

Beyond Our Borders

A COMMON THREAD—OR, TO BE MORE PRECISE, A COMMON person—connects disparate stories in this issue of the *HHMI Bulletin*: Ray Wu. Gifted scientist, mentor, advocate, and friend, he was all of these and more to several generations of researchers across the United States and China. Indeed, as a newish member of the biochemistry faculty at the University of California, Berkeley, I had a Ray Wu encounter of my own. Wu had asked me to give a talk at Cornell University and that much about my visit was straightforward. What I didn't expect was that a home-cooked meal—made by Wu himself—would be the highlight of my visit. He was a true gentleman, a scientist of the old school who went out of his way to help younger colleagues. Myself included.

Wu made his scientific mark as a molecular biologist and geneticist. His laboratory made major discoveries that simplified the process of DNA sequencing, helping to set the stage for sequencing whole genomes. Later, Wu focused his attention on the rice genome and the difficult challenge of engineering strains of cultivated rice that could better withstand drought, salt, and a variety of pests. One of the many scientists who passed through the Wu lab during the early years was HHMI's Jack Szostak, who arrived at Cornell as a 19-year-old graduate student and went on to share the 2009 Nobel Prize in Physiology or Medicine. (Both Szostak and fellow Nobelist Tom Steitz, who shared the 2009 Chemistry Prize, are profiled in this issue.) Szostak credits Wu with creating a scientific environment that prized creativity and independence—a culture that remains a hallmark of HHMI's approach to research—which continues to inform his own work.

Wu's career trajectory is one to which most scientists would aspire: meaningful work that illuminates a new aspect of the world around us, discoveries that make a difference to society, and talented students who achieve even greater success than oneself. But Ray Wu's impact on science went beyond those conventional aspirations and continues to reverberate in the United States and China. This descendent of a long line of scientists and scholars developed a new passion in the 1980s—one just as important as ensuring a bountiful rice crop. Wu began cultivating an entire generation of Chinese scientists through the China–United States Biochemistry & Molecular Biology Examination and Administration program. Over a period of nine years the program brought some 400 Chinese students to this country for graduate school. Many of them achieved great success as academic researchers here. Others returned home, where they sowed the seeds for China's renewed commitment to scientific and scholarly research.

Thanks in great measure to the efforts of Wu and others, the United States and China are now connected by a rich, complex, and lively scientific culture. A part of that story is told in this issue of the *Bulletin* through the experiences of four HHMI investigators—two of whom trained in the United States because of Wu's program.



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ROBERT TJIAN

These accomplished scientists spend their time navigating between laboratories on the two continents, mentoring students, and providing critical guidance for the development of new research institutes in China. One plans a permanent return to China in 2010, which I see more as a gain of a scientific ally than as the loss of a colleague. (See “The China Connection,” page 26.)

Many U.S. policy makers have expressed concern about the ability of our nation to maintain its scientific leadership and global competitiveness, particularly as China deepens its commitment to basic research. That concern—particularly as it relates to our educational system and the overall attractiveness of technical careers to members of the Facebook generation—may be well founded. Yet we must also recognize the extent to which the United States has benefited for decades from an influx of scientific talent from all over the world, from gifted researchers who have sought out a culture that values merit and original thinking. It's certainly something Ray Wu understood and worked toward until his death in 2008.

Biomedical research is already a global enterprise. Through the current International Scholars program—begun in response to the collapse of the former Soviet Union—HHMI has played a modest, though significant role in supporting international science. Now, my colleagues and I face the challenge of redefining that presence and considering how best to support highly promising scientists—without regard to geographic borders. At the risk of sounding naïve, I would argue that we have much to gain by exporting U.S.-style science beyond our own borders. There may be no more effective demonstration of the power of intellectual freedom and democratic governance.