Here is a brief report of my DLT to Puerto Rico and Mexico held in April 2005. I thank you and the involved Chapters, who made this tour possible.

I do believe that DLTs are an excellent ComSoc initiative, allowing students and professionals to attend lectures given in their country by international distinguished experts. On the other side, the lecturer himself has the pleasant opportunity to visit other universities and exchange ideas with researchers sharing common interests.

What's more, DLTs may be very effective to foster IEEE ComSoc membership, by promoting the image of leadership of ComSoc in disseminating R&D results in communications areas.

It is an honor and a pleasure to serve as DL.

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OVERALL IMPRESSION

This is my second DLT in Latin America. For the second time, it has been an outstanding experience! The kindness of my hosts and the beauty of the places I visited made the tour memorable. I wish to thank everybody involved in its organization, beginning with Araceli Garcia Gomez, true "engine" in all planning phases of this DLT, and those who welcomed me in the towns I visited.

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

TOUR SUMMARY

The 2005 1st Distinguished Lecturer Tour of Stefano Bregni took place in Puerto Rico and Mexico (Monterrey, Guadalajara) from 2 to 9 April 2005. This DLT was organized mainly by Araceli Garcia Gomez, member of the Latin America Region Board, and by the ComSoc Chapters of Puerto Rico/Caribbean, Guadalajara and Monterrey.

Lectures entitled "Synchronization of Digital Telecommunications Networks" were given in the following locations:

- Puerto Rico, Universidad del Turabo de Puerto Rico, 4 April 2005;
- Puerto Rico, Universidad de Puerto Rico Recinto de Mayaguez (UPRM), 5 April 2005;
- Monterrey, Mexico, Tecnológico de Monterrey (ITESM), 7 April 2005;
- Guadalajara, Mexico, Universidad Jesuita de Guadalajara (ITESCO), 8 April 2005.

The audience was composite and included professors, researchers and both undergraduate and graduated students, as well as technical personnel from the industry. According to the varied audience, the lecture was adjusted, to meet different expectations and interests.

Tour Outline:

Sat. April 2    flight Milano-Puerto Rico
Mon. April 4   lecture Universidad del Turabo de Puerto Rico
Tue. April 5   lecture Universidad de Puerto Rico Recinto de Mayaguez (UPRM)
Thu. April 7   flight Puerto Rico - Monterrey, lecture in Tecnológico de Monterrey (ITESM)
PUERTO RICO REPORT

The lecture, "Synchronization of Digital Telecommunications Networks", was given in two different locations: at Universidad del Turabo de Puerto Rico on Monday 4 April and at Universidad de Puerto Rico Recinto de Mayaguez (UPRM) on Tuesday 5 April. The audience included professors, researchers and students. All were very interested.

My host in Puerto Rico was Héctor Dávila. He arranged everything attentively and thoroughly. I wish to thank him, for the effort that he spent to make my stay in Puerto Rico an enjoyable experience. I also thank Roberto Vargas, who in particular took me out for a very nice dinner in Old San Juan.

A highlight of my stay in Puerto Rico has been definitely the trip from San Juan to Mayaguez on April 5. Hector took me on a small Cessna two-seat aircraft, driven by Hector, thus giving me one more good reason to remember this DLT as an outstanding tour.

My stay in Puerto Rico lasted a good 4 days, for reasons of seat availability on flights, and this allowed me to spend also some time in visiting the places, beyond lectures. My first day after the trip, Sunday, I went on foot from my hotel (Isla Verde) to Old San Juan and back. I decided to walk instead of taking a taxi, because I wanted to have a close look on local places and people. That way, I had a very interesting day and I saw many things, although afterwards I felt a bit tired... (I estimate that I walked about 25-30 km). On Wednesday, I took a fast boat and I made a daytrip to Isla Culebra, thus enjoying for the first time in my life a Caribbean beach.

MONTERREY REPORT

The lecture "Synchronization of Digital Telecommunications Networks" was given at Tecnológico de Monterrey (ITESM) on Thursday April 7. The audience included professors, researchers and students. Also in this case, all were very interested.

Unfortunately, as I wrote above, due to reasons of seat availability on flights, I had to limit my stay in Monterrey to few hours. I left San Juan in Puerto Rico at 9.45am on Thu April 7 and I arrived to Monterrey at about 5pm. I changed my clothes to business attire in a bathroom of the ITESM University, few minutes before the lecture, and I went straight to the room for my lecture.

My host in Puerto Rico was César Vargas Rosales. He made all local arrangements very accurately. After the lecture and a meeting with some professors, Cesar took me to a typical Mexican restaurant, where we enjoyed a nice dinner. After dinner, I had only a little time for a short walk downtown, since my flight to Guadalajara next day was scheduled at 7.00am.

GUADALAJARA REPORT

The lecture "Synchronization of Digital Telecommunications Networks" was given at Universidad Jesuita de Guadalajara (ITESO) on Friday April 8. The audience included professors, researchers and students, as well as technical personnel from local industry and operators. They were very interested and asked several questions.
My host in Guadalajara was Araceli Garcia Gomez. Besides setting up the whole DLT in previous months, she made all local arrangements very accurately. I particularly enjoyed the luxurious accommodation and the excellent lunch and dinner in two outstanding typical restaurants.

Before introducing the speaker and the lecture, she and others from Guadalajara Chapter and IEEE Section outlined the activities of IEEE and ComSoc and invited everybody to enroll as member. Moreover, I appreciated that outside the lecture room a table with ComSoc publications, fliers and other promotional material was arranged, thus taking full advantage of the lecture to promote membership effectively. After the lecture, I had the opportunity to meet professors and PhD students of the Department, to present our activities in more detail.

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**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, architectures and clocks for synchronization networks.

**LECTURER BIOGRAPHY**
Stefano Bregni was born in Milano, Italy, in 1965. He received his Dr. Ing. degree in Telecommunications Engineering from Politecnico di Milano. In 1991 he joined SIRTI S.P.A., where he was involved in SDH transmission systems testing and in network synchronization issues, with special regard to clock stability measurement. From 1994 to 1999, he was with CEFRIEL as head of the Transmission Systems Dept. He is Associate Professor at Politecnico di Milano (tenured Asst. Prof. since 1999), Dept. of Electronics and Information, where he teaches telecommunications networks and transmission networks.

He has been Senior Member of IEEE since 1999. He has been Distinguished Lecturer of the IEEE Communications Society since 2004. He was Vice-Chair of the Transmission, Access and Optical Systems Committee of the IEEE Communications Society from 1999 to 2003, retaining the position of Secretary from 2004. He is co-chair or vice-chair of a few symposia in IEEE conferences (viz. ICC2004, GLOBECOM2005, ICC 2006). He has been member of the Technical Program Committees (TPC) of several IEEE conferences, including ICC and GLOBECOM.

He served on ETSI and ITU-T committees on digital network synchronization. He is author of the book "Synchronization of Digital Telecommunications Networks", John Wiley & Sons, Inc. and of another book on SDH published in Italy by McGraw Hill. He is author or co-author of about twenty papers in the field of network synchronization, mostly published on IEEE Conferences and Journals.

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