

**UTD and Tecnologico de Monterrey (Monterrey Tech), Mexico**  
*A meeting on May 3, 2004*

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**Preamble**

Mexico is one of the two land connected neighbors of the United States. Ever since I came to Texas three years ago, I could sense that with NAFTA (North America Free Trade Agreement) in place, the intellectual, economic and transportation linkages between these two countries -- especially for Texas, which shares a nearly 900 miles border -- could have a profound impact on a much larger region in the 21<sup>st</sup> century. Hence it only makes sense that research universities of these two countries explore ways to create win-win scenarios.

My perception of Mexican universities is somewhat skewed by my personal experiences.

When I was in graduate school three decades ago, one of the first topics I learned was the “Moshinsky transformation” (MT). Of course, the content of MT is of no consequence here, but (Marcos) Moshinsky was, and still is. He is unquestionably one of the world’s leading mathematical physicists. It is no exaggeration that Marcos is Mexico’s scientific icon. Learning MT, and getting to know Marcos personally later on, was my introduction to Mexico!

When I was still in Philadelphia, I knew that my good friend Stu Pittel and now director of the Bartol Research Foundation in the University of Delaware campus, maintained very close scientific relationship with our outstanding nuclear physics colleagues in Mexico, especially with those in the Universidad Nacional Autonoma de Mexico (UNAM). Often, he told me how exciting Mexico was, culturally and intellectually.

Unfortunately, in the last three decades, I only had insignificant visits to Mexico. My very first visit was in 1985 when Marcos invited me to lecture at the winter school he organizes every year in a resort town called Oaxtepec, which is an hour away by car from Mexico City. Unfortunately the schedule of the school conflicted with my teaching schedule, and so I literally had to fly in, gave my talk, and fly back to Philadelphia. It was not the best way to develop sustainable relations with Mexico.

My next few excursions into Mexico occurred when I visited the University of Texas at Brownsville. Each visit was accompanied by a lovely dinner in Matamoros, the border town right across the Rio Grande from Brownsville. While the food was tasty, and the dinner guests enchanting, I saw nothing of Mexico.

## **UTD and universities in Mexico**

In the past several years, well before my arrival on campus, UTD was already heavily engaged in developing strong intellectual ties with academic institutions in Mexico. The provost, Hobson Wildenthal, told me a great deal about the strong interactions UTD had with the new President of Mexico, Vicente Fox – who actually came to UTD in 2000 to have a meeting with the then Governor of Texas and Presidential candidate George W. Bush. In addition, many colleagues such as **Austin Cunningham**, dean of graduate studies; **Rodolfo Hernandez**, director of UTD's Center for U.S.-Mexico Studies; **Juan Gonzalez**, professor of Cell and Molecular Biology and associate dean of Natural Science and Mathematics, and probably many others have invested significant amount of their professional effort in creating strong relations with colleagues in Mexico. As the old cliché goes, "Rome was not built on a day" and neither is the strong relationship between UTD and the colleagues in Mexico!

Prior to my coming to Dallas, because of my limited interactions with Mexico and Mexican universities, my understanding of Mexico's higher education system was confined to UNAM. While my intellectual inadequacies were mostly to be blamed for this shortcoming, I suspect that one probably could not deflect completely the misperception from the supreme dominance of UNAM, certainly in student population (depending whom you asked, the number ranges from the staggering 100,000 to the 500,000), if not in intellectual strengths and political connections.

In the past three years, due to the colossal efforts of many UTD colleagues, I began to realize the fundamental importance of other universities in Mexico. One of them, a private university system with 33 campuses dotting the entire Mexico landscape, is Tecnológico de Monterrey (Monterrey TEC).

It is for these reasons, when my recent discussions with Austin and Rodolfo turned to the issue of deepening our relationship with Monterrey TEC, we all agreed that we should visit the place as soon as possible.

Hence this trip.

### **This visit and my impression**

The UTD ad hoc delegation for this visit consisted of

- **Da Hsuan Feng**, VP for Research and Graduate Education and Professor of Physics
- **Austin Cunningham**, Dean of Graduate Studies and Professor of Physics
- **Rudolfo Hernandez**, Director of the Center for U.S.-Mexico Studies
- **Juan Gonzalez**, Associate Dean of the School of Natural Science and Mathematics and Professor of Cell and Molecular Biology

Our entire visit was accompanied by **Leticia Santos Zamarripa**, director of the Liaison International Office of Monterrey TEC. I was amazed, and pleased to learn that Monterrey TEC considers “internationalization” an important component of their mission that they actually have established liaison officers scattered all over the United States and Canada, and because of the realization of the rapid growth in trade and other relationship with China, a liaison office Shanghai is also under consideration.

I think it is the extreme good luck of UTD that Leticia is permanently stationed in Plano, Texas!

As soon as we decided to visit Monterrey TEC, Leticia and Rudolfo went to work in creating a full program for us. On short order, they were able to have us meeting with the following individuals. The list is a very impressive one, considering the short time frame Leticia and Rudolfo had to work with:

- **Dr. Alberto Bustani**, President of Monterrey Campus
- **Dr. Francisco Cantu**, Director of Research and Postgraduate Department (this is essentially my counterpart)
- **Dr. Eugenio Garcia**, Dean of the School of Engineering and Architecture
- **Dr. Juan Donald Vega**, Associate Dean of the School of Engineering and Architecture
- **Dr. Fernando Jaimes**, Dean of the School of Electronic, Computing, Information Systems and Communications
- **Dr. David Garza Dalazar**, Research and Graduate Studies of the School of Electronic, Computing, Information Systems and Communications
- **Dr. Mario Alvarez**, Director of Biotechnology Center
- **Dr. Jorge Alejandro Manriquez**, Associate Professor of the Mechatronics Center

The entire local logistics were handled flawlessly by **Paola Sanchez** from the Service for International Visitors.

My impressions were as follows:

1. None of the meetings were merely pleasantries. In fact, every meeting went over time, and discussions were always substantive and intense. All of our hosts were interested in follow-up action items and I was extremely impressed by this outcome. Our entire team walked away enthusiastic about the future collaborative possibilities of our two universities. Also, we expect in the foreseeable future, we will have the opportunity to host the President of Monterrey TEC and his delegation.
2. The campus has unique and unusual architectures. A landmark of the university is one in which the building looked like a “napkin holder” (and in fact, that is what the students nicknamed it!).
3. We saw hundreds of students all over campus all using their laptop for wireless internet connection.

4. Biotechnology was mentioned at nearly every meeting (with the exception of the Mechatronics Center, where we met many students collaborating on projects of industrial manufacturing). After the term biotechnology was mentioned more than 20 times, from the president to the director of the Biotechnology Center, we all got the point that this is an area in which Monterrey TEC will be developing rapidly. In fact, we also saw the nearly completely Center for Biotechnology's new building. In this building, there will be wet labs, and incubator facilities. Clearly, Monterrey TEC intends to build an intellectual strength to power the region into a biotechnology economy in the 21<sup>st</sup> century. With the determined tone from the president to the director, I see no reason why this will not happen. I could see my colleague Juan Gonzalez became visibly excited by this development in Monterrey TEC.
5. The President Dr. Alberto Bustani, a most distinguished and elegant leader of the university, is very proud of the chair professorships of his university. This is a somewhat different concept from the standard chairs US universities. In Monterrey TEC case, the university has established 25 such chairs, and each will receive \$150,000 per year for five years. The chairs are not life-time appointment, and it is closely tied to current research achievements. Each year, an external committee will evaluate the performance of these chairs. A number of them, according to the president, will be "dropped off" after five years. This action reminded me of the endowed chairs of the University of California at San Diego. I am sure that the success of UCSD as a world class research university has a great deal to do with the fact that the University was successful in attracting world class people to fill these chairs. Although quite different in concept, it appears to me that Monterrey TEC is also pursuing a line of research excellence which, given enough time to mature, will have deep impact on that region of Mexico as well.

## **Epilogue**

In 1997, while I was still in Philadelphia, I was privileged enough to accompany a United States Congressional Delegation (CodeI) to the Pacific Rim. One of the members on this trip was the Honorable Solomon Ortiz from Texas. Congressman Ortiz, an active member of the Hispanic Caucus, was for a period of time, the chair. During this trip, we became friends, and had many conversations.

There was one phrase which he told me which seared into my mind. He told me that (and I paraphrase) "...investing the US research universities intellectual resources in Mexico is de facto investing in the future for the US. And the future is now!"

I did not fully comprehend the deep meaning of this phrase this trip!

This will not be my last trip to our friendly neighbor.