DISTINGUISHED LECTURE TOUR TO LATIN AMERICA

Mexico, Costa Rica, El Salvador, & Guatemala

OCTOBER 2003

Overall, my DLT was an outstanding experience. I was invited to talk about my favorite topics in front of very interested audiences. I do believe that DLTs are very good means to share knowledge, allowing students and professionals, living in countries where world major conferences and events are seldom organized, to attend lectures given by distinguished experts. Moreover, DLTs may be very effective to promote IEEE membership.

What's more, thanks to my kindest hosts, I was able to visit wonderful places, which will last in my memory for a long time. All the countries hit in this tour are places that I definitely recommend for a much longer visit to my colleagues and friends.

In the following, I summarize the main facts of this tour.

DLT SUMMARY

The 2003 Distinguished Lecturer Tour of Stefano Bregni took place in Latin America from 21 October through 1st November 2003. The lecture "Synchronization of Digital Telecommunications Networks" was given in Mexico City, San José de Costa Rica, San Salvador and Guatemala City, suitably adapted according to the varying audience including both undergraduate and graduated students, professionals and professors.

TOUR OUTLINE

Tue Oct. 21    Flight Italy - Mexico City
Wed Oct. 22    Mexico City
Thu Oct. 23    Flight Mexico City - San José, Costa Rica
Fri Oct. 24    San José, Costa Rica
Sat Oct. 25    San José, Costa Rica
Sun Oct. 26    Flight San José, Costa Rica - El Salvador City
Mon Oct. 27    El Salvador City
Tue Oct. 28    El Salvador City
Wed Oct. 29    Flight El Salvador City - Guatemala City
Thu Oct. 30    Guatemala City
Fri Oct. 31    Guatemala City
Sat Nov. 1     Flight Guatemala City - Italy

LECTURE TITLE

Synchronization of Digital Telecommunications Networks

LECTURE ABSTRACT

Network synchronization has gained increasing importance in telecommunications throughout the last thirty years: digital switching, SDH/SONET, ATM, CDMA, GSM and UMTS are striking examples where network synchronization has been proven to affect quality of service.

In this tutorial lecture, synchronization processes at different levels in telecommunications are first reviewed and fundamental definitions about timing of digital signals, jitter and wander are introduced. Major topics of this tutorial are: timing aspects in SDH/SONET networks; architectures and requirements for timing transfer in PDH, SDH/SONET, ATM and
fixed/mobile telephone networks; strategies, standards, architectures and clocks for synchronization networks; basic principles of Network Time Protocol.

LECTURER BIOGRAPHY

Stefano Bregni was born in Milano, Italy, in 1965. Since 1991, he has been involved in SDH transmission systems testing and in network synchronization issues, with special regard to clock stability measurement. He served on ETSI and ITU-T committees on digital network synchronization. Since 1999, he has been Assistant Professor at Politecnico di Milano, Dept. of Electronics and Computer Science, where he teaches telecommunications networks.

He has been Senior Member of IEEE since 1999. He is author of the book "Synchronization of Digital Telecommunications Networks", John Wiley & Sons, Inc. He is author or co-author of about twenty papers on several topics in this field, mostly published on IEEE Conferences and Journals. He served and is serving in the Technical Program Committees of several ICC and GLOBECOM Conferences. He is co-chair of the Access and Home Networks Symposium in ICC2004 (Paris, France).

MEXICO CITY

The beginning of the DLT was thrilling: after my arrival to Mexico City airport, I discovered that my luggage did not travel on my flight and was expected to be delivered to Mexico with the next flight. Fortunately, I had kept the charts of the lecture with me in my hand luggage, so the only other "essential facility" I needed, to give my lecture properly, was a new clean shirt (I gave up to feature a tie and formal attire).

By the way, my luggage was delivered to my hotel room around midnight of the day after, less than one day before my next flight to Costa Rica. I was pretty scared about the possibility of experiencing a nice bouncing of my suitcase chasing me around so many places in Latin America...

However, my worry for the luggage was lessened by the outstanding accommodation kindly offered by the IEEE Mexico Section (Fernando Tavera, President, and Vicente Nunez, Executive Director): the excellent Sheraton Centro Historico Hotel.

The lecture was arranged by Miss Trinidad Esparza, President of the IEEE Student Branch, and was given the 22 Oct. 2003 at the Universidad Nacional Autonoma de Mexico, the oldest in America, in front of about 15 students and professionals, including for example engineers of the major operator TelMex.

The afternoon after the lecture, Vicente Nuñez took me to visit the Pyramids of Teotihuacan. Located at about one hour by car from Mexico City, they are one of the most impressive examples of ancient American architecture. Besides this, I did not have much time to visit Mexico City. Nevertheless, in the very few hours of spare time I had in the evenings and the morning before leaving to Costa Rica, I tried to explore as much as I could the surroundings of the hotel, having a quick glance of the city beauty.

SAN JOSE' DE COSTA RICA

My stay and my lecture in Costa Rica were arranged by Guillermo Rivero and Fabián Blandón Navarro, respectively President and Vice-President of the local IEEE Section.

My lecture was given the 24 Oct. 2003 at the Universidad Latina de Costa Rica, in San José, in front of about 40 persons. The audience was very heterogeneous and included both students and professionals working in the lecture area. Among these latter ones, I may mention managers of the national carrier (ICE), the Regional Director and the Regional Sales Manager of Marconi, the Regional Sales Manager of Symmetricom.

The day after the lecture, the local IEEE Section offered me an outstanding full-day guided tour of some natural beauties of Costa Rica. The tour included the Poas volcano and the La
Paz waterfalls in the rain forest. On my own, on the other hand, I made my best to exploit the few hours of spare time to visit as much as I could of San José and its interesting places.

SAN SALVADOR
My stay and my lectures in El Salvador were arranged by Arne Guerra, President the local IEEE Section, Communications Chapter.

Two lectures were given: the first on multiplexing basics the 27 Oct., in the auditorium of the José Simeón Cañas University, in front of some students; the second on network synchronization the 28 Oct, in a room of the hotel were I was accommodated, in front of local professionals.

In the two half days left free, I was taken to visit cozy places in the surroundings of San Salvador: in particular, the Coatepeque Lake and the Pacific coast.

GUATEMALA CITY
My stay and my lectures in Guatemala were arranged by Armando Rivera of the local IEEE Section, Communications Chapter.

Two lectures were given the 29 Oct. and the 30 Oct.: the first on synchronization processes in telecommunications, in an auditorium of the University Of San Carlos, in front of about 50 students; the second on network synchronization, in a room of the Westin hotel were I was accommodated, in front of professionals including managers of the local operator Telefonica de Guatemala (TelGua).

The morning of the 30 Oct., I was taken to visit Antigua Guatemala, charming capital of the Captaincy-General of Guatemala, founded in the early 16th century and now inscribed in the World Heritage List of Unesco. The 31 Oct., instead, I went on my own for a full-day guided tour to Tikal, one of the major sites of Mayan civilization, inhabited from the 6th century B.C. to the 10th century A.D., surrounded by lush vegetation in the heart of the jungle.

THANKS TO EVERYBODY!
Finally, I wish to warmly thank everybody who made this tour possible and worked to make it an unforgettable experience. In particular, I want to mention Jorge Hedderwick (IEEE Regional Director for Latin America), Araceli Garcia Gomez (Chair of the IEEE Communications Section of Guadalajara, Mexico), Carole Swaim (invaluable member of the IEEE Communications Society staff in New York), as well as all the representatives of the local Sections and Chapters of IEEE, who I mentioned in the reports above, for having invited me and for everything they did to make me enjoy my stay in their countries. All of them made any effort to care of my needs and make my tour an unforgettable experience.

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