

## STAYING SANE ON THE TENURE TRACK

Shane G. Henderson

School of Operations Research and Information Engineering  
230 Rhodes Hall, Cornell University  
Ithaca, N.Y. 14853, U.S.A.

### ABSTRACT

A tenure-track appointment is a wonderful thing, but it really should come with an instruction manual. This article is a loosely-coupled collection of thoughts and advice on surviving a tenure-track appointment. The focus is on concrete tips and advice for an engineering-school appointment, which was my path, but perhaps some of the ideas are also valid in other environments, such as business schools and mathematics or computer science departments.

### 1 INTRODUCTION

I get asked a lot about how to survive the tenure-track experience. So this seemed like the ideal opportunity to clarify, partly for myself, a rather eclectic mix of thoughts, advice, and observations about the overall process. Please keep in mind that every institution has its quirks, and we are not the same people with the same preferences and goals, so it is quite possible that some of what follows may even be the *exact opposite* of what is right for you! So why should you read on? By *evaluating* the ideas here you'll at least come up with your own opinions and perhaps a plan, and I think that it is better to have a plan than to meander through the process without one.

Before going any further, here's another disclaimer. I knew almost nothing about the tenure track process on my first day on it. I was like a blindfolded bull in a china shop. Many people who know me think that is still the case.

I've tried to break down the ideas in this article to a few key areas. Below you will find brief sections on research, service, teaching, tenure, time management and your personal life. But there are a couple of thoughts I'd like to pass on before we get to those.

First, I hope you have heard of the "impostor syndrome." Wikipedia ([Impostor Syndrome 2008](#)) describes the impostor phenomenon thus. *The Impostor Syndrome, or Impostor Phenomenon, sometimes called Fraud Syndrome, is not an officially recognized psychological disorder, but has been the*

*subject of a number of books and articles by psychologists and educators. Individuals experiencing this syndrome seem unable to internalize their accomplishments. Regardless of what level of success they may have achieved in their chosen field of work or study, or what external proof they may have of their competence, they remain convinced internally that they do not deserve the success they have achieved and are really frauds. Proofs of success are dismissed as luck, timing, or otherwise having deceived others into thinking they were more intelligent and competent than they believe themselves to be. This syndrome is thought to be particularly common among women who are successful in their given careers and is typically associated with academics.*

The Wikipedia article gives some references (that I haven't read) that give more details. I think we all suffer from this syndrome to some extent. There's a little voice in our head saying things like "you're no good, and they're going to find out ... perhaps sooner than you think!" Some of the people I've met that seem most afflicted are also some of the smartest and most capable people I've come across and are often top academics to boot. So if you do have something like this little voice in your head, then tell it to hush so you can just get on with your work, recognizing that your work is as good as it can be because you're doing your best. What more can you do? We all live with this voice to some extent.

I first learned about the impostor syndrome from a workshop run by Richard Felder ([Felder 2008](#)). Unlike most teaching workshops I have attended, this one was a gem. The advice was concrete and clear. The ideas made good sense, and were easily implemented. The 2 days that you spend at this workshop are well worth the time. You should convince your department chair (of the department where you have your tenure track appointment) that he or she should pay for you to attend such a workshop, perhaps even in the summer before you arrive for your first day as a professor.

## 2 RESEARCH

It is difficult to offer general advice on research, since it can be so personalized, but I'll give it a try.

**Problem identification can be tough.** Once you've published the papers from your thesis, where should you go next? Hopefully you've developed some momentum from your thesis that yields natural lines of inquiry, but that doesn't always happen. Reality is a great source of problems! You will see problems that people really care about. However, there are some provisos here. First, working with an organization can be time consuming because your contact(s) often change companies or are promoted to other areas. Second, companies often desire concrete products and the intellectual property that goes with them in return for sponsoring research. You do not want to become a software developer! Third, it is often the case that 90% of the progress in real problems is due to 1% of the technical tools that you may want to employ and/or develop. In my own work I have developed a relationship with an emergency-services software developer. They share data with me, and I share algorithms and ideas with them. Another way to identify new problems is to talk to people in related research fields. You'll see simulation from a different perspective (the user's perspective) and learn about what they do. The growth in a mature field like simulation is almost always at its interface with new problems and other areas, so this is fertile ground for innovation. For example, consider the work in financial engineering simulation.

**To learn how to write research proposals, participate in an evaluation panel.** The program officers at the National Science Foundation are always looking for faculty to evaluate proposals. Volunteer! You get to see how proposals are evaluated, and what can destroy a good proposal. Other funding agencies have varying methods of evaluation. Find out whether you can participate, and if not, try to at least *meet* the program officer to discuss your goals and what they are interested in funding.

**Don't paint a topic as something it is not.** How many times have you read a paper that says something like "... this stuff is important in manufacturing, telecommunications and health systems ...," gives no references to that assertion, and never touches those application areas in the paper? Math is math. Applied work is applied work. Work that provides insight provides insight. And all of these types of work have value. If you publish your work in the right places, then motivation will be much easier.

**Don't get defensive when presenting your work.** You've worked hard to develop your work to the point where you're giving a talk on it. So when the questions are asked, it is easy to become defensive. Instead, think about the work you are presenting as "the work" and not "your baby," and answer questions about the work in a matter-of-fact fashion. You'll be calmer and give more

reasonable responses. All work has weaknesses. Know those weaknesses, face up to them, and move on. You still think there is value in the idea, otherwise why present it?

**Don't submit abstracts about work you haven't done yet.** I've done this a few times, and most of the time the work doesn't work out the way I thought it would, and the result has been some nail biting while I tried to shoehorn the work to fit the abstract. If you really do need to submit an abstract before you've done the work, then make the abstract vague enough that it will fit work you've already done so you have a "fall-back plan."

**Publish in the right place.** You will face pressure to submit to *Operations Research* or whatever the leading journals are in your speciality. Resist this when the fit isn't right. Instead, submit to the journal you think is most appropriate. For example, I have done some work on radiation therapy planning for cancer treatment (Chu et al. 2005). We published that work in a journal targeting radiation-oncology physicists and treatment planners. It is then far easier to write the paper because there is a match between audience and content. In follow-up work we are studying why some of the engineering tricks we used in that paper appeared to work. The follow-up work is yet to be published, but may be more suitable for an Operations Research audience. Of course, you do need to ensure that your work reaches the people who will write letters for you at tenure time. By presenting your work at conferences, potential letter writers will have a good idea of what you've been doing, and how it matches with their interests.

## 3 SERVICE

You'll notice that all of the points below relate to *external* service, i.e., service to the profession, rather than within your department. That's intentional, because this kind of service is the most important, and the kind of service you should focus on. Do your best to keep your internal service at a minimal level that is still considered reasonable in your department. Internal service will not get you tenure!

**Volunteering really is fun!** I had an absolute blast working with Russell Barton (he was the program chair and I was coordinating the editorial team) on the 2007 WSC Proceedings. Towards the end we were prone to fits of hysterical laughter when we heard of the latest deadlines, and the antics of untamable authors. But save large-magnitude service roles for after tenure! Nobody (in their right mind) expects you to take on huge service roles before you have tenure. And if your head-of-department asks you to do so, question whether this is one of those times when you should maximize marketability (see Section 5) and say no.

**Take on small roles that help you to meet people, but don't swamp your time.** Being newsletter editor or secretary of INFORMS-Sim are good examples. Similar

roles may be available in other professional organizations. You might also organize tracks or mini tracks at conferences.

**Do referee reports immediately or don't do them at all.** This advice came to me from some of Paul Halmos's writings. The request will just fester on your desk for 3 months nagging at you, and in the end you'll spend the same amount of time on it as if you started right now. So do it now and clear the air. The one danger here is that you could end up doing *lots* of referee reports. So keep track of how many you are doing, and limit the number you do in any given year. I think that 10 a year is plenty. If you can keep the number below that then well done!

**Be kind with your referee reports.** We've all received nasty reports that cut to the core. Don't be one of those small people who finds pleasure in making someone else squirm. Remember that the editors you are working with, who are higher in the "academic food chain" will read your report, and part of their opinion of you will come from that reading. This does not mean that you should accept all incoming papers. You must give an honest evaluation, but you can be constructive or destructive. You have probably already seen examples of both types of reports, so you have examples to learn from.

**Do a good job of refereeing.** In other words, ensure that your referee reports have more content to them than a couple of useless paragraphs saying something vague like "The problem seems poorly motivated." My view of a good report is that you've checked 3 main questions. "Worthwhile? New? True?" In other words, first check that the contribution is something that some readers of the journal will want to read. Second, ensure that what is being written has not been done before. Third, check the mathematics to ensure that what is claimed is, indeed, true. Check these questions in sequence. If any fail the test, then *stop right there*. There is no need to check correctness of an article that is of no interest to a particular journal. Remember that it is *not your job to correct typos*. Which reports do you find more helpful? Ones that give a laundry list of spelling mistakes, or ones that suggest alternative proofs, other ideas to investigate and reorganization of material that doesn't flow well? If there are lots of grammatical errors, then say "There are many grammatical errors that need revision, e.g., ..." and give a *single* example.

**Once you get tenure your service load will double.** So enjoy the freedom from service you have now.

#### 4 TEACHING

I have had teaching roles at the University of Auckland, the University of Michigan (Ann Arbor) and Cornell University, and at all 3 places I have had large classes to teach. Large classes pose special challenges that will Hoover up time if you let them. You may also find the panels on teaching of simulation at recent Winter Simulation Conferences helpful;

see, e.g., [Freimer et al. 2004](#). Here are a few strategies that have helped me keep organized and sane in large classes.

**Be as organized as you can.** Students will forgive almost anything else if it is clear to them that you are doing your best to deliver a quality class to them. This means showing up on time, *ending* on time, having a logical flow to the topics of the course and so forth.

**Say no to week-long teaching-improvement workshops.** (Except the 2-day workshops run by Richard Felder; see Section 1). You have already had approximately 20 years of education, during which you have had plenty of examples of good and bad teaching to learn from. Figure out the signal in the noise and emulate the good things.

**Assign a teaching assistant (TA) to handle all administrative homework queries.** Give the TA general guidelines, e.g., a policy on late homework, and on regrading homework. Then forward any such queries to that TA. You must then support that TA when they have to make judgements in grey areas.

**Allow regrading of homework.** Grading mistakes will happen, so you need a policy on regrading of homework. I have students submit a written request to my homework TA by a certain deadline. The *entire* homework, and not just the disputed portion, is regraded. You must be consistent with the grading scheme for the homework, but you can ensure that the regrading is stringent, so that the typical result is that grades go down slightly. This discourages the "one-point wonders" from soaking up your TA's time, and means that the cases that are brought to light are usually valid ones.

**Be extra careful in wording homework and exams.** Each minute spent in preparation saves 30 minutes and some stress later on.

**Prediction: exam makeups will be a nightmare.** I have tried all sorts of things here. You can trust students not to communicate the details of the exam between the makeup date and the actual exam, but I have been "bitten" with that policy. You can do oral makeups (which soak up your time), you can hold multiple exams through the semester so students can drop one exam (they still beg for makeups), and you can tweak the single exam slightly for makeups (still leaving the possibility of communication of some sort). The best I have been able to come up with is that when I first offer the course I write 2 exams. One is the standard exam for that year, and the other is the makeup exam. I *collect* the makeup exams and don't return them to students. Students have the right to *review* their makeup exam in my office, but I don't return them. These I keep confidential and reuse them. Otherwise you are doomed to write multiple exams forevermore, or to worry about honor code violations forevermore. Each year you only have 1 exam to write, and you also offer makeups.

**Prevent post-exam editing.** Some "creative" students will attempt to revise exams that have been handed back

and claim a grading error. Either have someone scan in all, or a sample, of the exams before returning them, or allow students to review their exam in a controlled environment but don't hand exams back.

**Use a grading scheme that allows for improvement over the semester.** If students "bomb" on the first midterm exam, then you still want them to strive to understand the material. So use a weighting scheme that allows them to recover from a bad day or two.

**Don't take what students say personally.** It is natural to feel defensive about the course content, your teaching style, etc. Try to think of criticism received from students through evaluations or otherwise as not being directed to you, but rather to the course. That way you can deal with that criticism constructively, even if it is not intended to be constructive. In any case, *avoid taking offense* as the outcome will simply be that you become offended, and those few students who want to frustrate you will have won. This comment especially applies to dealing with honour-code violations. Deal with these calmly and don't take it personally. Otherwise such discussions become more unpleasant than they need to be. And with teaching evaluations, disregard the least pleasant comments. Usually these come from students with an axe to grind and are unlikely to be helpful.

**Make the classroom a "safe place" for asking questions.** It is intimidating for students to ask questions in class. So ensure that students feel as comfortable as possible asking questions. So when you get questions that seem poorly thought through or going nowhere, try to transform the question into something better and answer the transformed question.

**Avoid email.** If you answer long email queries with long emailed answers then you will never see daylight again. Explain that you reserve the right to reply to emails with the words "office hours," meaning that the student should come to someone's office hours. And explain why you do this in the first lecture of the class! I restrict myself to one-sentence answers for class emails.

## 5 TENURE

Let's state, from the outset, that tenure is a *good deal*. Here are some overarching thoughts related to the process of getting it.

**Don't make it your over-riding goal.** If your sole goal in life is to get tenure, then what happens after you get it? Tenure is a means to an end, namely the freedom to work on whatever problems you wish. In many ways it is like funding. Funding is nice to have, but in the end it is a means to the end of doing research.

**Don't be in a hurry for tenure.** Most departments attempt to shelter their junior faculty somewhat from service work, such as admissions committees and so forth. Also,

senior faculty serve on more editorial boards, evaluation committees, and so forth. So enjoy the extra emphasis you can place on research and teaching pre-tenure. Committee work looms!

**A postdoctoral position or visiting position can be a great starting point.** Think of these types of positions as a reprieve from the ticking tenure clock. They give you a chance to see and work on new problems. They are not the second choice that they may seem. I spent two years back in New Zealand working at the Department of Engineering Science, during which I started working on emergency services planning and call-center staffing. That experience formed the basis for an NSF CAREER proposal when I returned to the USA and I have continued to work in these areas since that time. The experience heavily influenced my career and helped me keep a tenure track in perspective, as discussed next.

**Keep the stress under control.** Yes, a tenure-track appointment can be stressful, but there are some simple things you can do to keep things in perspective. First, realize that you can be valued elsewhere. Your skills are in high demand in many industries, and there are many other universities that would love to have you as a faculty member. So it would not be the end of the world if you didn't get tenure. Essentially, just know that you can be valued elsewhere. Second, try to get into the mindset that you get to do what you are doing until the tenure review, at which point there is a chance that you will get the happy bonus that you will receive a ticket to do this for your remaining working life! Here tenure is viewed as a nonnegative *bonus*. The default you have in mind is that you will *not* get tenure. Yes, this is simply a mind game, but I found it helpful pre-tenure.

**Be who you want to be.** Once you accept a default of not getting tenure, it frees you to concentrate on things that you want to do. It also prevents you from pretending to be someone you are not, which will probably just make you miserable for 6 years. And keep in mind that if you pretend to be someone else for 6 years, you may just turn into that person!

**Keep that flywheel turning.** No matter how healthy your mindset, you will still have the odd difficult day. Perhaps it's a scathing referee's report (we've all had them!), or perhaps a less-than-stellar teaching evaluation. A *flywheel* is a heavy wheel that takes effort to get turning, but once turning is also hard to stop. I have a mental flywheel that keeps my spirits up on those difficult days. It slows down a bit on difficult days, but speeds up when the odd success comes around.

**Be visible.** It is far easier for tenure-letter writers to give you a strong recommendation if they know you and your work. So go to conferences and present your ideas.

**Maximize marketability.** If there are other departments in the world that want to hire you, then your own

department will be more likely to want you to stay. So make sure that you please your professional community perhaps even above your local community. This means taking on external service roles before internal service roles. For example, being an associate editor for a good journal is probably more important than serving on the admissions committee! As another example, suppose the dean of your college looks favourably on faculty that write textbooks. Should you drop your research to write one? It may help locally, but will your tenure-review letter writers appreciate the textbook as much as the research you could have done instead? And will that dean still be running things when you come up for tenure?

## 6 TIME MANAGEMENT

What is this topic doing in a discussion of the tenure track position? Time management is a huge deal. You need to manage your time effectively, because it is your most precious resource. There are many people far more qualified to speak on this topic than me. For example, see the talk (Pausch 2007a, Pausch 2007b) by Randy Pausch who, at the time he gave the talk, was dying of pancreatic and liver cancer. I highly recommend this talk.

**OHIO: Only handle it once.** This is the “holy grail” of time management. When you get mail, be it email or snail mail, deal with it at once. It is tempting to put trickier decisions off, but if you aren’t going to get further information on the decision, then why defer it? Of course, for decisions with large consequences you may want to take more time, but for things like junk mail, university administrivia and so forth, you should not handle the item twice.

**Learn to say “no.”**

**Learn to say** “that sounds important, but I’m sorry that I cannot devote sufficient time to do the job well at the moment.”

**Learn to say** “I’m sorry, but my portfolio of commitments is full at this time.” Yes, this is the third time you have heard this point. It is *that* important.

**Keep a to-do list.** This will help keep you on track. When you finish some activity during the day then you have somewhere to turn to see what is next. It also gives you a place to put pointers to emails related to tasks, so you don’t re-read those emails 100 times. My to-do list is organized by importance and urgency, as recommended by Randy Pausch. I also include a due date for some items.

**Keep a calendar.** When I first started on the tenure track I kept forgetting appointments. You will not be able to keep everything you need to remember in your head. Pick a calendar tool and use it. For a long time, my calendar was a spreadsheet. It doesn’t matter what tool you use - just pick one and use it!

**Don’t use your email inbox as a to-do list.** When you do this, you re-read emails many times before you act on them. So you waste time. And when you have to put some things off while they are still in plain view they just eat at you.

**Accept that sometimes your progress will be limited.** In the first year of a tenure-track position you are unlikely to get much new work under way because you are too busy publishing prior work, writing grant proposals, developing new courses and getting used to your new environment. Accept that. Similarly, there will be days when you have so many appointments that you won’t get much research done. So be it, as long as those days aren’t too numerous!

**Find the work mode that works best for you.** Many people like to have large blocks of time to work on things. I prefer a more broken-up schedule where I work on things for an hour at a time. Bruce Schmeiser is nocturnal. Find what works for you!

**Don’t discount in time!** If someone asks you “can you do  $x$  in 2020?” your thoughts might go like this. “2020 is years away. My calendar is clear in that year, *of course*. Sure I can do this. How bad can it be?” Here you are making the mistake of discounting time in time, just as we can and should discount cashflows in time. You should instead ask yourself whether you would agree to the request if it were to happen next year. Will you really have time to do what is asked without working 90 hour weeks?

## 7 PERSONAL LIFE

Keeping a satisfactory balance between work and home is a constant struggle, at least for me. At times I feel in control at work, only to feel guilty about not spending enough time with my family, and at other times the situation is reversed. Here are some thoughts about maintaining that balance and keeping stress at bay.

**Find a hobby that forces you not to think of work.** I enjoy going to the climbing wall at Cornell. It is hard to think about referee reports when you are clinging to a tiny hold 25 feet above the ground with burning forearms. I call this fun. And I feel incredibly relaxed after a climbing session.

**Do not work 14 hours a day, assuming life gets calmer after tenure.** It doesn’t. It gets busier.

**Find a sympathetic soul.** This person should be your sounding board who you commiserate with over the vagaries of a tenure-track appointment. This should be someone who can relate, e.g., another junior faculty member in the same or closely related department.

**Take pity on your spouse and friends.** Remember, your job is only your job, and not their entire world. If all you ever do is moan about tenure-track stresses, then you are not going to be much fun at parties. Besides, other career paths have their own issues. Pity the pre-partner

lawyers and the construction workers who have to work without gloves in the winter!

**Keep your ego under control and your accomplishments in perspective.** When I graduated with my Ph.D., my oldest brother said “you know everything about nothing.” It was his interpretation of the specialization required to get a Ph.D. To help with this, ask yourself whether your next-door neighbour knows the most famous person in your field.

## 8 AND IN CLOSING...

The ideas in this paper are an eclectic mix of advice I’ve been given, insight from mistakes I have made and my own personal opinions that came from nowhere. You should definitely ignore at least 30% of what you read here, because what works for one person may not work for another. I hope this discussion doesn’t seem negative. I love my job. Good luck with your future career!

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## AUTHOR BIOGRAPHY

**SHANE G. HENDERSON** is an associate professor in the School of Operations Research and Information Engineering at Cornell University. He is the simulation area editor at *Operations Research*, and an associate editor for the *ACM Transactions on Modeling and Computer Simulation* and *Operations Research Letters*. He co-edited the handbook *Simulation* as part of Elsevier’s series of Handbooks in Operations Research and Management Science, and also co-edited the Proceedings of the 2007 Winter Simulation Conference. He likes cats but is allergic to them. His research interests include discrete-event simulation and simulation optimization, and he has worked for some time with emergency services. His web page can be found via [www.orie.cornell.edu](http://www.orie.cornell.edu).