

“SpeD 2019” PROGRAM

October 10, 2019

Politehnica University of Timișoara
The UPT Conference Center, “Auditorium Hall”

9:00 – 9:30

Welcome from the Organizing Committee and Foreword – **Corneliu Burileanu**, *University “Politehnica” of Bucharest*; **Horia-Nicolai Teodorescu**, *member of the Romanian Academy*, “Gheorghe Asachi” Technical University of Iași; **Radu Vasiu**, *Politehnica University of Timișoara*.

Spoken Language Recognition and Understanding. Emotion Recognition and Sound Classification

Chairs: Laurent Besacier, Horia-Nicolai Teodorescu

9:30 – 10:30

- **Invited Keynote:** Automatic Speech Recognition: Introduction, Current, Trends and Open Problems,
Laurent Besacier,
Laboratory CLIPS, CNRS – Institut National Polytechnique de Grenoble, Université Joseph Fourier, Grenoble, France.

10:30 – 10:50

- How Central European Countries Fare in Speech and Language Technology Research?
Horia-Nicolai Teodorescu^{1,2},
¹*Institute of Computer Science, Romanian Academy – Iași Branch, Romania,*
²*“Gheorghe Asachi” Technical University of Iași, Romania.*

10:50 – 11:10

- Kaldi-based DNN Architectures for Speech Recognition in Romanian,
Alexandru-Lucian Georgescu, Horia Cucu, Corneliu Burileanu,
Speech and Dialogue Research Laboratory, University “Politehnica” of Bucharest, Romania.

11:10 – 11:30

- Towards Spoken Medical Prescription Understanding,
Ali Can Kocabiyikoglu¹, **François Portet**², **Hervé Blanchon**², **Jean-Marc Babouchkine**¹,
¹*Calystene SA, Eybens, France,*
²*Univ. Grenoble Alpes, CNRS, Grenoble INP, LIG, Grenoble, France.*

11:30 – 11:50 Coffee Break

The UPT Conference Center, “K1 Hall”

11:50 – 12:10

- Modulation-based Speech Emotion Recognition with Reconstruction Error Feature Expansion,
Șerban Mihalache, Dragoș Burileanu, Gheorghe Pop, Corneliu Burileanu,
Speech and Dialogue Research Laboratory, University “Politehnica” of Bucharest, Romania.

12:10 – 12:30

- Emotion Recognition System from Speech and Visual Information based on Convolutional Neural Networks,
Nicolae-Cătălin Ristea¹, Liviu Cristian Duțu², Anamaria Rădoi¹,
¹University “Politehnica” of Bucharest, Romania,
²Fotonation Romania, member of Xperi Group, Bucharest, Romania.

12:30 – 12:50

- Introducing the RODECAR Database for Deceptive Speech Detection,
Șerban Mihalache, Gheorghe Pop, Dragoș Burileanu,
Speech and Dialogue Research Laboratory, University “Politehnica” of Bucharest,
Romania.

12:50 – 13:10

- Background Sound Classification in Speech Audio Segments,
Janvijay Singh¹, Raviraj Joshi²,
¹Indian Institute of Technology Varanasi, Varanasi, India,
²Indian Institute of Technology Madras, Chennai, India.

13:10 – 14:30 Lunch

The UPT Conference Center, “K1 Hall”

Speech Synthesis. Speech Analysis, Representation and Models

Chairs: Géza Németh, Dragoș Burileanu

14:30 – 15:30

- *Invited Keynote:* Text-to-Speech from Kempelen to Tacotron and Beyond,
Géza Németh,
Dept. of Telecommunications and Media Informatics, Budapest University of Technology
and Economics, Hungary.

15:30 – 15:50

- WaveTract: A Hybrid Generative Model for Speech Synthesis,
Brunó Bence Englert, Csaba Zainkó, Géza Németh,
Dept. of Telecommunications and Media Informatics, Budapest University of Technology
and Economics, Hungary.

15:50 – 16:10

- Parallel Voice Conversion Based on a Continuous Sinusoidal Model,
Mohammed Salah Al-Radhi, Tamás Gábor Csapó, Géza Németh,
Dept. of Telecommunications and Media Informatics, Budapest University of Technology
and Economics, Hungary.

16:10 – 16:30

- FoR: A Dataset for Synthetic Speech Detection,
Ricardo Reimao, Vassilios Tzerpos,
Dept. of Electrical Engineering and Computer Science, York University, Toronto, Canada.

16:30 – 16:50 Coffee Break

16:50 – 17:10

- Comparison of Different Kinds of Long-Time Spectra of Voice Estimated by Modified Linear Prediction to Distinguish Speakers,
Milan Sigmund,
Brno University of Technology, Czech Republic.

17:10 – 17:30

- English Speaking Proficiency Assessment using Speech and EEG Signals,
Abualsoud Hanani, Yanal Abusara, Bisan Maher, Inas Musleh,
Dept. of Electrical and Computer Engineering, Birzeit University, Palestine.

17:30 – 17:50

- A Multiple Functions Multiplication Approach for Pitch Extraction of Noisy Speech,
Md. Saifur Rahman, Yosuke Sugiura, Tetsuya Shimamura,
Graduate School of Science and Engineering, Saitama University, Japan.

17:50 – 18:10

- Allan and Hadamard Variance Analysis of Formants during Sustained Pronunciations with Applications,
Horia-Nicolai Teodorescu^{1,2},
¹Institute of Computer Science, Romanian Academy – Iași Branch, Romania,
²“Gheorghe Asachi” Technical University of Iași, Romania.

18:10 – 18:30

- Text Sectioning based on Stylometric Distances,
Horia-Nicolai Teodorescu^{1,2}, Speranța Cecilia Bolea¹,
¹Institute of Computer Science, Romanian Academy – Iași Branch, Romania,
²“Gheorghe Asachi” Technical University of Iași, Romania.

19:00 Gala Dinner

October 11, 2019

Politehnica University of Timișoara
The UPT Conference Center, “K1 Hall”

**Smart Homes and Assistive Technologies.
Speech Disorders and Voice Pathologies**

Chairs: Radu VasIU, Horia Cucu

9:00 – 10:00

- *Invited Keynote:* Open Data for Smart Cities,
Radu VasIU,
Faculty of Electronics, Telecommunications and Information Technologies, Politehnica University of Timișoara, Romania.

10:00 – 10:20

- Towards End-to-End Spoken Intent Recognition in Smart Home,
Thierry Desot, François Portet, Michel Vacher,
GETALP Team, Univ. Grenoble Alpes, CNRS, Grenoble INP, LIG, Grenoble, France.

10:20 – 10:40

- Interaction Guidelines for Personal Voice Assistants in Smart Homes,
Tamino Huxohl, Marian Pohling, Birte Carlmeyer, Britta Wrede, Thomas Hermann,
Bielefeld University, Germany.

10:40 – 11:00

- Extending Assisted Audio Capabilities of TIAGo Service Robot,
Lăcrimioara Grama, Corneliu Rusu,
Signal Processing Group, Electronics Dept., Technical University of Cluj-Napoca, Romania.

11:00 – 11:20 Coffee Break

11:20 – 11:40

- Automatic Discrimination of Several Types of Speech Pathologies,
Dávid Sztahó¹, Gábor Kiss¹, Miklós Gábor Tulics¹, Bálint Hajduska-Dér², Klára Vicsi¹,
¹Dept. of Telecommunications and Media Informatics, Budapest University of Technology and Economics, Hungary,
²Dept. of Psychiatry and Psychotherapy, Semmelweis University, Budapest, Hungary.

11:40 – 12:00

- Sleepiness Detection on Read Speech using Simple Features,
Vincent P. Martin¹, Jean-Luc Rouas¹, Pierre Thivel¹, Jarek Krajewski²,
¹LaBRI CNRS, Univ. Bordeaux – Bordeaux INP, France,
²Engineering Psychology – Rhenish University of Applied Science Cologne, Germany.

12:00 – 12:20

- Parkinson’s Disease Severity Estimation on Hungarian Speech Using Various Speech Tasks,
Dávid Sztahó¹, István Valálik², Klára Vicsi¹,
¹Dept. of Telecommunications and Media Informatics, Budapest University of Technology and Economics, Hungary,
²Dept. of Neurosurgery, St. John’s Hospital, Budapest, Hungary.

12:20 – 12:40

- Possibilities for the Automatic Classification of Functional and Organic Dysphonia,
Miklós Gábor Tulics¹, Livia Judit Lavati¹, Krisztina Mészáros², Klára Vicsi¹,
¹Budapest University of Technology and Economics, Hungary,
²National Institute of Oncology, Budapest, Hungary.

12:40 – 13:00

- Reflection of the Emotional State in the Characteristics of Voice and Speech of Children with Down Syndrome,
Elena Lyakso, Olga Frolova, Viktor Gorodnyi, Aleksey Grigorev, Aleksandr Nikolaev, Yuri Matveev,
Child Speech Research Group, Dept. of Higher Nervous Activity and Psychophysiology, Biology Faculty, St. Petersburg University, Russia.

13:00 – 14:30 Lunch

The UPT Conference Center, “K1 Hall”

Natural Language Processing

Chairs: Dan Tufiş, Adriana Stan

14:30 – 15:30

- *Invited Keynote:* Resources and Technologies for Speech and Language Processing of Romanian,
Dan Tufiş,
Research Institute for Artificial Intelligence “Mihai Drăgănescu”, Romanian Academy, Bucharest, Romania.

15:30 – 15:50

- Input Encoding for Sequence-to-Sequence Learning of Romanian Grapheme-to-Phoneme Conversion,
Adriana Stan,
Communications Dept., Technical University of Cluj-Napoca, Romania.

15:50 – 16:10

- Spoken Language Detection Experiments for Romanian,
Petrică-Daniel Stoica, Ştefan-Adrian Toma, Marian Ceaparu, Mihai Lică Pura,
Computer Science Dept., Military Technical Academy “Ferdinand I”, Bucharest, Romania.

16:10 – 16:30

- An Information Packaging View on Romanian Intonational Contours,
Doina Jitcă,
Institute of Computer Science, Romanian Academy – Iaşi Branch, Romania.

16:30 – 16:50 Coffee Break

The UPT Conference Center, “K1 Hall”

Audio Signal Processing. Applications

Chairs: Corneliu Rusu, Anamaria Rădoi

16:50 – 17:10

- Forensic Recognition of Narrowband AMR Signals,
Gheorghe Pop, Șerban Mihalache, Dragoș Burileanu,
Speech and Dialogue Research Laboratory, University “Politehnica” of Bucharest,
Romania.

17:10 – 17:30

- Path Recognition using Mobile Phone,
Mihaela Hnatiuc¹, Mirel Păun¹, Joseph Dussart²,
¹Dept. of Electronics and Telecommunications, Constanța Maritime University, Romania,
²Dept. of Industrial Systems Engineering, National Institute of Applied Sciences, Blois,
France.

17:30 – 17:50

- Fusion of Speech Techniques for Automatic Environmental Sound Recognition,
Elena Olteanu¹, Delia Oana Miu¹, Alexandru Drosu¹, Svetlana Segărceanu¹, George
Suciu¹, Inge Gavăț²,
¹Beia Consult International, Bucharest, Romania,
²University “Politehnica” of Bucharest, Romania.

17:50 – 18:10

- Subject Identification Using Walking Posture,
Mihaela Hnatiuc¹, Mirel Păun¹, Ambroise Lafeuille²,
¹Dept. of Electronics and Telecommunications, Constanța Maritime University, Romania,
²Dept. of Industrial Systems Engineering, National Institute of Applied Sciences, Blois,
France.

18:10 – 18:30

- Time Series Features Extraction Versus LSTM for Manufacturing Processes Performance Prediction,
Dorin Moldovan, Ionuț Anghel, Tudor Cioară, Ioan Salomie,
Computer Science Dept., Technical University of Cluj-Napoca, Romania.

Concluding remarks, *Corneliu Burileanu, University “Politehnica” of Bucharest.*

RISS 2019 Workshop

October 10, 2019

Politehnica University of Timișoara
The UPT Conference Center, “K2 Hall”

Chairs: Marian Buric, Răzvan Roman

10:30 – 10:50

- FPGA based Architecture for Securing IoT with Blockchain,
Florin Răstoceanu, Ionuț Rădoi,
Military Equipment and Technologies Research Agency, Bucharest, Romania.

10:50 – 11:10

- Modeling and Simulation of Electromagnetic Shielding for IoT Sensor Nodes Case,
Adina Boteanu, Florin Răstoceanu, Ionuț Rădoi, Cosmin Rusea,
Military Equipment and Technologies Research Agency, Bucharest, Romania.

11:10 – 11:30

- HERMES, A proposed Lightweight Block Cipher used for Limited Resource Devices,
Sergiu Benjamin Măluțan, Ioana Roxana Dragomir, Marilena Lazăr, Dragoș Vitan,
Military Equipment and Technologies Research Agency, Bucharest, Romania.

11:30 – 11:50 Coffee Break

11:50 – 12:10

- ToR-SIM – A Mobile Malware Analysis Platform,
*Alexandru Caranica¹, Alexandru Vulpe², Marius Emil Pârvu³, Dragoș Drăghicescu¹,
Octavian Fratu², Teodor Lupan³,*
*¹Speech and Dialogue Research Laboratory, University “Politehnica” of Bucharest,
Romania,*
²Telecommunications Dept., University “Politehnica” of Bucharest, Romania,
³SC Safetech Innovations SRL, Bucharest, Romania.

12:10 – 12:30

- Solutions for the Management of Activities in Romanian Public Entities. Information Integrated System,
Adriana-Meda Udrioiu¹, Ștefan-Antonio Dan-Șuteu², Octavian Fratu³,
*¹LifeLong Learning Dept., National Institute for Research and Development in
Informatics, Bucharest, Romania,*
²Strategic Command Dept., “Carol I” National Defense University, Bucharest, Romania,
³Telecommunications Dept., University “Politehnica” of Bucharest, Romania.

12:30 – 12:50

- GDPR Compliance in Video Surveillance and Video Processing Application,
*Veta Ghenescu¹, Eduard Barnovicu², Șerban-Vasile Carata^{1,2}, Marian Ghenescu^{1,2},
Roxana Mihăescu², Mihai Chindea²,*
¹Institute of Space Science, Bucharest, Romania,
²UTI Grup, Bucharest, Romania.

12:50 – 13:10

- Iris Authentication Utilizing Co-occurrence Matrices and Textile Features,
Dimitra Triantafyllou, Georgios Stavropoulos, Dimitrios Tzovaras,
Information Technologies Institute, Centre for Research and Technology Hellas,
Thessaloniki, Greece.

13:10 – 14:30 Lunch

14:30 – 14:50

- Genuine vs Posed Expressions: A Juxtaposing of Man and Machine Performance,
Andrei Frățilă, Corneliu Florea, Constantin Vertan, Mihai Badea,
Image Processing and Analysis Laboratory, University “Politehnica” of Bucharest,
Romania.

14:50 – 15:10

- Generic Object Detection and Tracking for Accelerating Video Analysis within VICTORIA,
David Schreiber, Martin Boyer, Peter Gemeiner, Andreas Opitz,
Austrian Institute of Technology GmbH, Vienna, Austria.

15:10 – 15:30

- Lemma-based Dynamic Time Warping Search for Keyword Spotting Applications in Romanian,
Cristian Manolache, Horia Cucu, Corneliu Burileanu,
Speech and Dialogue Research Laboratory, University “Politehnica” of Bucharest,
Romania.