

**Nano-At-The-Border Signing Ceremony by the Five Provosts of the University of Texas: How and Why**  
January 16<sup>th</sup>, 2003

Da Hsuan Feng  
Vice President for Research & Graduate Education and Professor of Physics  
The University of Texas at Dallas

I am very excited that today's "Nano-At-The-Border" signing ceremony by the five provosts of the University of Texas (UT) components has just taken place. This is a historical moment, not just for the University of Texas system and all higher education institutions in Texas, but also for all of Texas and the nation in general! It is unusual to see five provosts, Dr. Rodolfo Arevalo of UT Pan American, Dr. Jose Martin of UT Brownsville, Dr. Sheldon Ekland-Olson of UT Austin, Dr. Hobson Wildenthal of UT Dallas and Dr. George Wright of UT Arlington, under one roof. It is even more unusual to see that they all have taken the leadership role to promote a strong collaborative inter-components research effort in nanoscience and nanotechnology.

I would be remiss if I did not thank our local host, the UT San Antonio Health Science Center's Regional Academic Health Center in Harlingen, Texas (some 30 miles from the Brownsville, the southern most city of the United States, right on the border with our great neighbor Mexico), for graciously allowing us to meet in this elegant conference hall.

As the title of my short speech indicates, I want to just say a few words about "how" and "why" for this ceremony. It is quite an interesting story.

In 1997, I had the privilege of being the technological advisor to a Congressional Delegation (Codel), led by the Honorable Curt Weldon, then Chairman of the Subcommittee on Research and Development of the House Armed Services committee, to the Pacific Rim (Mainland China, Hong Kong, and Taiwan). The delegation consisted of seven congressional members: Curt Weldon (R-Pennsylvania), Jon Fox (R-Pennsylvania), John McHugh (R-New York), Matt Salmon (R-Arizona), Gary Ackerman (D-New York), Michael R. McNulty (D-New York), and last but not least, Solomon Ortiz (D-Texas).

During the 10 days we traveled through Asia, in the Former President Reagan's Air Force I, now used by many Codels, I got to know the members quite well. In particular, I had the pleasure of having many long discussions with Solomon Ortiz. Several aspects of Ortiz really impressed me.

First: Ortiz was a gregarious fellow. He was warm and friendly, and showed deep concerns about the international perception of the United States.

Second: Even though Ortiz was born in the United States, and grew up in Texas, I was surprised that he spoke English (which of course was fluent) with a recognizable Hispanic accent. As a first generation Asian American myself, and having known many second generation Asian Americans (AA, as we call it), I noticed that one effect the US society has on the 2<sup>nd</sup> generation AA is that they speak like the locals. That means that if you are a 2<sup>nd</sup> generation AA in Boston, you will speak like a Bostonian, or a Kennedy. If you grew up in Alabama, you will speak with a deep southern accent. One thing is for sure, as a 2<sup>nd</sup> generation AA, you will not speak with a Chinese accent. Therefore hearing Ortiz's accent, and the fact that he is a American, I already detected that something must be very significant about the border region where he is from. So, from that trip, I already developed a interest in the border region.

I also remembered that Ortiz told me, while we were together in China that "if you ever move to Texas, let's work together!" Well, at that time I was living in Pennsylvania, and was consumed by my professorship as a theoretical physicist there, I assumed that it would never happen. Now I know better, never say "never!"

In January of 2001, I moved to Dallas. One of the first things I did was to make contact with Ortiz. In February of 2001, I had a great meeting with him in his office in the Rayburn House in Washington D.C. I took the opportunity to remind him about "working together" and specifically want to know how to start. Ortiz said that I should "come to my home district in Brownsville and I will introduce you to my friends at Texas Southmost College and UT Brownsville. I think you will be impressed by how aggressive these folks are about building a strong university at the border."

Then the next thing I know, in March of 2001, I was in Brownsville. As soon as I arrived, I was given a grand tour of the region by Ortiz's regional director, Denise Blanchard, and then hobnobbed with the leadership of UTB, and a great dinner across the border!

On this visit, I was very impressed with the region. I noticed that nearly everyone was bi-lingual. More to the point, nearly everyone spoke with a Hispanic accent, which suggests that his/her first language is in fact Spanish and not English. I noticed that in the region, there is such a rich and robust mixture of two cultures. Of course, it goes without saying, the food, on both sides of the border, is great. In population growth, the border region is fastest in Texas, which means that it has a rapidly growing political strength in the state and in the nation.

I also learned that there is a level of poverty that is more prevalent than most of the other regions of Texas. The need to build a well-educated and large work force is critical for the economic well being of the region.

In March of 2001, UTD was in the midst of some serious negotiations with several researchers in Honeywell Corporation. We were trying our best to lure them to come to UTD to build a robust program of nanoscience and nanotechnology. The two chief scientists we were trying to attract were Ray Baughman and Anvar Zakhidov, both of

whom are world renowned in their fields of expertise. Ray, who is in the audience, is known for his work on novel materials, especially carbon nanotubes-based materials, and Anvar Zakhidov, is an expert in photonic crystals. So, even though I was in Brownsville, my mind was quite impregnated by “nanoscience and nanotechnology” and how to expand UTD’s scope.

In Brownsville, I found an outstanding scientist, Mario Diaz, who is a super small nanotechnologist, in that he is interested in dimensions that are many many orders of magnitude smaller than a nanometer, a field called detection of gravity waves. Mario and I really got on very well, and he started to give me ideas as to how we could work together. One of the possible events we planned in our March meeting was to try to set up a joint “seminar” or “conference” between UTD and UTB.

However, nothing happened for about a year. Meanwhile, in January of 2002, championed by Senator Kay Bailey Hutchison, UTD, Rice University, UT Austin and UT Arlington initiated a research consortium called SPRING, which stands for Strategic Partnership of Research in Nanotechnology. Some of the scientific and technological movers and shakers of that consortium are here in the audience: Ray Baughman of UTD, Paul Barbara of UT Austin and Theresa Maldonado of UT Arlington (together with Wade Adams of Rice University). The aim of SPRING is to promote and propel research in nanoscience and nanotechnology in the four universities initially, and eventually expand it to the entire State of Texas. SPRING is now launched, but it is another story for another time.

As we all know, there are certain clichés about nanotechnology: it is a cutting edge science and technology on the one hand and on the other a possible and palpable means of economic development.

I thought that while nanotechnology should not and cannot be the panacea of economic development for any region, here it could be the “beachhead” for some new and exciting research areas in the border universities, especially if there was a way for the universities at the border, UT Brownsville and UT Pan Am, to collaborate with the SPRING universities. In my naïve way of thinking, once we have such interactions, perhaps it could spill over to other disciplines as well. This will allow the UT components to become intimately involved with our sister campuses on the border.

Since SPRING was “sprung,” I contacted Mario to see whether he would be interested in organizing a small scale symposium in UT Brownsville in this subject with me. Mario immediately agreed. This was followed by a lengthy discussion as to what we should call this symposium. We kicked around many titles, and finally, one of us (and I honestly cannot remember which one of us) said “how about Nano-At-The-Border”. Well, since the term rolled off our tongue so easily, it stuck.

In organizing the N@B symposium, which was held on May 2, 2002, Mario was responsible for the logistics, and I was responsible in getting great speakers to Brownsville. Since we have SPRING, my job was easy. The symposium brought in

Anvar Zakhidov, Ray Baughman, Paul Barbara and Theresa Maldonado. Needless to say, it was a great success. It was the genesis of today's signing ceremony.

I am confident that from now on, our five campuses will be closer than ever, at least in this arena. I am sure that having the five provosts here for this ceremony today will project both the perception and the reality to the entire State of Texas, and the Nation, that the future will be very exciting indeed.

Thank you again for your hospitality.

This is not the end, but the beginning!