

**Trip Report**  
**ISCA DL Tour to Serbia**  
**March 27 – April 2, 2022**

**Hosts**

- Prof. Vlado Delić, Faculty of Technical Sciences FTN, University of Novi Sad, Serbia
- Prof. Dejan Ćirić, Faculty of Electronic Engineering, University of Nis, Serbia

**Trip Itinerary:**

*Sunday, March 27*

Flight from Frankfurt to Belgrad. I was picked up by a driver from the University of Novi Sad who brought me to the hotel in Novi Sad.

*Monday, March 28*

Prof. Delić brought me to the university, where he introduced me to the Dean and other faculty members. I was given an overview of the activities of the faculty.

From 12.00h – 14.00h I gave a lecture on “Far-field automatic speech recognition”. The lecture was held in a seminar room and was at the same time streamed via Zoom. We had about 20 attendants in the room and about 25 attendants online. There were online participants, among others, from University of Belgrad, University of Nis, from North-Macedonia and from Croatia.

After lunch we then had a lab tour and Prof. Delić introduced me to his team, where we entered into first technical discussions.

*Tuesday, March 29*

Meeting with Prof. Delić’s speech team: Younger students, PhD students and senior researchers. They gave presentations and we had in-depth discussions about their work on text-to-speech and automatic speech recognition. I was impressed by the quality of their Serbian TTS system. I showed selected slides from my talk on “Microphone array signal processing and deep learning for speech enhancement”.

We then discussed about how to increase the involvement of the team in ISCA activities. So far, they mainly publish on non-ISCA conferences (e.g., SPECOM, the international conference on speech and computer, organized by eastern European colleagues) and MDPI journals. I offered advice and help for polishing submissions to Interspeech.

In the afternoon we visited the company Alphanum which had been founded out of the speech team in 2003 and which is very successful in the Serbian TTS market.

*Wednesday, March 30*

Prof. Delić drove me from Novi Sad to Nis, with a touristic stop-over in Belgrad. Novi Sad in the north and Nis in the south of Serbia are some 400 km apart. Prof. Delić then stayed over night in Nis to attend my lecture on the next day.

*Thursday, March 31*

Prof. Ćirić picked me and Prof. Delić up and brought us to the University of Nis. There, he introduced me to faculty members. From 12.00h – 14.00h I gave a lecture on

“Computational Analysis of Sound Scenes and Events”. There were some 20 people in the lecture hall, and about 20 people attended online via Zoom. Afterwards there was a discussion with the faculty members working in the field of acoustics and signal processing

*Friday, April 1*

I had technical discussions with the postgraduate students and PhD students of Prof. Ćirić, who work on acoustic signal processing (microphone arrays etc.), and (neural) compression techniques for audio and speech. We also discussed about funding opportunities within EU calls that address West-Balkan countries.

In the afternoon we had a tour through a new building hosting startup companies, among which was the company Com-in-AI, which had been founded by Prof. Ćirić.

*Saturday, April 2*

Prof. Ćirić gave me a ride from Nis to Belgrad airport, where I left for returning home to Germany.

## **Conclusions and personal Impressions**

Researchers from Serbia are not very visible in ISCA conferences, workshops and activities. One reason is that the fees and trip expenses are often too high. Here, the ISCA travel grants are very welcome, although not much used by them so far.

I was impressed by the quality of the TTS research and products that emerged out of the speech team at University of Novi Sad. That includes very modern work on cross-lingual and expressive synthesis. Nevertheless, team members reported that they have difficulties having their papers accepted at Interspeech. That is why they regularly go to other events, such as SPECOM, a speech conference that is popular among eastern European researchers. Prof. Delić organizes a Special Session at Eusipco to be held in Belgrad end of August 2022, entitled Multi-Lingual, Multi-Style, Multi-Modal Human-Machine Spoken Language Communication.

My impression is that the team does high-quality research and that it needs, perhaps, only a little help, to be more visible in ISCA activities. They claim that their TTS system, commercialized by Alphanum, is superior to the Google Serbian TTS.

The group of Prof. Ćirić, University of Nis, focuses on front-end processing, including acoustic designs. They have projects on the compression of speech and audio signals and how to port the compression algorithms on embedded systems. It occurred to me that they are less aware of ISCA activities. They were, however, very interested in establishing links to partners in Western Europe to increase their chance in acquiring EU funds for joint projects.

## **Appendix**

Below you find some photos of my trip:

- Prof. Delić introducing my lecture in Novi Sad
- Me during my lecture in Novi Sad
- Dinner in Nis: Prof. Ćirić, Prof. Delić, me and my wife
- Me during my lecture in Nis



