

QUEENS

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DEEP READINGS

Marine geologist Cecilia McHugh—here, standing in front of sediment samples taken from under the seabed—gets to the core of her subject and catches the eye of the White House.

Their Own Medicine

To supply Africa with affordable drugs, chemist Rolande Hodel is establishing pharmaceutical plants in the SubSaharan region

By Leslie Jay

Rolande Hodel '05 wasn't among the presenters at a recent American Chemical Society (ACS) gathering at St. John's University in Queens. Nonetheless, colleagues greeted her like a VIP. "Rolande, you're a big celebrity," said one man en route to the registration table. Hodel broke into a modest smile.

She has reasons to be pleased. In 2008, in recognition of her efforts to set up locally owned pharmaceutical plants in Africa—a continent dependent upon imported medicines—ACS chose her as one of three recipients of the Astellas USA Foundation Award. Astellas, a drug company, established the prize in 2007 to honor people who contribute to research that improves public health; each winner receives a \$30,000 grant. Hodel was also a semifinalist in last year's Buckminster Fuller Challenge. Launched by the Buckminster Fuller Institute, the program solicits proposals for addressing humanity's worst problems.

Ironically, this accomplished chemist grew up in a household that thwarted her desire for an education. "I would probably have studied physics, but my stepmother and father didn't let me go to school," explains Hodel, an East German native raised in the western city of Kaiserslautern. At 15 she moved away from her family and jumped back on the academic track, earning high school and college diplomas, followed by a master's degree in psychology.

In 1988 Hodel came to the United States on vacation. "This is the country where I should have been born," she says, citing, among other factors, "the ease of talking to people." After traveling for two months, she flew home and applied to U.S. graduate programs; the University of Kansas gave her a scholarship.

Upon completing a master's in inorganic chemistry, she attended an ACS meeting in Washington, D.C. There, she learned about a job at a company that worked with nanocrystals. The company eventually folded, but not before sponsoring Hodel for a green card. Once again, she landed a position through her fellow chemists. "Someone at ACS gave my resume to someone in the pharmaceuticals business," she recalls. "Two months later I was in New York, pushing insulin down the throats of rats."

Determined to get a doctorate, Hodel enrolled in the PhD program at City College, CUNY; she'd finished everything but her dissertation research at Kansas. Then she transferred to QC to continue her research under Harry Gafney (Chemistry), a member of her PhD committee. "There is no one better than Dr. Gafney, who was always there at the right time, but also let us make our mistakes," says Hodel. Gafney returns the compliment. "Rolande was working in an interdisciplinary area between organic chemistry and nanotechnology," he notes. "She forged ahead and we got it all done."



On a trip to Bamenda, Cameroon, Hodel (center) stayed at the Mezam Polyclinic—an AIDS treatment center—where she became friendly with the nursing staff.

She was weighing her next professional step when she heard Brazilian President Lula De Silva talk to the United Nations about his country's production of antiretroviral drugs to combat HIV and AIDS. "My interests in peace, travel, and chemistry came together," says Hodel. The result was AIDSfreeAFRICA (www.aidsfreeafrica.org), the organization she set up in 2005 to equip Africans to become self-sufficient in making medicines. A nonprofit, it got seed money from friends, family, the New Tudor Foundation, and the Weyman Foundation.

Today, AIDSfreeAFRICA has a license to import and sell the antifungal drug miconazole, made by Belgium-based Tibotec. AIDSfreeAFRICA also collaborates with two groups in Cameroon: Genemark, a Douala-based company that mixes medicinal syrups; and Cameroonian Baptist Convention, a hospital in Mutangene that prepares intravenous fluids, eye drops, and ointments. Discussions are under way with Cinpharm, a company backed by the Indian generic manufacturer Cipla and the German Development Bank.

A dual citizen of the U.S. and Germany, Hodel spends about two months a year in Cameroon, where she has a residential permit. She has an apartment in Ossining, NY, but doesn't log much couch time, filling her schedule with speaking engagements, fundraising events, and a job teaching chemistry at Westchester Community College. "I need capital for AIDSfreeAFRICA's projects," she says. "We issue loans and are looking for investors. We want to build an infrastructure that provides jobs, is self-sustainable, and does not depend on handouts. If I had half a million dollars today, I'd be in full-blown production in 12 months."