

Q&A

Jorge Gardea-Torresdey of the University of Texas–El Paso received the 2009 Distinguished Scientist Award from the Society for the Advancement of Chicanos and Native Americans.



Did you have a career-defining moment?

My paternal grandfather owned silver and gold mines in northern Mexico. I started going with him to the mines when I was five, six, seven years old and I fell in love with the mining process.

I asked why the different minerals were different colours and why they were shiny. That got me interested in chemistry.

What challenges did you encounter in your career?

Growing up as a Mexican American I faced much discrimination. My classmates used to call me ‘dumb Mexican’ even though I got straight As. My professors used to say, “Why do you think you’re so smart?”

But the United States is changing, and in Texas, where there is a large proportion of Hispanics, I see the new future. We are accepted now more than we were in the past. I just received this beautiful award, and I am really pleased about it.

Did your family accept your career choice?

I grew up in a very wealthy business family that was involved in many types of business — mining, furniture stores, real estate. I am the oldest of ten kids and it was expected I would go into the businesses. But I used to hide out and read books on chemistry when I was supposed to be watching the employees in one of our furniture stores. Eventually, I told my father and grandfather that I wasn’t going to be a businessman, and they were very upset.

Have you ever thought about leaving Texas?

I was considered for head of the Institute of the Environment at the University of California, Los Angeles; other opportunities were for federal posts. But I stayed here in Texas because I want to be valuable and helpful to Hispanics.

My goal is to see the completion of our new chemistry and computer-sciences building on campus in about a year.

What was your most important scientific discovery?

In 2002 my group discovered that alfalfa plants will take up gold from gold-enriched soil, forming gold nanoparticles inside their tissues.

Our finding is important because gold nanoparticles can be heated to 427 °C and burn cancer cells. Harvesting these particles from plants could help us develop a cure for cancer.

What’s your biggest career satisfaction?

Mentoring students. They are the future of the United States, and it is more satisfying to me than research. I produced some of the first Hispanic scientists in my field, and several now work for the US Environmental Protection Agency — one is an environmental scientist in Dallas and another is an environmental engineer along the US–Mexico border. They are doing good for the environment. ■

Interview by Karen Kaplan.

IN BRIEF

More PhDs for women

Women accounted for most of the growth in the number of science and engineering doctorates awarded in the United States between 2007 and 2008, according to the US National Science Foundation’s 2008 Survey of Earned Doctorates (see go.nature.com/8HRei6). The report, released on 19 November, says that 32,827 science and engineering doctorates were awarded in 2008, up 3.2% from 2007. Of those, 12,959 — or 39.5% — were awarded to women, an increase of 5.7% or 699 over 2007 numbers. The number awarded to men rose to 19,845, an increase of 1.7%. The proportion awarded to women rose from 37.7% in 2003 to 39.5% in 2008; men’s share dropped from 62.3% to 60.4%.

Grants follow conference

At least ten scientists, engineers and medical researchers will receive seed grants of up to US\$100,000 each from the US National Academy of Sciences to explore issues surrounding the emerging field of synthetic biology (see page 684). Only those who attended a 19–22 November synthetic-biology conference run by the academy in Irvine, California, are eligible to apply. The meeting was organized in conjunction with the W. M. Keck Foundation, which is funding the grants. Recipients will be announced in April 2010. Conference participants worked on developing a common understanding of goals, exploring tools to facilitate engineering biology, and identifying applications for the field.

This time it’s personalized

A new ‘personalized medicine’ institute hopes to seed a biomedical cluster and attract scientists. The private non-profit Ignite Institute will be based in Virginia’s Fairfax County at a 27,000-square-metre facility to be built in part with \$150 million of county bond money that Ignite will begin repaying after 5 years. The state of Virginia and Inova Health System will each provide \$25 million. Ignite plans to employ 415 staff within 5 years, including 350 researchers in areas such as cardiovascular and metabolic disease. Graduate students will attend through partnerships with neighbouring universities. Ignite chief executive Dietrich Stephan says that affiliation with a health-care system will make personalized-medicine advances swiftly available to patients.

POSTDOC JOURNAL

Inspiration and satisfaction



When I was little, I wanted to build a sled. I envisioned an enclosed sled that glided along on three runners; I spent many evenings drawing a detailed steering mechanism, sketching a plan for the passenger capsule and carefully planning the sled’s dimensions. I imagined how it would fly over the snow. I was sure I would build it, and I trembled with impatience to start. But it never came to be.

I had several boyhood projects that burned intensely in my imagination, but then faded in the light of reality. At the beginning of my graduate

career, I was terrified that my research would have the same fate as those projects: burning inspirations that ultimately amounted to nothing as I moved on to my next idea.

Three years ago, when I learned that my first manuscript had been accepted, the excitement was electric. I had finally taken a moment of inspiration and followed it to completion. With each subsequent manuscript acceptance, I become more confident that I can in fact finish the projects that inspire me.

Today, looking at a

recently published paper I co-authored, I think of the excited moments of inspiration that preceded it, as well as my year and a half of work, some of it tedious. My satisfaction on seeing the paper in print is worth much more than those transient inspirations.

As a boy, I avoided work in favour of the joy of inspiration; as a scientist, I’ve at last started to fully appreciate the final published product. ■

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