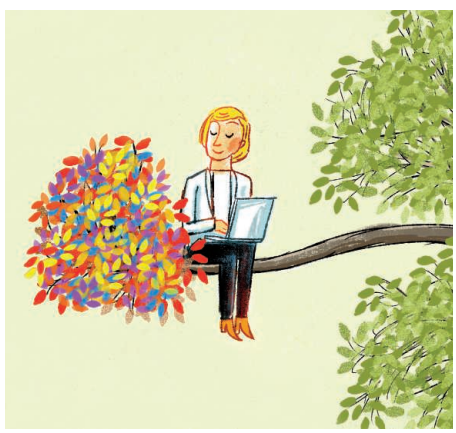
By **Kara Mosovsky**

Time to branch out

It seemed risky to try something new midway to my tenure review. Since I started my dream job as an assistant professor at a small liberal arts college, the gist of the advice I heard and read was to stick with what I know, and then I could branch out after tenure. I didn't necessarily disagree—it made sense that I could contribute most in my formal area of expertise. But as I chugged along on my research using the same old tried-and-true benchtop assays, my excitement about the work was fading. I needed something new to inspire me again.

I was intrigued by big data projects, long touted as the future of my field of microbiology. But I thought of myself as computer illiterate. Computational biology was intimidating, so I had steered clear of it. But I knew that my field was changing, and I could either get onboard or be left behind. "If I don't try it now, I may never have the courage to try it at all," I thought. Besides, I had an idea for a big data microbiome project that excited me more than any project had for years. If I was this motivated, surely it would turn out OK … right?



"Expertise … can also mean the willingness to move outside of your comfort zone."

"I shouldn't have to be pigeonholed into my 'formal area of expertise' for the rest of my career," I thought to myself. "Doesn't a Ph.D. demonstrate that you have the ability to learn and master something new?" My other research projects were in good shape, and I was feeling comfortable with my status and reputation among my peers. It was time to trust my instincts and give it a shot.

My plan was to ditch the comfort of my benchtop and biosafety cabinet and embark on a 10-week project that would combine field research with bioinformatics. I was almost laughably outside of my comfort zone, and honestly a bit naïve about what was involved, but I was willing to risk a summer to see where it would lead.

And so we began, my talented undergraduate research student and I, with our computers, a huge stack of papers, and a heck of a lot of let's-try-this attitude. We hit our first roadblock earlier than we had expected to: on the very first day. It took us more than 5 hours to download the program we needed to use. Then there was the language barrier—the commands for data analysis might as well have been hieroglyphics. Even the online help forums assumed a level of knowledge we did not have. But, I reminded myself that there was no pressure to succeed. My motto was, "We'll throw everything we have at this, and then see where we stand."

For the first several weeks, progress was slow and steady, with an emphasis on slow. Day after day, we encountered new roadblocks. But we overcame each one and gained confidence. After the 10 weeks we just kept going. Now, more than a year after starting that work, we may not be experts, but we are far from beginners.

Finding success in a new area made me feel proud and pretty wicked smart—a lot smarter and more capable than academia sometimes makes me feel. Accepting my status as a novice also freed me to conduct research for the simplest reason, the one that drew me to the field in the first place: my love of the science. Freed from the pressure of acting the part of an expert, I was able to make it an incredibly productive year. The momentum extended to my other work in sometimes unexpected ways. I resurrected and remastered old techniques and applied them imaginatively. Branching out might have been a bit of a risk, but the reward more than made up for it.

To earn tenure, you must prove to a committee of your peers that you have the skills and capacity for long-term success. But with this particular project, I proved the same thing to myself—which in the long run is just as valuable, if not more. Expertise might be defined by the things you can reliably do and do reliably well, but I've learned that it can also mean the willingness to move outside of your comfort zone; the courage to take a risk, even when failure is a real possibility; and the perseverance and stamina to overcome whatever obstacles you may encounter along the way. ■

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