The XIIth International Conference

"Speech and Computer"

SPECOM'2007

15–18 October 2007

Moscow, Russia

P R O C E E D I N G S

Moscow 2007

PROCEEDINGS

12th International Conference on Speech and Computer

Title:	SPECOM 2007 Proceedings
Subtitle:	12th International Conference on Speech and Computer
Volumes:	2
Editor:	R.K. Potapova
Edited at:	Moscow State Linguistic University, Moscow, Russia
Printed by:	STEL Computer Systems

ISBN 6-7452-0110-x

Copyright © 2007 Moscow State Linguistic University

Welcome Address

of the General Chair of SPECOM'2007
President of the Moscow State Linguistic University

Irina Khaleeva

Dear Ladies and Gentlemen!

It is a great pleasure for me to greet you at the XIIth International Conference "Speech and Computer - 2007".

This event is organized by Moscow State Linguistic University for the fifth time, and I am glad to see that it becomes more and more popular among the professionals whose work concerns both linguistic and technical aspects of automatic speech processing.

All the topics of the conference "Speech and Computer - 2007" are very important for the contemporary society. The ever-increasing tempo of life brings up new challenges, calls for quicker communication over great distances. At the same time, we witness the dramatic growth of the data volume accumulated by the human civilization, which also poses new questions and new problems, of both fundamental and technical character. Perhaps automatic speech processing, or automatic spoken and written natural language processing, is just a small part of the vast domain of the contemporary information science which is to take the challenges I have mentioned above; but the complex nature of the speech as a phenomenon and the speech signal as an object to deal with brings the issues of Speech and Computer to the top.

This year the Conference welcomes more than 300 authors from 32 countries. The list includes: Argentina, Belarus, Belgium, Bulgaria, China, Czech Republic, Egypt, Estonia, Finland, France, Germany, Great Britain, Greece, India, Iran, Japan, Mexico, the Netherlands, Nigeria, Poland, Portugal, Russia, Serbia, Singapore, Slovakia, Taiwan, Turkey, Ukraine, the USA, Uzbekistan, and Viet Nam.

The year 2007 has been declared the Year of Russian language. For this reason some papers will be presented the original language at SPECOM'2007.

We have widened the list of professional issues touched upon. Alongside the traditional issues, SPECOM'2007 comprises a number of new topics, which include speech information security, multimodal and multimedia information processing, multipurpose and anti-terrorist speech technologies and so forth.

I am glad to see all of you here. I hope that this event will be beneficial for every participant.

Organizer

Moscow State Linguistic University, Moscow, Russia

General Chair

- **Khaleeva Irina**
  (Moscow State Linguistic University)

Co-Chair

- **Shleg Vladimir**
  (Moscow State Linguistic University)

Organizing Committee

Chair

- Potapova Rodmonga
  (MSLU)

Members

- Abramov Yury
  (MSLU)
- Melnikov Sergey
  (STEL)
- Kamelin Valery
  (MSLU)
- Zagryadsky Vladimir
  (MSLU)
- Bobrov Nikolay
  (MSLU)
- Komalova Liliya
  (MSLU)
- Nikolaeva Irina
  (MSLU)

International Scientific Committee

- **Fakotakis Nikos**
  (University of Patras, Greece)
- **French Peter**
  (University of York, UK)
- **Furui Sadaoki**
  (Tokyo Insitiute of Technology, Japan)
- **Grigoras Catalin**
  (National Institute of Forensic Expertises, Romania)
- **Haton Jean-Paul**
  (Henri Poincarée University, France)
- **Kokkinakis George**
  (University of Patras, Greece)
- **Krauwer Steven**
  (Utrecht University, The Netherlands)
- **Lee Lin-shan**
  (National Taiwan University, Taiwan)
- **Lobanov Boris**
  (United Institute of Informatics Problems, Belarus)
- **Niemann Heinrich**
  (Erlangen-Nurnberg University, Germany)
- **Potapov Vsevolod**
  (Moscow State Lomonosov University, Russia)
- **Potapova Rodmonga**
  (Moscow State Linguistic University, Russia)
- **Rigoll Gerhard**
  (Munich University of Technology, Germany)
- **Vintsyuk Taras**
  (International Research Training Centre for Information Technologies and Systems, Ukraine)
- **Ronzhin Andrey**
  (SPIIRAS, Russia)

Acknowledgments

The International Conference "Speech and Computer – 2007" (SPECOM'2007) is organized in the framework of the Innovation Educational Programme of the Moscow State Linguistic University "Language Competence Formation System – an Important Factor of Innovative Development of Russia (Linguapark)" (the National priority project realized by the Ministry of Education and Science of the Russian Federation).

Technical co-organizers of SPECOM'2007

Avangard Ltd.

STEL Computer Systems Ltd.

http://www.stel.ru

SPECOM'2007 is supported by:

The International Speech Communication Association (ISCA)

http://www.isca-speech.org

General media sponsor of SPECOM'2007:

The *Connect!* publishing house.

http://www.connect.ru

Media sponsors of the event:

"PC World" («Мир ПК») publishing house

http://www.osp.ru/pcworld/

"CNews" hi-tech magazine

http://www.cnews.ru

"IKS" («ИКС») telecom & IT magazine

http://www.miks.ru

"PC Magazine"

http://www.pcmag.ru

The Geography of SPECOM'2007

Papers from 32 countries of the world were submitted for presentation at SPECOM'2007.

Argentina		Germany		Russia	
Belarus		Great Britain		Serbia	
Belgium		Greece		Singapore	
Bulgaria		India		Slovakia	
China		Iran		Taiwan	
Czech Republic		Japan		Turkey	
Egypt		Mexico		Ukraine	
Estonia		The Netherlands		The USA	
Ethiopia		Nigeria		Uzbekistan	
Finland		Poland		Vietnam	
France		Portugal			

Table of Contents

Volume I

Keynote and Invited Papers 23

Oral Sessions 113

Automatic Speech Recognition 115

Speech Signal Analysis and Processing I 213

Text-to-Speech Conversion and Automatic Speech Synthesis I ..275

Forensic Phonetics and Information Security I 325

Multimodal and Multimedia Information Processing 391

Volume II

Poster sessions 445

Automatic Speech Recognition and Understanding 447

Speech Signal Analysis and Processing II 529

Text-to-Speech Conversion and Automatic Speech Synthesis II .583

Forensic Phonetics and Information Security II 627

Multipurpose Multimodal and Multimedia Information Processing; Man-Machine Interface Development 669

Computer-Mediated Communication and Language Learning 737

Automatic Text Processing and Linguistic Modeling 801

Spoken and Written Language Corpora 867

Volume I

Keynote and Invited Papers

Fundamentals and Technical Challenges in Automatic Speech Recognition 25
Chin-Hui Lee
School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, USA

Syllable Phonetics as a Special Area of Speechology 45
R.K. Potapova
Moscow State Linguistic University, Russia

A Review of R&D of Speech Technologies in Serbian and their Applications in Western Balkan Countries 64
Vlado Delić
Faculty of Technical Sciences, University of Novi Sad, Serbia

Reliability of the Verification of the Discrete Character of Discourse Prosodic Variations 84
Dimitar Popov
Laboratory of Applied Linguistics, Konstantin Preslavsky University of Shumen, Bulgaria

Development of a Large Bilingual Electronic Dictionary Incorporating Speech and Language Processing Tools 91
George Kokkinakis
Wire Communications Laboratory, Electrical and Computer Engineering Department, University of Patras, Greece

Broadcast News Transcription with Automatic Speech Recognition 95
Jean-Paul Haton
LORIA-INRIA Université Henri-Poincaré, Nancy 1, France

CLARIN: Common Language Resources and Technology Infrastructure 102
Steven Krauwer
Utrecht University, the Netherlands

New Aspects and Developments in the Machine Translation Domain 109
Yu. N. Marchuk
Moscow State Linguistic University, Russia

Oral Sessions

Automatic Speech Recognition 115

Effective Noise Subtraction and Dynamic Range Enchancement for In-Car Speech Recognition 117
Weifeng Li, Hervé Bourlard

Comparative Evaluation of MTF-based Feature Extraction for Speech Recognition in Reverberant Environments 124
Xugang Lu, Masashi Unoki, and Masato Akagi

Examining the Influence of Speech Frame Size and Number of Cepstral Coefficients on the Speech Recognition Performance 134
Iosif Mporas, Todor Ganchev, Elias Kotinas, and Nikos Fakotakis

Importance of Prosody for Dialogue Acts Recognition 140
Pavel Král ,Christophe Cerisara, Jana Klečková

Two Level Discriminative Training for Audio Events Recognition in Sport Broadcasts 146
Konstantin Biatov

Word Verification Method for Automatic Speech Recognition 152
M.T. Nguyen, V.J.Chuchupal

Evaluation of the Effect of Prosodic Parameters on Gender Dependent Speech Recognition in Farsi Language 157
D. Gharavian, S.M. Ahadi

JLASER: An Automatic Speech Recognizer Written in Java 165
Tomáš Pavelka, Kamil Ekštein

Interpretation of Continuous Ukrainian Pronunciation for Spoken Dictionary-Interpreter 170
Taras Vintsiuk, Mykola Sazhok, Valentyna Yatsenko

A Novel Voice Activity Detection Approach Based on Low-Frequency Regions for Spectral Subtraction in Robust Speech Recognition 176
Wen-Hsiang Tu and Jeih-weih Hung

Acoustic-Phonetic Model Application for Syllable Speech Recognition Output Post-Processing 182
Nina Vasylieva, Mykola Sazhok, Taras Vintsiuk, Gerard Chollet

Diagnostics of Speech Recognition: on Evaluating Feature Set Performance 188
Milos Cernak, Mohamed Benzeghiba and Christian Wellekens

The Influence of Reverberation: Speech Recognition versus Human Perception 194
Rico Petrick, Oliver Jokisch and Ruediger Hoffmann

Development of Key-Word Spotting System for the French Language 204
Agranovskiy A. V., Ivanov V. D., Repalov S. A., Satunovskiy P. S.

Evaluating ASR Confidence Score Performance in Different Noisy Conditions 207
Theologos Athanaselis, Stelios Bakamidis, Ioannis Dologlou

Speech Signal Analysis and Processing I 213

Non-Linear Time Compressed Speech Playback Method 215
Shin'ichi Takeuchi, Masahide Sugiyama

A Study on Robust and Accurate F_0 Estimation in Reverberant Environments by Utilizing Complex Cepstrum Analysis 222
Masashi Unoki and Toshihiro Hosorogiya

Acoustic Correlates of Word Stress and Accent in Russian Spontaneous and Read-aloud Speech - Analysis of Finnish FL Learners of Russian 233
Hanna Kärkkäinen, Riikka Ullakonoja, Viola de Silva

Application of Target Tracking Methods to Pitch Determination of Speech Signals 239
Özgül Salor, Mübeccel Demirekler

A Way of Segmentation of Speech Recorded Simultaneously by Two Microphones..... 246
Petra Fischerová, Vlasta Radová

Microphone Array Post-filter Based on Noise Power Attenuation Factor and A Priori Knowledge of the Noise Field Coherence 252
Zoran M. Saric, Slobodan T. Jovicic, Marko Janev, Istvan I. Papp, Zoran S. Marceta

Fourier-Gauss Transform – Speech Signal Decomposition into Sonels 259
V.R. Zhenilo, M.V. Zhenilo, D.N. Kalyuzhny

Extraction of Noise Robust Feature Vector and Speech De-Noising 265
A. Srinivas, P. Sircar, A. Banerjee

Text-to-Speech Conversion and Automatic Speech Synthesis I 275

Speech Tempo Control in Automatic Speech Synthesis 277
O.F.Krivnova

A Prosodic Feature Extraction Engine for Data-Driven Speech Synthesis of Greek Language 281
Georgios Giannopoulos, Panagiotis Zervas

A CART approach for Duration Modeling of Greek Phonemes 287
Alexandros Lazaridis, Panagiotis Zervas, Nikos Fakotakis, George Kokkinakis

The Use of Diphone Variants in Optimal Text Selection for Finnish Unit Selection Speech Synthesis..... 293
Elina Helander, Hanna Silén, Moncef Gabbouj

Rate Dependent Vowel Reduction in German 300
Benjamin Weiss

Subjective and Objective Assessment of TTS Voice Font Quality 306
Daniela Braga, Luís Coelho, Fernando Gil V. Resende Jr and Miguel Sales Dias

AUP's Modeling of Speaker Specific Intonation Contour Peculiarities..... 312
Boris Lobanov, Liliya Tsirulnik, Oleg Sizonov

Fusion of dictionaries in voice creation and speech synthesis task 318
Tatyana Polyakova, Antonio Bonafonte

Forensic Phonetics and Information Security I.....325

Some Priority Trends in Forensic Phonetics Research in Russia 327
R.K. Potapova, V.V. Potapov

Voice Analysis Using the Lorenz Models..... 331
Víctor H. Téllez and Cristina Iuga

Speech Recognition and Speaker Identification Techniques 336
Tatyana V. Yermolenko, Ujin U. Fedorov

Unknown Multi-Speaker Speech Clustering Based on a Novel Clustering Criterion 342
Mohammad. H. Moattar, Mohammad. M. Homayounpour

Detection of Positive Psycho-Emotional Manifestations in Speech Signal 349
Slobodan T. Jovičić, Zoran Šarić, Miodrag Đorđević

Speech Distortion Assessment: Methodological and System Approach 355
Silvana Punišić, Slobodan T. Jovičić, Zoran Šarić

Using Parameters of Identical Pitch Contour Elements for Speaker Discrimination..... 361
Natalia Smirnova, Alexey Starshinov, Tatiana Goloshchapova, Ilya Oparin

A Cohort Methods for Score Normalization in Speaker Verification System, Acceleration of On-Line Cohort Methods..... 367
Zbyněk Zajíc, Jan Vaněk, Lukáš Machlica, Aleš Padrta

Speaker Identification: the Possibility of Speaker Identification on the Language Unknown to the Expert (Basing on the Russian and German languages) 373
Ratanova Evgenia

Experimental Study of Tajik Vowels Formant Structure 378
Tatiana Goloshchapova

Eigen Channel Method for Text-Independent Russian Speaker Verification 385
Timur Pekhovsky, Ilya Oparin

Multimodal and Multimedia Information Processing 391

Keyword Spotting in LVCSR Based Word Lattices for Large Multimedia Search 393
Zbyněk Tychtl, Aleš Pražák

MRI of Teeth Contours in Articulation Processes..... 399
G. Kedrova, N. Anisimov, L. Zaharov, O. Nikolaev

On Search of Basic Units of Semantic Decoding of Speech Utterance..... 404
R.K. Potapova, M.V. Khitina, V.A. Dolinsky

Extracting Geometric Lip Parameters for Audio-Visual Speech Recognition 412
Ivana Arsic, Ferran Martinez Mussons and Jean-Philippe Thiran

On Two-Channel Decoding of Emotive Information in the Act of Foreign Language Communication 422
R.K. Potapova, V.V. Potapov

Volume II

Poster sessions

Automatic Speech Recognition and Understanding 447

Language Model Adaptation Using Different Class-Based Models 449
Aleš Pražák, Pavel Ircing and Luděk Müller

Optimizing Distributed Speech Recognition System for Multi-User Real-Time Usage 455
Miroslav Holada, Martin Pelc

Continuous Training and the Use of the Unstable Dimension Observation Vectors for Speech Recognition Systems 460
M.Kotov, D. Lednov

A Spectrum Processing for Speech Recognition 464
Alexander Kolokolov

Acoustic Modeling for a Speaker-Independent Telephone-Based Spoken Dialog System 469
Kinfe Tadesse Mengistu, Marcel Katz, Andreas Wendemuth

Speech Recognition System for the Russian Speech 475
Bolotova Olga, Gusev Michael, Smirnov Valentin

Continuous Speech Segmentation on Phonemes 481
Vladimir Fedorov, Pavel Jurkov, Oleg Makarevich, Lyudmila Babenko

Two Sequence Kernels for the Classification of Speech Data 485
J. Goddard , A. E. Martínez , F. M. Martínez , H.L. Rufiner

Morpho-Phonetic Tree Decoder for Russian 491
Andrey Ronzhin, Anastasia Leontieva, Ildar Kagirov, Alexey Karpov

Phone Recognition Driven Method for Creating Context-Dependent Phones 499
Yuri Khokhlov, Vitali Kiselev, Ivan Tampel, Marina Tatarnikova

Acoustic Model Management Strategies for Improved Automatic Transcription of Broadcast Programs 503
Jindrich Zdansky, Petr Cerva, Jan Silovsky, Jan Nouza

Robust PLP-Based Parameterization for ASR Systems 509
Josef V. Psutka

On the Use of Probabilistic Grammars in Speech Annotation and Segmentation Tasks 516
Irina Nesterenko, Stéphane Rauzy

An Approach to Generation of Word-Filler Set for a Keyword Spotting System Applying a Criterion of Maximum a Posteriori Probability 523
S.A. Repalov, M.Y. Zulkarneev, N.G. Shamraev, P.S. Satunovsky

Speech Signal Analysis and Processing II.....529

Speech Processing System Based on a Quantum Fourier Transform Circuit Simulator..... 531
Victor H. Tellez Arrieta, Antonio Campero, Cristina Iuga, Gonzalo I. Duchen

HMM-Based Phonetic Segmentation in Praat Environment..... 537
Petr Pollák, Jan Volín, Radek Skarnitzl

Noise Power Spectrum Estimation Using Time-Variant Spectral Smoothing and Low-Delay Minima Tracking 542
Nima Derakhshan, Ahmad Ayatollahi, Ahmad Akbari, Mohsen Rahmani

Modeling of ITU-T G.729 Speech Codec Using SIMULINK with Bit-width Optimization..... 549
Neda Kazemian Amiri, Sied Mehdi Fakhraie, and Gholam-Ali Hosein-Zadeh

Voice Activity Detection Using MFCC Features and Support Vector Machine . 556
Tomi Kinnunen, Evgenia Chernenko, Marko Tuononen, Pasi Fränti, Haizhou Li

Fundamentals Frequency Definition Algorithm 562
Vladimir P.Bondarenko, Anton A. Konev, Roman V. Mescheriakov

A New Time-Temporal Speech Representation Based on a Correlative Multiscale Signal Processing 566
Vjatcheslav Antciperov

The Use of Computers for Auditory Analysis of Phrasal Prosody..... 571
Andrew S. Bankov

A MATLAB Simulation for Evaluating Conjugate-Structure Algebraic CELP (CS-ACELP) Algorithm..... 578
Sara Najafzadeh, M. Amin Khajehnejad, M. Reza Ghajar, Afsaneh Nassery, Dr. Behjat Forouzandeh

Text-to-Speech Conversion and Automatic Speech Synthesis II 583

The Choice of Acoustic Units In Polish Voice Synthesis 585
Janusz Rafałko

Relationship between Intonation Contours, Punctuation Marks, and Syntactic Structure of Intonational Phrases..... 590
Tetyana Lyudovyk

Two-Pass Algorithm for Large Vocabulary Continuous Speech Recognition . 597
Valeriy Pylypenko

Outline of a New Hybrid Russian TTS System 603
Ilya Oparin, Andre Talanov

New Language-Dependent Prosody Processor Module for Polish Text-To-Speech Synthesis Application 609
Krzysztof Popowski, Edward Szpilewski

Speech Corpus Phonetic Segmentation for TTS Synthesis 615
Boris Lobanov, Liliya Tsirulnik, Elena Karnevskaya

On Acoustic Phonetic Properties of the Russian Soft Vibrant 619
Vladimir Kouznetsov, Nikolay Bobrov

Forensic Phonetics and Information Security II 627

Intelligent Data Hiding in Speech Signals on the Basis of the Modification of Segment Pitch and Duration 629
Marina Ponomar

Exploring the Influence of Speaker Characteristics on Word Use in a Corpus of Spoken Language Using a Data Mining Approach 633
Pascal Wiggers, Leon J.M. Rothkrantz

Visual Speaker Identification for the Automatic TV Broadcast News Transcription..... 639
Josef Chaloupka

Improving Speaker Verification by Periodicity Based Voice Activity Detection 645
Ville Hautamäki, Marko Tuononen, Tuija Niemi-Laitinen and Pasi Fränti

Analysis of LSF frame selection in voice conversion 651
Elina Helander, Jani Nurminen, Moncef Gabbouj

Estimating the Number of Speakers for Speaker Tracking using a Hybrid of Bayesian Information Criterion and Ants Colony Clustering method..... 657
Mohammad. H. Moattar, Mohammad. M. Homayounpour

Research into a Speaker Identification Model Based on Dynamic Features 664
R. L. Grigoryan, S.A. Repalov

Multipurpose Multimodal and Multimedia Information Processing; Man-Machine Interface Development 669

Multimodal Man-machine Interface for Medical Assistance in Surgery 671
Peter Nechaev, Svetlana Chernakova, Alexander Nechaev, Alexey Karpov

The Influence of Video Sampling Rate on Lipreading Performance 678
Alin G. Chitu, Leon J.M. Rothkrantz

Multimodal High Level Fusion of Input Commands as a Semantic Goal-Oriented Cooperative Process 685
Kosta Gaitanis, Olga Vybornova, Monica Gemo, Benoit Macq

A Hybrid System for Audio Segmentation and Speech-Endpoint Detection of Broadcast News 691
Maria Markaki, Alexey Karpov, Elias Apostolopoulos, Maria Astrinaki, Yannis Stylianou, Andrey Ronzhin

Different Approaches to the Garbled Text Language Recognition Using the Data Compression Methods Ideas 697
A.Y. Kulay, S.Y. Melnikov

A Review of AlfaNum Continuous Automatic Speech Recognition System 702
Vlado Delić, Darko Pekar, Radovan Obradović, Nikša Jakovljević, Dragiša Mišković

A Dialogue Strategy for Supporting the User in Spoken Human-Machine Interaction 708
Milan Gnjatović, Dietmar Rösner

Voice Controlled Center for Homes of Motor-Handicapped Persons 714
Jan Nouza, Josef Chaloupka, Petr Červa, Jindřich Žďánský, Jan Silovský, Martin Kroul, Zbyněk Mader

The Semantic Range of Spoken Dialogue Systems 720
Roman Mouček, Miloslav Konopík

Voice Controlled Chess Usable Also for Blind People 725
Martin Hošna, Miloslav Konopík

Slavonic TTS and SST Conversion for "Let's Fly" Dialogue System 729
Ruediger Hoffmann, Oliver Jokisch, Boris Lobanov, Liliya Tsirulnik, Edward Shpilewsky, Bozhena Piurkowska, Andrey Ronzhin, Alexey Karpov

Problems of Human-Machine Communication via Speech 734
Alexey Rodin, Irina Sinitsyna

Computer-Mediated Communication and Language Learning 737

Semantic Search Engine in a Multimedia Russian Sign Language Dictionary 739
Alexander Voskresenskij, Gennady Khakhalin

Customers' Requests in Estonian Institutional Calls: Form and Content 745
Tiit Hennoste, Olga Gerassimenko, Riina Kasterpalu, Mare Koit, Andriela Rääbis, Krista Strandson

Design of a Multi-Modal Information Kiosk for Aurally Handicapped People 751
Miloš Železný, Pavel Campr, Zdeněk Krňoul, Marek Hrúz

A Computational Model of Infant Speech Development 756
Ian Spencer Howard, Piers Messum

Web-Service Enabled Voice Applications and Dialogue Optimization Techniques 766
Alexey Troshchenko, Mais Farkhadov

Evaluation of the Speaker Proficiency in a Pronunciation Tutoring System .. 772
Rainer Jäckel, Oliver Jokisch and Rüdiger Hoffmann

TIDE: A Testbed for Interactive Spoken Dialogue System Evaluation 778
Sebastian Möller, Klaus-Peter Engelbrecht, Michael Pucher, Peter Fröhlich, Lu Huo, Ulrich Heute, Frank Oberle

Virtual Education and E-Learning: Problems and Prospects 785
Komalova L.R.

Japanese Prominence with Different Focus in Affirmative Sentences Realised by Finnish L2..... 787
Toshiko Isei-Jaakkola, Martti Vainio, Keikichi Hirose

Vocalizations Data of Early Speech Development in Finnish and Russian languages..... 793
Elena E.Lyakso, Maarit Silven

Automatic Text Processing and Linguistic Modeling 801

The Experimental Analysis of the Differences between the Results of the Natural Language Text Processing Made by the Computer and the Human .. 803
Rodmonga Potapova, Irina Nikolaeva

Improving Tokenization of Clitics in Some Statistical Processing Tools for Arabic: AlwAw Coordinating Conjunction as a Case Example 813
Nahed Abul-Hassan, Salwa Hamada

Towards Semantic Analysis of Spoken Queries..... 817
Miloslav Konopík, Roman Mouček

Concept of Operated Evolution of a Natural Language: Problem Statement 823
Andrew E. Baranovich

Modeling of Formation of Extralinguistic Factors Influencing the Attitude of the Recipient towards Language Messages 833
A.A. Zhdanov, T.S. Naumkina

Correlation between Prosody and Intonation..... 839
G. H. Bakieva

Pragmatic Potential of Verbal Information: Aspects of Mathematical Modeling 844
Andrew E. Baranovich

Creation of Universe and Co-occurrence of Antonyms: Research Based on Corpus..... 853
Yoshio Narisawa

Quantitative Model for Word Association Data 858
Vladimir Dolinsky

Spoken and Written Language Corpora 867

Towards an Automatic Process Chain for the Speech Corpora Annotation 869
O. Jokisch, S. Wittenberg, M. Cuevas, H. Hussein, G. Strecha, H. Ding and R. Hoffmann

STEL Speech Database for Speaker Recognition and Multispeaker Segmentation 877
Anna Shirokova

Balanced Corpus of Spoken Russian: Formation Principles and Data Acquisition 882
Elena Arkhipova, Natalia Bogdanova, Irina Brodt, Olga Ermolova, Elena Markasova, Tatiana Sherstinova

Speech Corpus and Main Strategies for Statistical Modeling of Prosody in Minority Languages 886
Tatiana Sherstinova, Gregory Martynenko, Marina Lublinskaya

On Integral Multilevel Annotation of a Spoken Russian Corpus..... 893
Alexander Asinovsky, Irina Koroleva, Marina Rusakova, Anastassia Ryko, Nina Philippova, Svetlana Stepanova

"INFANTRU" and "CHILDRU": Sounds and speech databases of Russian Children 898
Elena E. Lyakso, Michail A. Bogorad, Alexander V. Ostrouhov, Alexandra D. Gromova, Anna V. Kurazhova, Olga V. Frolova, Julia S.Gaikova

Hindi Corpora and Lexical Database: the Main Problems and Their Solutions 908
Ekaterina Klimina

On Building of Czech Spontaneous Speech Corpus 913
Kamil Ekštein

Authors Index

Abul-Hassan Nahed 813
Agranovskiy A.V. 204
Ahadi S.M. 157
Akagi Masato 124
Akbari Ahmad 542
Alimardanov R. 839
Anisimov N. 399
Antciperov Vjatcheslav 566
Apostolopoulos Elias 691
Arkhipova Elena 882
Arsic Ivana 412
Asinovsky Alexander 893
Astrinaki Maria 691
Athanaselis Theologos 207
Ayatollahi Ahmad 542
Babenko Lyudmila 481
Bakamidis Stelios 207
Bakieva G.H. 839
Banerjee A. 265
Bankov Andrew S. 571
Baranovich Andrew E. 823, 844
Benzeghiba Mohamed 188
Biatov Konstantin 146
Bobrov Nikolay 619
Bogdanova Natalia 882
Bogorad Michail A. 898
Olga Bolotova 475
Bonafonte Antonio 584, 318
Bondarenko Vladimir P. 562
Bourlard Hervé 117
Braga Daniela 306
Brodt Irina 882
Campero Antonio 531
Campr Pavel 751
Cerisara Christophe 140
Cernak Milos 188
Cerva Petr 503, 714
Chaloupka Josef 639, 714
Chernakova Svetlana 671
Chernenko Evgenia 556
Chitu Alin G. 678
Chollet Gerard 182
Chuchupal V.J. 152
Coelho Luís 306
Cuevas M. 869
Delić Vlado 64, 702
Demirekler Mübeccel 239
Derakhshan Nima 542
Dias Miguel Sales 306
Ding H. 869
Dolinsky Vladimir 404, 858
Dologlou Ioannis 207
Đorđević Miodrag 331, 349
Duchen Gonzalo I. 531
Ekštein Kamil 165, 913
Engelbrecht Klaus-Peter 778
Ermolova Olga 882
Evgenia Ratanova 365
Fakotakis Nikos 134, 286
Farkhadov Mais 766
Fedorov Ujin U. 336
Fedorov Vladimir 481
Fischerová Petra 246
Forouzandeh Behjat 578
Fränti Pasi 556, 645
Fröhlich Peter 778
Frolova Olga V. 898
Gabbouj Moncef 293, 651
Gaikova Julia S. 898
Gaitanis Kosta 685
Ganchev Todor 134
Gemo Monica 685
Gerassimenko Olga 745
Ghajar M. Reza 578

Gharavian D. 157
Giannopoulos Georgios.....281
Gnjatović Milan.....708
Goddard J. 485
Goloshchapova Tatiana 361, 378
Grigoryan R.L. 664
Gromova Alexandra D. 898
Gusev Michael 475
Hamada Salwa 813
Haton Jean-Paul 95
Hautamäki Ville 645
Helander Elina.....293, 651
Hennoste Tiit 745
Heute Ulrich.....778
Hirose Keikichi.....787
Hoffmann Rüdiger 194, 729, 772, 869
Holada Miroslav.....455
Homayounpour Mohammad M. ..342, 657
Hosein-Zadeh Gholam-Ali 549
Hošna Martin 725
Hosorogiya Toshihiro 222
Howard Ian Spencer 756
Hrúz Marek 751
Hung Jeih-weih 176
Huo Lu 778
Hussein H. 869
Ircing Pavel.....449
Isei-Jaakkola Toshiko 787
Iuga Cristina 331, 531
Ivanov V.D.....204
Jäckel Rainer.....772
Jakovljević Nikša 702
Janev Marko 252
Jokisch Oliver. 194, 729, 772, 869
Jovičić Slobodan T. 252, 349, 355
Jurkov Pavel 481
Kagirov Ildar 491
Kalyuzhny D.N. 259
Kärkkäinen Hanna.....233
Karnevskaya Elena.....615
Karpov Alexey.....491, 671, 691, 729
Kasterpalu Riina.....745
Katz Marcel 469
Kazemian Amiri Neda.....549
Kedrova G. 399
Khajehnejad M. Amin.....578
Khakhalin Gennady.....739
Khitina M.V.....404
Khokhlov Yuri 499
Kinnunen Tomi 556
Kiselev Vitali 499
Klečková Jana.....140
Klimina Ekaterina 908
Koit Mare 745
Kokkinakis George.....91, 287
Kolokolov Alexander 464
Komalova L.R. 785
Konev Anton A. 562
Konopík Miloslav.....720, 817
Koroleva Irina 893
Kotinas Elias.....134
Kotov M. 460
Kouznetsov Vladimir.....619
Král Pavel 140
Krauwer Steven.....102
Krivnova O.F. 277
Krňoul Zdeněk.....751
Kroul Martin 714
Kulay A.Y. 697
Kurazhova Anna V. 898
Lazaridis Alexandros 287
Lednov D. 460
Lee Chin-Hui 25
Leontieva Anastasia 491
Li Haizhou 556
Li Weifeng.....117
Lobanov Boris.....312, 615, 729
Lu Xugang 124
Lublinskaya Marina 886
Lyakso Elena E. 793, 898

Lyudovyk Tetyana 590
Machlica Lukáš.....367
Macq Benoit 685
Mader Zbyněk.....714
Makarevich Oleg 481
Marceta Zoran S.....252
Marchuk Yu.N. 109
Markaki Maria 691
Markasova Elena 882
Martínez A.E. 485
Martínez F.M.....485
Martynenko Gregory 886
Melnikov S.Y.....697
Mengistu Kinfe Tadesse 469
Mescheriakov Roman V. 562
Mehdi Fakhraie Sied 549
Messum Piers 756
Mišković Dragiša 702
Moattar Mohammad. H. 342, 657
Möller Sebastian.....778
Mouček Roman 720, 817
Mporas Iosif.....134
Müller Luděk.....449
Mussons Ferran Martinez 412
Najafzadeh Sara.....578
Narisawa Yoshio.....853
Nassery Afsaneh 578
Naumkina T.S. 833
Nechaev Alexander.....671
Nechaev Peter 671
Nesterenko Irina 516
Nguyen M.T.....152
Niemi-Laitinen Tuija 645
Nikolaev O.....399
Nikolaeva Irina 803
Nouza Jan 503, 714
Nurminen Jani.....651
Oberle Frank.....778
Obradović Radovan 702
Oparin Ilya 361, 385, 603
Ostrouhov Alexander V.....898
Padrta Aleš 367
Papp Istvan I. 252
Pavelka Tomáš 165
Pekar Darko 702
Pekhovsky Timur 385
Pelc Martin.....455
Petrick Rico.....194
Philippova Nina 893
Piurkowska Bozhena 729
Pollák Petr 537
Polyakova Tatyana.....318
Ponomar Marina 629
Popov Dimitar 84
Popowski Krzysztof.....609
Potapov Vsevolod.....327, 422
Potapova Rodmonga 45, 327, 404, 422, 803
Pražák Aleš.....393, 449
Psutka Josef V. 509
Pucher Michael.....778
Punišić Silvana 355
Pylypenko Valeriy 597
Rääbis Andriela 745
Radová Vlasta 246
Rafałko Janusz.....585
Rahmani Mohsen 542
Ratanova Evgenia 373
Rauzy Stéphane 516
Repalov S.A. 204, 523, 664
Resende Jr Fernando Gil V.....306
Rodin Alexey 734
Ronzhin Andrey 491, 691, 729
Rösner Dietmar 708
Rothkrantz Leon J.M. 633, 678
Rufiner H.L. 485
Rusakova Marina.....893
Ryko Anastassia 893
Salor Özgül.....239
Šarić Zoran.....252, 349, 355
Satunovsky P.S. 204, 523

Sazhok Mykola 170, 182
Shamraev N.G. 523
Sherstinova Tatiana 882, 886
Shirokova Anna 877
Silén Hanna 293
Silovský Jan 503, 714
de Silva Viola 233
Silven Maarit 793
Sinitsyna Irina 734
Sircar P. 265
Sizonov Oleg 312
Skarnitzl Radek 537
Smirnov Valentin 475
Smirnova Natalia 361
Srinivas A. 265
Starshinov Alexey 361
Stepanova Svetlana 893
Strandson Krista 745
Strecha G. 869
Stylianou Yannis 691
Sugiyama Masahide 215
Szpilewski Edward 609, 729
Takeuchi Shin'ichi 215
Talanov Andre 603
Tampel Ivan 499
Tatarnikova Marina 499
Tellez Arrieta Victor H. 331, 531
Thiran Jean-Philippe 412
Troshchenko Alexey 766
Tsirulnik Liliya 312, 615, 729
Tu Wen-Hsiang 176
Tuononen Marko 556, 645
Tychtl Zbyněk 393
Ullakonoja Riikka 233
Unoki Masashi 222
Vainio Martti 787
Vaněk Jan 367
Vasylieva Nina 182
Vintsiuk Taras 170, 182
Volín Jan 537
Voskresenskij Alexander 739
Vybornova Olga 685
Weiss Benjamin 300
Wellekens Christian 188
Wendemuth Andreas 469
Wiggers Pascal 633
Wittenberg S. 869
Yatsenko Valentyna 170
Yermolenko Tatyana V. 336
Zaharov L. 399
Zajíc Zbyněk 367
Žďánský Jindřich 503, 714
Železný Miloš 751
Zervas Panagiotis 281, 287
Zhdanov A.A. 833
Zhenilo M.V. 259
Zhenilo V.R. 259
Zulkarneev M.Y. 523