Curriculum Vitae: Keikichi Hirose



Born: December 3, 1949 at Kamakura, Kanagawa Prefecture, Japan

Education:

Bachelor of Engineering in Electrical Engineering, University of Tokyo, 1972 Master of Engineering in Electronic Engineering, University of Tokyo, 1974 Doctor of Engineering in Electronic Engineering, University of Tokyo, 1977

Academic Positions Held:

University of Tokyo: 1977-Current

- Joined in Faculty member, Dept. of Electronic Engineering 1977
- Lecturer, Dept. of Electronic Engineering, 1977-1980
- Lecturer, Graduate Course in Electronic Engineering, 1979-1980
- Associate Professor, Dept. of Electronic Engineering, 1980-1994

Visiting Scientist, The Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, U.S.A, 1987-1988

- Professor, Dept. of Electronic Engineering, 1994-1995
- Professor, Dept. of Information and Communication Engineering, 1995-1999
- The Head of Department, Dept. of Information and Communication Engineering, 1997-1999
- Professor, Graduate School of Frontier Sciences, Dept of Frontier Informatics, 1999-2004
- The Head of Department, Graduate School of Frontier Sciences, Dept of Frontier Informatics, 2004
- Professor, Graduate School of Information Science and Technology (Dept of Information and Communication Engineering) 2004 (October)-Current
- Served as the Head of Department, Graduate School of Information Science and Technology (Dept of Information and Communication Engineering), 2006-2008

Awards

- 1989 Ichimura Contribution Award, The New Technology Development Foundation "Technology on speech synthesis from Japanese orthographic texts"
- 1991 Telecom System Technology Award, The Telecommunications Advancement Foundation Synthesis of sentence speech based on the generation process model of fundamental frequency contours
- 2007 Paper award, Research Institute of Signal Processing (RISP)
 Md. Kahdemul Islam Molla, Keikichi Hirose, and Nobuaki Minematsu, "Separation of speech and interfering audio signal from single mixture by subspace decomposition," Journal of Signal Processing, Vol.9, No.6, pp.487-495 (2005-11).
- 2012 Paper award, Research Institute of Signal Processing (RISP)
 Yasuhiro Kosugi and Keikichi Hirose, "A system for detecting extraordinary sounds from transformers in electric power facility surveillance," Journal of Signal Processing, Vol.14, No.5, pp.387-396 (2010-9).

Memberships, Services, etc. in Professional Societies:

Board Member, International Speech Communication Association (ISCA)

Editor, Speech Communication

Advisory Committee Member of the Speech Committee at IEICE/ASJ

Representative & Council Member, The Acoustical Society of Japan

Chief Editor, Journal of Signal Processing, Japan

Senior Member, the Institute of Electrical and Electronics Engineers

Member, the Acoustical Society of America

Fellow, the Institute of Electronics, Information and Communication Engineers (IEICE) (Upgraded in 2007)

Member, the Information Processing Society of Japan

Member, the Japanese Society for Artificial Intelligence

Member, Automatic Translation Telephony System Development and Promotion Discussion Group, Ministry of Postal and Telecommunication, Japan, 1986

Organizing Committee member, Institute of Electrical and Electronics Engineers (IEEE), International Conference on Acoustics, Speech and Signal Processing, 1986

Member, ISDN Promotion Committee, Ministry of Postal and Telecommunication, Japan 1988

Board member, Committee on Speech Research of Institute of Electronics, Information and

Communication Engineers in Japan (IEICE) / The Acoustical Society of Japan (ASJ), 1988-1990

Chairman, Organization Committee (ASJ) of The Acoustical Society of America (ASA) / ASJ the 2nd joint meeting, 1988

Editorial board member, Journal of IEICE, 1989-1991; sub-chair, 1990-1991

Editorial board member, Journal of IEICE (English Edition) (D), 1990-1994

Organization Committee member, International Conference on Spoken Language Processing, 1990

Secretary, Tokyo Chapter, IEEE Speech Processing Society, 1991-1992

Editorial board member, Journal of ASJ, 1991

Chair of Committee of Digital Signal Processing, IEICE, 1991-1993

Guest Editor, Speech Communication, 1993

Member, Committee of Research on Security and Reliability of Information and Communication Network, 1994, 1995 and 1996-1997; Chair of special group, 1994

Organizing Committee member, International Conference on Compute r Linguistics, 1994

Organizing Committee member, International Conference on Spoken Language Processing, 1994

Organizer of Tokyo side, Japan-China Symposium on Advanced Information Technology, 1994

Editorial Board member, Free Speech Journal, 1996-1997

Sub-Chairman, Committee on Speech Research of IEICE/ASJ, 1988-1990

Secretary, Organizing Committee, International Symposium on Spoken Dialogue, 1996

Professional Member for Examinations to Applicants of Public Official Positions, Japanese Government, 1996-2001

Chief Editor, Journal of Signal Processing, 1997-Current

Organizer, China-Japan Symposium on Advanced Information Technology/China-Japan Workshop on Spoken Language Processing, Huang Shan, 1997

Organizing Committee member, Japan-China Symposium on Signal Processing, Tokyo, 1997

Organizer, Japan-China Symposium on Advanced Information Technology, Tokyo, 1999

Editorial Board, European Speech Communication Association (ESCA) Tutorial and Research Workshop on Interactive Dialogue in Multi-Modal Systems, Kloster Irsee, 1999

Editorial Board, International Conference on Speech Processing, Seoul, 1999

Steering Committee Member of Special Interest Group of Spoken Language Processing, Information Processing Society of Japan, the Information Processing Society of Japan 2000-2004

Project Leader, "Realization of advanced spoken language information processing from prosodic features," Scientific Research on Priority Areas, Grant in Aid on Scientific Research, Ministry of Education, Culture, Sports, Science and Technology, Japanese Government, 2000-2005

Technical Advisor, City of Ning-bo, China, 2001

Representative & Council Member, The Acoustical Society of Japan, 2001-Current

Editorial Board member, International Conference on Speech Processing, Taejon, 2001

Editorial Board member, European Conference on Speech Communication and Technology, Aalborg, 2001

Editorial Board member, ISCA (International Speech Communication Association) Workshop on Prosody in Speech Recognition and Understanding, Red Bank, 2001

Member, Reviewing Committee, ETRI, 2002-Current

Editorial Board member, Speech Prosody 2002, Aix-en-Provence, 2002

Committee member, Permanent Council of International Conference on Spoken Language Processing, 2002-Current; Secretary, 2004-Current)

Editorial Board member, Oriental COCOSDA (Co-ordination and Standardization of Speech Databases and Assessment Techniques), Singapore, 2003

Editorial Board member, International Congress on Phonetic Sciences, Barcelona, 2003

Chair of Speech Research Committee, IEICE/ASJ, Japan, 2003-2005

Guest Editor, Journal of IEICE (English Edition) Issue D (May, 2004) "Special Issue on Speech Dynamics by Ear, Eye, Mouth and Machine", 2003

General Chair, Speech Prosody 2004, Nara, Japan, 2004

Editorial Board, International Conference on Spoken Language Processing, Jeju, Korea, 2004 Guest Editor, Speech Communication (2005), 2004

Advisory Committee member, International Speech Communication Association (ISCA), 2005-2009 Vice-chair, IEEE SP Society, Tokyo Chapter, 2005-2006

Vice-general Chair, International Workshop on Nonlinear Circuits and Signal Processing, Waikiki, 2006

International Advisory Board member, Speech Prosody 2006, Dresden, 2006

Chair, IEEE SP Society, Tokyo Chapter, 2007-2008

Vice-general Chair, International Workshop on Nonlinear Circuits and Signal Processing, Shanghai, 2007

Fellow, IEICE Japan, Elevated in 2007

General Chair, International Workshop on Nonlinear Circuits and Signal Processing, Gold Coast, 2008 (March 6-8)

International Advisory Board member, Speech Prosody 2008, Campinas, 2008

Board member, International Speech Communication Association (ISCA), 2009 -

Editor, ETRI Journal, 2009 -

General Chair, INTERSPEECH, Chiba, 2010 (September 26 -30)

Chair of ISCA Special Interest Group on Speech Prosody (SProSIG), 2010 –

International Advisory Board member, Speech Prosody 2012, Shanghai, 2012

Honorary member, Polish Phonetic Association, Selected in 2013.

Books:

- 1. Keikichi Hirose, "FET Amplifier, Application Circuit of an Operation Amplifier (FET Zofuku-Kairo, Enzan-Zoufukuki no O-yo- Kairo)," Today's fundamental experiment of electric /electronic engineering (Gendai Denki Denshi Ko-gaku no Kiso Jikken). (Editor: Satoru Motooka), Ohmsha, pp.152-172 (1981-3). (in Japanese)
- 2. Hiroya Fujisaki, Keikichi Hirose, "Prosody in Speech Signal (*Onsei Shingo ni Okeru Inritsusei*)," The handbook of Electronics, Information and Communication, (Edited by the Institute of Electronics, Information and Communication), Ohmsha, p.1166 (1988-3). (in Japanese)
- 3. Keikichi Hirose, "Processing speech signals by the optical method," Optical Processing in Japan, Nova Science Publishers, New York, pp.217-225 (1990).
- 4. Hiroya Fujisaki, Keikichi Hirose, "Speech Sythesis (*Onsei Gousei*)," The Handbook of Robotics, (Ed. The Robotic Society of Japan), Corona-Sha, pp.437 444 (1990-10). (in Japanese)
- 5. Keikichi Hirose, "Prosodic control rules for speech synthesis," Speech Science and Technology, Ohmsha, Tokyo, pp.151-158 (1992).
- 6. Keikichi Hirose, "7.3 Text-to-Speech Synthesis (*Tekisuto kara no Onsei Gousei*)," New edition information processing handbook, (Edited by Information Processing Society of Japan), Ohmsha, pp.1320 1323 (1995-11). (in Japanese)
- 7. Keikichi Hirose, Mayumi Sakata, and Hiromichi Kawanami, "Prosodic features of dialogue speech of Japanese," Linguistics and Phonetics –In honor of Professor Hynn Bok Lee, Seoul University Press, pp.605-622 (1996-10).
- 8. Keikichi Hirose, "Disambiguating recognition results by prosodic features," Computing Prosody, edt. Y. Sagisaka, N. Campbell and N. Higuchi, Springer-Verlag, pp.327-342 (1997).
- 9. Keikichi Hirose, "<u>Affect</u> information in Speech Communication (*Onsei Communication ni okeru Kansei-Joho*)," Science of <u>Affect</u> (*Kansei no Kagaku*), (editor: Saburo Tsuji, Science-Sha, pp.94-98 (1997-1). (in Japanese)
- 10. Keikichi Hirose, "Speech signal processing using optical method," Analysis, Perception and Processing of Spoken Language, edt. G. Fant, K. Hirose, S. Kiritani, Elsevier Science Publishers, Amsterdam, pp.223-229 (1997).
- 11. Hiroya Fujisaki, Keikichi Hirose, Hisashi Kawai and Yasuharu Asano, "A system for synthesis of high-quality speech from Japanese text," Recent Research Towards Advanced Man-Machine Interface Through Spoken Language, edt. H. Fujisaki, Elsevier Science Publishers, Amsterdam, pp. 340-355 (1997).
- 12. Keikichi Hirose, "Production of Dialogue speech Chapter 4 (*Taiwa Onsei no Seisei*, Chap. 4)," Man-Machine Interface by Speech (*Onsei ni yoru Ningen to Kikai no Taiwa*), Eds. Shuji Doshita et al.), Ohmsha, pp.67-80 (1998). (in Japanese)
- 13. Keikichi Hirose, Nobuaki Minematsu and Masaya Eto, "Corpus-based synthesis of fundamental frequency contours for TTS systems based on a generation Process model," Yesterday and Today for the Spoken Language Researches, by HyunBok Lee, TaeHakSa, pp.461-477 (2002-2).
- 14. Keikichi Hirose, "Respond: Speech Recognition/Synthesis, Man-Machine Interface (*Kotaeru: Onsei Ninshiki/Gosei, Ningen to Kikai tono Taiwa*)," The third generation University: Challenge by University of Tokyo, School of Frontier Science (*Daisan-sedai no Daigaku: Tokyo Daigaku ShinryoikiSosei no Chosen*), (Ed. Kamon Nitagai), University of Tokyo Press, pp.106-107 (2002-2). (in Japanese)
- 15. S. Kawamoto, H. Shimodaira, T. Nitta, T. Nishimoto, S. Nakamura, K. Itou, S. Morishima, T. Yotsukura, A. Kai, A. Lee, Y. Yamashita, T. Kobayashi, K. Tokuda, K. Hirose, N. Minematsu, A. Yamada, Y. Den, T. Utsuro, S. Sagayama, "Galatea: open-source software for developing anthropomorphic spoken dialog agents," Life-Like Characters. Tools, Affective Functions, and Applications. Helmut Prendinger et al. (Eds.) Springer, pp.187-212 (2003-11)
- 16. Keikichi Hirose, "On the prosodic features for emotional speech," From Traditional Phonology to Modern Speech Processing, Edited by G. Fant, H. Fujisaki, J. Cao and Y. Hu, Foreign Language Teaching and Research Press, Beijing, pp.159-176 (2004-3).
- 17. Keikichi Hirose, "Modeling and generation of prosodic features," Spoken Language Systems,

- Edited by S. Nakagawa, M. Okada, and T. Kawahara, Ohm-sha, pp.73-86 (2005).
- 18. Keikichi Hirose, "Flexible Speech Synthesis (*Junan na Onsei Gosei*)(2.1)," Partner Robot Document Compilation (*Partner Robot Shiryo Shusei*), NTS, pp.58-67 (2005-12). (in Japanese)
- 19. Keikichi Hirose (editor. and author), Prosody and Spoken Language Information Processing The Science of Accent, Intonation, and Rhythm (Inritsu to Onsei Gengo Joho Shori Accent, Intonation, and Rhythm no Kagaku), Maruzen, pp.1-7, pp.105-118, and pp.163-173 (2006-1). (in Japanese)
- 20. Keikichi Hirose, Qinghua Sun "On the prosodic features for emotional speech," *Frontiers in Phonetics and Speech Science*, Edited by G. Fant, H. Fujisaki, and J. Shen, The Commercial Press (商務印書館), Beijing, pp.263-274 (2009-12).
- 21. Keikichi Hirose, "Prosodic corpora based on F_0 contour generation model and automatic extraction of model parameters," Computer Processing of Asian Spoken languages, Edited by Suichi Itahashi and Chiu-yu Tseng, Consideration Books, Los Angeles, pp.180-183 (2010-3).
- 22. Mostafa Al Masum Shaikh, Keikichi Hirose and Mitsuru Ishizuka, "Recognition of real-world activities from environmental sound cues to create life-log," The Systemic Dimension of Globalization, Edited by: Piotr Pachura, ISBN 978-953-307-384-2, Intech, pp.173-190 (2011-8).

Journal Publications (peer-reviewed):

- 1. Kunio Tada and Keikichi Hirose, "A new light modulator using perturbation of synchronism between two coupled guides," Appl. Phys. Letters, Vol.25, No.10, pp.561-562 (1974-11).
- 2. Kunio Tada and Keikichi Hirose, "A new light modulator using perturbation of synchronism between two coupled guides," Proc. 6th Conf. on Solid State Devices, Tokyo, 1974; J. Japan Soc
- 3. Keikichi Hirose and Kunio Tada, "Design theory of the coupled-waveguide optical modulator with pn Junction Multi-layered planar waveguide configuration ," Trans. IECE Japan, Vol.E61, No.4, pp.293-300 (1978).
- 4. Hiroya Fujisaki and Keikichi Hirose, "Analysis of voice fundamental frequency contours for declarative sentences of Japanese," J. Acoust. Soc. Japan (E), Vol.5, No.4, pp.233-242 (1984-10).. Appl. Phys., Vol.44, Suppl., pp.61-66 (1975).
- 5. Keikichi Hirose, Kunio Tada and Hisaharu Yanagawa, "Improved design and high-frequency modulation experiment of the coupled-waveguide optical modulator with p-n junction," Proc. 8th Conf. (1976 International) on Solid State Devices, Tokyo, 1976; Japanese J. of Appl. Phys., Vol.16, Suppl.16-1, pp.311-315 (1977).
- 6. Kunio Tada, Hisaharu Yamagawa and Keikichi Hirose, "Design theory of the coupled-waveguide optical modulator with pn Junction—Strip-loaded channel waveguide configuration—," Trans. IECE Japan, Vol.E61, No.1, pp.1-7 (1978).
- 7. Hiroya Fujisaki, Keikichi Hirose and Miyoko Sugito, "Comparison of acoustic features of word accent in English and Japanese," J. Acoust. Soc. Japan (E), Vol.7, No.1, pp.57-63 (1986-1).
- 8. Keikichi Hirose, Hiroya Fujisaki, Hisashi Kawai and Mikio Yamaguchi, "Speech synthesis of sentences based on a model of fundamental frequency contour generation," Trans. Institute of Electronics, Information and Communication Engineers, Vol.J72-A, No.12, pp.32-40 (1989-1).
- 9. Yasuharu Asano and Keikichi Hirose, "A dialogue processing system for speech response with high adaptability to dialogue topics," IEICE Trans. Information and Systems, Vol.E76-D, No.1, pp.95-105 (1993-1).
- 10. Keikichi Hirose, "Speech signal processing using optical method," Speech Communication, North-Holland, Vol.13, Nos.1-2, pp.223-229 (1993-10).
- 11. Hiroya Fujisaki, Keikichi Hirose and Noboru Takahashi, "Manifestation of linguistic information in the voice fundamental frequency contours of spoken Japanese," IEICE Trans. Fundamentals of Electronics, Communications and Computer Sciences, Vol.E76-A, No.11, pp.1919-1926 (1993-11).
- 12. Keikichi Hirose and Hiroya Fujisaki, "A system for the synthesis of high-quality speech from texts on general weather conditions," IEICE Trans. Fundamentals of Electronics, Communications and Computer Sciences, Vol.E76-A, No.11, pp.1971-1980 (1993-11).

- 13. Sumio Ohno, Keikichi Hirose and Hiroya Fujisaki, "Utterance normalization using vowel features for the recognition of spoken words by multiple speakers," Trans. Institute of Electronics, Information and Communication Engineers, Vol.J76-A, No.12, pp.1661-1667 (1993-12). (in Japanese)
- 14. Keikichi Hirose, Haitao Lei and Hiroya Fujisaki, "Analysis and formulation of prosodic features of speech in standard Chinese based on a model of generating fundamental frequency contours," J. Acoust. Soc. Japan, Vol.50, No.3, pp.177-187 (1994-3). (in Japanese)
- 15. Hisashi Kawai, Keikichi Hirose and Hiroya Fujisaki, "Rules for generating prosodic features for text-to-speech synthesis of Japanese," J. Acoust. Soc. Japan, Vol.50, No.6, pp.433-442 (1994-6). (in Japanese)
- 16. Nobuaki Minematsu and Keikichi Hirose, "Duration modeling with decreased intra-group temporal variation for HMM-based phoneme recognition," IEICE Trans. Information and Systems, Vol.E78-D, No.6, pp.654-661 (1995-6).
- 17. Xinhui Hu and Keikichi Hirose, "Tone recognition of Chinese disyllables using hidden Markov models," IEICE Trans. Information and Systems, Vol.E78-D, No.6, pp.685-691 (1995-6).
- 18. Sumio Ohno, Keikichi Hirose and Hiroya Fujisaki, "A scheme for word detection in continuous speech using likelihood scores of segments modified by their context within a word," IEICE Trans. Information and Systems, Vol.E78-D, No.6, pp.725-731 (1995-6).
- 19. Nobuaki Minematsu and Keikichi Hirose, "Role of prosodic features in the human process of perceiving spoken words and sentences in Japanese," J. Acoust. Soc. Japan (E), Vol.16, No.5, pp.311-320 (1995-9).
- 20. Keikichi Hirose and Mayumi Sakata, "Comparison of prosodic features in dialogue speech and read speech of Japanese," Trans. Institute of Electronics, Information and Communication Engineers, Information and Systems Society, Vol.J79-D-II, No.12, pp.2154-2162 (1996-12). (in Japanese)
- 21. Goh Kawai, Akira Ishida and Keikichi Hirose, "A study on the reliability of scoring pronunciation of English spoken by Japanese students," Trans. Institute of Electronics, Information and Communication Engineers, Information and Systems Society (Short Note), Vol.J80-D-II, No.1, pp.367-368 (1997-1). (in Japanese)
- 22. HingKeung Kwan and Keikichi Hirose, "N-gram modeling based on recognized phonemes in automatic language identification," IEICE Trans. Information and Systems, Vol.E81-D, No.11, pp.1224-1231 (1998-11).
- 23. Keikichi Hirose and Atsuhiro Sakurai, "Detection of phrase boundary changes by comparing observed and model-generated fundamental frequency contours," The Journal for the Integrated Study of Artificial Intelligence Cognitive Science and Applied Epistemology (CCAI), Special issue "On the Role of Prosody in Automatic Speech Recognition and Understanding," edt. G. Caelen-Haumont, Vol.15, No.3, pp.235-253 (1998).
- 24. Koji Iwano and Keikichi Hirose, "A statistical modeling of fundamental frequency contours in moraic unit and its use for the detection of prosodic word boundaries," IPSJ (Information Processing Society of Japan) Journal, Vol.40, No.4, pp.1356-1364 (1999-4). (in Japanese)
- 25. Hui Jiang, Keikichi Hirose and Qiang Huo, "Robust speech recognition based on Bayesian prediction approach," IEEE Transactions on Speech and Audio Processing, Vol.7, No.4, pp.426-440 (1999-7).
- 26. Hui Jiang, Keikichi Hirose and Qiang Huo, "Improving Viterbi Bayesian predictive classification via Bayesian learning in robust speech recognition," Speech Communication, Vol.28, No.4, pp.313-326 (1999-8).
- 27. Goh Kawai and Keikichi Hirose, "Teaching the pronunciation of Japanese double-mora phonemes using speech recognition technology," Speech Communication, Vol.30, Nos.2-3, pp. 131-143 (2000-2).
- 28. Koji Iwano and Keikichi Hirose, "Integration of prosodic word boundary detection to unlimited-vocabulary speech recognition," Trans. Institute of Electronics, Information and Communication Engineers, Information and Systems Society, Vol.J83-D-II, No.10, pp.1977-1985 (2000-10). (in

- Japanese)
- 29. Shinya Kiriyama and Keikichi Hirose, "Development of spoken dialogue system for academic document retrieval with a focus on reply generation and its evaluation," Trans. Institute of Electronics, Information and Communication Engineers, Information and Systems Society, Vol.J83-D-II, No.11, pp.2318-2329 (2000-11). (in Japanese)
- 30. Hui Jiang, Keikichi Hirose and Qiang Huo, "A minimax search algorithm for robust continuous speech recognition," IEEE Transactions on Speech and Audio Processing, Vol.8, No.6, pp.688-694 (2000-11).
- 31. Yoram Meron and Keikichi Hirose, "Automatic alignment of a musical score to performed music," Acoustical Science and Technology, Acoustical Society of Japan, Vol.22, No.3, pp.189-198 (2001-5).
- 32. Goh Kawai, Akira Ishida and Keikichi Hirose, "Detecting and correcting mispronunciation in non-native pronunciation learning using a speech recognizer incorporating bilingual phone models," The Journal of the Acoustical Society of Japan, Vol.57, No.9, pp.569-580 (2001-9). (in Japanese)
- 33. Sanghun Kim, Youngjik Lee and Keikichi Hirose, "Unit generation based on phrase break strength and pruning for corpus-based text-to-speech," ETRI Journal, Vol.23, No.4, pp.168-176 (2001-12).
- 34. Sanghun Kim, Youngjik Lee and Keikichi Hirose, "A new pruning method for synthesis database reduction using weighted vector quantization," Journal of the Acoustical Society of Korea, Vol.20, No.4E, pp.31-38 (2001-12). (in Korean)
- 35. Keikichi Hirose, Carlos T. Ishi and Goh Kawai, "On the use of speech recognition technology for foreign language pronunciation teaching," Journal of the Phonetic Society of Korea, No.42, pp.37-46 (2001-12).
- 36. Keikichi Hirose and Hiromichi Kawanami, "Temporal rate change of dialogue speech in prosodic units as compared to read speech," Speech Communication, Vol.36, Nos.1-2, pp.97-111 (2002-1).
- 37. Shinya Kiriyama and Keikichi Hirose, "Development and evaluation of a spoken dialogue system for academic document retrieval with a focus on reply generation," Systems and Computers in Japan, Vol.33, No.4, pp.25-39 (2002-4). (Translated from 29 by the author.)
- 38. Shinya Kiriyama, Keikichi Hirose, and Nobuaki Minematsu, "A spoken dialogue system for document information retrieval utilizing topic knowledge," Trans. Institute of Electronics, Information and Communication Engineers, Information and Systems Society, Vol.J85-D-II, No.5, pp.863-876 (2002-5). (in Japanese)
- 39. Sanghun Kim, Youngjik Lee and Keikichi Hirose, "A new Korean corpus-based text-to-speech system," International Journal of Speech Technology, Vol.5, No.2, pp.105-116 (2002-5).
- 40. Keikichi Hirose, Nobuaki Minematsu and Takaaki Moriya "Adaptive training of language models with inter-word co-occurrence for speech recognition," IPSJ (Information Processing Society of Japan) Journal, Vol.43, No.7, pp.2065-2074 (2002-7). (in Japanese)
- 41. Nobuaki Minematsu, Keikichi Hirose and Mariko Sekiguchi, "Automatic identification of subjectively-defined elderly speakers and its application to estimating agedness," IPSJ (Information Processing Society of Japan) Journal, Vol.43, No.7, pp.2186-2196 (2002-7). (in Japanese)
- 42. Shuichi Narusawa, Nobuaki Minematsu, Keikichi Hirose and Hiroya Fujisaki, "A method for automatic extraction of parameters of the fundamental frequency contour generation model," IPSJ (Information Processing Society of Japan) Journal, Vol.43, No.7, pp.2155-2168 (2002-7). (in Japanese)
- 43. Shin-ichi Kawamoto, Hiroshi Shimodaira, Tsuneo Nitta, Takuya Nishimoto, Satoshi Nakamura, Katsunobu Itou, Shigeo Morishima, Tatsuo Yotsukura, Atsuhiko Kai, Akinobu Lee, Yoichi Yamashita, Takao Kobayashi, Keiichi Tokuda, Keikichi Hirose, Nobuaki Minematsu, Atsushi Yamada, Yasuharu Den, Takehito Utsuro, and Shigeki Sagayama, "Design of software toolkit for anthropomorphic spoken dialog agent software with customization-oriented features," IPSJ (Information Processing Society of Japan) Journal, Vol.43, No.7, pp.2249-2263 (2002-7). (in

- Japanese)
- 44. Nobuaki Minematsu, Ryuji Kita, Keikichi Hirose, "Automatic estimation of accentual attribute values of words for accent sandhi rules of Japanese text-to-speech conversion," IEICE Trans. Information and Systems, Vol.E86-D, No.3, pp.550-557 (2003-3).
- 45. Atsuhiro Sakurai, Keikichi Hirose and Nobuaki Minematsu, "Data-driven generation of F_0 contours using a superpositional model," Speech Communication, Vol.40, No.4, pp.535-549 (2003-6).
- 46. Carlos Toshinori Ishi, Keikichi Hirose and Nobuaki Minematsu, "Mora F0 representation for accent type identification in continuous speech and considerations on its relation with perceived pitch values," Speech Communication, Vol.41, Nos.2-3, pp.441-453, (2003-10).
- 47. Nobuaki Minematsu, Takehito Kurata, Keikichi Hirose, "Corpus-based statistical analysis of production and perception of Japanese English in view of the phonemic and lexical structure of American English," Onsei Kenkyu, Vol.7, No.3, pp.77-91 (2003-12) (in Japanese)
- 48. Jinsong Zhang, Keikichi Hirose, "Tone nucleus modeling for Chinese lexical tone recognition," Speech Communication, Vol.42, Nos.3-4, pp.447-466 (2004-4).
- 49. Wentao Gu, Keikichi Hirose, and Hiroya Fujisaki, "Automatic extraction of tone command parameters for the model of F_0 contour generation for standard Chinese," IEICE Trans. Information and Systems (Special Issue on Speech Dynamics by Ear, Eye, Mouth and Machine), Vol.E87-D, No.5, pp.1079-1085 (2004-5).
- 50. Nobuaki Minematsu, Bungo Matsuoka, Keikichi Hirose, "Prosodic analysis and modeling of *nagauta* singing to generate prosodic contours from standard scores," IEICE Trans. Information and Systems (Special Issue on Speech Dynamics by Ear, Eye, Mouth and Machine), Vol.E87-D, No.5, pp.1093-1101 (2004-5).
- 51. Shinya Kiriyama, Keikichi Hirose, and Nobuaki Minematsu, "A spoken dialogue system for document information retrieval utilizing topic knowledge," Systems and Computers in Japan, John Wiley & Sons, Vol.35, Issue 5, pp.67-82 (2004-5).
- 52. Keikichi Hirose, Kentaro Sato, Yasufumi Asano and Nobuaki Minematsu, "Synthesis of F₀ contours using generation process model parameters predicted from unlabeled corpora: Application to emotional speech synthesis," Speech Communication, Vol.46, Nos.3-4, pp.385-404 (2005-7). (Special Issue on Quantitative prosody modeling for natural speech description and generation)
- 53. Jin-Song Zhang, Satoshi Nakamura, and Keikichi Hirose, "Tone nucleus-based multi-level robust acoustic tonal modeling of sentential F_0 variations for Chinese continuous speech tone recognition," Speech Communication, Vol.46, Nos.3-4, pp.440-454 (2005-7). (Special Issue on Quantitative prosody modeling for natural speech description and generation)
- 54. Md. Kahdemul Islam Molla, Keikichi Hirose, and Nobuaki Minematsu, "Separation of speech and interfering audio signal from single mixture by subspace decomposition," Journal of Signal Processing, Vol.9, No.6, pp.487-495 (2005-11).
- 55. Md. Kahdemul Islam Molla, Keikichi Hirose, and Nobuaki Minematsu, "Separation of mixed audio signals by decomposing Hilbert spectrum with modified EMD," IEICE Transaction on Fundamentals of Electronics, Communications and Computer Sciences, Vol.E89-A, No.3, pp.727-734 (2006-3).
- 56. Jinfu Ni, Hisashi Kawai, Keikichi Hirose, "Constrained tone transformation technique for separation and combination of Mandarin tone and intonation," Journal of Acoustical Society of America, Vol.119, No.3, pp.1764-1782 (2006-3).
- 57. Michiko Watanabe, Keikichi Hirose, Yasuharu Den, and Nobuaki Minematsu, "The effects of filled pauses on listeners' prediction about the complexity of following phrases," Journal of Acoustical Society of Japan, Vol.62, No.5, pp.370-378 (2006-5). (in Japanese)
- 58. Jinfu Ni, and Keikichi Hirose, "Quantitative and structural modeling of voice fundamental frequency contours of speech in Mandarin," Speech Communication, Vol.48, No.8, pp.989-1008 (2006-8).
- 59. Wentao Gu, Keikichi Hirose, and Hiroya Fujisaki, "Modeling the effects of emphasis and

- question on fundamental frequency contours of Cantonese utterances," IEEE Transactions on Speech and Audio Processing, vol. 14, no. 4, pp. 1155-1170 (2006-7).
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- 38. Keikichi Hirose, "Researches on speech prosody for advanced spoken language technologies," Proceedings of International Symposium: Frontiers of Research on Speech and Music (FRSM-2008), Kolkata, 20-21 February, pp.40-45 (2008-2). (Invited Talk)
- 39. Keikichi Hirose, Qinghua Sun, and Nobuaki Minematsu "Generation of F_0 contours for Mandarin speech in combination with rule-based and corpus-based methods," Proceedings of 8^{th} Phonetics Conference of China (PCC2008)/International Symposium on Phonetic Frontiers, Beijing, 18-20 April, 8 pages in CD-ROM Proceedings (2008-4). (Invited)
- 40. Keikichi Hirose, Qinghua Sun, and Nobuaki Minematsu "Synthesis of F_0 contours for Mandarin speech by superposing corpus-generated tone contours on rule-generated phrase components," Proceedings of Speech Analysis, Synthesis and Recognition -Application in Systems for Homeland Security-, Piechowice, Poland, 8-12 September (2008-9). (Plenary talk)
- 41. Keikichi Hirose, Keiko Ochi, and Nobuaki Minematsu, "Corpus-based generation of F_0 contours of Japanese based on the generation process model and its control for prosodic focus," Proceedings of 9th International Conference on Signal Processing (ICSP2008), Beijing, October 26-29, pp.647-650 (2008-10). (Invited, Special Session)
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- 43. Keikichi Hirose, Keiko Ochi, Miaomiao Wang, Tatsuya Matsuda, Miaomiao Wen, and Nobuaki Minematsu, "Using F_0 contour generation process model for improved and flexible control of prosodic features in HMM-based speech synthesis," *Proceedings of 21st Conference on Electronic Speech Signal Processing (ESSP2010)*, Berlin, pp.84-93 (2010-9). (Invited)
- 44. Keikichi Hirose, "Fundamental frequency contour generation process model for improved and flexible control of prosodic features in hmm-based speech synthesis," Proceedings of International Symposium on Frontiers of Research on Speech and Music (FRSM-2012), Gurgaon, pp.302-306 (2012-1). (Invited Speech)

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- 1. Keikichi Hirose, "Prosody in speech signal processing," Record for Fall Meeting, Acoustical Society of Japan, 2-5-14, pp.299-302 (1994-11). (Invited) (in Japanese)
- 2. Keikichi Hirose, "Para- and non-linguistic information in speech information processing," Record for Fall Meeting, Acoustical Society of Japan, 1-10-10, pp.243-246 (2002-9). (Invited) (in Japanese)

- 3. Keikichi Hirose, "Control of prosodic features for realizing various styles in speech synthesis with an example of emotional speech synthesis-," Record for Fall Meeting, Acoustical Society of Japan, 2-6-11, pp.279-282 (2005-9). (Invited) (in Japanese)
- 4. Keikichi Hirose, "Introduction of the project on "Prosody and Speech Processing," Scientific Research of Priority Areas," IEICE Technical Report (Speech Committee) SP2003-163, pp.53-56 (2003-12). (Invited) (in Japanese)
- 5. Keikichi Hirose, "Speech prosody and spoken language processing," Scientific Research of Priority Areas," IEICE Technical Report (Speech Committee) SP2008-36, pp.73-78 (2008-10). (Invited) (in Japanese)