



CONFERENCE PROGRAMME  
**TAKTONS & DOGS 2017**

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

November 22<sup>nd</sup> - 25<sup>th</sup>, 2017

Novi Sad, Serbia

**Wednesday, November 22<sup>nd</sup>  
Radio Novi Sad (Studio M)**

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

**Thursday, November 23<sup>rd</sup>  
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. Sečujski<sup>1</sup>, S. Ostrogonac<sup>2</sup>, S. Suzić<sup>1</sup>, D. Pekar<sup>2</sup>: <sup>1</sup>UNS, FTN, Serbia; <sup>2</sup>AlfaNum, Novi Sad, Serbia

**Multi-style statistical parametric TTS** – T. Delić<sup>1</sup>, S. Suzić<sup>1</sup>, S. Ostrogonac<sup>2</sup>, S. Đurić<sup>1</sup>, D. Pekar<sup>2</sup>: <sup>1</sup>UNS, FTN, Serbia; <sup>2</sup>AlfaNum, 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. Pakoci<sup>1</sup>, B. Popović<sup>1</sup>, D. Pekar<sup>2</sup>: <sup>1</sup>UNS, FTN, Serbia; <sup>2</sup>AlfaNum, Novi Sad, Serbia

**Speaker dependent recognition of whispered speech based on MLLR adaptation** – J. Galić<sup>1</sup>, S. Jovičić<sup>2</sup>, B. Marković<sup>3</sup>, D. Šumarac Pavlović<sup>2</sup>, Đ. Grozdić<sup>2</sup>: <sup>1</sup>Uni. Banja Luka, Fac. Elec. Eng., Bosnia and Herzegovina; <sup>2</sup>Uni. Belgrade, School Elec. Eng., Serbia; <sup>3</sup>Čačak Tech. College, Serbia

**A text input mechanism based on voice recognition for android smartphones** – 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 Prof. Vladimir Petrović

**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. Bondžulić<sup>1</sup>, B. Pavlović<sup>1</sup>, V. Petrović<sup>2</sup>: <sup>1</sup>University of Defense, Military Academy, Belgrade, Serbia; <sup>2</sup>UNS, FTN, Serbia

**Analysis of spatial and temporal variability of the solar radiation incidence angle on the example of landsat-8 satellite images** – B. Brkljač<sup>1</sup>, P. Lugonja<sup>2</sup>, Ž. Trpovski<sup>1</sup>, V. Crnojević<sup>2</sup>: <sup>1</sup>UNS, FTN, Serbia; <sup>2</sup>UNS, Institute BioSense, Serbia

**Ear detection in wheat images using deep neural networks** – Ž. Šarić<sup>1</sup>, O. Marko<sup>2</sup>, M. Panić<sup>2</sup>: <sup>1</sup>UNS, FTN; <sup>2</sup>Institute BioSense, Serbia

**An analytical approach to authentication of Church of Holy Trinity altar in Buda** – I. Lazić<sup>1</sup>, T. Lončar-Turukalo<sup>1</sup>, D. Korolija Crkvenjakov<sup>2</sup>, O. Šveljo<sup>1</sup>: <sup>1</sup>UNS, FTN; <sup>2</sup>UNS, 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 semilogaritmanskog kvantizera za uzak dinamički opseg** – Z. Perić<sup>1</sup>, S. Suzić<sup>2</sup>, T. Delić<sup>2</sup>: <sup>1</sup>Univ. Niš, Elektronski fakultet; <sup>2</sup>UNS, 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. Jokić<sup>1</sup>, S. Jokić<sup>2</sup>, V. Delić<sup>1</sup>, Z. Perić<sup>3</sup>: <sup>1</sup>UNS, FTN; <sup>2</sup>EKG za svakoga; <sup>3</sup>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 24<sup>th</sup> 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 and Dr. Miško Subotić

The use of sound in medical diagnostics – M. Subotić<sup>1</sup>, R. Bilibajkić<sup>1</sup>, P. Subotić<sup>2</sup>: <sup>1</sup>Life Activities Advancement Center, Belgrade, Serbia; <sup>2</sup>University of Belgrade, School of Electrical Engineering, Serbia

New Hungarian database for analysis of speech of people suffering from Parkinson's disease – D. Sztahó<sup>1</sup>, I. Valálik<sup>2</sup>, K. Vicsi<sup>1</sup>: <sup>1</sup>Budapest University of Technology and Economics, DTMI, Budapest, Hungary; <sup>2</sup>Depart. 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. Šašić<sup>1</sup>, S. Brdar<sup>2</sup>, T. Lončar-Turukalo<sup>1</sup>, H. Aidos<sup>3</sup>, A. Fred<sup>3</sup>: <sup>1</sup>UNS, FTN, Serbia; <sup>2</sup>UNS, Inst. BioSense, Serbia; <sup>3</sup>Inst. Superior Technico, Lisabon, Portugal

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

11:00-13:00 Otvaranje konferencije TAKTONS i  
Panel: Izgradnja nove zgrade RTV  
(UNS, Amfiteatar)

Moderatori: Prof. Miomir Mijić i Jovan Bačić (RTV)

Dr Miodrag Koprivica – Generalni direktor RTV Vojvodina

Prof. Dušan Nikolić – Rektor Univerziteta u Novom Sadu

Prof. Rade Doroslovački – Dekan Fakulteta tehničkih nauka

Prof. Petar Pravica – Predsednik Srpske sekcije AES

Akustički aspekti projekta nove zgrade RTV – M. Mijić<sup>1</sup>, D. Šumarac Pavlović<sup>1</sup>, M. Bjelić<sup>1</sup>, R. Bošković<sup>2</sup>: <sup>1</sup>Uni. Beograd, ETF; <sup>2</sup>UNS, FTN, Srbija

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. Mitrić<sup>1</sup>, D. Grujić<sup>2</sup>, D. Abramović<sup>3</sup>, N. Demoli<sup>3</sup>, D. Pantelić<sup>2</sup>, I. Salom<sup>4</sup>, D. Todorović<sup>5</sup>, M. Spasenović<sup>2</sup>: <sup>1</sup>Uni. Union; <sup>2</sup>UBG, Inst. Physics; <sup>3</sup>UZG, Inst. Physics, Croatia; <sup>4</sup>UBG, Inst. M. Pupin; <sup>5</sup>Dirigent Acoustics, Serbia

MATLAB simulation of an acoustic camera using delay-and-sum method – V. Čatić<sup>1</sup>, I. Salom<sup>1</sup>, V. Čelebić<sup>1</sup>, D. Todorović<sup>2</sup>: <sup>1</sup>Uni. Belgrade, Inst. M. Pupin; <sup>2</sup>Dirigent Acoustics, Belgrade, Serbia

Application of algorithm for automatic speaker recognition based on use of mel-frequency cepstral coefficients in music – I. Jokić<sup>1</sup>, S. Jokić<sup>2</sup>, V. Delić<sup>1</sup>, Z. Perić<sup>3</sup>: <sup>1</sup>UNS, FTN, Serbia; <sup>2</sup>ECG for Everybody, Serbia; <sup>3</sup>University 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 25<sup>th</sup> 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 22<sup>nd</sup> - 25<sup>th</sup>

### 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., 22<sup>nd</sup> – 25<sup>th</sup>.

### Lectures and project presentations at Radio Novi Sad, Thursday, 23<sup>th</sup>, 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 25<sup>th</sup> Anniversary of Serbian AES Section, November, 22<sup>nd</sup> – 25<sup>th</sup>, 10:00-18:00.
- Organizers: Prof. Vlado Delić and Mirjana Mihajlović (RTS)

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