



Competitive Edge

Scientific professionals who are willing to work overseas may gain a competitive advantage when entering or advancing within the drug discovery field.

WHITE PAPER

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Competitive Edge:

Globalization of drug discovery research and development activities creates new career opportunities for scientists willing to consider international assignments.

By Michael P. Trova, Ph.D., Senior VP, Chemistry, AMRI

Rising R&D costs, increasing expectations in the areas of productivity and quality, and a growing need to establish operations in close proximity to emerging markets are driving the international expansion of drug-discovery organizations. This global shift is driving new trends in the area of career development and hiring, such as the need for experienced scientific professionals at different locations all over the globe. Although the global pharmaceutical industry is going through significant changes, the role of medicinal chemistry in identifying and optimizing potential new drug candidates remains substantial. Going forward, current and future candidates in the area of medicinal chemistry and other scientific disciplines who have a willingness to work overseas may gain a competitive advantage when entering or advancing within the drug discovery field.

During the past 10 years, there has been limited growth in the number of approved new chemical entities entering the marketplace in spite of a significant increase in overall R&D spending. For a number of reasons, R&D activities have also become more global during this time. As a result of this globalization associated with expanding international operations, there is an increased need for talent – principally with discovery and development skill sets – that may favor candidates who are willing to consider working in these non-traditional locations.

Career preparedness for discovery and development

Concerns that the pharmaceutical industry has reached a plateau and may be in decline are quashed by the number of diseases in the world with either no or inadequate treatments available – including many challenges specific to regions other than the United States. Due to continuous advances in technology and approaches to drug discovery, these unmet needs are ushering in an era of tremendous opportunity for developing medicines to deal with these challenging problems. As the understanding of biology at the molecular level continues to exponentially increase, medicinal chemistry will continue to play an important role in developing therapeutics to affect those areas with the most unmet needs. For example, there are still global unmet needs in the areas of cancer, central nervous system (CNS)-related disorders, hepatitis, and malaria. In addition, viral and bacterial diseases remain difficult to treat, and through mutation, drug resistance continues to be a growing concern.

Medicinal chemistry plays an important role in identifying and optimizing potential new medicines for unmet medical need. Although the fundamental skills required by global companies that are hiring chemists remain unchanged – including strong training in chemistry; an understanding of biology; strong verbal, written, and interpersonal communications skills; initiative; and future leadership potential – candidates that embrace globalization and are willing to pursue an international assignment should have a competitive advantage in the current tight job market.

There are various ways that chemists can position themselves for a competitive world market. Staying current with the scientific literature has always been and will always be key to job success and career advancement. With this in mind, scientists should seek to publish in top journals, pursue patents when appropriate, attend and present at scientific conferences, stay current with the literature and state-of-the-art science, participate in journal clubs, and seek appropriate opportunities, such as short courses, webinars, etc., to build on core competencies.

Aside from core expertise, training opportunities could also include bolstering skills in the areas of sales, business management, patent law, medicine, technical communications, library operations, finance, and facility operations. Importantly, taking on an international assignment can provide immeasurable experience and knowledge to a scientific-based career. International assignments can become career-enhancing opportunities as well.

Think globally, act locally

Many industries face similar challenges related to globalization, such as different and conflicting labor laws and corporate governance, as well as the handling of finances, communications, and local culture. Not unexpectedly, cultural differences can present new and significant challenges. Globalized businesses and the employees that represent these organizations must remain mindful and respectful of cultural differences in order to avoid potential pitfalls, while also finding ways to use cultural differences to an advantage. The different cultural exposures that come from completing an international assignment can be a valuable experience that can make an employee more valuable to his or her organization and open up career opportunities that are unique to such a combined experience and skill set base.

International assignments can provide career enhancement for a company's locally based employees, and subsequently their overseas employees, who benefit from the knowledge experience, and leadership of the assignee. For example, when AMRI decided to globalize its business, it dutifully examined the international landscape for opportunities that would strengthen a growing, diversified business. International locations were visited and a careful analysis of several regions was formulated in order to evaluate important aspects of setting up operations in these locations. As a result, the company made plans to move forward beginning with India, followed by Singapore and Hungary. In order to establish and manage the AMRI locations in India, Singapore and Hungary, a number of AMRI's U.S.-based employees took on multi-year international assignments. Even though a majority of these international leaders and pioneers have since been repatriated in favor of locally based leadership, AMRI still counts on key scientists to volunteer for short term assignments of several months to work alongside local employees at all of our international locations.

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Continuous education remains crucial in the global economy. Specifically for chemists, scientific conferences allow sharing of best practices in the industry and an opportunity to network with colleagues from other organizations. In addition to outside conferences, companies often host speakers from academic or other industrial organizations, send scientists to short courses, and provide programs that enable scientists to work at several locations. AMRI's U.S.-based employees, for example, routinely travel to Hungary, Singapore, and India. In addition, AMRI's Hungarian and Singaporean employees have also been afforded opportunities to work in the United States. This strategy provides the employee training experience in a U.S.-based laboratory environment as well as a chance to explore new cultural experiences.

Tactful, targeted planning at the education level

There are key elements to consider when weighing a global career in medicinal chemistry and drug discovery. These are fundamental regardless of undergraduate, graduate, or post-doctoral status. Individuals who are interested in a medicinal chemistry career should aim to acquire exposure to non-science-related topics in addition to core chemistry and biology. Seeking out international opportunities and networking with people in the industry can also help students prepare for a potential future career in drug discovery.

Aside from chemistry and biology courses, undergraduates can look to business-related courses, such as management, accounting, economics, social studies, and foreign language. Learning Japanese or Mandarin could also prove to be helpful because employment opportunities within the pharmaceutical industry seem plentiful in some Asian countries. Additionally, internships provide opportunities to gain industrial experience, are relatively risk-free, and create opportunities to network with professionals who are established in the industry. Pursuing an international internship can afford the chance to work in an area of interest while providing international and cultural experience at the same time.

Having a science degree and industrial experience is a good foundation for a number of career opportunities including sales, business development, finance, patent law, facilities, technical communications, etc. As international opportunities continue to increase, particularly in Asia, an individual willing to undertake an international assignment will likely have an advantage in an increasingly globalized workforce. There will continue to be a strong need for scientific professionals with a solid foundation of scientific skills, leadership experience and a record of accomplishment. Added to that the experience gained from an international assignment and exposure to other cultures, will likely provide a competitive advantage as pharmaceutical and biotechnology companies identify and develop their future leaders.

Source:

Dr. Trova presented a Webinar and Q&A session on March 11, 2011, entitled insights on "Developing Career Skills to Compete in a Global Economy – Observations of AMRI Operations in India, Singapore, Hungary, and the United States." In addition, his insights were shared at a Lunch & Learn at the Anaheim ACS Meeting on March 29, 2011.

Author Biography:

Michael P. Trova, Ph.D., Senior Vice President, chemistry, AMRI, supervises AMRI's efforts in medicinal chemistry and parallel synthesis in the United States. Dr. Trova is also responsible for medicinal chemistry leadership of AMRI's subsidiaries in India, Hungary, and Singapore. He joined the company in 1995 as assistant director of medicinal chemistry and was subsequently promoted into positions of increasing responsibility in the medicinal chemistry department; most recently senior vice president, chemistry. Before AMRI, he served as a medicinal chemist for the American Cyanamid Company, where he contributed to discovery efforts in the anti-inflammatory, antiviral and anti-cancer programs. He received a B.S. in chemistry from Rensselaer Polytechnic Institute and a Ph.D. in organic chemistry from The Ohio State University, and also completed postdoctoral research at the Massachusetts Institute of Technology.

