Sustainable Networking

FOR SCIENTISTS AND ENGINEERS

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Sustainable Networking

FOR SCIENTISTS AND ENGINEERS

Christina C. C. Willis

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For the late Dr. Katharine Gebbie

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Foreword

To many of us in the STEM fields, engaging in networking is like starting to exercise or eating more healthily or backing up the files on our computers. We keep reading here and there that we should, that it's important in the long run, that there will be consequences if we don't. We may even be aware that others around us do it—regularly and, it would seem, effortlessly. And yet, we fail to. Why? As usual, there might be many reasons. Let me mention three.

First, we may doubt the benefit of networking. Isn't it overrated? Something for salespeople, yes, but not for scientists and engineers? Admittedly, we may not see any immediate, tangible outcome of our networking efforts. Networking is about uncovering hidden opportunities. If they are hidden, we do not realize what we are missing out on.

Second, we may feel that we are not up to the job. It must be easy to network for so-called "people persons" with plenty of time on their hands, but what if we are introverted individuals with a busy enough schedule as it is? Fortunately, networking is just another learned skill, and scientists and engineers are usually good at learning.

Third, and this is where this book comes in handy, we may not have a clear picture of what networking is all about. True, we might be anxious at the prospect of delivering a research talk, but at least we have some idea of how to go about it, such as build a story, create slides, and practice; we might learn public speaking by imitating others. In contrast, we might not know how to go about networking; in fact, we might not even recognize when or how others around us are engaging in it.

If any of the above excuses sounds familiar to you, rest assured you're not alone. Myself, I may have a Ph.D. in optics from Stanford University, I may have been invited to address researchers at some 200 universities in over 30 countries, I may even be a "wild card" in the seating chart of my friends' weddings because I will gracefully make conversation with anyone on any topic in any of four languages, yet I'm still a shy individual who would rather hide in his hotel room than face a conference reception. Over the last several decades, I came to terms with this personality trait by recognizing how it has been instrumental in my success as a professional speaker and by learning to mitigate its less positive consequences. All the same, I never thought of myself as a networker.

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Paradoxically, it was my network—the one I was not aware I had—that convinced me otherwise. Friends and contacts told me: "Oh, come on. You started a career off the beaten path, from scratch, no one was there to show you the way, and now you receive more requests for speaking engagements than you can accept? Of course you have been networking. It would not have happened otherwise." In other words, and as is often the case, it was a matter of perspective. To me, the word *networking* had always evoked noisy rooms full of people approaching one another with greedy eyes and mere pretenses at politeness. I had never realized it might also mean authentic volunteer work mainly for the satisfaction of helping out or perhaps for the possibility of sharpening one's skills, and only incidentally for bringing about further professional opportunities. (In this respect, my accepting to write this foreword qualifies as networking.)

In other words, it took me a while to come to grips with networking, and I hope that others around me will be faster learners than I have been. Learning can use guidance, though, and if someone can provide such guidance on networking, it is Dr. Christina C. C. Willis. With her Ph.D. in optics from the University of Central Florida, Christina is of course "one of us" to start with, but she is obviously so much more, such as a world traveler, a dedicated volunteer, and a great conversationalist.

It's been 10 years since I first met Christina at the closing reception of a student conference, but I remember this first encounter as if it were yesterday. There I was, in a corner of a large, open space, feeling awkward, when Christina noticed me and went out of her way (literally, in this case) to strike up a conversation with me. (I had delivered a plenary address the day before, so she did know who I was—a memorable talk can afford you so much visibility.) I remember how we talked about travels and her year in Japan—and how she had had to use expressive gestures to make a Japanese pharmacist understand she wanted aspirin. I remember how she then introduced me to other students and made me feel so at ease that we ended up taking silly group pictures (and, no, I had not consumed any alcohol).

In this book, Christina shares her view of networking in the broadest possible sense—from motivation to social graces, all the way to specific media such as poster sessions or LinkedIn. All along, she shares personal anecdotes from someone who has been through her own discovery process and has learned from it every step of the way. The result is a text rich in recommendations yet respectful of everyone's identity, serious about the topic yet not without humor, digestible as a whole for the thorough reader yet made of reasonably stand-alone chapters for the more selective one.

Before I let you enter Christina's story, let me end on a story of my own. Over a quarter century ago, launching my own business consumed me beyond what I had imagined, as I spent not just days but also nights, weekends, and holidays at the office. No regrets: I was making a dream come true and enjoying the intensity of the challenge. Still, three years of this spartan regimen brought my social life to its lowest point ever: I was not seeing any friends or family, let

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alone dating anyone. As a remedial strategy, and not unlike Jim Carrey in *Yes Man*, I decided I would (for a while) accept any social invitation I received, whether I felt like going or not. Soon enough, I met new people, through whom I met yet other new people, and so on. Some of the social events I thus attended were delightful; others were dreadful. One such event was a friend's birthday party, which I definitely did not feel like attending. Although I liked this friend (and still do), I did not care for the crowd she was hanging out with at the time: shallow, self-conceited show-offs looking down on nerds like me. As expected, I had a miserable evening. Still, I did notice on that occasion a young woman who was different. She and I eventually got married, had two kids, and launched a successful company together. I shiver at the thought I might have missed out on that opportunity had I turned down my friend's invitation.

If you want to create opportunities, I similarly encourage you to step out of your comfort zone. As Christina concludes (spoiler alert), it's OK to start small, so I'll make it easy for you: next time you attend a conference or similar gathering, make sure to be there every time there is free food. After a while, you might just realize you come a little less for the food and a little more for the people.

Jean-luc Doumont
December 2019

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Preface
Who Wrote This Book? And Why?

"A bit of advice. Always… No. No. *Never* forget to check your references."

~ Dr. Meredith (played by Severn Darden),
Real Genius (1984)

The goal of this book is to help you understand what networking is and how to do it sustainably with a method and strategy that is right for you. It is intended to help you raise your self-awareness and communication skills, address relevant anxieties that you may have, and give you the tools and strategies to apply networking in your life and career, for your own success and the success of your network. It is part philosophy, part strategy, and part application.

But why should you listen to anything I have to say? What makes me an authority on the subject of networking? And what prompted me to write this book?

I've done a lot of successful networking, a lot of research on the subject, and I've got a message that I think is worth sharing. As a scientist, I believe in a data-based approach, and so while my personal experiences have greatly shaped the content of this book, as much as possible I offer you, my reader, the supporting research and references to back up the statements made herein. This preface is also the only portion of this book written in first person; any personal anecdotes elsewhere are separated from the main text.

What follows here is my story and how this book came to be. It is a story heavily influenced by networking, and it illustrates some of the principles that are discussed in this book. It will give you some useful context about me and the perspective with which I have written this book. However, if you are not one for anecdote (and as a scientist, I would hardly fault you for it), then I suggest looking at the list of lessons learned at the end of this section before moving to Chapter 1.

My personal story and the origins of this book begin when I was a junior studying physics at Wellesley College in the fall of 2004. One of my professors advised me to apply for a summer internship at the National Institute of Standards and Technology (NIST) in Gaithersburg, MD. I took his advice and applied, and was accepted into the Summer Undergraduate Research Fellowship (SURF).[1] This was one of my first major networking lessons: When a teacher or trusted advisor suggests you apply for something, be it an internship, a grant, or an award—*do* it.

As a SURFer, I spent the summer of 2005 living and working in Gaithersburg. While I was there, Dr. Katharine Gebbie,[2] who was then the director of the Physical Measurement Laboratory, gave a presentation welcoming the summer students,

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and she encouraged us to make an appointment to meet with her. While I didn't know much about networking at the time, I did know that (a) an important person was offering to make time for me and that I should probably take advantage of the opportunity, and (b) I needed to come prepared to the appointment with something to say. I knew that I shouldn't just show up to say, "Hi! You said to come say 'hi'." So I set up an appointment, and I prepared a question.

My question related to my plans after graduation. I knew that I wanted to go to graduate school but also that I wanted to do something else first. Something like traveling. When the time came to meet with Dr. Gebbie, I asked her what I should do if I wanted to travel and eventually go to graduate school. She gave me a great piece of advice: she told me that I should work abroad, because traveling without working would make it too hard for me to return to school.

Then she asked me if I knew anything about Japan. I admitted that I didn't really know anything, except that sushi was my favorite food and I knew how to use chopsticks. But I said that I would love to learn more.

From there, Dr. Gebbie referred me to another NIST scientist who had connections with the Japanese standards institute, the National Metrological Institute of Japan,[3] part of the Advanced Institute for Standards and Technology. I met with him, and he passed my resume along to his contact in Japan, which lead to an interview later that fall and, ultimately, to me spending a year living and working in Japan after graduating from Wellesley. That was my next big networking lesson: when someone important, established, or advanced in their career offers you some of their time, accept the offer. I never could have envisioned the outcome, but I never would have achieved it without making the appointment.

Accepting that job offer was one of the more terrifying things I have ever done, but it was one of the best decisions I ever made. I got to learn a lot about physics, optics, and electronics. I made friends with my Japanese colleagues, as well as other researchers living in my apartment building. And I learned a lot about Japan—way more than just how to use chopsticks! This was another important networking lesson: some opportunities that offer a lot of growth and learning can also be very scary, and I would have missed a lot of life-changing experiences if I had let fear stop me.

If I hadn't taken my professor's advice and applied for the internship, I wouldn't have had the chance to meet Dr. Gebbie. And without accepting her offer and setting up a meeting, I never could have asked her my question, and she never would have introduced me to her contact. None of the subsequent networking that led to an interview and a job offer would have happened either. And by accepting that job offer, I did something that pushed me far outside of my comfort zone and fundamentally changed me as a person and a scientist, in ways that have been very valuable to me. This is part of why networking is so powerful; it will give you access to career and life opportunities that you may not have known existed.

While I was in Japan, I applied for graduate school, and when my year was over, I matriculated at the Center for Research and Education in Optics and Lasers (CREOL), the College of Optics and Photonics, at the University of Central Florida.[4] While at CREOL, I got involved in several student organizations,

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including student chapters for professional societies such as OSA and SPIE. I became the treasurer of the SPIE student chapter, and organized optics outreach and professional development events.

Then I made a mistake. Really, it was the entire Executive Board of the chapter that made a collective mistake. We were all senior graduate students, busy with research and dissertation work. After a year of solid chapter programming, we failed to hold an election for a new Executive Board. Then we ceased activities all together. I felt awful about it, and avoidant, and for almost a whole year I procrastinated. But as the time for a new election rolled around, I decided that something had to be done.

I took action and got in touch with the SPIE staff person in charge of Student Chapter relations at the time, Dirk Fabian. Fearing admonishment, I sent him an email, explaining, apologizing, and asking how to fix things. But instead of chastising me, Dirk was very understanding and helped me make the arrangements necessary to get our chapter back in good standing and hold the election (which we did, happily passing the torch to new leadership).

Dirk and I stayed in touch, and later when I needed additional support for conference travel, he helped me find volunteering opportunities. This was another important networking lesson: by staying in touch with a new connection and establishing a mutual understanding of needs (I needed funding to attend a conference; Dirk needed volunteers for the conference), we created a mutually beneficial networking relationship. This is the heart of sustainable networking.

It was also how I discovered that I loved volunteering and organizing, and so I kept looking for more opportunities. I found that the more I volunteered, the more volunteering opportunities became available to me. I call this phenomenon *Opportunity Momentum*: the more you participate in an activity, the more skills you build and the more people will associate you with that activity, which results in more opportunities to do that activity. As I gained Opportunity Momentum by volunteering with SPIE, my roles expanded to include conference media coverage, panel moderation, and facilitating at the Student Chapter Leadership Workshop, which then led to sitting on panels, judging the Optics Outreach Games, and serving on several SPIE governing committees. Then something amazing happened: I was put on the ballot and elected to the SPIE Board of Directors! As I write this book, my term as a Director is coming to a close. It has been an *immense* honor to serve SPIE in this manner, and I have learned so much.

Which brings us to the book.

I won't say "never," because I am a physicist, but I will say that the probability of me deciding, on my own, to write this book was negligible. Which rounds down very easily to "never." So I was surprised when I received a message from an SPIE staff member, asking if I would be interested in writing a networking book for scientists and engineers. This person knew that I enjoy writing, and about my volunteer work with SPIE, and thought that I might be interested. In considering that idea, I saw that I would not have gotten to where I was without a lot of networking and that I (probably) would never have received that message. This was another valuable lesson: if I hadn't shared my passion for writing with this

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person, they probably wouldn't have thought of it either. Sharing about my work and interests had brought me a wonderful opportunity without even asking for it.

I also know how hard-earned some of my basic networking skills are, such as social interaction and conversation. They are a huge part of networking, and I used to be terrible at them. Really terrible. It resulted in a lot of social rejection during my childhood, and I still regularly battle social anxiety relating to the acceptance or rejection of my peers. Learning how to cope with that anxiety has been a big part of my networking strategy, especially at conferences, where the socializing can reach a frenetic pace. But over the years I have learned a valuable networking lesson: I am not alone when it comes to social anxiety. Many people have it, and there are many strategies that I can use to mitigate its effects.

Growing up, I remained a socially awkward, nerdy kid, but I gradually got better at socializing and making friends. As my self-awareness developed, I began to realize something else: I was pretty terrible at making conversation. I saw that I was missing out on getting to know other people, because I spent so much time talking that I never got to listen to what they had to say.

So what does a nerdy, twenty-one-year-old physicist do when she realizes that something needs to be fixed? Study it. Do research. Experiment. I got on the internet and looked up how to be a good conversationalist. I found articles and forums, and took notes. I read books, such as *Emotional Intelligence*[5] and *The Art of Civilized Conversation*,[6] making highlights and writing in the margins. It opened up a new world to me. I practiced the principles I learned and slowly got better at being a good conversational partner, asking questions, and sharing the spotlight. This was another valuable networking lesson for me: social skills are trainable, like any other skill, and I can change myself through practice and concerted effort.

I've told you this story about myself to give you some context about who I am and why I wrote this book. It illustrates some important lessons about networking:

- When a trusted advisor or mentor suggests you apply for a fellowship or award, do it (see Section 7.4 on mentoring relationships and Section 7.5 on applying for awards and scholarships).
- If someone talented or important offers to give you some of their time, take the opportunity and ask questions (see Section 7.12 on following up and Section 8.2 on networking in your workplace).
- Opportunities that offer a lot of growth and learning can also be very scary, but don't let fear stop you from taking advantage of them (see Section 3.2).
- Staying in touch and establishing a mutual understanding of needs is key to effective and sustainable networking (see Chapter 1).
- Volunteering is one of the best things you can do for your network and your career, and it is a path to leadership (see Section 7.2).
- The more you do of something, such as volunteering or working on a specific topic, the more of that something you will get—a phenomenon I call *Opportunity Momentum* (see Section 2.2).

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- Sharing your work and interests with your network connections will bring opportunities to you without you asking (see Section 1.2).
- Social anxiety is a common problem that you can develop positive strategies to address (see Section 3.4).
- Networking, conversation, and self-awareness are learned skills, and they can be improved with study and practice (see Section 3.4 and Chapters 4 and 5 for ways to improve your self-awareness and conversational skills).
- A diverse network that includes people outside your subfield can lead to opportunities you couldn't have imagined—such as writing a book (see Chapter 6).

In addition to my own experience, I have done a lot of research to prepare this book so that you don't have to simply take my word on it. References are listed at the end of each chapter. The appendix contains suggestions for further reading.

I wish you all the best in your endeavors, and I hope you enjoy the book.

Christina C. C. Willis
August 2019

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