



CONFERENCE PROGRAMME
TAKTONS & DOGS 2017

**The 4th International Acoustics and Audio Engineering Conference,
and
The 11th Conference Digital Speech and Image Processing**

November 22nd - 25th, 2017

Novi Sad, Serbia

**Wednesday, November 22nd
Radio Novi Sad (Studio M)**

18:00 TAKTONS Opening Ceremony
18:30 Welcome Party
19:30 Serbian AES Section: 25th Anniversary

**Thursday, November 23rd
University of Novi Sad (Rectorate)**

09:30 Registration of Participants (UNS, Hall)

10:00-10:30 DOGS Conference Opening
(UNS, Conference Room I-9)
Chair: Prof. Vlado Delić

Prof. Saša Orlović - Vice-Rector of the University of Novi Sad
Prof. Dragan Šešlija – Vice-Dean of the Faculty of Technical Sciences

10:30-13:00 **Speech Technologies** DOGS
(UNS, Conference Room I-9) *in English*
Chairs: Prof. Géza Németh and Prof. Milan Sečujski

Continuous vocoder in feed-forward deep neural network based speech synthesis – M. Al-Radhi, T. Gábor Csapó, G. Németh: *Budapest University of Technology and Economics, Department of Telecommunications and Media Informatics, Budapest, Hungary*

Reproduction of emphasis at sentence level in American English speech synthesis – M. Sečujski¹, S. Ostrogonac², S. Suzić¹, D. Pekar²: ¹UNS, FTN, Serbia; ²AlfaNum, Novi Sad, Serbia

Multi-style statistical parametric TTS – T. Delić¹, S. Suzić¹, S. Ostrogonac², S. Đurić¹, D. Pekar²: ¹UNS, FTN, Serbia; ²AlfaNum, Novi Sad, Serbia

Coordinations - from meaning to sound – N. Miličević, B. Jakovljević, M. Marković: *UNS, Faculty of Philosophy, Serbia*

Acoustic and syntactic correlates of prosodic stress in Serbian: a production study – P. Kovačević: *UNS, Faculty of Philosophy, Serbia*

Prosodic phrasing of da-clauses in Serbian – T. Miličević, B. Jakovljević: *UNS, Faculty of Philosophy, Serbia*

Interactive search for words and phrases in large audio-visual archives – J. Švec, P. Stanislav, P. Ircing, L. Šmídl, J. Psutka: *University of West Bohemia, Department of Cybernetics, Pilsen, Czech Republic*

Fast sequence-trained deep neural network models for Serbian speech recognition – E. Pakoci¹, B. Popović¹, D. Pekar²: ¹UNS, FTN, Serbia; ²AlfaNum, Novi Sad, Serbia

Speaker dependent recognition of whispered speech based on MLLR adaptation – J. Galić¹, S. Jovičić², B. Marković³, D. Šumarac Pavlović², Đ. Grozdić²: ¹Uni. Banja Luka, Fac. Elec. Eng., Bosnia and Herzegovina; ²Uni. Belgrade, School Elec. Eng., Serbia; ³Čačak Tech. College, Serbia

A text input mechanism based on voice recognition for android smart-phones – N. Jakovljević, R. Černjanski, D. Mišković, V. Delić: *FTN, Serbia*

13:00-15:00 Lunch

15:00-16:45 **Digital Image Processing** DOGS
(UNS, Conference Room I-9) *in English*
Chairs: Prof. Miloš Železný and Branko Brkljač, PhD

Use of motion capture and eye tracking in scientific tasks – M. Železný, P. Jedlička, Z. Krňoul: *University of West Bohemia, Department of Cybernetics, Pilsen, Czech Republic*

The role of image compression in photogrammetry based scanning systems – D. Dragan, D. Gajić, V. Petrović: *UNS, FTN, Serbia*

Efficient computation of spectral transforms on graphics processing units – D. Gajić, D. Dragan, V. Petrović: *UNS, FTN, Serbia*

Objective video quality assessment metrics performance analysis – B. Bondžulić¹, B. Pavlović¹, V. Petrović²: ¹University of Defense, Military Academy, Belgrade, Serbia; ²UNS, FTN, Serbia

Analysis of spatial and temporal variability of the solar radiation incidence angle on the example of landsat-8 satellite images – B. Brkljač¹, P. Lugonja², Ž. Trpovski¹, V. Cmojević²: ¹UNS, FTN, Serbia, ²UNS, Institute BioSense, Serbia

Ear detection in wheat images using deep neural networks – Ž. Šarić¹, O. Marko², M. Panić²: ¹UNS, FTN; ²Institute BioSense, Serbia

An analytical approach to authentication of Church of Holy Trinity altar in Buda – I. Lazić¹, T. Lončar-Turukalo¹, D. Korolija Crkvenjakov², O. Šveljo¹: ¹UNS, FTN; ²UNS, Academy of Arts, Serbia

17:00-19:00 **Audio Signal Processing** DOGS
(UNS, Conference Room I-9) *in Serbian*
Chairs: Prof. Zoran Perić and Prof. Nikša Jakovljević

Optimizacija maksimalne amplitude i izbor konstante A semilogaritamskog kvantizera za uzak dinamički opseg – Z. Perić¹, S. Suzić², T. Delić²: ¹Univ. Niš, Elektronski fakultet; ²UNS, FTN, Srbija

Kodovanje govornog signala primenom modifikovanog BTC algoritma – S. Tomić, Z. Perić, J. Nikolić: *Univ. Niš, Elektronski fakultet, Srbija*

Proširenje postupka za automatsko prepoznavanje govornika na ostale zvukove u prirodi – I. Jokić¹, S. Jokić², V. Delić¹, Z. Perić³: ¹UNS, FTN; ²EKG za svakoga; ³ Uni. Niš, Elektronski fakultet, Srbija

Realizacija audio biblioteke Univerziteta u Novom Sadu – D. Mišković, M. Gnjatović, N. Jakovljević, V. Delić: UNS, FTN, Srbija

Primena ASR aplikacije za srpski jezik u radu sa mladim osnovcima – Branko Lučić: Srednja stručna škola, Crvenka, Srbija

Pseudo-verovatnoća i intervalno-vrednosna pseudo-verovatnoća – T. Grbić, S. Medić, N. Duraković, T. Gavrilov, T. Delić, N. Jakovljević: UNS, FTN, Srbija

Komparacija kompresionih tehnika kod prikaza stereoskopskih slika – I. Vasiljević, D. Dragan, R. Obradović: UNS, FTN, Srbija

Uticaj dinamike na sprekralne karakteristike violine – S. Krstić, M. Milošević, N. Janković: VŠERSS, Beograd, Srbija

**20:00-22:30 Conference Dinner
(Restaurant Terasa, Petrovaradin fortress)**

Friday, November 24th University of Novi Sad (Rectorate)

**09:00-11:00 Biomedical Signal Processing DOGS
(UNS, Conference Room I-9) in English**

Chairs: Prof. Tatjana Lončar-Turukalo & Miško Subotić, PhD

The use of sound in medical diagnostics – M. Subotić¹, R. Bilibajkić¹, P. Subotić²: ¹Life Activities Advancement Center, Belgrade, Serbia; ²University of Belgrade, School of Electrical Engineering, Serbia

New Hungarian database for analysis of speech of people suffering from Parkinson's disease – D. Sztahó¹, I. Valálik², K. Vicsi¹: ¹Budapest University of Technology and Economics, DTMI, Budapest, Hungary; ²Depart. of Neurosurgery at St. John's Hospital, Budapest, Hungary

Error estimation of cross-approximate entropy in an artificial environment – T. Škorić, D. Bajić: UNS, FTN, Serbia

Homomorphic equalisation of statistical properties for radiography image merging – Đ. Starčević, V. Ostojić, V. Petrović: UNS, FTN, Serbia

Automatic evaluation of collimation field rotational angle – Đ. Starčević, V. Ostojić, V. Petrović: UNS, FTN, Serbia

Recursive anisotropic diffusion – V. Ostojić, Đ. Starčević, V. Petrović: UNS, FTN, Serbia

Integrative clustering for cancer gene expression data – I. Šašić¹, S. Brdar², T. Lončar-Turukalo¹, H. Aidos³, A. Fred³: ¹UNS, FTN, Serbia; ²UNS, Inst. BioSense, Serbia; ³Inst. Superior Technico, Lisabon, Portugal

Pattern mining in surrogate neural data – D. Despotović, N. Božanić, T. Lončar-Turukalo: UNS, FTN, Serbia

**11:00-13:00 TAKTONS Conference Opening and
Panel: Construction of the new RTV
building (UNS, Amphitheater) in Serbian**
Moderators: Prof. Miomir Mijić and Jovan Bačić (RTV)

Miodrag Koprivica, PhD – General manager of RTV Vojvodina

Prof. Dušan Nikolić – Rector of the University of Novi Sad

Prof. Rade Doroslovački – Dean of the Faculty of Technical Sciences

Dejan Todorović – President of the Serbian AES Section

Akustički aspekti projekta nove zgrade RTV – M. Mijić¹, D. Šumarac Pavlović¹, M. Bjelić¹, R. Bošković²: ¹UBG, ETF; ²UNS, FTN, Serbia

13:00-14:30 Lunch

**14:30-16:45 Acoustics and Audio Engineering
(UNS, Conference Room I-9)**

Chairs: Prof. Dejan Ćirić and Dejan Todorović (AES)

Digitalization of audio equipment in Radio Novi Sad - Experiences – D. Grnja, R. Uzelac, E. Šereš: RTV Radio Novi Sad, Serbia

Measurement of direct sound coverage in sound reinforcement systems – M. Bjelić, D. Š. Pavlović, M. Mijić: Uni. of Belgrade, ETF, Serbia

Effects of changing the truncation time on room energy decay curve – D. Ćirić, M. Janković: Uni. of Niš, Fac. Elec. Eng., Serbia

Analysis of the violin sound radiation in the studio's conditions – S. Krstić, D. Drinčić, M. Trifunović: VŠERSS, Belgrade, Serbia

Narrow band reverberation time measurements – L. Čurović, J. Prezelj, J. Murovec, T. Novaković: Uni. of Ljubljana, Fac. Mech. Eng., Slovenia

One dimensional beamforming microphone array geometry optimization for environmental noise monitoring – J. Murovec, J. Prezelj, L. Čurović, T. Novaković: Uni. of Ljubljana, Fac. Mech. Eng., Slovenia

Psychoacoustic approach on centrifugal fan blade design – T. Novaković, J. Prezelj, L. Čurović, J. Murovec: Fac. Mech. Eng., Slovenia

Air impedance and Thiele-Small parameters in an electrodynamic loudspeaker – I. Djurek, D. Djurek, T. Jajtić: Uni. of Zagreb, FER, Croatia

Digital holography of graphene oxide paper acoustic membranes – J. Mitrić¹, D. Grujić², D. Abramović³, N. Demolić³, D. Pantelić², I. Salom⁴, D. Todorović⁵, M. Spasenović²: ¹Uni. Union; ²UBG, Inst. Physics; ³UZG, Inst. Physics, Croatia; ⁴UBG, Inst. M. Pupin; ⁵Dirigent Acoustics, Serbia

MATLAB simulation of an acoustic camera using delay-and-sum method – V. Čatić¹, I. Salom¹, V. Čelebić¹, D. Todorović²: ¹Uni. Belgrade, Inst. M. Pupin; ²Dirigent Acoustics, Belgrade, Serbia

Application of algorithm for automatic speaker recognition based on use of mel-frequency cepstral coefficients in music – I. Jokić¹, S. Jokić², V. Delić¹, Z. Perić³: ¹UNS, FTN, Serbia; ²ECG for Everybody, Serbia; ³University of Niš, Faculty of Electronic Engineering, Serbia

**17:00-19:30 Students Sound Recordings Competition
(UNS, Conference Room I-9) in Serbian**
Chair: Prof. Sonja Krstić

Kategorije: Studijsko snimanje, Elektronska muzika, Zvuk za medije
Žiri: Lj. Gordić (RTS), Z. Maljković (RTS), I. Brusić (SC), N. Jeremić (SIM)
– biće preslušan i pobjednički rad sa državnog takmičenja srednjih škola
– pobjednički studentski rad će preslušati i veliki žiri zvaničnog TAKTONS-a

20:00 Gala Concert (Studio M, Radio Novi Sad)

Saturday, November 25th Radio Novi Sad (Studio M)

**12:00-13:00 Announcement of TAKTONS winners
13:00-13:30 Cocktail party for winners**

Other TAKTONS events November 22nd - 25th

Other TAKTONS events at Radio Novi Sad (Studio M):

- Professional Sound Recordings Competition
 - Audio Engineering Exhibition
 - AES Bookstore
- can be visited during the conference, Nov., 22nd – 25th.

Lectures and project presentations at Radio Novi Sad, Thursday, 23th, Studio M:

- 10:25-11:10 Projects related to the construction of new RTV building, Jovan Bačić & prof. Miomir Mijić
- 14:45-15:30 Invited lecture: Landmarks along the long road from stereo to 3D – Michael Williams (AES)

Other TAKTONS events at University of Novi Sad:

- Exhibition of Audio-Equipment from RTS on the occasion of the 25th Anniversary of Serbian AES Section, November, 22nd – 25th, 10:00-18:00.

Organizers: Prof. Vlado Delić and Mirjana Mihajlović (RTS)

The programme is available at <http://www.taktons.com>.