

## **Personal Statement**

Paul Phelps, India, Medicine

I discovered the beauty of science as a child. I can still remember how my father used spare parts to create fascinating arches of electricity in our basement. My interest in science blossomed as I studied chemistry and neuroscience at the University of Minnesota. I also fulfilled aspirations for an international education when I studied abroad in England. I graduated college to begin work at MIT as a research assistant in a laboratory studying neural development. When I learned about action potentials, electrical signals in the brain, and the profound complexity of the human mind, I took the next step in understanding human beings: I went to medical school.

During my first year of medical school I learned about the Fulbright program from another medical student who had recently returned from China. This interaction jump started an idea that had been percolating in my mind since reading a newspaper article about Dr. G. Venkataswamy's (founder of the Aravind Eye Hospital in Madurai, India) crusade against blindness – doing eye research at Aravind. My interest in learning and living overseas was rekindled. I left the auditorium that evening with encouragement from my classmate and a dream about becoming a Fulbright Scholar to India.

Personal growth and understanding people from diverse backgrounds is central to both being a doctor and participating in the Fulbright Program. For example, I had the opportunity to interact with patients afflicted with glaucoma when I performed free eye exams in the impoverished Mantua neighborhood of Philadelphia. I had a true street-side lesson in the signs and symptoms of this disease. The encounters that I have had with patients and working in research laboratories have proven to be the most fruitful learning experiences.

When I see patients with incurable disease, it reminds me of the global effort needed for discovery of new cures. In 2006 I earned an Alpha Omega Alpha summer research grant to study a Type II heart block phenotype in zebrafish. Using molecular techniques I identified dynein, a protein involved in microscopic cellular movements, as the disrupted gene in this phenotype. My initial study of this defect will help in the use of this line of zebrafish for future research that could shed light on a human condition known as Kartagener's syndrome. I hope that each research project I am involved with will facilitate cures for diseases that currently defy treatment.

The research I propose to undertake in India has the potential to improve outcomes associated with treatable ailments such as cataracts and corneal ulceration. Dr. Muthukkaruppan, a world renowned eye researcher at the Aravind Eye Hospital in India, has spearheaded the effort to clarify the cellular properties of human corneal epithelial stem cells so that they can be used therapeutically. The Fulbright Program is an especially opportune means to study eye disease because it would allow me to work in the Aravind Eye Hospital, which, aside from housing Dr. V.R. Muthukkaruppan's research lab, accommodates thousands of underprivileged patients.

I would endeavor to have a positive influence on my Indian co-workers by sharing my scientific experience and in return gain a scientific and cultural understanding of them. Upon returning, I would share my experiences with colleagues and friends. I believe that engaging in the Fulbright Program will be the keystone of my future career as a physician. My life-long interest in science and cultures has given me the background to achieve the aims of this proposal, and it would be an honor to be granted the opportunity to become a Fulbright Scholar.