Studying Acoustics in the United States: Exciting Opportunities for Young Acousticians

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I am the 2022 Acoustics Today intern, and this is the second of two articles about the experiences of early-career acousticians who complete some portion of their training (master's, PhD, postdoc) in a foreign country. The first article (Petersen, 2022; see tinyurl.com/2t8recs3) focused on students from the United States who trained in other countries. This article centers on those who came to the United States to study. These articles are meant to provide helpful information to students who are considering such a move and highlight some of the difficulties faced by foreign students to foster a more empathetic academic environment.

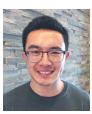
Motivations and Initial Impressions

In preparation for this article, I spoke with early-career acousticians from a wide variety of cultural and academic backgrounds. Equally varied were their reasons for leaving home to study in the United States. Although everyone I spoke with faced unique challenges, all expressed positive sentiments and highly recommend the experience of studying in the United States to prospective students. I began by asking each person to describe their academic trajectory leading them to the United States.



Mourad Oudich (assistant research professor, Graduate Program in Acoustics, Pennsylvania State University, State College; see tinyurl.com/4rfa4zex) responded that "most of the time, you don't get choose the career you wish for," continuing "it often depends on the opportunities

that come up." Originally from Morocco, Mourad studied in France and taught at the University of Lorraine, preceding a postdoc in metamaterials at the North Carolina State University, Raleigh. He remarks on the mentorship culture in the United States, commenting that there are ample opportunities for meeting other students/postdocs, professional development, grant writing workshops, and networking.



In contrast, **Agudemu Borjigin** (postdoc, University of Wisconsin, Madison; see <u>tinyurl.com/nhkwap7x</u>), who is from Inner Mongolia, China, and works on cochlear implants, had difficulty making friends with Americans during his master's program. He suggests form-

ing study groups to interact with colleagues, although he notes that these friendships may be fragile and not continue when the course ends.



Although many foreign students are drawn to US institutions for their prestige and perceived greater opportunity, **Danilo Lombardo** (PhD student, City University of New York Graduate Center, New York) emphasized that the fit between student, advisor, and

department is his top consideration. Born in Italy, Danilo moved to France, where he met his future advisor at a conference in Paris. Danilo comments that "many Europeans have roots in more than one country. Moreover, it is possible to meet a potential US advisor at international research events in Europe." As he prepared his application for the Speech-Language-Hearing Sciences program, he discovered additional barriers for foreign students such as needing notarized translations of transcripts and financial guarantors for the visa application. He advises prospective students to dedicate sufficient time while planning an international move within higher education.



Fernando del Solar Dorrego (PhD, Graduate Program in Acoustics, Pennsylvania State University, State College; see tinyurl.com/47wu4ed3) noticed that the family culture in the United States is different from his native Argentina, where he owns an architectural acoustics consulting

firm and teaches at the Buenos Aires Institute of Technology, Buenos Aires, (www.itba.edu.ar). While a master's student at Penn State, he noticed that "in Latin America, multigenerational families are common, undergrads often live at home, so moving to the United States and living with housemates for the first time as a master's student may be very different from most Americans' experience."

Finding a suitable arrangement sometimes requires negotiation. Fernando, whose wife's career prohibited relocating to the United States, returned to Penn State to complete a PhD with an agreement with his advisor that he would conduct research on-site for the first several years and finish remotely from Argentina. Although not always possible, these atypical agreements do exist and do not emerge spontaneously; one may have to ask advisors or administrators for special arrangements.



It is important to choose one's advisor carefully. Although this is arguably good advice for all prospective students, Miad Al Mursaline (see tinyurl.com/mrxb4v28), a PhD student from Bangladesh working in underwater acoustics at MIT, Cambridge, Massachusetts, comments that if

an "international student has a toxic relationship with an advisor and he or she is unable to find another advisor, the student cannot switch to another job in the United States." Before committing to a particular advisor, Miad recommends contacting current and previous students to learn about the professional environment.



Bertan Kurşun (PhD student, Department of Speech and Hearing Sciences, University of Washington, Seattle; see tinyurl.com/57vhxz98) is from Turkey and studied in Italy and Germany. He comments that furnished apartments are less common in the United States

compared with some Europe countries, so he had a lot of unanticipated initial expenses. Furthermore, rental apartments often require a minimum salary that is higher than a PhD stipend. He emphasizes that it is essential to research the economics of higher education in the United States, especially regarding health insurance requirements in the United States and potential tax laws requiring filing in both countries.



Location

Although Fernando intended to return to Argentina, many students, such as Indian PhD student Pratik Ambekar (University of Washington, Seattle; see tinyurl.com/2xtwkaa4), arrive without plans postgraduation. Initially enrolled

in a master's program, Pratik continued into doctoral studies with the same advisor. Although some students know where they want to go after graduation, more than one commented that they will decide based on the job market. Some, however, have specific considerations. Pratik is not considering a non-English-speaking country to avoid the complications of launching a career while learning a new language.



Mark Rau (Canadian PhD student, Center for Computer Research in Music and Acoustics, Stanford University, Stanford, California; see tinyurl.com/ykt9779t) had another important consideration: after years apart, living in the same location as his long-distance partner is an important

factor determining his next move. Indeed, navigating longdistance relationships can be particularly challenging for foreigners, whose partners may not be able to obtain visas to visit or live in the United States. Even for those who receive long-stay visas, it may not be financially viable to support two adults on one graduate stipend.

However, long distances are not exclusively international; Mark comments that the distance between California and his home in Canada is not much further than the distance to New York. Indeed, the East and West US Coasts are geographically farther apart than Dhaka to Seoul or Buenos Aires to Quito.

Bertan was amazed by the variation of cultures within the United States, musing that perhaps domestic students may experience a similar degree of culture shock in a new city or state. Prospective international students should consider geography when applying to universities; a college town in the Midwest may be very different from a metropolitan campus.

Immigration and Citizenship

Acquiring a student visa can be challenging for citizens of certain countries. Although Mark was able to obtain a visa with minimal effort, Pratik and Miad described challenging visa interviews and assembling lengthy dossiers of supporting documents. Because the procedure varies between nationalities, it is important to understand the regulations pertaining to one's citizenship, including not just what is required to study in the United States but also what immigration and employment options are available on completion of the degree.

Not everyone has equal access to higher education. Higher foreign tuition and the expense of international travel to visit family are additional barriers that are not experienced by US students. Miad comments that foreign students who want to settle in the United States must work harder because they do not have the privilege of staying after graduation without a job to support their immigration status.

Another consideration is that access to certain funding sources, such as training grants issued by the National Institutes of Health, have citizenship or permanent residency requirements. Additionally, topics relating to national security may not be an option for foreign students who do not qualify for a security clearance and who may find themselves excluded from certain meetings or access to secured facilities. Foreign citizenship may rule out certain funding sources that are integral to the work of many in this profession.



Cultural Expectations

Ellen Peng (researcher, Boys Town National Research Hospital, Omaha, Nebraska; see tinyurl.com/45juczyz) is from China and trained in architectural acoustics in the United States and Germany. She found it difficult to

understand culturally appropriate expectations. Once, in Germany, she was told sternly to leave the office when she had a cold. Going to work with a cold would have been acceptable, if not expected (pre-Covid), in her previous laboratories so being sent home was a shock.

As another example, Ellen mentioned a foreign student colleague who was asked by her advisor to complete personal errands, such as picking up dry cleaning. This student suspected it was an inappropriate task but did not know if it was culturally acceptable to challenge their advisor and how to approach a confrontation.

Ellen comments that it took time to learn how to fit into the professional community as a foreigner. As a young trainee, she was advised by several mentors to "mold herself in a certain way," although without providing any specific direction. This being an impossible task, she instead found that it was best to be herself, listen carefully, and try to always understand other people's perspectives. Her experiences adapting to new cultural environments have trained her not only for a career in research but also honed her interpersonal skills.

Foreign students often navigate microaggressions. Agudemu remembers vividly when colleagues would comment that, because he is Chinese, he must be good at math. Feeling self-conscious, Agudemu says these comments trigger imposter syndrome.

Communication

Communication, both verbal and nonverbal, was a challenge expressed by nearly everyone I spoke with. Agudemu warns that English in the United States is very different from his textbook instruction and more complicated than the Test of English as a Foreign Language (TOEFL) exam. During his first semester, he struggled to understand lectures and was challenged by different accents. However, he adapted quickly, and the second semester was much easier.

Despite these early challenges with English, Agudemu observes another microaggression: people still comment that he speaks English very well. Although at first, he would have been happy for this compliment, he wonders why people are still commenting on his language skills after so many years in the United States.

However, communication is not limited to language and varies between cultures. In Boston, Miad found that verbal communication is less direct than in Bangladesh. Early on, a faculty member asked if he would *like* to spend time on a particular problem. Interpreting this as a question, Miad prioritized another task, although in retrospect believes that the question was intended as a directive.

In the beginning, Miad struggled to interpret the emotional nuances of his American colleagues and occasionally found himself wondering what intentions they meant to convey. Similarly, Ellen comments that it can be challenging to "read the room" or understand the emotional

atmosphere in a group of people when in a new culture. Clues that are obvious to some people, such as word choice, tone of voice, or body language, may not come easily to someone in an unfamiliar place.

As an example, Ellen imagines a foreign student at a conference, surrounded by new people. Someone makes an offensive joke and the student wonders "Should I laugh along?" In navigating these types of scenarios, Ellen developed strategies to listen and observe carefully, traits that have become part of her professional and personal communication style.

Summary

Over the course of writing these two articles, I had the opportunity to interview early-career acousticians from the United States and all over the world, covering a wide range of academic disciplines. Although I found a large diversity in motivations, experiences, and challenges, I am surprised by the communalities across this group of people. Most striking was the overwhelming positive reactions, both for those who left the United States and for those who came. In some intangible way, training abroad changes how we navigate the world and may have a lasting impact on our careers and lives. To those for whom it is possible, the people I interviewed (and myself), suggest considering a foreign country while planning their next career move.

Key Lessons

As I review these two essays, certain key lessons emerge that are applicable to both trainees who leave the United States and those who come from abroad. Although these suggestions arise from conversations about foreign training, many of them are applicable for early-career acousticians at all institutions. The key points are summarized here.

- It is important to find a good fit for a mentor/advisor/ student relationship, a point that is especially true for international students who may need extra support navigating a new country. It is important to keep in mind, however, that just because an advisor has a great scholarly reputation, they may not necessarily provide the best training!
- Campus/departmental/laboratory cultures vary widely, so contact current and former students from the laboratory that interests you to learn what to expect before deciding to join. It is important to know

- if you will be supported by your future colleagues both academically and in social integration.
- Research the local culture. Even within a single country, there may be considerable differences in, for example, politics, diversity, and cultural expectations that may have a significant impact on the quality of life. Earlycareer training is an investment of time, so make sure you choose a place where you actually want to live.
- · Cultural understanding and communication may be difficult, especially in the beginning. If applicable, devote sufficient time to learn a new language through classes and constant practice. Also, pay attention to nonverbal communication cues that may be different from what you are used to.
- Don't be shy to ask for help form your colleagues and mentors. There is often a community of foreign students who have gone through similar experiences and are willing to provide guidance.
- You may find peers through official international student organizations and informal groups, which are sometimes hosted as online forums or messaging apps.
- Organized extracurricular activities such as sports teams or music ensembles are a great way to make friends, meet locals, and learn a new language.
- Country-specific bureaucracy often poses significant challenges that will take time away from more important tasks. Learn about hurdles such as visas, bank accounts, health insurance, and tax laws early.
- Plans can, and often do, change; that is okay. Be compassionate with yourself and others and embrace mistakes.

Despite these challenges, everyone interviewed for these articles recommends the experience of training abroad — but know that it will likely change your perception of the world around you.

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