

Clinical Research Training Program Fellow 2008-2009
National Cancer Institute (NCI), National Institutes of Health (NIH)
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My name is Thomas Sanford, and I was born and raised in Kamuela, a rural town on the Big Island of Hawaii. I attended high school in Hawaii, then traveled to Dartmouth College for my undergraduate education. After college, I spent a year in an exercise physiology laboratory studying exercise-associated hyponatremia before enrolling in the John A. Burns School of Medicine in Honolulu.

My interest in clinical research began relatively late in my medical education. During my clinical rotations, I was struck by the degree to which medical decisions were based on limited data. It was at that point I became interested in learning how to answer the many clinical questions that arose from my encounters with patients.

I discovered the Clinical Research Training Program (CRTP) while searching the internet for research opportunities available to medical students. I was immediately interested in the CRTP's focus on clinical and translational research. I was also attracted to the opportunity to interact with other medical students from across the country in a structured program that included pre-arranged housing, clinical teaching rounds, and the ability to enroll in graduate courses. The location of the program at the National Institutes of Health (NIH) campus in Bethesda, Maryland, which features the largest clinical research hospital in the country, further strengthened my desire to participate in CRTP.

After interviewing with many potential mentors, I chose to work with Dr. Gennady Bratslavsky in the Urologic Oncology Branch (UOB) of the National Cancer Institute. Dr. Bratslavsky is the epitome of a surgeon-scientist: he spends long hours in the operating room and in the clinic but still manages to produce very strong translational research. I found his research particularly interesting because I could see that the questions he asked directly addressed issues he faced as a surgeon.

Under Dr. Bratslavsky's guidance, I learned to use microarray technology to identify potential biomarkers that could better sub-stratify different types of renal cell carcinoma. My learning curve was initially steep; I began by learning basic laboratory techniques such as pipetting and working in a sterile hood. However, I was able to progress quickly, and by the end of the year I was comfortable conducting complex experiments. One of the aspects I enjoyed about working in the Urologic Oncology Branch was the supportive, positive atmosphere. The staff scientists and postdoctoral fellows were always eager to answer any of my questions. Towards the end of the year, I began to learn more about bioinformatics, an area that I was previously unfamiliar with. With an improved understanding of bioinformatics, I was able to perform a meta-analysis of microarray data and produce a list of gene signatures that distinguished the various sub-classes of renal cell carcinoma with a high degree of accuracy. These gene signatures will be validated in a future study to determine if they can be converted to a clinically useful test.

In addition to a very fulfilling laboratory experience, I also found an abundance of opportunities outside the laboratory. I took a graduate course in statistics, participated in CRTP and UOB journal clubs, attended weekly Clinical Center Grand Rounds, scrubbed into surgeries, attended UOB conferences, and attended many lectures from accomplished visiting speakers. I also benefited from the CRTP's provision of travel funds, which allowed me to present posters at four conferences and present the results of a surgical series at the American Urologic Association Annual Meeting. The NIH is a place with limitless potential for stimulating academic experiences, and the CRTP facilitates access to the best the NIH has to offer.

As a result of my experiences at the NIH, my career goals have changed dramatically. I had previously thought research would be a good adjunct to a clinical career. Now, I would like to make translational research in oncology the focus of my career. Oncology is on the forefront of personalized medicine, and I would like to be among those who will help to identify patients who will benefit from specific therapies.

Besides participating in NIH-related activities, I took advantage of living in Bethesda. I frequently took the metro into DC to go out to dinner and attend the many exciting events on and around the National Mall, including the past inauguration. I also took the opportunity to travel all over the Eastern seaboard. I went to New York, Philadelphia, and even managed to indulge my Hawaii roots by going surfing in New Jersey! I really enjoyed living in the DC area, and I would consider returning, either for residency or for fellowship.

I would strongly recommend the CRTP for any medical student interested in clinical or translational research.