

21st International Conference on Speech and Computer
4th International Conference on Interactive Collaborative Robotics



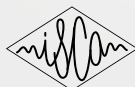
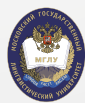
SPECOM 2019 and ICR 2019

<http://specom.nw.ru/>

Joint Conference Programme

20-25 August 2019

Istanbul, Turkey



SPECOM and ICR History

21st SPECOM-2019 and 4th ICR-2019, Istanbul, Turkey
 20th SPECOM-2018 and 3rd ICR-2018, Leipzig, Germany
 19th SPECOM-2017 and 2nd ICR-2017, Hatfield, United Kingdom
 18th SPECOM-2016 and 1st ICR-2016, Budapest, Hungary
 17th SPECOM-2015, Athens, Greece
 16th SPECOM-2014, Novi Sad, Serbia
 15th SPECOM-2013, Pilsen, Czech Republic
 14th SPECOM-2011, Kazan, Russia
 13th SPECOM-2009, St. Petersburg, Russia
 12th SPECOM-2007, Moscow, Russia
 11th SPECOM-2006, St. Petersburg, Russia
 10th SPECOM-2005, Patras, Greece
 9th SPECOM-2004, St. Petersburg, Russia
 8th SPECOM-2003, Moscow, Russia
 7th SPECOM-2002, St. Petersburg, Russia
 6th SPECOM-2001, Moscow, Russia
 5th SPECOM-2000, St. Petersburg, Russia
 4th SPECOM-1999, Moscow, Russia
 3rd SPECOM-1998, St. Petersburg, Russia
 2nd SPECOM-1997, Cluj-Napoca, Romania
 1st SPECOM-1996, St. Petersburg, Russia

Contact

Boğaziçi University

Computer Engineering Dept.
 34342 Bebek, Istanbul
 TURKEY
 SPECOM & ICR 2019 Conference Office

Email: specom2019@easychair.org

Phone: + 90 212 359 45 23-24

Organisers

The SPECOM and ICR conferences are organized by:

- Boğaziçi University (Istanbul, Turkey)
- St. Petersburg Institute for Informatics and Automation of the Russian Academy of Sciences (SPIIRAS, St. Petersburg, Russia)
- Moscow State Linguistic University (MSLU, Moscow, Russia)
- Munich University of Technology (TUM, Munich, Germany)

in cooperation with

- International Speech Communication Association (ISCA)

Committees

General Co-Chairs (SPECOM)

Albert Ali Salah, *Boğaziçi University, Istanbul*
 & *Utrecht University, the Netherlands*
 Alexey Karpov, *SPIIRAS, Saint Petersburg*
 Rodmonga Potapova, *MSLU, Moscow*

General Co-Chairs (ICR)

Andrey Ronzhin, *SPIIRAS, Saint Petersburg*
 Gerhard Rigoll, *Germany, TU Munich*
 Roman Meshcheryakov, *ICS RAS, Moscow*

Program Co-Chairs (SPECOM)

Heysem Kaya, *Namık Kemal University, Çorlu*
 Murat Saraçlar, *Boğaziçi University, Istanbul*
 Ebru Arisoy Saraçlar, *MEF University, Istanbul*

Local Organising Committee

Dmitri Lewonewski (*Web Chair*)
 Alen Demirel (*Conference Office*)
 Bilge Yüksel (*Conference Office*)
 Hasan Küçük (*Conference Office*)

Programme Committee (SPECOM)

- | | | |
|---|--|--------------------------------------|
| - Shyam Agrawal, <i>India</i> | - Hasan Demir, <i>Turkey</i> | - Oliver Jokisch, <i>Germany</i> |
| - Lale Akarun, <i>Turkey</i> | - Olivier Deroo, <i>Belgium</i> | - Denis Jouvet, <i>France</i> |
| - Rafet Akdeniz, <i>Turkey</i> | - Anna Esposito, <i>Italy</i> | - Alexey Karpov, <i>Russia</i> |
| - Tanel Alumäe, <i>Estonia</i> | - Keelan Evanini, <i>USA</i> | - Heysem Kaya, <i>Turkey</i> |
| - Levent M. Arslan, <i>Turkey</i> | - Vera Evdokimova, <i>Russia</i> | - Andreas Kerren, <i>Sweden</i> |
| - Ebru Arisoy Saraçlar, <i>Turkey</i> | - Nikos Fakotakis, <i>Greece</i> | - Tomi Kinnunen, <i>Finland</i> |
| - Elias Azarov, <i>Belarus</i> | - Mauro Falcone, <i>Italy</i> | - Irina Kipyatkova, <i>Russia</i> |
| - Peter Beim Graben, <i>Germany</i> | - Vasiliki Foufi, <i>Switzerland</i> | - Daniil Kocharov, <i>Russia</i> |
| - Marie-Luce Bourguet, <i>UK</i> | - Philip N. Garner, <i>Switzerland</i> | - Liliya Komalova, <i>Russia</i> |
| - Christian-Alexander Bunge, <i>Germany</i> | - Gábor Gosztolya, <i>Hungary</i> | - Evgeny Kostyuchenko, <i>Russia</i> |
| - Eric Castelli, <i>Vietnam</i> | - Tunga Gungor, <i>Turkey</i> | - Ivan Kraljevski, <i>Germany</i> |
| - Vladimir Chuchupal, <i>Russia</i> | - Ivan Himawan, <i>Australia</i> | - Galina Lavrentyeva, <i>Russia</i> |
| - Nicholas Cummins, <i>Germany</i> | - Ruediger Hoffmann, <i>Germany</i> | - Benjamin Lecouteux, <i>France</i> |
| - Vlado Delic, <i>Serbia</i> | - Marek Hruz, <i>Czech Republic</i> | - Boris Lobanov, <i>Belarus</i> |
| | - Kazuki Irie, <i>Germany</i> | - Elena Lyakso, <i>Russia</i> |
| | - Rainer Jaeckel, <i>Germany</i> | - Joseph Mariani, <i>France</i> |
| | | - Maria De Marsico, <i>Italy</i> |

- Jindřich Matoušek, *Czech Republic*
- Yuri Matveev, *Russia*
- Li Meng, *UK*
- Peter Mihajlik, *Hungary*
- Iosif Mporas, *UK*
- Bernd Möbius, *Germany*
- Luděk Müller, *Czech Republic*
- Satoshi Nakamura, *Japan*
- Stavros Ntalampiras, *Italy*
- Géza Németh, *Hungary*
- Olga Perepelkina, *Russia*
- Dimitar Popov, *Bulgaria*
- Branislav Popović, *Serbia*
- Rodmonga Potapova, *Russia*
- Fabien Ringeval, *France*
- Andrey Ronzhin, *Russia*
- Paolo Rosso, *Spain*
- Sakriani Sakti, *Japan*
- Albert Ali Salah, *The Netherlands/Turkey*
- Murat Saraçlar, *Turkey*
- Maximilian Schmitt, *Germany*
- Friedhelm Schwenker, *Germany*
- Vidhyasaharan Sethu, *Australia*
- Milan Sečujski, *Serbia*
- Ingo Siegert, *Germany*
- Vered Silber-Varod, *Israel*
- Pavel Skrelin, *Russia*
- Mikhail Stolbov, *Russia*
- Tilo Strutz, *Germany*
- György Szaszák, *Hungary*
- Ivan Tashev, *USA*
- Natalia Tomashenko, *France*
- Laszlo Toth, *Hungary*
- Isabel Trancoso, *Portugal*
- Jan Trmal, *USA*
- Liliya Tsurulnik, *USA*
- Dirk Van Compernelle, *Belgium*
- Vasilisa Verkhodanova, *The Netherlands*
- Benjamin Weiss, *Germany*
- Andreas Wendemuth, *Germany*
- Matthias Wolff, *Germany*
- Milos Zelezny, *Czech Republic*
- Zixing Zhang, *UK*

Additional Reviewers (SPECOM)

- Cem Rifki Aydın
- Somnath Banerjee
- Branko Brkljač
- Buse Buz
- Koray Çiftçi
- Gretel Liz De la Peña Sarracén
- Ali Erkan
- Nikša Jakovljević
- Atul Kumar
- Alexander Leipnitz
- Michael Maruschke
- Iris Ouyang
- Sergey Rybin
- Siniša Suzić
- Juan Javier Sánchez Junquera
- Oxana Verkholyak
- Celaledin Yeroglu

Programme Committee (ICR)

- Roman Meshcheryakov, *Russia*
- Gerhard Rigoll, *Germany*
- Andrey Ronzhin, *Russia*
- Christos Antonopoulos, *Greece*
- Branislav Borovac, *Serbia*
- Sara Chaychian, *UK*
- Ivan Ermolov, *Russia*
- Oliver Jokisch, *Germany*
- Dimitrios Kalles, *Greece*
- Igor Kalyaev, *Russia*
- Alexey Kashevnik, *Russia*
- Gerhard Kraetzschmar, *Germany*
- Dongheui Lee, *Germany*
- Iosif Mporas, *UK*
- Vladimir Pavlovkiy, *Russia*
- Viacheslav Pshikhopov, *Russia*
- Mirko Rakovic, *Serbia*
- Yulia Sandamirskaya, *Switzerland*
- Jesus Savage, *Mexico*
- Hooman Samani, *Taiwan*
- Evgeny Shandarov, *Russia*
- Lev Stankevich, *Russia*
- Tilo Strutz, *Germany*
- Sergey Yatsun, *Russia*
- Zeynep Yucel, *Japan*

Organizing Committee (ICR)

- Andrey Ronzhin (Chair)
- Alexander Denisov
- Anton Saveliev
- Dmitry Ryumin
- Ekaterina Miroshnikova
- Natalia Dormidontova
- Natalia Kashina

Programme at a Glance

21 August 2019

| | Albert Long Hall | Kriton Curi Hall |
|-------------|---|--|
| 8:30-9:00 | Opening | |
| 9:00-10:00 | Keynote: <i>Hynek Hermansky</i> | |
| 10:00-10:30 | Coffee break | |
| 10:30-12:30 | SPECOM Session 1 Computational Paralinguistics | ICR Session 1 Human Gait and Walking Robots |
| 12:30-14:00 | Lunch break | Lunch break |
| 14:00-16:00 | SPECOM Session 2 Speech Synthesis | ICR Session 2 Behavior of Robot Group |
| 16:00-16:30 | Coffee break | Coffee break |
| 16:30-17:50 | SPECOM Session 3 Audio Signal Processing | SPECOM Poster session 1 |
| 18:10-20:00 | Welcome reception with music | |

22 August 2019

| | Albert Long Hall | Kriton Curi Hall |
|-------------|--|--|
| 9:00-10:00 | Keynote: <i>Erol Sahin</i> | |
| 10:00-10:30 | Coffee break | |
| 10:30-12:30 | Special Bridge SPECOM-ICR Session | ICR Session 3 Robot control and communication |
| 12:30-14:00 | Lunch break | Lunch break |
| 14:00-16:00 | SPECOM Session 4 Automatic Speech Recognition | ICR Session 4 Human-Robot Interaction |
| 16:00-16:30 | Coffee break | Coffee break |
| 16:30-17:50 | SPECOM Session 5 Sign Languages and Multimodal Processing | ICR Poster session |
| 19:00-23:00 | Gala cruise on the Bosphorus | |

23 August 2019

| | Albert Long Hall |
|-------------|---|
| 9:00-10:00 | Keynote: <i>Odette Scharenborg</i> |
| 10:00-10:30 | Coffee break |
| 10:30-12:30 | SPECOM Session 6 Speech and Language Resources |
| 12:30-14:00 | Lunch break |
| 14:00-16:00 | SPECOM Session 7 Speaker Recognition |
| 16:00-16:30 | Coffee break |
| 16:30-18:00 | SPECOM Poster session 2 |
| 18:00-18:20 | Closing Ceremony |

| | Albert Long Hall | |
|-------------|--|---|
| 8:30-9:00 | Opening | |
| 9:00-10:00 | Keynote: <i>Hynek Hermansky</i> Chair: <i>Murat Saraçlar</i> | If You Can't Beat Them, Join Them |
| 10:00-10:30 | Coffee break | |
| 10:30-12:30 | SPECOM Session 1 Computational Paralinguistics Chairs: <i>Heysem Kaya & Elena Lyakso</i> | |
| 10:30-10:50 | <i>Dmitrii Fedotov, Bobae Kim, Alexey Karpov and Wolfgang Minker</i> | Time-Continuous Emotion Recognition Using Spectrogram Based CNN-RNN Modelling |
| 10:50-11:10 | <i>José Vicente Egas López, László Tóth, Ldikó Hoffmann, János Kálmán, Magdolna Pákási and Gábor Gosztolya</i> | Assessing Alzheimer's Disease from Speech using the i-vector Approach |
| 11:10-11:30 | <i>Gábor Gosztolya, András Beke and Tilda Neuberger</i> | Differentiating Laughter Types via HMM/DNN and Probabilistic Sampling |
| 11:30-11:50 | <i>Umut Avcı, Gamze Akkurt and Devrim Unay</i> | A Pattern Mining Approach in Feature Extraction for Emotion Recognition from Speech |
| 11:50-12:10 | <i>Maxim Markitantov and Oxana Verkholyak</i> | Automatic Recognition of Speaker Age and Gender based on Deep Neural Networks |
| 12:10-12:30 | <i>Johanna Dobbriner and Oliver Jokisch</i> | Towards a dialect classification in German speech samples |
| 12:30-14:00 | Lunch break | |
| 14:00-16:00 | SPECOM Session 2 Speech Synthesis Chairs: <i>Yuri Matveev & Liliya Tsurulnik</i> | |
| 14:00-14:20 | <i>Meysam Shamsi, Damien Lolive, Nelly Barbot and Jonathan Chevelu</i> | Script Selection using Convolutional Auto-encoder for TTS Speech Corpus |
| 14:20-14:40 | <i>Lenar Gabdrakhmanov, Rustem Garaev and Evgenii Razinkov</i> | RUSLAN: Russian Spoken Language Corpus for Speech Synthesis |
| 14:40-15:00 | <i>Arman Kaliyev</i> | LSTM-based Kazakh Speech Synthesis |
| 15:00-16:00 | Speed session, poster briefs | |

| | Kriton Curi Hall | |
|-------------|--|---|
| | | |
| | | |
| | | |
| 10:30-12:30 | ICR Session 1 Human Gait and Walking Robots Session Chair: <i>Sergey Jatsun</i> | |
| 10:30-10:50 | <i>Sergey Jatsun, Andrei Malchikov and Andrey Yatsun</i> | Investigation of Movements of Lower-Limb Assistive Industrial Device |
| 10:50-11:10 | <i>Artem Kovalev, Nikita Pavliuk, Konstantin Krestovnikov and Anton Saveliev</i> | Generation of Walking Patterns for Biped Robots based on Dynamics of 3D Linear Inverted Pendulum |
| 11:10-11:30 | <i>Adrien Gregorj, Zeynep Yücel, Sunao Hara, Akito Monden and Masahiro Shiomi</i> | A Signal Processing Perspective on Human Gait: Decoupling Walking Oscillations and Gestures |
| 11:30-11:50 | <i>Kamil Khusnutdinov, Artur Sagitov, Ayrat Yakupov, Roman Lavrenov, Edgar A. Martinez-Garcia, Kuo-Hsien Hsia and Evgeni Magid</i> | Household Objects Pick and Place Task for AR-601M Humanoid Robot |
| 11:50-12:10 | <i>Ming-Chieh Yang, Hooman Samani and Zhu Kening</i> | Emergency-Response Locomotion of Hexapod Robot with Heuristic Reinforcement Learning using Q-Learning |
| 12:10-12:30 | <i>Hamed Jabbariasl, Masashi Yamashita and Tatsuo Narikiyo</i> | An Assist-as-Needed Impedance Controller for Rehabilitation Robots |
| 12:30-14:00 | Lunch break | |
| 14:00-16:00 | ICR Session 2 Behavior of Robot Group Session Chair: <i>Maxim Knyazkov</i> | |
| 14:00-14:20 | <i>Valery Gradetsky, Ivan Ermolov, Maxim Knyazkov, Eugeny Semenov, Boris Lapin, Sergey Sobolnikov and Artem Sukhanov</i> | Parameters of Motion for Multi-UGV Control System Performing Joint Transportation |
| 14:20-14:40 | <i>Mikhail Chemodanov, Vladimir Ryzhov, Nikolay Semenov and Igor Kozhemyakin</i> | Multi-Agent Control System of a Robot Group: Virtual and Physical Experiments |
| 14:40-15:00 | <i>Konstantin Krestovnikov, Ekaterina Cherskikh and Petr Smirnov</i> | Wireless Power Transmission System Based on Coreless Coils for Resource Reallocation within Robot Group |
| 15:00-15:20 | <i>Donat Ivanov, Evgeny Petruchuk and Sergey Kapustyan</i> | Distribution of Roles in a Dynamic Swarm of Robots in Conditions of Limited Communications |
| 15:20-15:40 | <i>Viktor Semenov, Mikhail Sukhoparov and Ilya Lebedev</i> | Approach to Side Channel-Based Cybersecurity Monitoring for Autonomous Unmanned Objects |
| 15:40-16:00 | <i>Igor Kalyaev, Eduard Melnik and Anna Klimenko</i> | Distributed Ledger Based Workload Logging in the Robot Swarm |

| | Albert Long Hall | |
|-------------|--|---|
| 16:00-16:30 | Coffee break | |
| 16:30-17:50 | SPECOM Session 3 Audio Signal Processing Chair: <i>Hynek Hermansky</i> | |
| 16:30-16:50 | <i>Tobias Watzel, Lujun Li, Ludwig Kürzinger and Gerhard Rigoll</i> | Deep Neural Network Quantizers Outperforming Continuous Speech Recognition Systems |
| 16:50-17:10 | <i>Teruki Toya, Peter Birkholz and Masashi Unoki</i> | Estimates of Transmission Characteristics related to Perception of Bone-Conducted Speech using Real Utterances and Transcutaneous Vibration on Larynx |
| 17:10-17:30 | <i>Sergei Astapov, Gleb Svirskiy, Aleksandr Lavrentyev, Tatyana Prisyach, Dmitriy Popov, Dmitriy Ubskiy and Vladimir Kabarov</i> | Acoustic Event Mixing to Multichannel AMI Data for Distant Speech Recognition and Acoustic Event Classification Benchmarking |
| 17:30-17:50 | <i>Mahfoud Hamidia and Abderrahmane Amrouche</i> | A New Approach of Adaptive Filtering Updating for Acoustic Echo Cancellation |
| | | |
| 18:10-20:00 | Welcome reception with music | |

| | Kriton Curi Hall | |
|-------------|--|--|
| 16:00-16:30 | Coffee break | |
| 16:30-18:00 | SPECOM Poster session 1 Chair: <i>TBD</i> | |
| | <i>Mohammad Ateeq and Abualsoud Hanani</i> | Speech-Based L2 Call System for English Foreign Speakers |
| | <i>Demri Lyes, Falek Leila and Teffahi Hocine</i> | Building a pronunciation dictionary for the Kabyle language |
| | <i>Polina Panicheva, Olga Litvinova and Tatiana Litvinova</i> | Author Clustering with and without Topical Features |
| | <i>Ivan Gruber, Miroslav Hlaváč, Marek Hruz and Milos Zelezny</i> | Semantic Segmentation of Historical Documents via Fully-Convolutional Neural Network |
| | <i>Kamil Ekštejn</i> | PocketEAR: An Assistive Sound Classification System for Hearing-Impaired |
| | <i>Jakub Sido</i> | Curriculum Learning in Sentiment Analysis |
| | <i>Dmitriy Levonevskiy, Dmitrii Malov and Irina Vatamaniuk</i> | Estimating Emotional Features of Russian Text by Means of Machine Learning |
| | <i>Irina Kipyatkova</i> | LSTM-Based Language Models for Very Large Vocabulary Continuous Russian Speech Recognition System |
| | <i>Svetlana Pekarskih, Evgeny Kostyuchenko, Dariya Novokhrestova, Alexander Shelupanov, Mikhail Nemirovich-Danchenko, Evgeny Choyzonov and Lidiya Batatskaya</i> | Assessment of Syllable Intelligibility Based on Convolutional Neural Networks for Speech Rehabilitation After Speech Organs Surgical Interventions |
| | <i>Tatiana Sokoreva and Tatiana Shevchenko</i> | First Minute Timing in American Telephone Talks: A Cognitive Approach |
| | <i>Anton Stepikhov, Anastassia Loukina and Natella Stepikhova</i> | Syntactic Segmentation of Spontaneous Speech: Psychological and Cognitive Aspects |
| | | |

| | Albert Long Hall | |
|-------------|---|---|
| 9:00-10:00 | Keynote: <i>Erol Sahin</i> Chair: <i>Andrey Ronzhin</i> | Animating Industrial Robots for Human-Robot Interaction |
| 10:00-10:30 | Coffee break | |
| 10:30-12:30 | Special Bridge SPECOM-ICR Session Chairs: <i>Erol Şahin & Milos Zelezny</i> | |
| 10:30-10:50 | <i>Oliver Jokisch, Ingo Siegert, Michael Maruschke, Tilo Strutz and Andrey Ronzhin</i> | Don't talk to noisy drones -- acoustic interaction with unmanned aerial vehicles |
| 10:50-11:10 | <i>Alexey Kashevnik, Igor Lashkov, Dmitry Ryumin and Alexey Karpov</i> | Smartphone-Based Driver Support in Vehicle Cabin: Human-Computer Interaction Interface |
| 11:10-11:30 | <i>Jakub Kanis, Zdeněk Krňoul and Marek Hruz</i> | Combination of Positions and Angles for Hand Pose Estimation |
| 11:30-11:50 | <i>Gleb Kiselev and Aleksandr Panov</i> | Hierarchical Psychologically Inspired Planning for Human-Robot Interaction Tasks |
| 11:50-12:10 | <i>Zalimkhan Nagoev, Inna Pshenokova, Irina Gurtueva and Olga Nagoeva</i> | Multi-Agent Model of Semantics of Simple Extended Sentences Describing Static Scenes |
| 12:10-12:30 | Panel discussion | |
| 12:30-14:00 | Lunch break | |
| 14:00-16:00 | SPECOM Session 4 Automatic Speech Recognition Chairs: <i>Odette Scharenborg & Tunga Güngör</i> | |
| 14:00-14:20 | <i>Fernando Garcia Granada, Emilio Sanchis, Maria Jose Castro, José Ángel González Barba and Lluís-F. Hurtado</i> | Word discovering in low-resources languages through cross-lingual phonemes |
| 14:20-14:40 | <i>Ludwig Kürzinger, Tobias Watzel, Lujun Li, Robert Baumgartner and Gerhard Rigoll</i> | Exploring Hybrid CTC/Attention End-to-End Speech Recognition with Gaussian Processes |
| 14:40-15:00 | <i>Injy Hamed, Moritz Zhu, Mohamed Elmahdy, Slim Abdennadher and Ngoc Thang Vu</i> | Code-switching Language Modeling With Bilingual Word Embeddings: A Case Study for Egyptian Arabic-English |
| 15:00-15:20 | <i>Laszlo Toth and Gábor Gosztolya</i> | Reducing the Inter-Speaker Variance of CNN Acoustic Models using Unsupervised Adversarial Multi-Task Training |
| 15:20-15:40 | <i>Arda Akdemir and Tunga Güngör</i> | A Detailed Analysis and Improvement of Feature-based Named Entity Recognition for Turkish |
| 15:40-16:00 | <i>Nikita Markovnikov and Irina Kipyatkova</i> | Investigating Joint CTC-Attention Models for End-to-End Russian Speech Recognition |

| | Kriton Curi Hall | |
|-------------|--|---|
| | | |
| 10:30-12:30 | ICR Session 3 Robot control and communication Chair: <i>Roman Lavrenov</i> | |
| 10:30-10:50 | <i>Milica Petkovic and Milan Narandzic</i> | Overview of UAV Based Free-Space Optical Communication Systems |
| 10:50-11:10 | <i>Siva Ariram, Juha Rönning and Zdzisław Kowalczyk</i> | Implementation of Control System and Tracking Objects in a Quadcopter System |
| 11:10-11:30 | <i>Konstantin Yakovlev, Anton Andreychuk, Julia Belinskaya and Dmitry Makarov</i> | Combining Safe Interval Path Planning and Constrained Path Following Control: Preliminary Results |
| 11:30-11:50 | <i>Duygu Atci, Efekan Akdal, Fatih Cemal Can and Erkin Gezgin</i> | Trajectory Planning of a PRR Redundant Serial Manipulator for Surface Finishing Operations on Plane |
| 11:50-12:10 | <i>Evgeni Denisov, Artur Sagitov, Roman Lavrenov, Kuo-Lan Su, Mikhail Svinin and Evgeni Magid</i> | DCEGen: Dense Clutter Environment Generation Tool for Autonomous 3D Exploration and Coverage Algorithms Testing |
| 12:10-12:30 | <i>Nail Akçura, Aytaç Kahveci, Levent Çetin, Abdulkareem Alasli, Fatih Cemal Can, Erkin Gezgin and Özgür Tamer</i> | Close-Loop Control of Microrobot within a Constrained Environment Using Electromagnet Pairs |
| 12:30-14:00 | Lunch break | |
| 14:00-16:00 | ICR Session 4 Human-Robot Interaction Chair: <i>Roman Meshcheryakov</i> | |
| 14:00-14:20 | <i>Yin Shuai and Arkady Yushmanko</i> | Application of Convolutional Neural Network to Organize the Work of Collaborative Robot as a Surgeon Assistant |
| 14:20-14:40 | <i>Rinat Galin and Roman Meshcheryakov</i> | Review on Human-Robot Interaction during Collaboration in a Shared Workspace |
| 14:40-15:00 | <i>Vladimir Vishnevsky and Roman Meshcheryakov</i> | Experience of Developing a Multifunctional Tethered High-Altitude Unmanned Platform of Long-Term Operation |
| 15:00-16:00 | Speed session, poster briefs | |

| | Albert Long Hall | |
|-------------|--|--|
| 16:00-16:30 | Coffee break | |
| 16:30-17:50 | SPECOM Session 5 Sign Languages and Multimodal Processing Session Chair: <i>Albert Ali Salah</i> | |
| 16:30-16:50 | <i>Jan Zelinka, Jakub Kanis and Petr Salajka</i> | NN-Based Czech Sign Language Synthesis |
| 16:50-17:10 | <i>Ildar Kagiroy, Dmitry Ryumin and Alexandr Axyonov</i> | Method for Multimodal Recognition of One-Handed Sign Language Gestures through 3D Convolution and LSTM Neural Networks |
| 17:10-17:30 | <i>Marek Hruz, Petr Salajka, Ivan Gruber and Miroslav Hlaváč</i> | Identity Extraction From Clusters of Multimodal Observations |
| 17:30-17:50 | <i>Rodmonga Potapova, Vsevolod Potapov, Natalia Lebedeva, Ekaterina Karimova and Nikolay Bobrov</i> | EEG investigation of brain bioelectrical activity (regarding perception of multimodal polycode Internet discourses) |
| | | |
| | | |
| | | |
| | | |
| 19:00-23:00 | Gala cruise on the Bosphorus | |

| | Kriton Curi Hall | |
|-------------|--|---|
| 16:00-16:30 | Coffee break | |
| 16:30-18:00 | ICR Poster session | |
| | <i>Marzieh Zarinbal, Azadeh Mohebi, Hesamoddin Mosalli, Razieh Haratinik, Zahra Jabalameli and Farnoush Bayatmakou</i> | A New Social Robot for Interactive Query-based Summarization: Scientific Document Summarization |
| | <i>Eugene Larkin, Alexey Bogomolov and Aleksandr Privalov</i> | Discrete Model of Mobile Robot Assemble Fault-Tolerance |
| | <i>Sergey Tkalic, Vladimir Medvedev, Valerii Krysanov, Viktor Burkovsky, Viktor Trubetskoy, Aleksander Danilov, Pavel Gusev and Konstantin Gusev</i> | Dynamic Control of the Specialized Handling Robot for Installation of Cross Ties in the Subway |
| | <i>Iakov Korovin, Eduard Melnik and Anna Klimenko</i> | The Fog-Computing Based Reliability Enhancement in the Robot Swarm |
| | <i>Mertcan Koçak, Fatih Cemal Can and Erkin Gezgın</i> | Design of a Graphical User Interface for the Structural Synthesis of Parallel Manipulators with Single Platform |
| | <i>Nikita Pavliuk, Petr Smirnov, Artem Kondratkov and Andrey Ronzhin</i> | Connecting Gripping Mechanism Based on Iris Diaphragm for Modular Autonomous Robots |
| | <i>Alexander Denisov, Roman Iakovlev and Igor Lebedev</i> | Mathematical and algorithmic model for local navigation of mobile platform and UAV using radio beacons |
| | <i>Dmitrii Malov, Alexander Edemskii and Anton Saveliev</i> | Architecture of Proactive Localization Service for Cyber-Physical System's Users |
| 19:00-23:00 | Gala cruise on the Bosphorus | |

| Albert Long Hall | | |
|--------------------|--|--|
| 9:00-10:00 | Keynote: <i>Odetta Scharenborg</i> Chair: <i>Alexey Karpov</i> | The Representation of Speech in the Human and Artificial Brain |
| 10:00-10:30 | Coffee break | |
| 10:30-12:30 | SPECOM Session 6 Speech and Language Resources Chairs: <i>Ebru Arisoy Saraçlar & Liliya Komalova</i> | |
| 10:30-10:50 | <i>Dimitar Popov and Velka Popova</i> | Corpus study of early Bulgarian onomatopoeias in the terms of CHILDES |
| 10:50-11:10 | <i>Elena Lyakso, Olga Frolova, Arman Kaliyev, Viktor Gorodnyi, Aleksey Grigorev and Yuri Matveev</i> | AD-Child.Ru: Speech Corpus for Russian Children with Atypical Development |
| 11:10-11:30 | <i>Rodmanga Potapova, Liliya Komalova, Vsevolod Potapov and Andrey Dzhunkovskiy</i> | Some Peculiarities of Internet Multimodal Polycode Corpora Annotation |
| 11:30-11:50 | <i>Tatiana Sherstinova, Natalia Bogdanova-Beglarian, Olga Blinova and Gregory Martynenko</i> | Pragmatic Markers Distribution in Russian Everyday Speech: Frequency Lists and Other Statistics for Discourse Modeling |
| 11:50-12:10 | <i>Vass Verkhodanova, Sanne Timmermans, Matt Coler, Roel Jonkers, Bauke de Jong and Wander Lowie</i> | How dysarthric prosody impacts naive listeners' recognition |
| 12:10-12:30 | <i>Liliya Tsurulnik and Shlomo Dubnov</i> | Singing Voice Database |
| 12:30-14:00 | Lunch break | |
| 14:00-16:00 | SPECOM Session 7 Speaker Recognition Chairs: <i>Oliver Jokisch & Laszlo Toth</i> | |
| 14:00-14:20 | <i>Zbynek Zajic, Lucie Zajicova, Josef V. Psutka, Ludek Muller and Petr Salajka</i> | Diarization of The Language Consulting Center Telephone Calls |
| 14:20-14:40 | <i>Marie Kunesova, Marek Hruz, Zbynek Zajic and Vlasta Radova</i> | Detection of Overlapping Speech for the Purposes of Speaker Diarization |
| 14:40-15:00 | <i>Marina Volkova, Tseren Andzhukaev, Galina Lavrentyeva, Sergey Novoselov and Alexander Kozlov</i> | Light CNN architecture enhancement for different types spoofing attack detection |
| 15:00-16:00 | Speed session, poster briefs | |
| 16:00-16:30 | Coffee break | |

| Albert Long Hall | | |
|--------------------|---|---|
| 16:30-18:00 | SPECOM Poster session 2 | |
| | <i>Daria Pozdeeva, Tatiana Shevchenko and Alexey Abyzov</i> | New Perspectives on Canadian English Digital Identity Based on Word Stress Patterns in Lexicon and Spoken Corpus |
| | <i>Jianguo Yu, Konstantin Markov and Alexey Karpov</i> | Speaking Style based Apparent Personality Recognition |
| | <i>Evgeny Kostyuchenko, Dariya Novokhrestova, Marina Tirskaya, Alexander Shelupanov, Mikhail Nemirovich-Danchenko, Evgeny Choyzonov and Lidiya Batatskaya</i> | The evaluation process automation of phrase and word intelligibility using speech recognition systems |
| | <i>Olga Frolova, Viktor Gorodnyi, Aleksandr Nikolaev, Aleksey Grigorev, Severin Grechanyi and Elena Lyakso</i> | Developmental disorders manifestation in the characteristics of the child's voice and speech: perceptual and acoustic study |
| | <i>Boris Lobanov and Vladimir Zhitko</i> | Software Subsystem Analysis of Prosodic Signs of Emotional Intonation |
| | <i>Trong The Quan and Mikhail Stolbov</i> | Dual-microphone Speech Enhancement System Attenuating Both Coherent and Diffuse Background Noise |
| | <i>Nuzhah Gooda Sahib-Kaudeer, Baby Gobin-Rahimbux, Bibi Saamiyah Bahsu and Maryam Farheen Aasiyah Maghoo</i> | Automatic Speech Recognition for Kreol Morisien: A Case Study for the Health Domain |
| | <i>Eman Mansour, Rand Sandouka, Dima Jaber and Abualseoud Hanani</i> | Speech-based Automatic Assessment of Question Making skill in L2 Language |
| | <i>Oleg Akhtiamov, Dmitrii Fedotov and Wolfgang Minker</i> | A Comparative Study of Classical and Deep Classifiers for Textual Addressee Detection in Human-Human-Machine Conversations |
| | <i>Ghania Droua-Hamdani</i> | Classification of Regional Accent using Speech Rhythm metrics |
| | <i>Ulyana Kochetkova</i> | Svarabhakti Vowel Occurrence and Duration in Rhotic Clusters in French Lyric Singing |
| | <i>Aleksandar Živanović, Vlado Delic, Siniša Suzić, Ivana Sokolovac and Maja Marković</i> | Re-Evaluation of Words Used in Speech Audiometry |
| 18:00-18:20 | Closing Ceremony | |

Venue

The joint SPECOM and ICR conferences will be held in the Albert Long Hall of Boğaziçi University, Güney Kampüs, 34342, Bebek, Istanbul, Turkey. ICR sessions will be in Kriton Curi Hall in the same building. Poster sessions will be held in the foyer of the Albert Long Hall. All coffee breaks will be in the conference foyer, and the lunches are provided in front of the Albert Long Hall. Vegetarian/vegan options are provided.

Boğaziçi University's history goes back to 1863, to the founding of Robert College. In September 1971, the Turkish government established an independent university as a successor to Robert College on the campus of 118 acres, taking over buildings, the library, laboratories and all facilities and personnel. More details available at: http://www.boun.edu.tr/en-US/Content/About_BU/History



Albert Long Hall was the second academic building of Robert College, completed in 1892. Initially it was called Science Hall but, after the death of Albert Long, who had served the College from 1872 until 1901 as natural history professor, it was renamed Albert Long Hall. One of the five most famous organs of the world, donated by Mr. Cleveland H. Dodge in 1914, is housed on this floor, and can be seen during SPECOM sessions. The Kriton Curi Hall, with 86 people capacity, is next to the Albert Long Hall. Kriton Curi (1942-1996) was born in Istanbul, and was a Professor and faculty member of the Civil Engineering department at Boğaziçi University. He has contributed greatly to the protection of environment and education of the public on environmental consciousness.

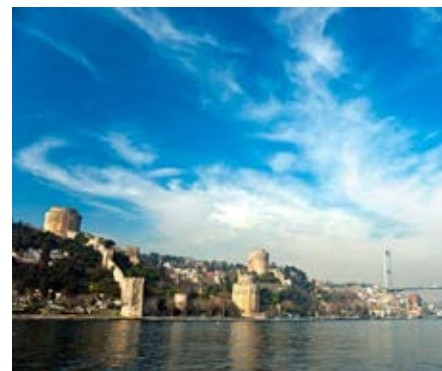
Social Events

All conference participants are invited to join the **Welcome Reception** that will be held in the garden of the Kennedy Lodge on Wednesday, 21 August 2019. The reception ticket is included in each registration. Additional guest tickets can be obtained from the conference office. The Kennedy Lodge was built in 1891, as a house for the President of the College, with a marvelous view of the Bosphorus. Today the ground floor is used as dining-room for teachers, the upper floors as a guest house and the basement as a restaurant. Furthermore, all kinds of social gatherings are held here.

All conference participants are welcome to participate in the **Gala Dinner** that will be held on Thursday, 22 August 2019 on a boat cruising the Bosphorus. The dinner ticket is included in each registration. Additional guest

tickets can be obtained from the conference office.

Conference participants and accompanying persons are invited to join the **Day Tour** on Saturday, 24 August 2019 to the historical part of Istanbul. The tour will start with the Roman Hippodrome, where the chariot races were organised by the Romans and Byzantines. Blue Mosque, the German Fountain - a gift of Kaiser Wilhelm 2, Hagia Sophia - The Church of Divine Wisdom, the Grand Bazaar, Topkapı Palace Museum, Hagia Irene Church (outside), Caferaga Medrese and Sogukcesme Street will be visited. Tickets can be ordered through the electronic registration system. Finally, there will be a **BURC Beach trip** to the seaside campus of the university on 25 August, Sunday. Details will be announced during the conference.



Network Access

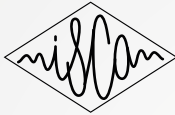
Boğaziçi University is a partner of the Eduroam network. If your institution has access, you can directly log in to the Eduroam network. Additional Eduroam-guest access will be provided by the university, using the e-mail

addresses submitted during registration. If you experience problems with Wireless connection, please contact the conference registration desk.

Organisers



Supporting Partners



Sponsoring Partners



Contact

Boğaziçi University

Computer Engineering Dept.

34342 Bebek, Istanbul, TURKEY

SPECOM & ICR 2019 Conference Office

Email: specom2019@easychair.org

Phone: + 90 212 359 45 23-24