Game of Tenures

(Not by George R.R. Martin)

Sema Dumanli

INDEPENDENCE—BUT DO I HAVE WHAT IT TAKES?

Many of us are forced to relocate in the search of a place where we can grow into independent researchers. In my case, this relocation meant reuniting with my lovely family and with the winter sun. But then again, it also meant a major economic crisis, a crunch of the local currency, a pandemic, the president's intervention in my university's domestic affairs, and major earthquakes. This is the story of my relocation to Turkiye from the United Kingdom. I constantly receive the same question from people around me: "Sema, do you regret going back?" My answer is no, and here is why.

THE BIG DECISION

Cersei Lannister famously says to Ned Stark, "When you play the game of thrones, you win or you die. There is no middle ground." However, in the game of tenures, we have a middle ground. There actually is quite an attractive alternative: joining industry and making a lot of money (which, in the eyes of the academic community, equates to affording to stay in the conference hotel). After I graduated from the University of Bristol, I joined Toshiba Research Europe, turning down a postdoc offer. And yes, for six years, I enjoyed that glamorous life. Look at me shaking the hand of the late Queen Elizabeth (Figure 1), representing Toshiba. Posh old days.

Why did I leave? I often think being a scientist is like freely traveling in time and space. You might be an archaeologist dwelling in the past or a physicist observing the natural course of events. We researchers in the field of engineering are into the future. We imagine how the world might look in the coming years, solve the problems that have not happened yet, and simply design the future.

EDITOR'S NOTE



Francesca Vipiana

The June "Women in Engineering" column contribution is authored by Assoc. Prof. Sema Dumanli, Boğaziçi University, Istanbul, Turkey. She describes her career journey, moving from the industry world, at Toshiba Research Europe, to founding the antennas and propagation research and biohybrid systems laboratories at her university. Many key messages and much advice are to be found through her experience. Assoc. Prof. Dumanli is the recipient of the 2022 IEEE Antennas and Propagation Society Donald G. Dudley Jr. Undergraduate Teaching Award and a three-time recipient of the Boğaziçi University Faculty of Engineering's Excellence in Teaching Award.



FIGURE 1. The author meets the late Queen Elizabeth II.

Digital Object Identifier 10.1109/MAP.2023.3267038
Date of current version: 5 June 2023

The need for traveling further in time was the reason why I needed to leave Toshiba. Good as it may have been, I did feel like the research I was conducting there was short-term. Being in the safe arms of a technology giant, without the need to worry about funding, was convenient, to say the least. I knew the step I was taking meant that I needed to find my own funding. To put it more frankly, I needed to convince funding agencies to support my crazy futuristic and high-risk research. I knew it, and I decided that I could rise to the challenge. Oh my, little did I know!

THE RELOCATION

I might be a bit naive at times, but as soon as I arrived in Turkiye, I realized that most of academia was also conducting short-term research that required industrial support. Some professors advised me to collaborate with industry on topics that I thought were not even short-term—they were *now*. No, I did not want to go back to square one. In addition, before me, Boğaziçi University did not have any researchers working in the area of antennas and propagation; hence, most of my first year there was spent trying to establish my lab (Figure 2) (https://bountenna.boun.edu.tr/).

Believe me, in the summer of 2018, I learned quite a lot about interior design, but never mind that. During this time, I used a colleague's laboratory to continue my research. I know this is common knowledge, but I cannot not say it enough: having my colleagues' support at the beginning of my journey was ever so critical (Figure 3). I would have given up multiple times if it wasn't for their support. Getting help from people who know the drill is crucial.



FIGURE 2. The author's lab when she arrived at Boğaziçi University.

REGRETS AND MISTAKES

Funding-wise, I was trying really hard, with few to no returns in my first years. First, I applied to Marie Skłodowska-Curie Actions. Let me set the scene for my non-European colleagues. In Europe, Marie Skłodowska-Curie Actions, offered by the European Commission, provide you with the smoothest relocation. I applied to the Marie Skłodowska-Curie Individual Fellowship program and got a score of 86.4%. Unfortunately, that year, the total funding was insufficient to support me. However, this actually was a good result for the first try. But here, I made my first mistake: I moved before I secured funding. I could not apply again because there was a limitation on the time spent in the host country, a requirement that slipped from my attention. My advice for young researchers: make sure you understand all the details of the funding opportunities that you intend to apply for while planning your relocation.

Learn every little detail and all the requirements about the funding programs. Know your game!

Then, I started applying for local funding in Turkiye. I got rejected for two consecutive terms. I cried and cried. Did it help? Of course, it did. I now have a "coping with rejection procedure." I strongly urge you to create one. For me, it involves a variety of carbs, some tears, and bingeing comedy shows (all right, maybe a bit of period drama, as well) for a day or two. Then, start over. The trouble was that I didn't know what the local funding agency was after in a proposal. And the way to write a successful proposal was clearer to me once I managed a project. Now, this might seem like an infinite loop. But do not worry. Because the funding agencies are aware of this loop. That is why there are programs created only for young researchers.

Try targeted calls for proposals. Maximize your chances.



FIGURE 3. The author poses with colleagues. From left: Assistant Prof. Faik Başkaya, the author (in a Bristolian gown that cost a fortune), Prof. Günhan Dündar, and Prof. Arda Deniz Yalçınkaya.

Use them! That was my second big mistake. I jumped into the cold, cold ocean (multiple times) before practicing in a warm swimming pool.

My last, but not least, mistake was to fight fights that did not matter. I faced unfair situations, where I felt helpless. Nonetheless, I spent my energy and time on them, although the other party was offering me nothing but what the Turkish-Dutch singer Karsu was offering in one of her songs:

Let's play a game that only I can win.

And yet, I still played their game with their rules. Mistake! Now, I have my own rule: I fight only if my fight is going to have an impact on the lives of other researchers after me, too.

IT'S NOT ALL DOOM AND GLOOM

The best thing that I did since I returned to Turkiye was to apply for a European Research Council (ERC) grant. The ERC is a program by the European Commission for researchers who have great scientific track records and excellent research proposals. The funding is intended for high-risk and high-gain projects. This was what I longed for before I left for academia. Remember, I wanted to travel far into the future. I did not get the ERC grant, but, with a similar proposal, I got the local equivalent of the ERC, which opened a great many doors for me. I am really glad that during my first years, I did not fall into the trap of losing hope.

Always remember why you are here. Stick to the plans of that kid who dreamed of being a curious scientist!

I have always considered my years in industry as a great eye-opener. I have not only learned to be an engineer but also to approach daily life from a different perspective. Patenting was one of those habits that I got from industry. Therefore, when I came up with the idea that was also behind my ERC proposal, the first thing I did was patent it. To my surprise, a couple of years later, some unpleasant things happened, and my patent application came in handy. This had never happened to me before, and chances are it won't happen to you either, but hey, better safe than sorry.

Don't forget to patent your ideas!

Another amazing thing in my life is the IEEE Antennas and Propagation Society (AP-S). I have always felt included in the AP-S. I am now chairing the IEEE AP-S/Microwave Theory and Technology Society/Electromagnetic Compatibility Society/Electron Devices Society Turkey Joint Chapter, and I am thoroughly enjoying it. Last year, I had the honor to receive one of the AP-S field awards, the Donald G. Dudley Jr. Undergraduate Teaching Award (Figure 4). Apparently, this is the reason why I was invited to write this piece. Thanks, Prof. Francesca Vipiana, for the invitation. I received my award by sharing the stage with scientists whom I greatly respect. But behind the scenes, there were two people. First, I was encouraged to apply by a fellow AP-S scientist, Prof. Qammer Abbasi, with whom I became friends over the years at antenna conferences. I always treasure my conference mates! When I asked my lifelong mentor, Prof. Özlem Aydın Çivi, for her opinion, she proposed to nominate me. I am ever so lucky to have had her by my side all these years. She is thoroughly inspirational.

Enjoy being part of a community and getting support from fellow scientists.

Finally, you have to be prepared to face local problems. Especially if you are relocating to a new country, you are bound to be surprised (let's hope it will happen in a positive way). For me, the biggest surprise was the constant decline of the currency. When I secure a certain amount of funding in local currency, by the time the sum is transferred to the university accounts, it's halved in terms of its real value. This seemed like a huge problem at



FIGURE 4. The author poses with the Donald G. Dudley Jr. Undergraduate Teaching Award.



FIGURE 5. The author and her team at Boğaziçi University.

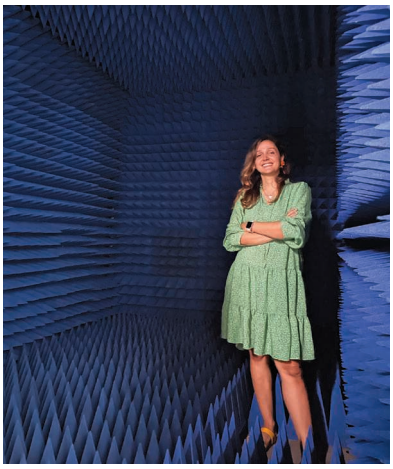

FIGURE 6. The author poses in her anechoic chamber.

first. Then I thought, there are people who have been there and who have done that, right? I started asking around and learned little hacks. For example, although we are obliged to propose our budgets in the local currency, we can submit proforma in euros and dollars and then demand the difference from the research council when the time comes. How would I know? Whenever I panic, I remind myself:

People have been there and done that; I am not alone.

Five years have passed, and now I am an associate professor with a great team (Figure 5), a laboratory with all the equipment I need (Figure 6), loads of funding, and great collaborators, like Prof. Urartu Şafak Şeker, whose wisdom is invaluable to me. Have I settled down? Yes. Should I settle down? I am not sure. As I was saying, I often think being a scientist is like freely traveling in time and space. I can't give up my space travel. Don't you think?

AUTHOR INFORMATION

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MEETINGS & SYMPOSIA *(continued from page 83)*

2024 USNC-URSI NATIONAL RADIO SCIENCE MEETING (NRSM 2024)

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IEEE RADIO AND WIRELESS WEEK 2024 (RWW 2024)

21–24 January 2024, San Antonio, TX, USA. (Papers: 25 July 2023). Elsie Vega, IEEE MCE, 445 Hoes Lane, Piscataway, NJ 08854 USA. +1 732 981 3428, e-mail: elsie.vega@ieee.org. http://radiowirelessweek.org.