It is rare to meet a person who fairly radiates humility and compassion. Changsheng Li of the Institute for the Study of Earth, Oceans, and Space (EOS) is just such an individual. These traits served him well as he traveled the globe for more than two decades, gathering data from scientists, farmers, and field workers to build a one-of-a-kind mathematical ecosystem model. Today, the DeNitrification-DeComposition (DNDC) model can precisely simulate greenhouse gas emissions across a variety of terrestrial ecosystems, under any climatic condition, anywhere in the world, helping in efforts to curb global warming.

Li’s globetrotting has been essential because researchers are understandably reluctant to share hard-earned data for nothing in return. “You can’t just e-mail someone asking to use their data; there must be something mutually beneficial,” he notes. “That’s fundamental to international collaboration. Of course, the basis for offering something is that you want to improve the environmental quality of the planet in collaboration with other scientists.”

Over the years, the world-renowned scientist has collaborated with researchers from numerous countries and there are now versions of the model tailored to accurately mirror large, regional ecosystems. For example, there are DNDC models specific to Canada, the United Kingdom, Europe, China, and New Zealand.

Says Robert Harriss, Li’s former EOS colleague and now president and CEO of the Houston Advanced Research Center, “Changsheng’s passion is developing a world agriculture that is prosperous and enduring. He works tirelessly on creating a community of scholars and practitioners who share the vision of sustainable, healthy food for all people.”

Although soft-spoken and mild-mannered, Li is a political dissident who was exiled from his homeland for voicing public support for the 1989 Tiananmen Square pro-democracy uprising while he was working at the U.S. Environmental Protection Agency. At UNH since 1992, he has returned to China periodically to help educate the Chinese on how the DNDC model might improve their abysmal environmental situation, but he hopes to someday go home to, in essence, save China from its own success. “Watching what’s happening with the environment in China is painful,” he says. “I need to go back to face the environmental challenges, not only for the Chinese people but for the world as a whole.”

— David Sims

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