

# International Experience – Part I: Differentiate Yourself

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With globalization becoming a reality and competition for chemistry jobs increasing across North America, the best way to improve one's marketability is to have an experience that is somewhat atypical. This advice is most pertinent to current undergraduate or graduate students – those who have yet to embark on a career – but might still be useful for those who have already started down a particular professional path. There can be no doubt that international experience, above all else, broadens one's horizons and leads to a better understanding of the increasingly diverse and global chemical enterprise.

This advice is something that was much more accepted in earlier times. Prior to the conflicts of the last century, American chemists traveled to Europe, particularly Germany, for training in the continent's centers of higher learning.<sup>1</sup> For example, great chemists such as J. Willard Gibbs, Irving Langmuir, and Theodore William Richards traveled to Europe during their training. Partly as a result of the two world wars, European dominance of the scientific fields declined. This also coincided with the rise of the American university system, and resulted in many international scientists traveling to the United States. These scientists were seeking academic training that would make them more successful when they returned to their home countries. Fortunately for our economy, many of these highly skilled researchers remained in the United States, and made valuable contributions to the field of chemistry. Along the way, the vibrancy of the 'melting pot' culture of the United States was greatly enhanced. Those that returned to their homelands were better prepared for future chemical research due to their American experiences.

The flow of skilled immigrants to the U.S., though still active, has changed with the increased scrutiny following the events of September 11, 2001. Fewer qualified scientists come to the U.S. for training since it is now easier to find work in other developed, English-speaking countries, such as Great Britain and Australia. Moreover, many of the scientists who do come for training elect to return to their country of origin, because there are more career opportunities in Asia. While the departure of a large number of highly skilled workers relieves some pressure on the job market for domestic chemists, it also affirms that much R & D labor is now being performed outside the U.S. The continuation of this trend will be problematic for future American chemists. There will always be some domestic job opportunities, but the competition for them will become ever more fierce.

In a hyper-competitive environment, differentiating oneself with superior and distinct skills is the best way to maximize opportunities. Examples of ways to obtain international experience can include participation in student exchange programs such as NESACS' annual collaboration with the German Chemical Society (GDCh), accepting a foreign assignment with a current employer, attending an overseas conference, initiating an international collaboration, or even participating in a humanitarian effort abroad. Whatever the opportunity is, by spending time in an unfamiliar locale, one will gain substantial experience. In many industries, international experience and a global perspective are critical to establishing the skills employers look for in prospective

hires: creativity, diversity of thought, and the tools required to work with individuals of varied backgrounds, interests, and abilities. Scientific disciplines in the U.S. have long benefited from large groups of talented immigrants seeking to live and work here. Now the domestic enterprise has to adapt to a situation where a greater proportion of that talent remains abroad while the requirement for a global perspective is most critical.

A move overseas brings with it challenges beyond the expected long lab hours, budgeted living, and scientific collaboration, including adapting to changes in currency, customs, food, and language. Moving overseas also helps in developing maturity, discipline, patience, and, most significantly, cross-cultural understanding. In a future article, I will describe my own experience as a post-doc at the Swiss Federal Institute of Technology, the ETH Zurich, where I had an opportunity to work with superb chemists and grow as an individual. In the meantime, though, if you are presented with an opportunity to work abroad, I would encourage you to differentiate yourself and go international!

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<sup>1</sup>American Chemical Enterprise: A perspective on 100 years of innovation to commemorate the centennial of the Society of Chemical Industry (American Section), Chemical Heritage Foundation, Publication No. 14, 1994 Chemical Education and Industrial Research: "Mortarboard and Lab Coat," p. 40 – 53.