I send you this brief report of my DLT to Colombia, Ecuador, Panama, held in November 2006. I thank you and all 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.

OVERALL IMPRESSION

This is my third DLT in Latin America. Once again, a DLT in Latin America has been an outstanding and memorable experience! The warm welcome of all my hosts, the effective organization and the beauty of the places I visited made the tour special and truly an unforgettable experience. I wish to thank everybody involved in its organization, beginning with Araceli G. Gomez and Jose L. V. Gonzalez, first organizers of this DLT, and those who welcomed me in the towns I visited. I hope I'll be able to visit all these places again and soon.

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

DLT SUMMARY

The 2006 2nd Distinguished Lecturer Tour of Stefano Bregni took place in Colombia, Equador, Panama, from 5 to 16 November 2006. This DLT was organized by the joint effort of the LA Region board (Araceli Garcia Gomez and Jose Luis Vazquez) and of the IEEE ComSoc Chapters of Colombia, Equador and Panama.

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

- Bogotá, Colombia, Universidad Distrital Francisco Jose de Caldas, 7 November 2006;
- Quito, Equador, Swisshotel, 9 November 2006 (keynote lecture of ANDESCON conference);
- Quito, Equador, Escuela Politecnica Nacional, 11 November 2006 (Tutorial of ANDESCON conference);
- Panama, Riande Continental Hotel, 13 and 14 November 2006.

The audience in all locations 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.

DLT OUTLINE

- Sun Nov 5: flight Milano-Paris-Bogotá
- Mon Nov 6: sightseeing in Bogotá, Zipaquirá, Chia
- Tue Nov 7: lecture Universidad Distrital Francisco Jose de Caldas, Bogotá
Wed Nov 8  flight Bogotá-Quito
Thu Nov 9  keynote lecture at ANDESCON conference
Fri Nov 10  sightseeing in Quito and Otavalo
Sat Nov 11  tutorial of ANDESCON conference
Sun Nov 12  flight Quito-Bogotá-Panama
Mon Nov 13  sightseeing, tutorial at Riande Continental
Tue Nov 14  sightseeing, tutorial at Riande Continental Hotel
Wed Nov 15  flight Panama-Bogotá-Paris-Milano
Thu Nov 16  Arrival in Milano

BOGOTÁ REPORT

The lecture "Synchronization of Digital Telecommunications Networks" (4 hours) was given in the auditorium of the Universidad Distrital Francisco Jose de Caldas on Tuesday 7 November 2006. The audience was about 80 persons and included some professors, industry professionals and mainly students. All were very interested and appreciated the talk very much. The talk was organized very well in all details. Even professional simultaneous translation was arranged, to allow also students to fully understand the lecture.

My visit to Bogotá was effectively organized by Jose David Cely, chair of the Colombia ComSoc Chapter. I wish to thank Josè in particular, for the effort spent to make my stay enjoyable, also beyond the lecture. I enjoyed the warmest company of Josè and his friends throughout my whole stay in Colombia, also in the spare time before and after the lecture. I wish to point out the overwhelming enthusiasm and warm welcome that I received by many in Bogotá, who I cannot list unfortunately.

For accommodation, I was hosted in the Cosmos 100 Hotel, an excellent business accommodation in the Northern area of Bogotá. I am grateful to Josè also for this choice, not to mention the fine restaurants where we enjoyed dinners.

On Monday, I went with Josè to visit the Salt Cathedral in Zipaquira, a small town at about 1 hour of driving distance from Bogotá. This Salt Cathedral is actually a whole cathedral escaved deep in a salt mine about 10 years ago, made of several big rooms and tunnels between them. On the way back to Bogotá, we stopped in Chia, another small town close to Bogotá, for lunch at Andres Carnes del Res, a famous excellent restaurant featuring meat on charcoal grilled at best.

In my little spare time, I had the opportunity to visit a bit of central Bogotá also on my own, walking around with the aid of a map. The Gold Museum, the Botero Museum, the Centre and the Candelaria area are interesting spots that I recommend to anybody visiting Bogotá even for a short time.

QUITO REPORT

Two lectures entitled "Synchronization of Digital Telecommunications Networks" were given in Quito. The first (1 hour) was a keynote lecture in the program of the ANDESCON conference and was given in the Swiss Hotel, on 9 November 2006. The second (4 hours) was a tutorial in the program of the ANDESCON conference and was given in a room of the Escuela Politecnica Nacional, on 11 November 2006.

In both cases, the audience was numerous and included professors, industry professionals and students. I thank everybody for the interest demonstrated and the warm words of appreciation for
my talk. Also in Quito, the talk was organized very well in all details, including professional simultaneous translation.

My visit to Quito was effectively organized by Juan Molina (chair of the ComSoc Student Chapter of the Escuela Politecnica Nacional), Telmo Puente (chair of the ComSoc Student Chapter), Servio Lima (chair of the ComSoc Chapter), Hector Fiallos (chair of the IEEE Section).

I wish to thank them and many others, for the effort spent to make my stay enjoyable, also beyond the lecture. I found many new friends in Quito! I will never forget the warmest company and the friendship that I was granted, in particular by the members of the student chapter.

Also in Quito, I wish to point out the overwhelming enthusiasm and warmth that I received by many, who I cannot list unfortunately because I do not want to forget to mention anyone, and who I wish to meet again. (A personal note: if I cannot list names, this does not mean that I forgot anyone of my friends in Quito. A big hug to everyone!!)

For accommodation, I was hosted in the Swiss Hotel, an outstanding hotel in the central area of Quito (Mariscal). I am grateful to my hosts also for this choice, not to mention the fine restaurants where we enjoyed dinners together in good company.

On Friday, I was taken by car for a full-day visit to Otavalo and other places on the way there. Otavalo is the place of a famous market of "ponchos" and other colored textile artifacts. I am grateful also to the two persons who accompanied me for this nice day we spent together. Also in Quito, in my little spare time, I had the opportunity to visit a bit of the town on my own too, walking around with the aid of a map. The historical centre, with its churches and buildings, is a very beautiful area that nobody should miss.

PANAMA REPORT

Two lectures entitled "Synchronization of Digital Telecommunications Networks" were given in Panama city. They both had length about 3 hours and took place in the Riande hotel, on 13 and 14 November 2006. Lectures were addressed to a group of professionals working in local companies.

My visit in Panama was very well organized by Ivan Armuelles and Gustavo Díaz (current chair and past chair of the Panama ComSoc chapter). In spite of the little spare time that was available between lectures, they made their best to make my stay enjoyable. They granted me with their friendship and took care of all details about both my stay and lectures. In particular, I remember the attention of Ivan to arrange exactly all details in advance, to have no surprises.

I was hosted in the Riande Continental Hotel, an excellent accommodation in the business and tourist area of Panama. I am grateful to Ivan and Gustavo also for this choice, not to mention the good restaurants where we enjoyed local food together.

I was also taken by Gustavo to visit the Panama channel. In the few spare hours between lectures, I wanted to visit a bit of the town on my own, walking around with the aid of a map. The historical centre, with its colonial architecture, is a beautiful and picturesque area that nobody should miss.

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.

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