## GLADSTONE INSTITUTES | NEWS

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## **Out of Africa**

Gladstone Postdoc Energizes Science Expertise with Global-Health Passion

Virologist Stefanie Sowinski, PhD, will never forget her first encounter with an AIDS patient. Sick with both AIDS and tuberculosis, the 25-year-old man was so emaciated he couldn't speak. And it was so difficult for him to swallow that he could barely eat.

"He was just skin and bones," Dr. Sowinski remembers. "The doctor I was with tried to speak to the patient, but he couldn't answer. So his brother, who was trying to feed him, answered the questions for him."

San Francisco or New York in the 1980s? No, this happened just two years ago in a rural hospital located a couple of hours north of Kampala, Uganda. As part of her postdoctoral training at the Gladstone Institutes, Dr. Sowinski was working in Africa on that hot day, making rounds with a local physician among clean but well-worn hospital beds.

The incident points to how the global-health experience that Dr. Sowinski is gaining at Gladstone is empowering her already impressive mastery of basic science with a strong desire to improve the lives of those in the developing world.

"I really enjoy doing the science," says the native of Gelsenkirchen, Germany. "But I prefer having a more direct impact on people. And the highest burden of HIV/AIDS is in sub-Saharan Africa. They've made tremendous progress in getting treatment to more of those infected with HIV, but there's still so much to be done. And other diseases, such as malaria and tuberculosis, only compound the challenge.

"Working in Africa is really rewarding and really motivating," she adds with a warm smile.

## **Catching the Bug**

Without realizing it, Dr. Sowinski began her path to Africa in 2009 as she finished her doctoral studies in HIV transmission at <a href="Imperial College London">Imperial College London</a> and began to apply for postdoctoral fellowships. At that time, the research reputation of Warner Greene, MD, PhD—rather than any particular interest in global health—attracted Dr. Sowinski to Gladstone.

But Dr. Greene, who has directed virology and immunology research at Gladstone since 1991, had become president of the <u>Accordia Global Health Foundation</u> just two years before and had begun to focus on the burden of HIV/AIDS in Africa. Accordia, founded in 2001 by Pfizer Inc. and an academic alliance of infectious-disease doctors,

creates innovative health models, strengthens medical institutions and builds centers of excellence in Africa in order to overcome the burden of infectious diseases there.

About a year after joining Gladstone, Dr. Sowinski grew intrigued by talks given by lab mate Matthew Stremlau, PhD. Dr. Stremlau, who currently works at the <u>Broad Institute</u> in Cambridge, Mass., had come to Gladstone specifically to work with Dr. Greene on global health issues and was spending a lot of time in the lab at Uganda's <u>Rakai</u> Health Science Program to investigate the genetics of HIV-1 resistance.

"He was very enthusiastic and motivated every time he came back from Africa," Dr. Sowinski remembers. "Matt played a big role in inspiring me. And of course Warner had the connections with the <u>Infectious Diseases Institute</u> (IDI) Accordia founded at <u>Makerere University</u> in Kampala. He gave me the great opportunity to go over there to work."

So in May 2011, she gave up her San Francisco apartment and moved to Kampala without so much as an exploratory visit to see what it might be like to live in Africa. She stayed for a full 12 months, training Ugandan students and scientists in applying for project grants, devising and running laboratory experiments of their own, and using and maintaining a flow cytometer—a scientific instrument for analyzing cells—that she helped them obtain.

Based on her experience and plan to return to Kampala, the <u>UC San Francisco-Gladstone Institutes Center for AIDS Research (CFAR)</u> has just appointed Dr. Sowinski as its Research Coordinator in Uganda. In this new role, she'll coordinate UCSF-affiliated research groups with ongoing local projects, while promoting the sharing of locally available expertise and use of core scientific equipment.

"Steffi has really found her calling," Dr. Greene says. "She's at the vanguard of a young generation who are making a difference in the developing world—providing opportunity where there currently is none. I am so very proud of her."

## **Broader Training**

So Dr. Sowinski, who has studied and worked in cities in two European countries and on two U.S. coasts, now divides her time between Africa and America.

"I'll probably be fifty-fifty for a while," she says, adding that she plans another extended stay in Kampala beginning in October. "My main role at IDI now is building science capacity." Working at the epicenter of the global HIV/AIDS epidemic—69% of the world's HIV-positive people live in Sub-Saharan Africa, according to the World Health Organization—has certainly expanded her disease expertise.

"When I went to Africa, some abbreviations came up that I wasn't that familiar with," says Dr. Sowinski. IRIS, for example, refers to immune reconstitution inflammatory syndrome—a condition Dr. Sowinski had never seen in the States. "IRIS is a really big problem in Africa," she adds, noting that certain forms of it kill up to 40% of those who develop it. Working on such conditions gives her a better chance of improving patient lives than routine lab research could. And this element of working in Africa has been key to transforming Dr. Sowinski's science from excellent to exceptional, her mentor says.

"Steffi came to Gladstone as an award-winning scientist with an outstanding training record," notes Dr. Greene. "But she wanted to do more with her life. That's what distinguishes her. Steffi is one of a handful of well-trained researchers who are directly applying their scientific knowledge and expertise to improve the lives of others in the developing world. In the process, their own lives are incredibly enriched."

One of Dr. Sowinski's key goals now is to train a critical mass of local researchers, making their scientific work sustainable and of high quality. In this way, more patient samples could be tested locally, rather than being shipped off to labs in developed countries as they often are today.

"My work in Kampala is really, really rewarding," she said. "My students at the IDI are eager to learn and definitely ask very smart questions. It's a pleasure mentoring such dedicated students."

"My interest in Africa developed for both scientific *and* humanitarian reasons," Dr. Sowinski adds. "In applied science, your efforts can truly change the lives of patients. I just can't wait to go back and work there again."