

## **Report Marc Swerts on visit to Brazil (June 2007) as an ISCA distinguished lecturer**

### **1. Introduction**

From June 11, 2007 till June 17, I travelled to Brazil as an ISCA distinguished lecturer to visit two universities in the Sao Paulo area. First, I went to the Instituto de Estudos da Linguagem of the Linguistics department at the **Unicamp university in Campinas**. This is a public university which is among the highest-rated universities in Brazil, which is also strongly research-oriented. Unfortunately, there was a strike in Campinas against some governmental decisions regarding organisational changes in academia, but that didn't really affect my visit. In the second half of the week I moved to Sao Paulo to visit the linguistics department of the Catholic University of **São Paulo (PUC-SP)**. This university is very large, and is more teaching- rather than research-oriented, compared to Campinas.

The flight and the costs for local transportation were covered by ISCA; in addition, I received a daily allowance from the host universities to pay food and lodging. The sponsoring in Brazil was provided by the FAPESP project (conducted by the Speech Prosody Studies group in Campinas) and another by the LIACC project at PUC-SP. Contact persons in these respective universities were Plinio Almeida Barbosa from the University of Campinas and Sandra Madureira from PUC-SP. Below, I will briefly report about the lectures I have been giving in these 2 locations, and then say something about the outcome of various contacts I had with local researchers in Campinas and Sao Paulo.

### **2. Lectures**

Both in Campinas and Sao Paulo I have given lectures on research I did with colleagues from Tilburg University (mainly Emiel Kraemer and Pashiera Barkhuysen) on aspects of audiovisual prosody. In my first lecture, I discussed work about the use of facial and auditory cues to communication problems, both in human-human and human-machine interactions. In my second lecture, I presented the results of work on audiovisual markers of focus and accent, and of utterance boundaries.

My lectures were well attended, and led to some useful and inspiring discussions, both in Campinas and Sao Paulo. In Campinas, I mainly talked to an audience of MA students, PhD students and senior staff members from the phonetics and computer science department and research groups specialized in language education. There were also people working on distance e-learning who were especially interested in the added value of multimodal communication, and feedback and error-handling. In Sao Paulo, my talk was scheduled as one of a series of talks in a local workshop on the expressive use of prosody. The other talks, one of which by my local host Sandra Madureira, focused on the use of intonation for rendering expressiveness to poetry and music, which matched nicely with my own studies on audiovisual correlates of positive and negative emotions. The workshop attracted quite a large audience, about 100 to 150 listeners, most coming from research groups working in the area of speech pathology.

### **3. Local contacts**

My local host in Campinas was Plinio Barbosa, who is an associate professor in the Instituto de Estudos da Linguagem of the Linguistics department. His main research speciality is the analysis and modelling of speech rhythm, partly for the improvement of synthetic speech. He already has a good international reputation. He has done his PhD work in France, in the ICP lab at Grenoble, where he collaborated with Gerard Bailly, and has good research contacts with various researchers in the United States (Byrd, Fujimori, Goldstein, Saltzman), Japan (Nick Campbell) and especially in Portugal. He is

the ISCA liaison representative of the ISCA sig on Iberian languages (<http://www.il-sig.org/>), and is guest editing a special issue on Iberian languages, together with Isabel Trancoso, Nestor Becerro-Yoma, and Kuldip Paliwal ([http://www.isca-speech.org/SpeCom\\_IL.pdf](http://www.isca-speech.org/SpeCom_IL.pdf)). In addition, he is editorial board member of various other (international and local) journals, including the International Journal of speech technology. Important to note is that Plinio, together with some other researchers in the Sao Paulo area (including Sandra Madureira), will be hosting the next Speech Prosody conference in Spring 2008 (his site was selected based on votes from members of the Speech Prosody organisation), with already an impressive list of keynote speakers (<http://www.sp2008.org/>).

During my visit in Campinas, I have also been informed about ongoing research projects through individual presentations by local researchers. **Plinio Barbosa** himself presented results of his work on the development of a speech rhythm model (about which he recently got a paper accepted for Speech Communication), and of his research on the prosody-syntax interface, p-centers, and more general intonational modelling. **Pablo Arantes** tackles more or less the same issues as Barbosa, but has also performed some additional speech perception tests, using a click detection paradigm; in his view, speech production and perception are related processes, in line with current views on linguistic entrainment in dialogue modelling. **Luciana Lucente** works on the development of a Brazilian version of ToBI. The system is highly comparable to existing schemes developed for other languages, but differs in that her version aims to result in a more narrow intonational transcription and does not contain a break index tier. Her Brazilian Portuguese ToB framework also reserves a separate tier for pragmatic information. In addition, she works on correlates of narrow focus in Brazilian Portuguese. **Sandra Merlo** talked about her work of modelling of pauses and disfluencies in different types of spontaneous elicited speech (5 adults producing 20 texts); cycles of pause and disfluency structures were semi-automatically determined by means of fourier transformation, which produces hierarchical pause structures that can easily be explained psycholinguistically. **Aveliny M. Lima** talked about her work on P centers, where she analysed CV clusters produced with increasing and decreasing tempos. **José Mario de Martino** and **Fabio Violina** from the department of computer engineering and telecommunication presented work on context-dependent visemes for the development of visual synthesis system. They conducted evaluation studies of their synthetic talking head with nonsense clusters, but they are trying to find new objective evaluation methods. My visit to Sao Paulo was almost entirely devoted to the local workshop on expressive use of prosody. In addition, I had informal conversations with local researchers on various issues, including new processing measures to determine degrees of speech pathology and cultural differences in dramatic expressions of emotions. With **Sandra Madureira** I discussed work on finding audiovisual cues to important stretches of information in newsreading. Interestingly, both her students and students in my own department are exploring this by annotating facial expressions of professional newsreaders from Brazilian and Dutch broadcasts.

#### 4. Conclusion

Let me end this report by stressing that my visit to Brazil has been fruitful for me in more than one respect. I got some very useful and positive feedback on my own lectures, which gave me new ideas for future research. I plan to keep in touch with my Brazilian colleagues, as it would be nice to set up some form of collaboration, for instance on aspects of audiovisual speech processing. In addition, it was nice to learn more about local research, which I had known only partially, but which appears to be very promising indeed.