Embracing Research Across the Pond

simplyblood.org/2018/01/embracing-research-across-pond.html

ISEH Headquarters January 18, 2018

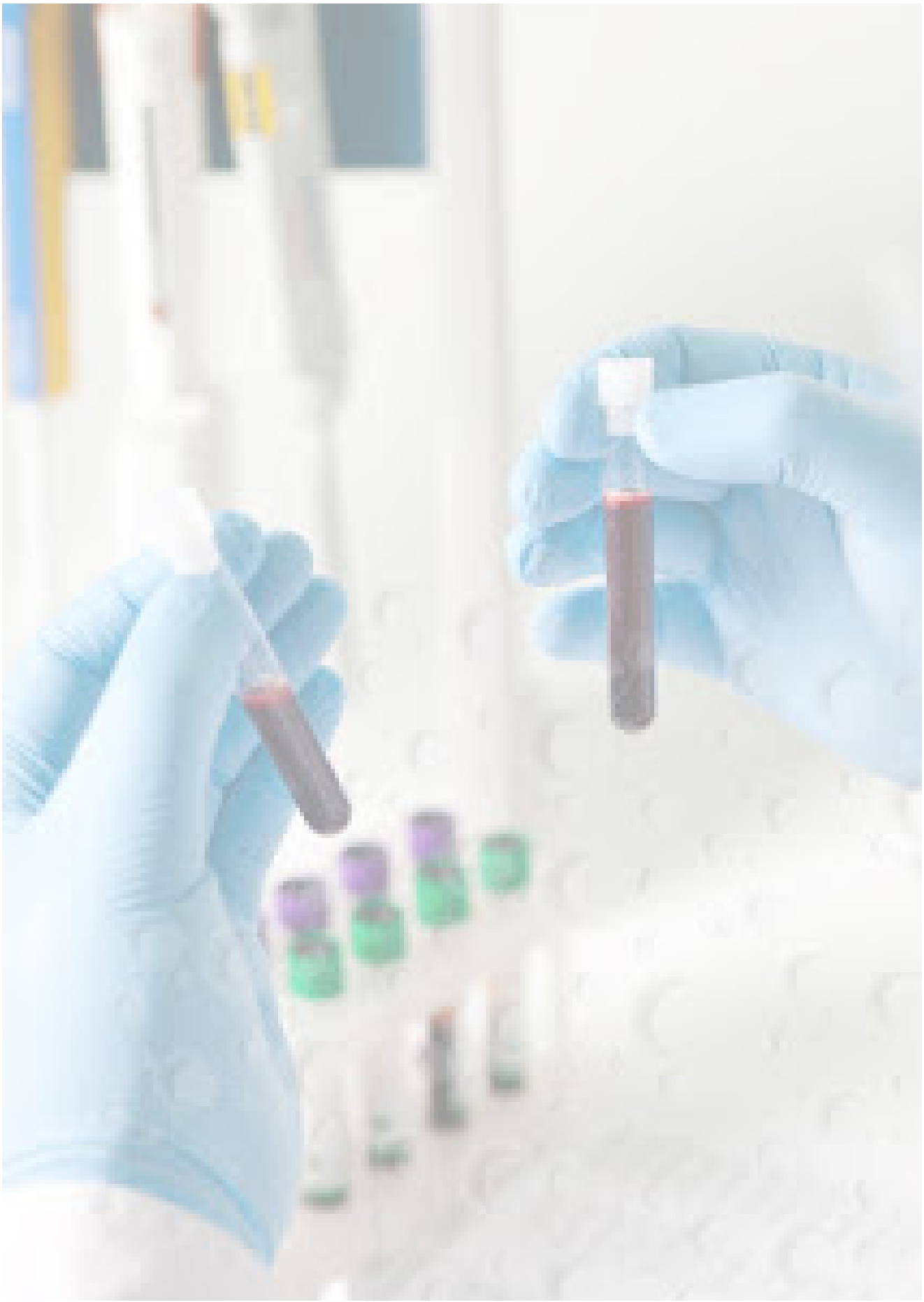
Moving and traveling is an integral part of being a scientist. Whenever you go abroad for a study or work, it means you have to adapt to a new place, language, and culture. While we all speak the language of science and blood research, fitting into a new country and finding your way around can be challenging and confusing. In this blog post, I wanted to reflect on my own experiences working on two sides of the Atlantic Ocean, and to share advice from my 3 colleagues from South Korea, Sweden, and Japan, on succeeding in different research cultures.

The reasons for traveling as a scientist are multiple, and time spent abroad can vary dramatically from a few days to many years. The majority of important conferences rotate their locations all over the world (I am looking forward to the ISEH meeting in LA this year!). Wanting to pursue a particular topic or learning a unique technique often means you have to travel to a new country or even a new continent. Moreover, in some parts of the world, spending a part of your career trajectory abroad is considered highly beneficial and demonstrates that you can adapt and be successful in different research environments.

Such exposure to a new research “niche”, as well as the opportunity to work with an excellent scientific team, drove me to move to the USA for my postdoc. While great science is done all over the world, the US remains a very attractive research destination, given a few obvious reasons, such as a high number of research institutions, numerous top research institutions (i.e. 15 out of 25 top research institutions named by Times Higher Education 2018 World University Ranking are in the USA), and English as a spoken language. Moreover, US-based scientists contribute the most towards high-impact journals. Having done my undergraduate research in Russia and graduate study in the Netherlands, going to the US for postdoctoral study seemed a great choice.

As I am entering my fourth year in the US, I am still very happy with my decision. However, I wish I knew a few pitfalls earlier during my stay. Here, I want to discuss some factors to consider when making a geographical career move.

Research culture. I think that all of my expatriate colleagues agree that the pace of research in the USA is the highest in the world, which probably makes it so successful in producing publications. However, many labs are reluctant to publish smaller stories, so getting to a first publication might take longer time. Working towards the bigger story also makes the postdoc periods longer compared to the Netherlands, where 2-3 year long postdocs are not unusual. Depending on your long-term plan, you need to consider how long



you want to stay abroad and what you plan to achieve.

Lab structure. Lab structures and hierarchy vary dramatically from country to country. In the US, a starting assistant professor has his own completely independent lab. In the Netherlands, a starting principal investigator (PI) is often integrated into a structure of a bigger department, where he/she leads a subgroup. This means that the number of people you are directly interacting with, collaborating and sharing equipment and experience, can differ substantially. Also, a regular US lab doesn't have any permanent or semi-permanent staff. There are usually no senior scientists or permanent technicians, making transfer of knowledge on particular protocol and technique more difficult. On contrary, many labs in the Netherlands had trained technicians with over 10 years of experience. At the same time, this lack of hierarchy means that you can communicate and work directly with your PI, which can ensure you stay on track and keep the speed of your research up.

Grants and fellowships. Many countries encourage international experience and provide funding instruments for training abroad. There are several European grants, such as EMBO Long-Term Fellowships, aimed specifically at postdoc training in other countries. I was lucky to secure funding from the Netherlands Organization for Scientific Research, which supports scientists with Dutch doctorates willing to work in top foreign institutions. Many of these funding instruments are only available for recent PhDs (usually within a year of defense), so it is important not to lose time when applying. On the opposite side, your country of destination might provide limited funding opportunities for non-citizens. Many US fellowships, including ones from the largest science funder – National Institute of Health (NIH) - are limited to citizens and "green card" holders. Fortunately, there are also fellowships from private donors, such as American Heart Association and Leukemia and Lymphoma Society, that support blood research irrespective of nationality of a postdoctoral applicant.

Mentors and references. Once you move abroad, you tend to lose contact with your network of mentors and advisors. However, one needs to provide up to three-four recommendation letters when applying for a fellowship or academic job. In the USA, graduate students have a special thesis committee to supervise the progress of their graduate research that regularly meet with PhD candidate and get to know him/her as a person and a scientist. Unfortunately, such committees do not exist in many other countries. It is very important to establish other academic mentors besides your direct supervisor once you start working in a new country, so they get to know you and can support your fellowship or job application.

Salary and benefits. I think it is important to understand how your salary will be calculated,

and learn about taxes and benefits. While in the Netherlands the salaries are set on a scale related to years of experience, in the USA, wages differ from institution to institution and ***can be negotiated.*** In particular, top research institutions are frequently located in places where cost of living is extremely high (New York, San Francisco and Boston). Whether an institute provides salary above the minimum line defined by the NIH, makes a huge difference. Moreover, the costs of medical and dental coverage vary vastly among institutions, and may take up a considerable portion of your income, especially if you have a family. Additionally, the amount of money that you pay for your healthcare benefits can depend on whether or not you have a fellowship. While it sounds counterintuitive, having a grant in the US, often means that your healthcare contributions will increase, as you are not considered a university employee anymore.

Taxes. In many countries, such as the Netherlands, the taxes are taken off your salary, and unless you have other sources of income, you don't need to file a tax return. In the US, everyone has to complete tax forms once a year, which can be tricky if you don't have a tax advisor. The taxes will also differ from state to state. On the bright side, being a foreign worker might mean you quality for tax exemption, if a treaty exists between your country of origin and your destination country.

Housing. Get to learn about the availability of housing on and off campus and any requirements to secure housing on the private market. In the USA, renting housing off-campus requires a long US credit history that you don't have as a foreigner, or else you will have to pay several months of rent as a deposit. If your new institution provides a guaranteed subsidized housing, this can be great help in supporting your budget.

Future prospects. Besides routine considerations, probably the most important question that you might have before deciding to go abroad is how it will affect your career in the future. Would you consider staying in your abroad destination? If yes, are there academic or industry jobs available? How and when can you qualify for long-term residence? If no, how will your abroad experience help you to establish yourself in your home country? Did you consider applying for reintegration grants such as Marie Skłodowska Curie Fellowship? How can you help sustain your research network in your home country?

In conclusion, I think spending research abroad can be a very rewarding experience, which will allow you to grow and develop. It also allows you to see research at your home country from a different angle.

Finally, I asked several colleagues to share their experiences of doing research in a foreign country. Here is their advice.

Yoon A Kang, PhD
Current position: Postdoc at Columbia University, New York City

Geographical trajectory: I worked in South Korea as a master student in a cancer gene therapy lab and worked in the US as a PhD student at UW-Madison before.

What is the most striking difference in research culture you observed: In Korea, we don't have a lab manager so lab members have to do everything from ordering, dishwashing, and all the lab chores. Also, we work from 9 to midnight (or until your last bus or train) and only Saturday we can leave around 5 pm. Basically, you live in the lab. Therefore, we are like family and there are very strong mentor-mentee relationships. You will learn from your designated mentor who is a senior lab member so transmitting information or know-how is very efficient. However, sometimes people don't work efficiently to finish things ASAP because they can't leave the lab until midnight anyway. In contrast, in the US, the lab is more like your job. You have a lab manager and sometimes a lab tech who can take care of miscellaneous things for you. You come in, do your work, finish it ASAP, and leave.

Which lesson did you take with you to your current job: I try to learn as many things as possible from other lab members and also I try to teach mentees as much as possible.

What is your advice for young researchers traveling to your abroad destination or your home country: I think the family-like research culture in Korea might be a bit too intimidating to some people and you might feel there are too many lab chores. However, you will learn things quickly and you wouldn't feel lonely in the lab. So just keep in mind these pro and cons ;)

Christos Gekas, PhD
Current position: Senior Scientist at Notable Labs, San Francisco
Geographical trajectory: M.Sc from Lund University, Sweden.
Ph.D work done in three labs: 1) Dana-Farber Cancer Institute, Harvard Medical School, Boston: Stuart Orkin lab under the supervision of Hanna Mikkola. 2) Lund Stem Cell Center, Sweden: Sten-Eirik Jacobsen lab. 3) Broad Stem Cell Center, UCLA, Los Angeles: Hanna Mikkola lab.
First Postdoc done at Centre for Genomic Regulation (CRG), Barcelona, Spain: Thomas Graf lab. Second Postdoc done at Mar Institute of Medical Research (IMIM), Barcelona, Spain: Anna Bigas lab.
Currently moving to San Francisco to work in Notable Labs as Senior Scientist.

What is the most striking difference in research culture you observed: Having worked

in multiple labs in three countries, there have definitely been several differences; however, it isn't easy to pinpoint whether the differences have been due to the country or due to the particular way every PI runs his/her lab. Generally, work in US labs is much more dynamic and fast moving, work in Sweden is a bit more slow-paced and contains many more meetings and social gatherings (e.g. two daily coffee breaks called "fika") throughout the day, and work in Spain is somewhere in-between the two.

Which lesson did you take with you to your current job: My research trajectory has spanned over more than 15 years in six labs and every stay has taught me something different, which I needed to learn at that moment. The saying that life as a researcher is a never-ending learning curve definitely hits home. If there were one single lesson from every lab (there isn't), it would be to treat everybody with respect, maturity, and tolerance. We are all wildly different but are all united in our love and passion for science.

What is your advice for young researchers traveling to your abroad destination or your home country: Life as a young scientist is full of possibilities to keep learning and keep maturing and I think we learn the most once we leave our comfort zone and “crash” into the unknown. Don’t be afraid to travel between Europe and the US. Be open-minded and prepare to learn from others. Sometimes what we learn from even short-term visits to other labs isn’t necessarily a lab technique but a way to think, a way to work or a way to learn to approach our colleagues in a more friendly and productive way.

Masayuki Yamashita, MD/PhD
Current position: Postdoctoral research fellow at Columbia University, New York City
Geographical trajectory: Japan -> the US

What is the most striking difference in research culture you observed: I think the organization of the lab is flat in the US, as there seems a simple and direct relationship between PI and the trainee (PhD students and postdocs) in a US lab. On the other hand, the Japanese lab is usually hierarchical with the trainees overseen by subgroup leaders (assistant/associate professors), who are in turn supervised by the PI (usually professor).

Which lesson did you take with you to your current job: I was taught in Japanese labs that I should think about what I don’t do, rather than what I do. The idea of this “selection and concentration” has often indicated a better research approach and helped me be as efficient and productive as I can.

What is your advice for young researchers traveling to your abroad destination or your home country: I think studying abroad is really a good opportunity for young scientists to be exposed to diverse people and nourish the way of thinking by discussing with them. The U.S. environment is particularly good if you want to know what the leading science is. By contrast, you will probably learn how to perform a research project with teamwork in a Japanese laboratory.

Evgenia Verovskaya
ISEH Publications Committee Member

Post-doctoral Fellow
Passegué Lab
Columbia University Medical Center
New York, NY, USA
http://passeguelab.ucsf.edu/