readers reflect on their own transitions in the milestones they have already passed, as well as look ahead into those milestones they will one day reach. This chapter will be very helpful for building an understanding with mentors and mentees at different career stages.

Many of the chapters in this book relate to each other, with common themes occurring throughout. The authors provide a comprehensive and easy-to-read book that gives exceptionally useful advice for women in any stage of their STEM careers. I think that all women who are interested in, or are already on, a STEM career path would benefit from reading this book, as there is something to learn in all of these chapters to help readers succeed in their careers.

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