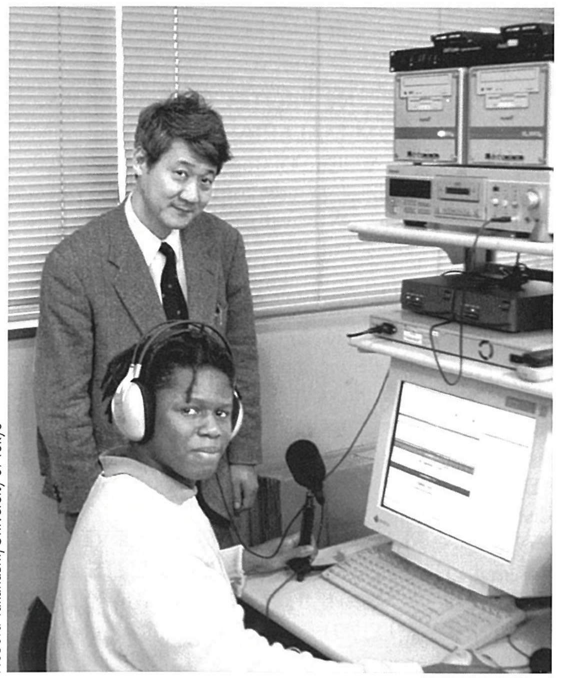
HSTUDENTS ABROAD

Not all HST students stay in the US during their years of training, nor do they wait until after graduation to make an international impact. Following are some examples of how their experiences abroad have shaped them.

Anthony Okobi — Tokyo, Japan

Speech and Hearing Bioscience and Technology



Noboru Takahashi/University of Tokyo

Anthony Okobi sits in front of a Computer Aided Language Learning system machine, while his supervisor, Prof. Keikichi Hirose of the University of Tokyo, overlooks his work.

Having practiced two different types of Japanese martial arts (traditional shotokan karate and aikido) during my entire undergraduate years, it was not surprising that I spent the summer in Japan after graduating from Cornell University. When I left, I had not only gained an appreciation of the culture and an interest in the language, but—having majored in neurobiology and behavior as an undergraduate—my experiences in Japan left me with a hunger to learn more about how the brain actually processes and produces language. What piqued my interest was that when I arrived in Japan, I could neither understand nor speak Japanese. However, after just two months, I was able to carry on a simple conversation and follow simple directions.

It was only natural that I enrolled in HST's Speech and Hearing Bioscience and Technology (SHBT) program. And now, having earned my Master's, I am back in Japan doing research for my PhD dissertation.

This time, however, I did a little bit more preparation. I spent the previous year taking Japanese language and culture classes offered by the MIT Japan Program. I was also awarded a Japanese Government Monbukagakusho Scholarship to the Department of Information and Communication Engineering at the University of Tokyo. This scholarship lets me to do research and take classes—as a non-matriculated research student—for up to two years.

Since October 2002, I have been a member of the Speech Communication Laboratory headed by Professor Keikichi Hirose. He had worked with my PhD advisor, HST-SHBT Professor Kenneth N. Stevens, as a Visiting Scientist (1987-1988) in the Research Laboratory of Electronics (RLE) Speech Communication Group at MIT. During my year-long stay in Tokyo, I will combine my interest in the prosodic production of aphasic subjects (stroke patients who have lost or sustained a deficit in their ability to comprehend and produce language) and current theories of lexical prosody, especially those used in speech recognition software and devices.

Many of my experiences so far have been similar to those I had the last time I was here. The people are just as nice and polite as before, and the prices in Tokyo are still just as high…maybe a little higher this time. Now, however, I have a crowded two-hour subway commute every day, which is actually not far by Japanese standards. And even though I have been studying Japanese for over a year now, I still have a hard time communicating, both in written and spoken form, but it is not nearly as bad as before since many Japanese in academia speak English.

It is my hope that my experience in Japan will not only serve as a personal enrichment, but an academic one as well.

Tony Okobi will return to the US this fall or in spring 2004.

Junne Kamihara — Lake Maracaibo region, Venezuela

Medical Science and Medical Engineering / Medical Physics

In April 2002 I had the privilege of accompanying a team of clinicians and scientists to the shores of Lake Maracaibo in Venezuela to study individuals affected by Huntington's disease. A disorder characterized by progressive neuro-degeneration, symptoms including abnormal writhing movements (chorea) and profound cognitive impairments. Most affected individuals experience emotional disturbances, which often leads to suicide.

In the 1950s, Venezuelan physician Americo Negrette identified a large number of people affected by Huntington's disease in three villages surrounding Lake Maracaibo: San Luis, Barranquitas and Laguneta. Families there have a common ancestry and were all too familiar with *el mal de San Vito.* (St. Vitus is a Sicilian martyr who was invoked against diseases such as epilepsy, nervous disorders, etc.) Negrette, who diagnosed the disease and acted as an advocate, began recording their family histories.

In 1981, when the search for the Huntington's gene was in progress, Dr. Nancy Wexler (now of Columbia University and the Hereditary Disease Foundation) led a small research team to seek out these families. Ever since, she has returned every spring, accompanied by teams of neurologists who evaluate each person for signs of the disease or evidence of progression. Native speakers administer a neuropsychiatric test designed especially for this community, and samples are also collected for DNA analysis.

Wexler and her team have been able to trace the villagers' geneology as far back as 1800 to one woman who was the ancester of nearly 11,000 people. Approximately 9,000 of them are still alive and in the Lake Maracaibo region. With the cooperation of these families, the Huntington's gene was successfully cloned in 1983.

photo courtesy of Junne Kamihara

Taking a break from testing residents for Huntington's disease in Venezuela, Junne Kamihara enjoys a moment with the village children.

My mentor, David Housman at MIT, played an integral role in laying the foundation for the linkage project and has remained committed to finding a cure for this disease. As I struggled in my decision whether to pursue a PhD in addition to an MD, he recommended that I spend some time in Venezuela with physician-scientist mentors.

It was an honor to work with Wexler as we collected buccal (cheek cell) samples for a somatic mosaicism study, and with the rest of the team, who tirelessly marched on with reflex hammers and test tubes. The villagers all recognized and embraced us, and they warmly welcomed us back to their homes and clinics. One courageous Venezuelan physician, Margot de Young, must be mentioned as she was instrumental in building and maintaining a nursing home for patients and their families. Her example to me was truly inspirational.

Even though the gene has been cloned, there is still much to learn about the disease's pathophysiology. We are all motivated by the intense hope of finding a cure or a way of delaying onset and progression. There was nothing more motivating than having a patient in Venezuela turn to me, glance at his children, and ask, "When will they find a cure?" I learned then that answering his question is what being a physician-scientist is all about.

Junne Kamihara decided to pursue a PhD as well and was accepted into MEMP for 2002-03.

Gil Alterovitz — Canada

Medical Engineering / Medical Physics

Over the last several years, I've tried to build a bridge to Canada through a number of health care-related initiatives. It all started just before graduate school. Through a Fulbright to Canada, I had an opportunity to understand the dynamics of a hospital environment while doing research at the Samuel Lunenfeld Research Institute in the University of Toronto's Mt. Sinai Hospital. Besides research, I was also exposed to the clinical environment and even got a chance to see my first "pre-HST 030 autopsy."

I also strived to fulfill the Fulbright mission of promoting "mutual understanding between nations" through speeches to the Rotary Club in Orillia, a small town in Ontario. During my time there, I gained a new understanding of the differences between the US/Canada health care systems.

I returned to Canada through MIT's Alternative Spring Break via the "Comparative Health Systems" trip. This time, I focused on the health care system in Quebec. As part of a group of 11, I met with various hospital/community representatives in Montreal and worked at a senior citizens' center to gain first-hand experience of doctor-patient visits.

Based in part on these experiences, Canada25 chose me last year as one of approximately 20 international delegates to the national forum to work on the issue of attracting and keeping talent; I focused on the health care/technology sectors. Through these sessions and subsequent international conference calls, I helped co-author "A New Magnetic North." As it was covered by national CBC radio and TV specials, the forum gave the delegates an opportunity to voice their thoughts through various venues. It also appeared in *Maclean's* (like the US's *Newsweek*) as the cover story on Canada Day 2001. Later, portions from the health care section of "A New Magnetic North" were presented to the Romanow Commission (Commission on the Future of Health Care in Canada) in Toronto on April 2, 2002.

Through all of these experiences in Canada, I now have a better understanding of the subtle differences in the Canadian culture compared to the US. I hope to continue my connections with Canada and with friends there, and I look forward to visiting again soon.

When not in Canada, Gil Alterovitz does research on signal processing as it relates to patient monitoring.

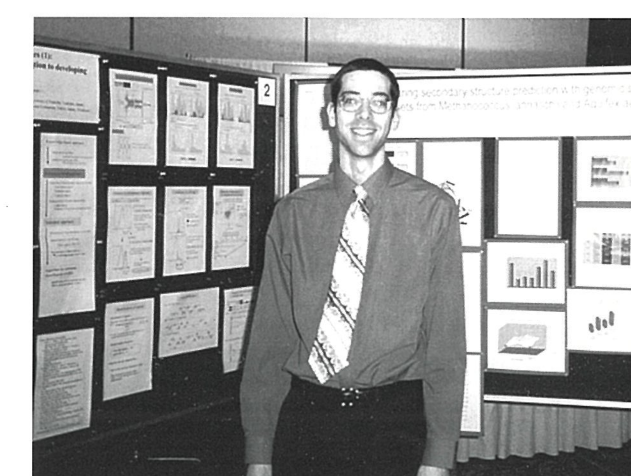


photo courtesy of Gil Alterovitz

Gil Alterovitz presents his research poster "Scaling Up Databases under the Temporal Patient State Characterization Method" at the 2002 HST Forum.