

# JULIA HIRSCHBERG

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## Biographical Sketch

Julia Hirschberg has been a professor in the Department of Computer Science at Columbia University since 2002, serving as Chair since 2012. She was appointed Percy K. and Vida L. W. Hudson Professor of Computer Science in 2013. She received her PhD in Computer Science from the University of Pennsylvania. She worked at Bell Laboratories and AT&T Laboratories – Research from 1985-2003 as a Member of Technical Staff, Department Head, and Technology Leader, creating the Human-Computer Interface Research Department at Bell Labs. She has done research on prosody, discourse structure, conversational implicature, text-to-speech synthesis, speech search, spoken dialogue systems, emotional speech, deceptive speech, and speech summarization. She served as editor-in-chief of Computational Linguistics from 1993-2003 and was an editor-in-chief of Speech Communication from 2003-2006 and is now on the Editorial Board. She was on the Executive Board of the Association for Computational Linguistics (ACL) from 1993-2003, has been on the Permanent Council of International Conference on Spoken Language Processing (ICSLP) since 1996, the Board of Directors of the Computing Research Association (CRA) from 2013-14, and on the board of the International Speech Communication Association (ISCA) from 1999-2007 (as President 2005-2007; Advisory Council 2007–, chair of Distinguished Lecturers Selection Committee, 2010–). She is on the IEEE Speech and Language Processing Technical Committee (SLTC), the executive board of the North American chapter of the Association for Computational Linguistics (NAACL), the AAAI Council, and co-chair of the CRA-W Board, which she has been a member of since 2009. She has been a fellow of the American Association for Artificial Intelligence since 1994, an ISCA Fellow since 2008, and is a founding Fellow of the ACL since 2011. She was elected an ACM fellow in 2016, and a IEEE Fellow as of 2017. She was elected to the National Academy of Engineering in 2017. She received an honorary doctorate from Royal Institute of Technology (KTH) Stockholm and is the 2011 recipient of the James L. Flanagan Speech and Audio Processing Award from IEEE and of the ISCA Medal for Scientific Achievement. She was elected to the American Philosophical Society in 2014 and was elected an honorary member of the Association for Laboratory Phonology in 2014 as well. She received a Columbia Engineering School Alumni Association (CESAA) Distinguished Faculty Teaching Award in 2009. She won best paper awards from Eurasip (2005) for best paper published in Speech Communication for 2003-2004, Interspeech 2006 (Best Student Paper), the AVIOS award for best paper appearing in the Journal of AVIOS in 1994, Best paper at CoginfoComm 2012, Best Student Paper at Speech Prosody 2014, Best Paper Award for Cognitive 2015, and 2016 Best Paper Award for an article appearing in Computer Speech and Language. She has received IBM Faculty Awards in 2005 and 2006 and has also received funding from the National Science Foundation, the Department of Homeland Security, DARPA, Google, IARPA, KDD, Lockheed Martin, the Air Force Office of Scientific Research, and the Simons Foundation. She holds 5 patents for text-to-speech synthesis and audio browsing/retrieval.

### Research Interests

**Computational Linguistics/Natural-Language Processing:** Empirical and Corpus-based Studies of Intonation (Prosody) and Discourse; Automatic Detection of Emotion, Charisma, and Deception in Speech; Hedging Behavior in Text and Speech; Spoken Dialogue Systems; Speech Search for Low Resource Languages; Code-Switching; Text-to-Speech Synthesis; Annotation Standards for Speech Corpora

### Employment

**2013–** Columbia University, Percy K. and Vida L. W. Professor of Computer Science.

**2012–** Columbia University, Chair of Computer Science.

**2002–13** Columbia University, Professor of Computer Science.

**2008–09** KTH Stockholm, Guest Research Professor.

**2000–03** AT&T Labs – Research, Florham Park. Technology Leader, Human-Computer Interface Research Department.

**1996–00** AT&T Labs – Research, Florham Park. Division Manager, Human-Computer Interface Research Department.

**1994–96** AT&T Bell Laboratories, Murray Hill. Division Manager, Human-Computer Interface Research Department.

**1985–94** AT&T Bell Laboratories, Murray Hill. Member of Technical Staff, Linguistics Research Department.

**1974–82** Smith College. Assistant Professor of History, 1977-82; Instructor in History, 1974-77.

### Education

**1985** PhD, Computer and Information Science, University of Pennsylvania. Thesis: “A Theory of Scalar Implicature”. Thesis Advisor: Bonnie Webber.

**1982** MSEE, Computer and Information Science, University of Pennsylvania. Thesis: “Representing the Codasyl Data Model in the Type Systems of High Level Languages”. Thesis Advisor: Peter Buneman.

**1976** PhD, History, University of Michigan at Ann Arbor. Thesis: “A Social History of Puebla de los Angeles, 1531-1560”. Thesis Advisor: Charles Gibson.

### Honors and Awards

**2017** Elected to the National Academy of Engineering (NAE)

**2017** Fellow of the Institute of Electrical and Electronic Engineers (IEEE)

**2016** Best Paper Award for an article appearing in Computer Speech and Language

**2016** Fellow of the Association for Computing Machines (ACM)

**2015** Best Paper Award, Cognitive 2015.

**2014** Best Student Paper Award, Speech Prosody 2014.

**2014** Elected to American Philosophical Society.

- 2014** Elected Honorary Member, Association for Laboratory Phonology.
- 2012** Best Paper Award, CogInfoCom 2012.
- 2011–** Founding Fellow of Association for Computational Linguistics.
- 2011** ISCA Medal for Scientific Achievement.
- 2011** IEEE James L. Flanagan Speech and Audio Processing Award.
- 2009** Columbia Engineering School Alumni Association (CESAA) Distinguished Faculty Teaching Award for 2009.
- 2008–** Fellow, International Speech Communication Association.
- 2007** Honorary Doctorate (Hedersdoktorer), KTH (Royal Institute of Technology), Stockholm.
- 2005–2007** IBM Faculty Award.
- 2006** Interspeech 2006 Best Student Paper Award (one of 3).
- 2005** Best Paper Award for a paper appearing in *Speech Communication* in 2003-2004 (given by EURASIP) for “Prosodic and other cues to speech recognition failures,” Julia Hirschberg, Diane Litman, and Marc Swerts, 2004.
- 1994–** Fellow, Association for the Advancement of Artificial Intelligence.
- 1994** Best Paper Award, Journal of the American Voice I/O Society (AVIOS).
- 1982–85** IBM Dissertation Fellowship, Computer and Information Science, University of Pennsylvania.

### Journal Responsibilities

Co-editor, Springer Series on the Theory and Practice of NLP, 2014–.

Member of Advisory Board of Editors, *Journal of Pragmatics*, 2011–.

co-Editor in Chief, *Speech Communication*, 2003–2006.

Editor in Chief, *Computational Linguistics*, 1993–2003.

Special Issue Editor:

Speech Communication: Special Issue on Error Handling in Spoken Dialogue, 2005, with Rolf Carlson and Marc Swerts.

IEEE Transactions on Speech and Audio Processing: Special Issue on Spontaneous Speech Processing, 2003, with Mary Beckman, Shuichi Itahashi, Tatsuya Kawahara, Mark Liberman, and Satoshi Nakamura.

*Language and Speech: Special Double Issue on Prosody and Conversation*, 41(3-4): 1999, with Marc Swerts.

Editorial Boards:

*Computational Linguistics*, 1990-93; *Speech Communication*, 1993–; *Language and Speech*, 1994–2001.

### Professional Activities

Co-Chair of the Computing Research Association (CRA) Committee on Women, 2016–; Board member 2009–.

AI 100 Study Panel 2015-2016: The purpose of this panel is to prepare a report on the state of AI from 15 years ago to the present to the next 15 for government and general public consumption.

Committee of Visitors, NSF's Directorate for Computer and Information Science and Engineering (CISE), 22-24 October 2014.

Councilor of the American Association of Artificial Intelligence, 2012–15

Executive Board of the North American ACL, 2012–15

Computing Research Association Executive Board, 2013-14

IEEE Speech and Language Processing Technical Committee, 2011–.

Chair, ISCA Distinguished Lecturers Selection Committee, 2010–13.

Board Member, Computing Research Association Committee on the Status of Women in Computing (CRA-W), 2009–.

ISCA Advisory Council, 2008–.

Fellows Selection Committee, ISCA, 2008–2010.

Fellows Selection Committee, AAAI, 2006–8.

President, International Speech Communication Association (ISCA), (1500 members), 2005–2007.

Organizational Executive Committees:

Executive Committee, Association for Computational Linguistics (ACL), 1993–03; Executive Board, ISCA, 2000–2007; Permanent Council, International Conference on Spoken Language Processing (ICSLP), 1996–.

Advisory Boards:

Camomile International Advisory Committee, 2013–; Chair, Research Assessment 2012, Tilburg School of Humanities, Department of Communication and Information Sciences, 2011-14; HLT Advisory Board, 2004–; Research Assessment Committee, KTH Stockholm; Department Review Committee, Department of Computer Science Tufts University, ; IM2 Scientific Board, Institut Dalle Molle d'Intelligence Artificielle Perceptive (IDIAP), 2002–; Advisory Committee, Japanese Science and Technology Agency Priority Program (Organized Research Combination System), Spontaneous Speech: Corpus and Processing Technology Advisory Panel, 1999–; Advisory Panel, MATE (Multilevel Annotation, Tools Engineering) Project (EU), 1998–2000; Scientific Advisory Committee, SIGDial, 1997–; Acoustical Society of America Speech Technical Committee, 1994–96; DARPA Committee on Database and Evaluation Issues, 1991-92.

Organizational Responsibilities for Conferences and Symposia:

General Chair, HLT-NAACL 2004;

Scientific/Program/Technical Committees:

Interspeech 2016 (Area Chair); NAACL 2016 Workshop on Computational Approaches to Deception Detection; Speech Prosody 2016; LabPhon16; ACL 2015 (area chair); ICPHS 2015; NAACL 2015; ICASSP 2015 (Meta-Reviewer); ETAP 2015; AAAI 2015 Spring Symposium on Turn-taking; IWSDS 2015; EMNLP Workshop on Code-Switching 2014; Interspeech 2014 (area chair); AAAI 2014; ICASSP 2014 (Meta-Reviewer); Interspeech 2014 (area chair); LabPhon 2014; IWSD 2014; LREC 2014; SigDIAL 2014; SLT 2014 (publicity co-chair); Conference on Speech Prosody, 2014; SWIP 2014; LabPhon 2013; NAACL 2013; Errare 2013; ICASSP 2013 (Meta-Reviewer); Interspeech 2013; SSW8 2013; Interspeech 2012 (area chair); ADEPT 2012; AVEC 2012; LabPhon 2012; EACL 2012; EMNLP 2012; ICASSP 2012 (Meta-Reviewer); IWIS2012; LabPhon 12; PROPOR 2012; Speech Prosody 2012;

SIGDIAL 2012; IWSD 2012; SLT 2012; ACII 2011; ACL-HLT 2011 (regular and Student Session); Constraints in Discourse 2011; Interspeech 2011 (area chair); HCI 2011; ICPHS 2011; ETAP 2011; SIGDIAL 2011; KES-Natural Language Visualization Workshop, 2010; EMNLP 2010; SLT 2010 (area chair for discourse); Coling 2010; CoSLI10; Interspeech 2010; PROPOR 2010; Prosody 2010; Second Language Studies Workshop, 2010; ACL 2010 (area chair for Spoken Language Processing); IEEE SLT 2010 (area chair); 7th ISCA Workshop on Speech Synthesis, Advisory Committee, 2010; NAACL-HLT 2009 (Area Chair for Discourse); International Conference on Affective Computing and Intelligent Interaction (ACII) 2009; ACL-IJNLP 2009; COLING 2008 (Area Chair); ProPor 2008; SigDial 2008; Speech Prosody 2008; ACL/HLT 2008; Interspeech 2008; Spoken Language Technology 2008; ICPHS 2007; Searching Spontaneous Conversational Speech 2007 (SIGIR workshop); SigDial 2007; ParaLing 2007; Interspeech 2007 (Area Chair); ACL 2007; HLT-NAACL 2007 (faculty advisor to PhD Symposium); Interspeech 2006; Area Chair; HLT-NAACL 2006; AAI-2006; Speech Prosody 2006 (Dresden); Eurospeech 2005 (Area Chair); Workshop on Interdisciplinary Approaches to Speech Indexing and Retrieval; May, 2004; Workshop on Higher-Level Linguistic and Other Knowledge for Automatic Speech Processing, May, 2004; ICSLP 2004 (Area Chair); ACL 2004; International Conference on Speech Prosody, Nara, Japan, 2004; Eurospeech-03 (Area Chair); ACL-03; HLT-NAACL-03; ICSLP-02 (Area Chair); Prosody 2002; ACL-02; NAACL-01; ACL-01; Eurospeech-01 (Area Chair); ESCA Workshop on Emotion and Speech, Belfast, 2000; ACL-00 Thematic Session on Machine Learning and Statistical NLP for Dialogue; Intonation: Models and ToBI Labeling, Workshop at ICPHS-99, Berkeley, 1999; AAI-99 (Senior Program Committee); ESCA Workshop in Interactive Dialogue in Multi-Modal Systems, Munich, 1999; ICSLP-98; ESCA Tutorial and Research Workshop on Dialogue and Prosody, Eindhoven, September, 1999; Computational Psycholinguistics Conference, Berkeley, 1997; ESCA Workshop on Prosody, 1993; ACL-93; ACL-92, student session; DARPA Speech and Natural Language Workshop, 1992; AAI-90; AAI Symposium on Spoken Language Systems, 1989; ACL-89 (Program Chair); ACL-87; AAI-86.

Evaluating Panels: Scientific and Industrial Advisory Board, IM2 Project, IDIAP, Martigny CH, 2002–; Evaluating Committee for the NUTEK (Swedish National Board for Industrial and Technical Development) Competence Centre for Speech Technology, CTT, Stockholm, March 2001; Technology Advisory Panel, 1999–; Evaluating committee, Dutch Science Foundation (NWO) Priority Research Programme in Language and Speech Technology, 2000.

#### Workshop Organization:

Technical Committee, IEEE SLT Workshop, 2016; Co-chair, Publicity, IEEE SLT Workshop, 2014; co-organizer (with Jeff Good and Owen Rambow), ComputEL 2014: ACL Workshop on Endangered Languages, June 26-27, Baltimore; Co-organizer (with R. Carlson and M. Swerts), ISCA Tutorial and Research Workshop on Error Handling in Spoken Dialogue Systems, Chateau-d’Oex-Vaud, Switzerland, August 28–31, 2003; Co-organizer (with M. Bacchiani, D. Litman, and M. Ostendorf), ISCA Tutorial and Research Workshop on Prosody in Speech Recognition and Understanding, October, 2001; Co-organizer (with O. Rambow and M. Walker), ACL-99 Thematic Session on Discourse Tagging: Uses, Results and Applications; Co-organizer (with C. Kamm and M. Walker), ACL Workshop on Interactive Spoken Dialogue Systems, July, 1997; Co-organizer (with J. Olive, R. Sproat, and J. van Santen), Second ESCA/IEEE Workshop on Speech Synthesis, New Paltz, September 12-15, 1994; Co-organizer (with D. Litman), AAI Fall Symposium (“Discourse Structure in Natural Language Understanding and Generation”), 1991.

PhD Advisor: Fadi Biadisy (PhD, 2011), Erica Cooper, Robert Coyne, Frank Enos (PhD 2008), Agustín Gravano (PhD 2009), Rivka Levitan (PhD 2014), Sarah Ita Levitan, Jackson Liscombe (PhD 2008), Sameer Maskey (PhD 2008), Shimei Pan (PhD 2001), Anna Prokofieva, Andrew Rosenberg (PhD 2009), Victor Soto Martínez, Morgan Ulinski, Zixiaofan (Brenda) Yang, Columbia University.

Dissertation Committees:

Columbia: Daniel Bauer, Or Biran, Sara Rosenthal (2015), Vinod Kumar (2015), Kapil Thadani (2015), Weiyun Ma (2014), Lauren Wilcox Patterson (2013), David Elson (2012), Kristen Parton (2012), Sean White (2009), Alexander Haubold (2008), Maryam Kamvar (2008), Marios Athineos (2007), Michel Galley (2007), Elena Filatova (2007), Gabor Blasko (2007), Ani Nenkova (2006), Smaranda Murasan (2006), Lijun Tang (2006), Pablo Dubuoé (2005), Noemie Elhadad (2005), David Evans (2005), Regina Barzilay (2003), Min Kan (2002), Michael Elhadad (1992).

Elsewhere: Sandrine Brognaux, Université catholique de Louvain-la-Neuve (2015); Kevin Lenzo, CMU; Brian Langner, CMU (2010); Luciana Lucente, Universidad Estadual de Campinas (2012); Svetlana Stenchicova, Stony Brook (2009); Gabriel Murray, Edinburgh (2008); Hagen Soltau, CMU and Karlsruhe University (2005); Elizabeth Meddeb, Columbia Teachers College (2004); Raul Fernandez, MIT Media Lab (2003); Joachin Gustafson, KTH (Stockholm) (2002) (faculty opponent); Jinmook Kim, University of Maryland (2001–); Jeff Reynar, University of Pennsylvania (1998); Janet Cahn, MIT Media Lab (1998); Christine Nakatani, Harvard (1997).

Member: Association for Computational Linguistics (ACL), American Association for Artificial Intelligence (AAAI), International Speech Communication Association (ISCA), Association for Computing Machinery (ACM), Institute of Electrical and Electronics Engineers (IEEE).

### Patents

U. S. Patent # 7,664,636, “System And Method For Indexing Voice Mail Messages by Speaker,” Julia Hirschberg, Sarangarajan Parthasarathy, Aaron Rosenberg, and Stephen Whittaker (issued 2/16/10)

U. S. Patent #7,664,235, “Method and apparatus for voice mail notes,” Julia Hirschberg, Lawrence Jackel, and Stephen Whittaker (issued 2/16/10); #7995711 (issued 8/9/2011)

U. S. Patent #7,225,126, “System and method for processing speech files,” Julia Hirschberg and Stephen Whittaker (issued 5/29/07)

U. S. Patent #6,173,262, “Text-to-speech system with automatically trained phrasing rules,” Julia Hirschberg (issued 1/9/2001)

U. S. Patent #6,003,005: “Text-to-speech system and a method and apparatus for training the same based upon intonational feature annotations of input text,” Julia Hirschberg (issued 12/14/1999)

“System And Method For Processing Speech Files,” Julia Hirschberg and Stephen Whittaker (filed 06/12/2001)

“System And Method For Processing Voicemail Messages Using Automatic Speech Recognition”, Julia Hirschberg, Lawrence Jackel and Stephen Whittaker (filed 03/13/2001)

“Method And Apparatus For Voice Mail Notes,” Julia Hirschberg, Stephen Greenspan, and Stephen Whittaker (filed 12/16/1999)

“System And Method For Gisting, Browsing and Searching Voicemail Using Automatic Speech Recognition,” Julia Hirschberg and Stephen Whittaker (filed 12/08/1999)

“Spoken Content Based Audio Navigation,” John Choi, Julia Hirschberg, Christine Nakatani, and Stephen Whittaker (filed 07/23/1999)

### Current Funding

PI Google Faculty Research Award: “Identifying Code-Switching in Text and Speech Corpora,” 9/1/2015-8/31/16.

DARPA Lorelei: “SEEM: Inferring Sentiment bElief perspective and eMotion in Low Resource Languages,” co-PI (PI Kathy McKeown), 9/1/2015-8/31/2020.

- PI NSF EAGER: "Creating Speech Synthesizers for Low Resource Languages," PI, 9/1/2015-8/31/16.
- CRA/CCC NSF: NYC ASCENT: "Advancing Computer Science Careers through Enhanced Networking and Training: Implementing Best Practices in the Computer Science and Engineering Postdoc in New York City," co-PI (PI: Shih-Fu Chang), 5/1/14-4/30/17. Leading consortium of NYU, Cornell, and CUNY.
- PI NSF IGERT: "From Data to Solutions: A New PhD Program in Transformational Data and Information Sciences Research and Innovation," PI (co-PIs Shih-fu Chang, Assaf Zeevi, Noemi Elhadad, Andrew Rosenberg), 9/1/12-8/31/17.
- co-PI, DARPA DEFT: DRATS: "Detecting Relations and Anomalies in Text and Speech," co-PI (PI Owen Rambow), 11/13/12-05/12/17.

### Prior Funding

- co-PI, NSF CNS "Collaborative Research: CI-P: A Repository for Annotating Multilingual Code Switched Data," subcontract to George Washington University (PI: Mona Diab), 9/1/12-8/31/16.
- NSF "CRI: CI-P: Collaborative: Reciprosody - A Repository for Prosodically Annotated Material," 9/1/12-8/31/16 PI (with Andrew Rosenberg, CUNY, and Stephanie Shattuck-Hufnagel, MIT).
- PI, NSF DEL "Using Computational Tools to Facilitate Corpus Collection and Language Analysis in Arrernte," 6/1/12-9/30/14 PI (co-PI Owen Rambow, CCLS)
- co-PI, IARPA "BABEL - Addressing the Language Deluge: Lorelei," co-PI (PI Owen Rambow), 3/4/2012-3/3/2017, subcontract to IBM.
- R01 grant (LM009886), "Bridging the Semantic Gap between Research Eligibility Criteria and Clinical Data," Senior Personnel (PI Chunhua Weng), 07/01/12 06/30/16. *myshare*51,220 %item Columbia PI, DARPA BOLT ("Broad Operational Language Translation"), 9/15/2011-12/31/14, subcontract to SRI International.
- PI, AFOSR, "Identifying Deceptive Speech Across Cultures," 2011-2016, PI (co-PIs Michelle Levine, Columbia, and Andrew Rosenberg, Queens College, CUNY). 1,414,449(*myshare*846,179).
- PI, Pictures," 6/10/09-6/9/12 (joint work with Owen Rambow, CCLS, Columbia University, and Richard Sproat, OHSU).
- PI, NSF IIS EAGER 1145505, "Using Social Media and Crowdsourcing to Create a New Affect Dictionary," 9/1/11-8/31/12.
- Co-PI, NSF CNR 1059260, "Summarizing Opinion and Speaker Attitude in Speech," 2/1/11-1/31/14 (joint work with Ani Nenkova, University of Pennsylvania, and Yang Liu, University of Texas at Dallas).
- co-PI, NSF CNR 0958440, "Creation of an Annotated Repository of Multilingual and Multigenre Code Switched Data for Several Language Pairs," Mona Diab, Columbia, and Thamar Solorio, University of Alabama).
- PI, "Novel Information Gathering and Harvesting Techniques for Intelligence in Global Autonomous Language Environments," DARPA, subcontract to IBM, 9/1/09-6/30/10.
- "Characterizing ASD Phenotype by Multimedia Signal Processing and NLP," Simons Foundation, (Noemie Elhadad, PI), 7/1/09-6/30/11.
- PI, NSF IIS-Robust Intelligence 0803148, "RI-Medium: Collaborative: Corpus-Based Studies of Lexical, Acoustic-Prosodic, and Discourse Entrainment in Spoken Dialogue," 9/1/08-8/31/11. with Ani Nenkova, University of Pennsylvania.

- PI, NSF IIS-HLC 053456, "Collaborative Research: Translating Prosody in an English/Chinese Language Tutoring System," 2/15/06-2/14/11 (with Chilin Shih and Gary Cziko, University of Illinois).
- DARPA GALE, Julia Hirschberg, Kathleen McKeown, "Novel Information Gathering Intelligence in Global Autonomous Language Environments," with SRI International, 9/01/05-.
- PI, NSF IIS-0325399, "ITR: Recognizing and Understanding Emotion in Speech," 9/1/03-8/31/10, with University of Colorado and SRI/ICSI.
- PI, NSF IIS-0328295, "Collaborative Research: Monitoring Student State in Tutorial Spoken Dialogue," 6/1/03-5/31/06 \$690,000, (with Diane Litman, University of Pittsburgh).
- PI, NSF IIS-0307905, "Dialogue Prosody in Interactive Voice Response Systems," 6/1/03-5/31-08 (with Gregory Ward, Northwestern University).
- "Multilingual Multidocument Information Tracking and Summarization," DARPA, 3/1/04-2/28/05, PI: Kathleen McKeown.
- IBM Faculty Award, 2005-2007.
- Lockheed Martin, "Predictors of Deceptive Speech," 5/1/07-4/30/08.

#### Refereed Publications

1. 2016. M. Ulinski, J. Hirschberg, and O. Rambow, "Incrementally Learning a Dependency Parser to Support Language Documentation in Field Linguistics," COLING 2016, Osaka, Japan.
2. 2016. R. Levitan, S. Benus, R. H. Galvez, A. Gravano, F. Savoretti, M. Trnka, A. Weise and J. Hirschberg. "Implementing acoustic-prosodic entrainment in a conversational avatar," Interspeech 2016, San Francisco.
3. 2016. S. I. Levitan, G. An, M. Ma, R. Levitan, A. Rosenberg and J. Hirschberg. "Combining Acoustic-Prosodic, Lexical, and Phonotactic Features for Automatic Deception Detection," Interspeech 2016, San Francisco.
4. 2016. G. An, S. I. Levitan, R. Levitan, A. Rosenberg, M. Levine and J. Hirschberg. "Automatically Classifying Self-Rated Personality Scores from Speech, Interspeech 2016, San Francisco.
5. 2016. S. I. Levitan, Y. Levitan, G. An, M. Levine, A. Rosenberg, R. Levitan, and J. Hirschberg, "Identifying Individual Differences in Gender, Ethnicity, and Personality from Dialogue for Deception Detection," NAACL Workshop on Computational Approaches to Deception Detection, 17 June 2016.
6. 2016. G. Mendels, E. Cooper, and J. Hirschberg, Babler - Data Collection from the Web to Support Speech Recognition and Keyword Search," ACL WAC-X 2016, August. Berlin.
7. 2016. E. Cooper, Y. Levitan, and J. Hirschberg. "Data Selection for Naturalness in HMM-based Speech Synthesis," Speech Prosody 2016, Boston.
8. 2016. R. Dall, S. Brognaux, K. Richmond, C. Valentini-Botinhao, G. E. Henter, J. Hirschberg, J. Yamagishi, S. King. "Testing the Consistency Assumption: Pronunciation Variant Forced Alignment in Read and Spontaneous Speech Synthesis," ICASSP 2016, Shanghai.
9. 2015. A. Rosenberg, F. Enos, and J. Hirschberg, "Measuring the Voice," in D. Matsumoto, H. C. Hwang, and M. G. Frank, eds., *APA Handbook of Nonverbal Communication*, Washington, D. C.: American Psychological Association.
10. 2015. J. Hirschberg, "Pragmatics and Prosody," ed. Y Huang, *Oxford Handbook of Pragmatics*, Oxford University Press, published online, November.



11. 2015. S. I. Levitan, G. An, M. Wang, G. Mendels, J. Hirschberg, M. Levine, A. Rosenberg, "Cross-cultural Production and Detection of Deception from Speech," ACM Workshop on Multimodal Deception Detection (WMDD 2015), 13 November 2015, Seattle.
12. 2015. R. Levitan, S. Benus, A. Gravano and J. Hirschberg, "Acoustic-Prosodic Entrainment in Slovak, Spanish, English and Chinese: A Cross-Linguistic Comparison," SIGDIAL 2015, Prague.
13. 2015. A. Gravano, S. Benus, R. Levitan, and J. Hirschberg "Backward Mimicry and Forward Influence in Prosodic Contour Choice in Standard American English," Interspeech 2015. Dresden.
14. 2015. G. Mendels, E. Cooper, V. Soto, J. Hirschberg, M. Gales, K. Knill, A. Ragni, H. Wang, Improving Speech Recognition and Keyword Search for Low Resource Languages Using Web Data, Interspeech 2015, Dresden.
15. 2015. J. Hirschberg and C. D. Manning, Advances in natural language processing, *Science Magazine*, 349(6):261-266.
16. 2015. S. I. Levitan, M. Levine, J. Hirschberg, N. Cestero, G. Ahn, A. Rosenberg, "Individual Differences in Deception and Deception Detection," Cognitive 2015, Nice. *Best Paper Award*.
17. 2015. R. Levitan, S. Benus, A. Gravano, and J. Hirschberg, "Entrainment and Turn-Taking in Human-Human Dialogue," AAAI-2015 Symposium on Turn-taking and Coordination in Human-Machine Interaction, Palo Alto, 2015.
18. 2014. T. Solorio, E. Blair, S. Maharjan, S. Bethard, M. Diab, M. Gohneim, A. Hawwari, F. Al-Ghamdi, J. Hirschberg, A. Chang, and P. J'ung, "Overview for the First Shared Task on Language Identification in Code-Switched Data," Workshop on Computational Approaches to Linguistic Code Switching, EMNLP 2014: Conference on Empirical Methods in Natural Language Processing, Doha, Qatar, October 25.
19. 2014. A. Gravano, S. Benus, R. Levitan, and J. Hirschberg, "Three ToBI-based measures of prosodic entrainment and their correlations with speaker engagement," SLT 2014, South Lake Tahoe.
20. 2014. S. Benus, A. Gravano, R. Levitan, S. I. Levitan, L. Willson, and J. Hirschberg, "Entrainment, Dominance and Alliance in Supreme Court Hearings," *Knowledge-Based Systems*, pp. 3-14.
21. 2014. V. Soto, L. Mangu, A. Rosenberg, and J. Hirschberg, "A Comparison of Multiple Methods for Rescoring Keyword Search Lists for Low Resource Languages," Interspeech 2014, Singapore.
22. 2014. M. Ma, J. Richards, V. Soto, J. Hirschberg and A. Rosenberg,, "Strategies for Rescoring Keyword Search Results Using Word-Burst and Acoustic Features," Interspeech 2014, Singapore.
23. 2014. A. Liu, R. Sloan, M.-V. Then, S. Stoyanchev, J. Hirschberg and E. Shriberg, "Detecting Inappropriate Clarification Requests in Spoken Dialogue Systems," SigDIAL 2014, Philadelphia.
24. 2014. M. Ulinski, A. Balakrishnan, D. Bauer, B. Coyne, J. Hirschberg and O. Rambow, "WELT: Using Graphics Generation in Linguistic Fieldwork," ACL 2014 Demonstration paper, Baltimore.
25. 2014. M. Ulinski, A. Balakrishnan, D. Bauer, B. Coyne, J. Hirschberg and O. Rambow, "Documenting Endangered Languages with the WordsEye Linguistics Tool," ComputEL 2014: Workshop on the use of computational methods in the study of endangered languages, ACL 2014, Baltimore.
26. 2014. Z. Xia, R. Levitan, J. Hirschberg, Prosodic Entrainment in Mandarin and English: A Cross-Linguistic Comparison, (Best Student Paper Award) Speech Prosody 2014, Dublin.
27. 2014. H. Moniz, A. I. Mata, J. Hirschberg, F. Batista, A. Rosenberg, and I. Trancoso. "Extending AuToBI to Prominence Detection in European Portuguese", Speech Prosody 2014, Dublin.

28. 2014. A. Prokofieva and J. Hirschberg, Hedging and Speaker Commitment, LREC 2014, Reykjavik.
29. 2014. V. Soto, E. Cooper, L. Mangu, A. Rosenberg, J. Hirschberg, A Comparison of Multiple Methods for Rescoring Confusion Networks for Keyword Search, ICASSP 2014, Florence.
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178. 1994. J. Hirschberg and P. Prieto, "Training intonational phrasing rules automatically for English and Spanish TTS," Proceedings of the Second ESCA/IEEE Workshop on Speech Synthesis, New Paltz, September, pp. 159-162.
179. 1994. A. Ljolje, J. Hirschberg, and J. van Santen, "Automatic Speech Segmentation for Concatenative Inventory Selection," Proceedings of the Second ESCA/IEEE Workshop on Speech Synthesis, New Paltz, September, pp. 93-96.
180. 1994. P. Prieto, J. van Santen, and J. Hirschberg, "Patterns of F0 Peak Placement in Mexican Spanish," Proceedings of the Second ESCA/IEEE Workshop on Speech Synthesis, New Paltz, September, pp. 33-36.
181. 1994. J. P. H. van Santen and J. Hirschberg, "Segmental Effects on Timing and Height of Pitch Contours," Proceedings of ICSLP-94, Yokohama, September, pp. 719-722.

182. 1994. J. Hirschberg and B. Grosz, "Intonation and Discourse Structure in Spontaneous and Read Direction-giving," Proceedings, International Symposium on Prosody, September 18, Yokohama, Japan, organized by Hiroya Fujisaki, Japan Society for the Promotion of Science, No. 152 Committee on Intelligent Processing of Spoken and Written Languages, pp. 103–109.
183. 1994. J. Pitrelli, Mary Beckman, and J. Hirschberg, "Evaluation of Prosodic Transcription Labeling Reliability in the ToBI Framework," Proceedings of ICSLP-94, Yokohama, September, pp. 123–126.
184. 1994. B. Grosz, J. Hirschberg, and C. Nakatani, "A Study of Intonation and Discourse Structure in Directions," Proceedings of the Workshop on the Integration of Natural Language and Speech Processing, AAAI-94, August 1.
185. 1994. J. Hirschberg and C. Nakatani, "Modeling Acoustic and Prosodic Characteristics of Repair Disfluencies for Speech Recognition," *Journal of AVIOS*, 15 (Best Paper Award for article appearing in 1994).
186. 1994. C. Nakatani and J. Hirschberg, "A Corpus-based study of repair cues in spontaneous speech," *Journal of the Acoustical Society of America*, 95-3: 1603–1616.
187. 1993. J. Hirschberg, "Studies of Intonation and Discourse," Proceedings of the ESCA Workshop on Prosody, Lund University, September.
188. 1993. J. Hirschberg and C. Nakatani, "A Speech-First Model for Repair Identification in Spoken Language Systems," Proceedings of EUROSPEECH-93, Berlin, September.
189. 1993. J. Hirschberg and J. Terken, "Deaccentuation and Persistence of Grammatical Function and Surface Position," Proceedings of EUROSPEECH-93, Berlin, September.
190. 1993. C. Nakatani and J. Hirschberg, "A Speech-First Model for Repair Detection and Correction," Proceedings of ACL-93, Columbus, June.
191. 1993. C. Nakatani and J. Hirschberg, "A Speech-First Model for Repair Identification in Spoken Language Systems," Proceedings of the ARPA Workshop on Human Language Technology, Plainsboro, March.
192. 1993. J. Hirschberg and D. Litman, "Empirical Studies on the Disambiguation of Cue Phrases," *Computational Linguistics*, 19-3:501–530.
193. 1993. J. Hirschberg, "Pitch Accent in Context: Predicting Intonational Prominence from Text," *Artificial Intelligence*, 63(1-2), 1993.
194. 1992. R. Sproat, J. Hirschberg, and D. Yarowsky, "A Corpus-Based Synthesizer," Proceedings of ICSLP-92, Banff, October, pp. 563–566.
195. 1992. K. Silverman, M. Beckman, J. Pierrehumbert, M. Ostendorf, C. Wightman and J. Hirschberg, "ToBI: A Standard for Labeling Prosody," Proceedings of ICSLP-92, Banff, October, pp. 867–879.
196. 1992. B. Grosz and J. Hirschberg, "Some Intonational Characteristics of Discourse Structure," Proceedings of ICSLP-92, Banff, October, pp. 429–432.
197. 1992. J. Hirschberg and B. Grosz, "Intonational Features of Local and Global Discourse Structure," Proceedings of the DARPA Workshop on Spoken Language Systems, Arden House, February.
198. 1992. J. Hirschberg and R. Sproat, "Pitch Accent Prediction from Text Analysis," *Proceedings of the Conference on Linguistics and Computation*, University of Illinois at Urbana-Champaign, CSLI Publications, Chicago, University of Chicago Press.

199. 1992. Michelle Wang and J. Hirschberg, "Automatic Classification of Intonational Phrase Boundaries", *Computer Speech and Language*, 6:175–196.
200. 1992. J. Hirschberg and G. Ward, "The Influence of Pitch Range, Duration, Amplitude, and Spectral Features on the Interpretation of  $L^*+H L H\%$ ," *Journal of Phonetics*, 20(2): 241–251.
201. 1992. J. Hirschberg, "Using Discourse Context to Guide Pitch Accent Decisions in Synthetic Speech," in *Talking Machines: Theories, Models and Applications*, ed. G. Bailly and C. Benoit, Elsevier, pp.367–376.
202. 1991. J. Hirschberg, "Using Text Analysis to Predict Intonational Boundaries," Proceedings of EUROSPEECH-91, Genoa, September, pages 1275–1278.
203. 1991. M. Wang and J. Hirschberg, "Predicting Intonational Phrasing from Text," Proceedings of ACL-91, Berkeley.
204. 1991. M. Wang and J. Hirschberg, "Predicting Intonational Boundaries Automatically from Text: The ATIS Domain" Proceedings of the DARPA Workshop on Spoken Language Systems, February.
205. 1991. M. Wang and J. Hirschberg, "Intonational Boundaries and Syntactic Structure," Conference Proceedings: Current Issues in Natural Language Processing, February 15-16, Center for Cognitive Science, University of Texas at Austin.
206. 1991. J. Hirschberg. *A Theory of Scalar Implicature*. New York: Garland Press. (PhD thesis. Also available as MS-CIS-85-56 from the Department of Computer and Information Science, University of Pennsylvania.)
207. 1991. J. Hirschberg and G. Ward, "Accent and Bound Anaphora," *Cognitive Linguistics*, 2-2:101–121.
208. 1991. G. Ward and J. Hirschberg, "A Pragmatic Analysis of Tautological Utterances," *Journal of Pragmatics*, 15-6:507–520.
209. 1990. J. Hirschberg, S. Riederer, J. Rowley, and A. Syrdal, "Voice Response Systems: Technologies and Applications," *AT&T Technical Journal: Speech Technologies* 69-5, September/October, pp. 42–51.
210. 1990. J. Hirschberg, "Using Discourse Context to Guide Pitch Accent Decisions in Synthetic Speech", Proceedings of the European Speech Communication Association Workshop on Speech Synthesis, Atrans, France, September.
211. 1990. D. Litman and J. Hirschberg, "Disambiguating Cue Phrases in Text and Speech," Proceedings of COLING-90, Helsinki, August.
212. 1990. J. Hirschberg, "Accent and Discourse Context: Assigning Pitch Accent in Synthetic Speech," Proceedings of AAAI-90, Boston, July.
213. 1989. J. Hirschberg, "Distinguishing Questions by Contour in Speech Recognition Tasks," Proceedings of the DARPA Workshop on Spoken Language Systems, October.
214. 1989. J. Hirschberg and G. Ward, "On the Role of Accent in the Interpretation of Bound Anaphora," Northwestern University Working Papers in Linguistics, Vol. 2, Spring.
215. 1988. J. Hirschberg and G. Ward, "Intonation and Propositional Attitude: The Pragmatics of  $L^*+H L H\%$ ," in Proceedings of the Fifth Eastern States Conference on Linguistics, Philadelphia, September.
216. 1988. J. Davis and J. Hirschberg, "Assigning Intonational Features in Synthesized Spoken Directions," Proceedings of ACL-88, Buffalo, June, pp. 187–193.

217. 1988. G. Ward and J. Hirschberg, "The Pragmatics of Tautology," in Birner, B. et al., eds. *Working Papers in Linguistics*, Department of Linguistics, Northwestern University, Vol. I, May.
218. 1988. J. Hirschberg, B. Ballard, and D. Hindle, "Natural Language Processing," *AT&T Bell Laboratories Technical Journal: Artificial Intelligence* 67-1, January/February.
219. 1987. J. Hirschberg, D. Litman, J. Pierrehumbert, and G. Ward, "Intonation and the Intentional Structure of Discourse," Proceedings of IJCAI-87, Milan, August.
220. 1987. J. Hirschberg and D. Litman, "Now Let's Talk about *Now*," Proceedings of ACL-87, Stanford, July.
221. 1986. J. Hirschberg and J. Pierrehumbert, "The Intonational Structuring of Discourse," Proceedings of ACL-86, New York, pp. 136–144.
222. 1985. G. Ward and J. Hirschberg, "Implicating Uncertainty: The Pragmatics of Fall-Rise Intonation," *Language*, 64-1:747–776.
223. 1985. J. Hirschberg and G. Ward, "Fall-Rise Intonation and the Place of Intonational 'Meaning' in Linguistic Theory," Proceedings of the Eleventh Annual Meeting of the Berkeley Linguistics Society, February.
224. 1984. J. Hirschberg, "Anticipating False Implicatures: Cooperative Responses in Question-Answer Systems," Proceedings of the First International Workshop on Expert Database Systems, ed. L. Kerschberg, Kiawah Island, S.C., October, pp. 456–66.
225. 1984. J. Hirschberg, "Toward a Redefinition of Yes/No Questions," Proceedings of COLING-84, Stanford, July.
226. 1984. J. Hirschberg, "Scalar Implicature and Indirect Responses to Yes/No Questions," *Proceedings of CSCSI-84*, London, Ontario, May (a longer version appears as University of Pennsylvania Technical Report MS-CIS-84-9, April).
227. 1984. J. Hirschberg and G. Ward, "A Semantico-Pragmatic Analysis of Fall-Rise Intonation," Chicago Linguistic Society, *Papers from the Twentieth Regional Meeting*, April.
228. 1984. J. Hirschberg and G. Ward, "In from the Periphery: Fall-Rise Intonation and the Intonational Autonomy Hypothesis," *Penn Review of Linguistics*, February.
229. 1982. M. Pollack, J. Hirschberg, and B. Webber, "User Participation in the Reasoning Processes of Expert Systems," Proceedings of AAAI-82, Pittsburgh, pp. 358–361. (A longer version appears as University of Pennsylvania Technical Report MS CIS-82-9, June).
230. 1982. O. P. Buneman, J. Hirschberg and D. Root, "Exploiting the Type Systems of High Level Languages for Database Applications," Proceedings of the British National Conference on Databases, July.
231. Also publications and papers in history.

#### Book Chapters and Edited Volumes

1. 2010. "Deceptive Speech: Clues from Spoken Language," in *New Trends in Speech Based Interactive Systems*, ed. K. Jokinen and F. Chen, Springer-Verlag, (forthcoming in July).
2. 2005. "Speech Technology – Output: Prosody in TTS", *Encyclopedia of Language and Linguistics*, 2nd edition.

3. 2003. "Pragmatics and Intonation," *Handbook of Pragmatics*, ed. L. Horn and G. Ward, Blackwell.
4. To appear. J. Hirschberg, "The Role of Intonation in Spoken Dialogue Systems", in *Automated Spoken Dialogue Systems*, ed. S. Luperfoy. MIT Press.
5. 2001. J. Hirschberg, "Training Accent and Phrasing Assignment on Large Corpora for Text-to-Speech," in *Data-Driven Techniques in Speech Synthesis*, ed. R. Dampier. Kluwer.
6. 1999. M. Swerts and J. Hirschberg, editors, *Language and Speech: Special Double Issue on Prosody and Conversation*, 41(3-4).
7. 1996. J. van Santen, R. W. Sproat, J. Olive, and J. Hirschberg (Eds.). *Progress in speech synthesis*. Springer Verlag, New York.
8. 1990. J. Pierrehumbert and J. Hirschberg, "The Meaning of Intonational Contours in the Interpretation of Discourse," in *Intentions and Plans in Communication and Discourse*, P. Cohen, J. Morgan, and M. Pollack, eds., MIT Press, pp. 271–311.

#### **Invited Talks, Panels, Workshops, and Tutorials**

2017. Prosodic Entrainment Across Cultures, Second Intonation Workshop, University of Toronto, 17 February.
2016. Identifying Sentiment and Emotion in Low Resource Languages, 4th International Conference on Statistical Language and Speech Processing, 11 October, Pilsen, Czechia.
2016. "Deceptive Speech Across Gender and Culture," Distinguished Speaker Series, University of Buffalo, 31 March.
2015. "Text-to-Speech for Low-Resource Languages," University of Mons, Belgium, 14 December.
2015. Academic Leadership: The three s\*\*\* (Screw-ups, Surprises, and Successes). Panel at Grace Hopper Celebration of Women in Computing, 14 October.
2015. "Preparing for Promotion: The Tenure Process," Grace Hopper Celebration of Women in Computing, 14 October.
2015. "Gender, Ethnicity, and Personality Factors in Deceptive Speech Detection," NYU-CSE, 2 October.
2015. "Entrainment in Multiple Prosodic Dimensions, Gender, and Social Variables," University of Lisbon, 2 July.
2015. "Clarification in Spoken Dialogue Systems," Engineering Excellent Program, Nuance Communications, 23 June.
2015. "Appropriate and Inappropriate Clarification Questions in Spoken Dialogue Systems," MIT CSAIL Human Language Technology (HLT) Distinguished Lecture Series, 25 February.
2014. "Next generation SLT scientists and engineers," Panel at SLT 2014, 9 December.
2014. "NYC ASCENT: Advancing Computer Science Careers through Enhanced Networking and Training: Implementing Best Practices in the Computer Science and Engineering Postdoc in New York City," Panel: "Refining the Computer Science Postdoc Experience," Snowbird, Utah, 22 July.
2014. "Dealing with Stakeholders," Panel, Snowbird, Utah, 20 July.
2014. "Multiple Dimensions of Entrainment in Dialogue," International Symposium on Prosody to Commemorate Gsta Bruce, Lund, 2 June.

2014. "Special Session on Affective Social Speech Signals," Panel at Speech Prosody 2014, 20 May.
2014. Prosodic and Social Dimensions of Entrainment, Brain & Language Research Institute LPL - CNRS & Universit d'Aix-Marseille, 18 March.
2014. Planning Your Research Career, CRA Career Mentoring Workshop, Washington D.C., 24 February.
2013. Clarification in Spoken Dialogue Systems: Modeling User Behaviors, Errare Workshop: Errors by Humans and Machines in multimedia, multimodal and multilingual data processing (keynote), CNRS, France, 21 November.
2013. NY Women in STEM panel, 11 November.
2013. Clarification in Spoken Dialogue Systems: Modeling User Behaviors, University of Rochester CS Department Colloquium, 4 November.
2013. Preparing for Promotion, Grace Hopper Celebration of Women in Computer Science, 2 October.
2013. Clarification in Spoken Dialogue, University of Lisbon, 17 May.
2013. Clarifying Misrecognitions in Spoken Dialogue Systems, Symposium in Honor of David House, KTH, 7 May.
2013. "Preparing Your PhD Proposal," Invited Speaker, CRA-W Grad Cohort Workshop, 5-6 April. 2013. Panel on Incremental TTS, Workshop on Simultaneous Interpretation and Multimodal Translation, AT&T Labs, 25 March.
2013. "From 'If people aren't happy here, they should find some place where they are happy' to 'What problem? We have 4 women in our department already': Industry to Academe, 20 March.
2013. "Identifying Deception and Charisma Computationally," Hong Kong University of Science and Technology Institute for Advanced Study Distinguished Speaker Series, 19 March.
2013. "What Siri Can't Do: Creating Clarification Questions for Spoken Dialogue Systems," University of Illinois Chicago Distinguished Speaker Series, 9 March.
2013. ITT Madras Tutorial speaker at Winter School 2013 on Statistical Parametric Speech Synthesis, 22-25 February.
2012. Panel on "The Future of SLT Academic Research," IEEE Workshop on Spoken Language Technology, Miami, 3 December.
2012. "Computational Linguistics Analysis of Charismatic Speech: Cross-Cultural and Political Perspectives," Workshop on Meaning: Language and Socio-cultural Processes, Columbia University, 29 October.
2012. "Did you feed the animals?" , Invited speaker at JoshiFest: Symposium to Honor Aravind Joshi, University of Pennsylvania, 22 October.
2012. "When do we say Mhmm?: Backchannel Feedback in Dialogue, " Invited speaker at Interdisciplinary Workshop on Feedback Behaviors in Dialog, Skamania Lodge, 7 September.
2012. "Prosodic Dimensions of Entrainment in Dialogue," Bielefeld University (Invited speaker, Workshop on Alignment in Communication, 19 July.
2012. "Prosodic Dimensions of Entrainment in Dialogue," Toyota Technology Institute, Keynote talk at Illinois Speech Day, 7 May.
2012. "Entrainment in Prosody, Turn-taking and Social Behaviors," University of Toronto, 13 January.

2011. "Prosodic Dimensions of Entrainment in Dialogue," *Experimental and Theoretical Approaches to Prosody 2*, Montreal, 23 September.
2011. "Speaking More Like You: Entrainment in Conversational Speech," *ISCA Medal for Scientific Achievement*, Florence, 28 August.
2011. "Identifying Deception from Speech," *Columbia Linguistics Society*, 25 February.
2011. "Entrainment to the Other in Conversational Speech," *Center for Language and Speech Processing*, Johns Hopkins University, 22 February.
2010. "Deception Detection from Speech: Automatic Methods vs. Human Judges," *Computer Science Seminar Series*, University of Texas at Dallas, 3 December.
2010. "WordsEye: Creating 3D Scenes from Natural Language Text," *LTI Colloquium*, Carnegie Mellon University, 12 November.
2010. "Prosody and Computational Linguistics," *Radcliffe Exploratory Seminar on Prosody and Dialog in Language and Music*, Radcliffe Institute for Advanced Study, 6 November.
2010. "How Do We Know When to Speak? Acoustic, Prosodic, and Lexico-Syntactic Correlates of Turn Management in Spoken Dialogue Systems," *TABU*, 4 June. 2010. "Knowing When to Speak: Turning Management in Spoken Dialogue Systems," *Columbia Linguistics Society*, 26 March.
2010. "Deceptive Speech: Automatic Detection Methods vs. Human Judges," *University of Pennsylvania, IRCS*, 5 February.
2009. "Identifying Deception from Speech," *User Interface Technologies Seminar Series*, Watson Research Center, IBM Yorktown Heights, 17 November .
2009. "Modeling Turn-Taking Behavior in Spoken Dialogue Systems," *Future Knowledge Speakers Series*, Center for Digital Humanities, University of South Carolina, 5 November.
2009. "Detecting Deception from Speech: Humans vs. Machines," *Linguistics Program*, University of South Carolina, 6 November.
2009. "Automatic Recognition of Emotion in Speech," *AVIOS NY/NJ/CT Local Chapter Meeting*, 17 September.
2009. "Recognizing Speaker State: Emotion, Charisma, Deception," *SpeechTEK 2009*, New York, August 24.
2009. "Turn-Taking vs. Backchanneling in Spoken Dialogue Systems," *Invited talk, DiaHolmia 2009*, Stockholm, 24 June.
2009. "Recognizing and Conveying Emotion in Speech," *Guest Professor Lecture*, KTH, 12 May.
2009. "Taking Turns and then Giving Them Up: Turn-taking Behavior in the Columbia Games Corpus," *KTH CSC/TMH Seminar Series*, 20 March.
2009. "Acoustic, Prosodic, and Lexical Cues to Deception in Speech," *The Chinese University of Hong Kong*, 11 March.
2009. "Entrainment to Others in Conversational Speech," *invited talk, Tilburg University, TiCC Colloquium*, 14 January.
2008. "Adapting to the Other: Dimensions of Entrainment in Conversational Speech," *invited talk, Swedish Language Technology Conference (SLTC-08)*, KTH, 21 November.



2008. "Deception Detection from Speech: People vs. Machines," Gothenburg University, Institutionen för lingvistik seminar series, 11 November.
2008. "The Meaning of Intonational Contours: Proposals and Experiments," Lund University, Guest Lecture in "General Linguistics: Pragmatics – Context-dependent Meaning," 10 October.
2008. "Detecting Deception in Speech: Human vs. Machine Performance," KTH CSC/TMH Seminar Series, 12 September.
2008. "A Question of Questions: Prosodic Cues to Question Form and Function," Constraints in Discourse Workshop, 1 August.
2008. "Speaking More Like You: Lexical, Acoustic/Prosodic, and Discourse Entrainment in Spoken Dialogue Systems," SIGdial 2008, 20 June, Columbus.
2008. "Spoken Cues to Deception," LREC 2008, Marrakech, 29 May.
2008. "Spoken Cues to Deception," MIT Artificial Intelligence Seminar, Cambridge, 8 April.
2007. "Context and Prosody in the Interpretation of Cue Phrases in Dialogue," KTH, 22 November.
2007. "Charisma in English and Arabic Political Speech," Distinguished Lecture Series, Stony Brook University, 9 November.
2007. "Detecting Deceptive Speech," Johns Hopkins University Center for Language and Speech Processing Spring Seminar Series, 2 October.
2007. "Deception in Speech," Tilburg University, 24 August.
2007. "Perceptions of Charisma from Spoken Language in Standard American English and Palestinian Arabic," SRI Star Lab Colloquium, 26 July.
2007. "The Form and Function of Cue Phrases in Spoken Dialogue," Workshop on Conversational Games and Strategic Inference, LSA Summer Institute, Stanford, July 11.
2007. "Spoken Dialogue Systems," LSA Summer Institute, Stanford, 6-27 July.
2007. "Credibility Assessment Research Summit (CARS)," sponsored by Counterintelligence Field Activity (CIFA) and the Technical Support Working Group (TSWG), May 22-24, organized by Frank Horvath, Defense Academy for Credibility Assessment (DACA).
2007. "Recognizing and Conveying Speaker State," Lockheed Martin, March 26.
2007. "Detecting Deception from Speech: Acoustic/Prosodic and Lexical Cues," Distinguished Seminar Series 2006-07, Computer Science and Engineering, Lehigh University, March 1.
2006. "Charisma Across Cultures: Acoustic/Prosodic and Lexico-Syntactic Correlates of Charismatic Speech," Collaborative Research Center Plenary Lecture, Stuttgart, November 24.
2006. "Recognizing and Conveying Speaker State Prosodically," Prosody 2006, May 2.
2005. "Recognizing a Speaker's Emotional State," ETS, October 7.
2005. "Charismatic Speech: Acoustic, Prosodic and Lexical Cues in English," Research Challenges in Speech Technology," KTH, Stockholm, October 13.
2005. "From 'If people aren't happy here, they should find some place where they **are** happy' to 'What problem? We have 6 women in our department already': Industry to Academe," WOWINC: Work Opportunities for Women in Computing, NYU, September 23.

2005. Invited participant, "Behavioral Aspects of Security Workshop", NSF, June 26-28, Mark Frank, SUNY Buffalo, organizer.
2005. "Recognizing a Speaker's Emotional State," SUNY Buffalo, Center for Cognitive Science, April 6, 2005.
2005. "Recognizing 'Emotional' Speech," Karlsruhe University, February 14.
2004. "Experiments in Recognizing Emotional Speech," CUNY CS Department Colloquium, October 21.
2004. "Intonational Overload: Uses of the H\* !H\* L- L% Contour in Read and Spontaneous Speech," *Laboratory Phonology 9*, June 26, 2004.
2004. "Distinguishing Deceptive from Non-Deceptive Speech: Acoustic, Prosodic, and Lexical Cues," Workshop on Detecting Deception in Language and Cultural Context, University of Maryland Center for Advanced Study of Language, June 17.
2003. Symposium on Intonation and Processing ICPHS 2003, Barcelona.
2003. "Acoustic Cues to Emotional Speech," PROPOR 2003, Faro, Portugal, 26-7 June.
2003. "Experiments in Emotional Speech," ISCA & IEEE Workshop on Spontaneous Speech Recognition, Tokyo, 15 April.
2003. "Intonational Variation in Spoken Dialogue Systems," Wilem Mathesius Courses, Charles University, Prague, March 18-21.
2003. "Browsing and Searching Audio Data: SCANMail," University of Pittsburgh, 24 January.
2002. "Seeing What is Said: New Methods for Extracting Information from Speech," Computer Science Seminar, Institute for Applied Mathematics and Systems, Universidad Autonoma de Mexico, December 6.
2002. "Navigating Audio Like Text: Browsing and Searching Voicemail Messages in SCANMail," Fall 2002 distinguished Lecture Series, Department of Computer Science & Institute for Advanced Computer Studies, University of Maryland, 2 December.
2002. "SCANMail: Audio Browsing and Retrieval for Voicemail," IBM Multimedia Seminar, June 19.
2002. "The Pragmatics of Intonational Meaning," Speech Prosody 2002, Aix-en-Provence, 12 April.
2001. "Audio Browsing and Search in the Voicemail Domain," NLPRS-2001, Tokyo.
2001. "Meanings of Intonational Variation", Stonybrook University, November 5.
2001. "Intonational Variation in Spoken Dialogue Systems: Generation and Understanding," Wilem Mathesius Courses, Charles University, Prague, March.
2000. "Intonational Variation in Spoken Dialogue Systems: Generation and Understanding", 'Bullet Course' presented at the Kungl Tekniska Högskolan (KTH), Stockholm, September 12-14.
1999. "Communication and Prosody: Functional Aspects of Prosody," ESCA Workshop on Dialogue and Prosody, Eindhoven, September.
1999. "When Good Recognizers Go Bad: Identifying Prosodic Cues to Recognition Errors," Johns Hopkins Center for Language and Speech Processing Workshop Guest Lecture Series, July.
1999. "Intonation and Discourse Structure: Analysis, Generation, and Understanding", Wilem Mathesius Courses, Charles University, Prague, March.

1998. "Prosody and Discourse Structure," Third Discourse Tagging Workshop, Chiba University, May 18.
1997. "Discourse and Dialogue Prosody: Theories of Intonational Meaning Above the Utterance Level," ESCA Tutorial and Research Workshop on Intonation: Theory, Models and Applications, Athens, September.
1996. "Intonation and Discourse Structure: The Boston Directions Corpus", Ohio State University, November 22.
1996. "To Speak....or not to Speak: The Role of Spoken Language in Multimodal Interfaces," KONVENS 96, Bielefeld, October.
1996. "Prosody in Spoken Dialogue," Course given at the Fourth European Summer School on Language and Speech Communication: Dialogue Systems, Technical University of Budapest, July.
1996. "Intonational Variation and Intonational Meaning'," Wilem Mathesius Courses, Charles University, Prague, April.
1996. "Intonation and Discourse Structure: The Pragmatics of Prosodic Variation," Interfaces of Grammar: Theoretical and Computational Aspects, Universitaet Stuttgart/Universitaet Tuebingen, October.
1996. "Learning from Human Performance: Corpus-Based Intonational Assignment in Text-to-Speech", Microsoft Research, March 11.
1995. "Prosodic and Other Acoustic Cues to Speaking Style in Spontaneous and Read Speech," Panel on Speaking Styles, XIIIth International Congress of Phonetic Sciences, Stockholm, August.
1995. Discourse: Linguistic, Computational, and Philosophical Perspectives, Center for Philosophy of Science, University of Pittsburgh, March 24-26 (invited participant).
1995. "Discourse Prosody", Tutorial Workshop on Discourse and Dialogue Prosody, Universitaet Stuttgart, February 13.
1994. "Intonation and Discourse Structure: New Evidence from a Task-Oriented Domain," Workshop on Prosody, Third International Conference on Spoken Language Processing, Yokohama, September.
1993. "Prosodic Variation for Text-to-Speech Synthesis," Special Session on Text-to-Speech, Acoustical Society of America, October 7.
1993. "Meaning beyond Words: Intonational Frontiers in Natural Language Processing," (plenary talk), IJCAI-93, Chambery, France, September 1.
1993. "Studies of Intonation and Discourse," (tutorial) ESCA Workshop on Prosody, Lund University, September.
1993. "Pragmatics and Intonation," (course) LSA Summer Institute, Ohio State University, June/July.
1993. ToBI Workshop on Prosodically Transcribed Data and Transcription Tools for Linguistics Research, Columbus OH, June (invited participant).
1993. "Linguistic Cues to Discourse Segmentation", NATO Advanced Research Workshop on Burning Issues in Discourse, Maratea, Italy, April.
1993. "Structuring Discourse Intonationally", CMU, March 30.
1993. "Intonation and Discourse Structure", University of Rochester, March 17.
1992. "Modeling of Contextual Information for Text-to-Speech Systems," Workshop on Prosody and Discourse, Second International Conference on Spoken Language Processing, Banff, October 13.

1992. "Intonation in Natural Language Understanding and Generation," (tutorial) Second Pacific Rim International Conference on AI, Seoul, September.
1992. Second Prosodic Transcription Workshop, NYNEX, May (invited participant).
1992. "Intonational Correlates of Discourse Structure," University of Arizona, Tucson, April 17.
1992. "Predicting Intonational Boundaries in Spontaneous Speech," Hebrew University, Jerusalem, March 10.
1992. "Intonational Correlates of Local and Global Discourse Structure," NY Area Seminar on Computational Linguistics, CUNY, January.
1991. "Predicting Intonational Boundaries from Text," CUNY, December.
1991. "Computational Approaches to Intonation and Discourse," (tutorial) The Third European Summer School in Language, Logic and Information, Universitaet des Saarlandes, Saarbruecken, August 12-23.
1991. MIT Prosodic Transcription Workshop, August (invited participant).
1991. NSF Conference on the Grammatical Foundations of Prosody and Discourse, Santa Cruz, June/July.
1991. "Intonation in Spoken Language Systems," (tutorial) 29th Annual Meeting of the Association for Computational Linguistics, June 18.
1991. (invited participant) University of Illinois Workshop on Computational Linguistics and Linguistic Theory, Champagne-Urbana, June 13-15.
1991. "Predicting Intonational Boundaries Automatically from Text," Bell Communications Research, Morristown NJ, April 17.
1991. "Intonational Boundaries and Syntactic Structure", Workshop on Current Issues in Natural Language Processing, Center for Cognitive Science, University of Texas, Austin, February 15.
1990. "Scalar Implicature," Princeton Cognitive Science Group, 22 May.
1990. "Assigning Pitch Accent in Synthetic Speech," MIT, May 2.
1989. "Correlating Pitch Range Variation and Topic Structure in Discourse," AAAI Symposium on Spoken Language Systems, Stanford, March 30.
1989. "Interpreting Cue Phrases Intonationally," CMU/University of Pittsburgh Computational Linguistics Seminar, January (with D. Litman).
1988. "Intonational Meaning and Speech Synthesis," Columbia University Cognitive Seminar, April 25.
1988. "Controlling Intonational Meaning in Synthetic Speech: Varying Stress, Pitch, and Timing to Convey Discourse Information," Columbia University Department of Computer Science AI Day, April 15.
1988. "Generating Appropriate Intonational Features in Synthetic Speech," Bell Communications Research CHI Seminar, March 31.
1988. "Intonational Features and Discourse Interpretation", US/Japan Workshop on Natural-Language Processing and Computer Software (NSF), January.
1987. "Structuring Discourse Intonationally," AI Colloquium Series, New York University, October.
1987. "The Meaning of Intonational Contours in the Interpretation of Discourse" (with J. Pierrehumbert), Symposium on Intentions and Plans in Communication and Discourse, Monterrey, March.

1987. Panel on Current Issues in Discourse and Pragmatics, TINLAP-87, January.
1987. "Intonational Meaning in the Interpretation of Discourse", ATR Workshop on Natural Language Dialogue Interpretation, Osaka, November.
1986. "Intonation and Discourse," AI Seminar, Bolt, Baranek, and Newman, Inc., July (with J. Pierrehumbert).
1986. "Discourse and intonational meaning," University of Delaware, March.
1986. "Intonational structuring of discourse," (with J. Pierrehumbert), Sloan Seminar in Cognitive Science, University of Pennsylvania, February.
1984. "The Pragmatics of Fall-Rise Intonation," (with G. Ward) Sloan Seminar in Cognitive Science, University of Pennsylvania, October.

#### **Conference Presentations**

2008. "The Effect of Semantic Modality on the Assessment of Speaker Certainty," LSA Annual Meeting, Chicago, January (with G. Ward, Agus Gravano, Elisa Sneed, Stefan Benus).
1992. "A Pragmatic Account of the H\* H H% Contour in English," Linguistic Society of America Annual Meeting, January (with G. Ward).
1988. "'NP does too' vs. 'so does NP'," Linguistic Society of America Annual Meeting, December (with G. Ward).
1988. "On the Role of Accent in the Interpretation of Bound Anaphora," Midwestern Modern Language Association, November (with G. Ward).
1987. "Accent and Bound Anaphora," Linguistic Society of America Annual Meeting, December (with G. Ward).
1987. "Pragmatic Wars and Tautological Battles," Linguistic Society of America Annual Meeting, December (with G. Ward).
1987. "On the Phonetic Determinants of Incredulity and Uncertainty" International Pragmatics Conference, Antwerp, August (with G. Ward).
1986. "Reconciling incredulity with uncertainty: a unified account of the L\*+H L L% intonational contour," Linguistic Society of America Annual Meeting, December (with G. Ward).