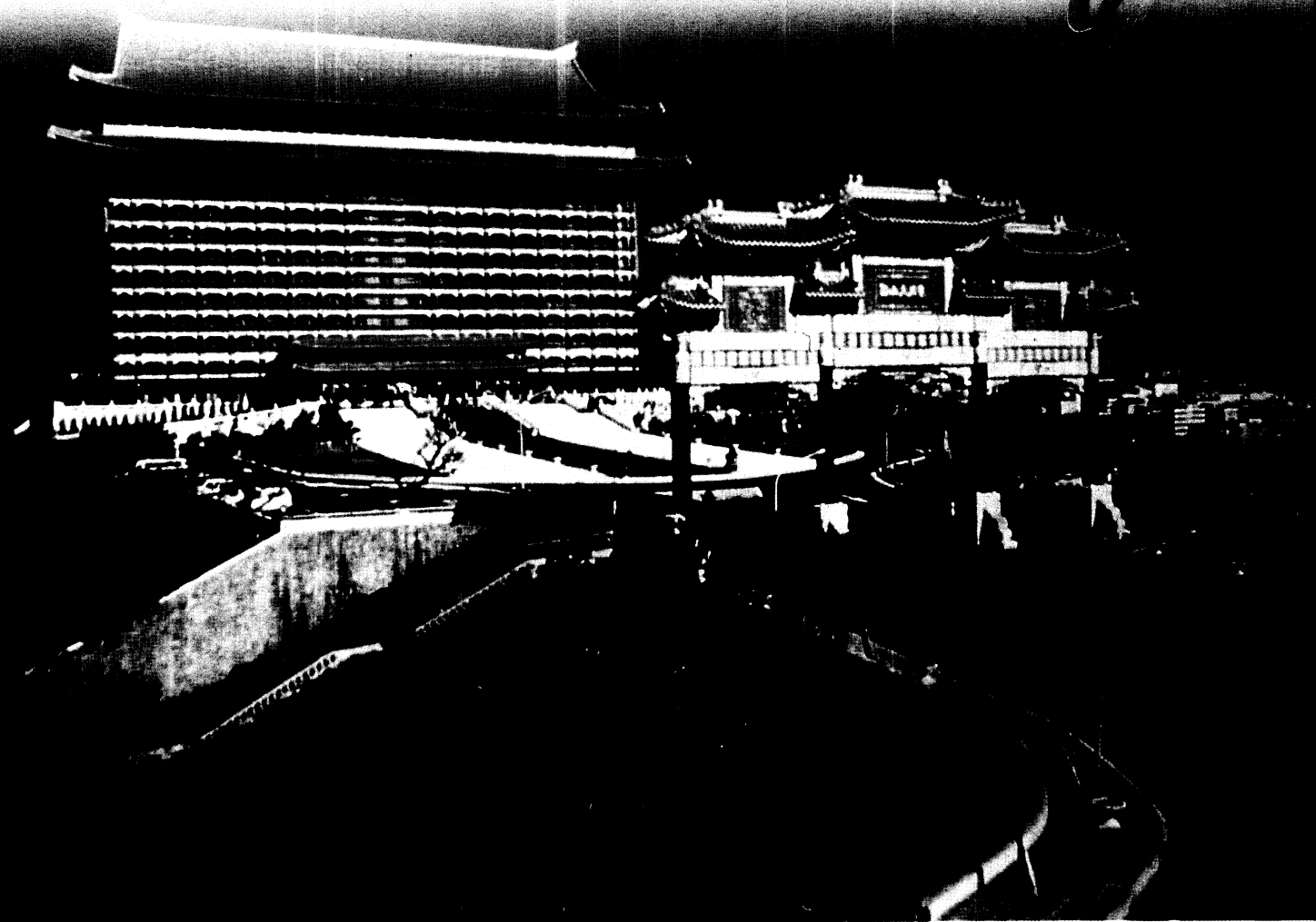




The 13th Pacific Asia Conference
on Language, Information and Computation

Proceedings



The Grand Hotel, Taipei, Taiwan, R. O. C.

The 13th Pacific Asia Conference on Language, Information and Computation

Proceedings

February 10-11, 1999, Taiwan, R. O. C.

Edited by

Jhing-Fa Wang and Chung-Hsien Wu

The Grand Hotel, Taipei, Taiwan, R.O.C.

Organized by : National Cheng Kung University/ Department of Electrical
Engineering/ Department of Computer Science and Information
Engineering/ Computer Center

The Association for Computational Linguistics and Chinese
Language Processing

Tainan Information Software Association

Sponsored by : Ministry of Education

Engineering Technology Promotion Center, National Science
Council

Department of International Programs, National Science Council
Research Center for Computer System Technology, National
Cheng Kung University

©1999 National Cheng Kung University, Taiwan, R.O.C.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publisher.

Published by National Cheng Kung University, Taiwan, R. O. C.

Contents

Foreword	IV
Organizing Members	VI
List of Reviewers	VII
Keynote Speech:	
Linguistics in an Age of Engineering <i>Christopher Manning</i>	1
Session 1: Semantics	
Extensibility in Japanese Noun Modification <i>Minako NAKAYASU</i>	3
On the Meaning of Shenme ‘what’ in Chinese Bare Conditionals and its Implications for Carlson’s Semantics of Bare Plurals <i>Jo-wang Lin</i>	15
Lexical Information and Beyond: Constructional Inferences in Semantic Representation <i>Mei-Chun Liu, Chu-Ren Huang and Ching-Yi Lee</i>	27
Alternation Across Semantic Fields: A Study of Mandarin Verbs of Emotion <i>Li-li Chang, Keh-jiann Chen and Chu-Ren Huang</i>	39
Session 2: Semantics & Pragmatics	
English-style and Chinese-style Topic: A Uniform Semantic Analysis <i>Hui Xu</i>	51
Metaphorical Extension and Lexical Meaning <i>Lily-I-wen Su, Laura Hsiu-min Liu</i>	63
Lexical Information and Pragmatic Information: Reflexivity of an Event and Resultative Constructions in Japanese <i>Chiharu Uda Kikuta</i>	75
The Dative in Modern Icelandic: Exploration of the Semantic Genotype of the Dative in Natural Languages <i>Mariko Saiki and Yasutaka Kaneko</i>	87
Mapping Image-schemas and Translating Metaphors <i>Kathleen Ahrens and Alicia L. T. Say</i>	95
Utterance Units and Exchanges in Spontaneous Japanese Dialogue <i>Masahito KAWAMORI and Akira SHIMAZU</i>	103
Coherence Via Collaboration: A Study of Chinese Causal Connectives <i>Hsin-yun Hsieh</i>	111

Session 3: Syntax

Reconstruction, Beck Effects and Wh-phrases in Situ <i>Keiko Yoshida</i>	119
A Nonconfigurational Approach to the Weak Crossover Effect in Korean <i>Chan Chung</i>	131
Relative Clause Constructions with Possessive Specifier Gaps: A Constraint-based Approach <i>Byung-Soo Park</i>	143
Japanese Categorial Grammar Based on Term and Sentence <i>Hisashi Komatsu</i>	153
Free Word Order in a Constraint-based Implementation of Dependency Grammar <i>Tom B. Y. Lai and Huang Changning</i>	161
What is the Lexical Form of 'BEI'? <i>Shun Ha Sylvia Wong and Peter Hancox</i>	169

Keynote Speech:

Spoken Language Systems - Technical Challenges for Speech and Natural Language Processing <i>Chin-Hui Lee</i>	177
--	-----

Session 4: Computer Applications & Phonology

Implementation and Evaluation of Scalable Approaches for Automatic Chinese Text Categorization <i>Jyh-Jong Tsay, Jing-Doo Wang, Chun-Fu Pai and Ming-Kuen Tsay</i>	179
Mandarin Loanword Phonology and Optimality Theory: Evidence from Transliterated American State Names and Typhoon Names <i>Hugo Ling-yu Guo</i>	191
Consonantal Weakening and Licensing in Optimality Theory <i>Seung-Hoon Shin</i>	203
The Lexicon in FCIDB: A Friendly Chinese Interface for DBMS <i>Da-Jinn Wang, Tsong-Yi Chen and Martha W. Evens</i>	215
Simple Syllable Structure and English Pre-nucleus Glides <i>Hyo-Young Kim</i>	223

Session 5: Natural Language Processing(1)

Speech Inverse Filtering by Simulated Annealing Algorithm <i>Chang-Shiann Wu and Yu-Fu Hsieh</i>	231
A Classification Tree Approach to Automatic Segmentation of Japanese Compound Sentences <i>Yujie Zhang and Kazuhiko Ozeki</i>	241
Determining the Antecedent of Nonu Phrase Containing the Determiner <i>KONO</i> or <i>SONO</i> in Japanese <i>Toshimasa Koga, Haodong Wu, Teiji Furugori</i>	251
Generating Supplementary Index Records Using Morphological Analysis for High-speed Partial Matching <i>Masahiro Oku, Ryouyuke Noda and Ryoji Nagai</i>	261
Extraction of Simple Sentences from Mixed Sentences for Building Korean Case Frames <i>Dan-Hee Yang, Ik-Hwan Lee, Mansuk Song</i>	269
Sub-Sentential Alignment Method by Analogy <i>Tantely Andriamanankasina, Kenji Araki and Koji Tochinai</i>	277
A Study of Performance Evaluation for GA-ILMT Using Travel English <i>Hiroshi Echizen-ya, Kenji Araki, Yoshio Momouchi and Koji Tochinai</i>	285

Session 6: Natural Language Processing(2)

Anaphora Resolution as Lexical Cohesion Identification <i>Samuel W.K. Chan, Benjamin K. T'sou</i>	293
A Large-vocabulary Bilingual Speech Recognition System for Chinese and Japanese Language <i>Jyh-Shing Shyuu and Jhing-Fa Wang</i>	305
The Syntactic Processing of Particles in Japanese Spoken Language <i>Melanie Siegel</i>	313
Automatic Selection of Synthesis Units from a Large Speech Database <i>Jau-Hung Chen and Chung-Hsien Wu</i>	321
Pattern-based Machine Translation for English-Thai <i>Kaewchai Chancharoen, Nisanad Tannin and Booncharoen Sirinaovakul</i>	329

Author Index

Foreword

On behalf of the organizing and program committee, we would like to welcome all of you who are taking part in this conference and contributing your efforts to the advancement of language, information and computation.

This year, The 13th Pacific Asia Conference on Language, Information and Computation (PACLIC13) is hosted by National Cheng Kung University, Tainan, Taiwan. It is to be held from February 10-11, 1999 at The Grand Hotel, Taipei, Taiwan, R.O.C. The Grand Hotel is known as one of the ten great hotels in the world. It is a major landmark, commanding a panoramic view of the city of Taipei. The Grand Hotel is a hallmark of Chinese culture and a showpiece for Chinese hospitality. It is the only true Chinese palace-styled hotel in the world. This is why we chose The Grand Hotel as the conference venue. We hope that all the participants will enjoy the experience of the Chinese culture and architecture and have a fruitful time while staying in Taipei for PACLIC13.

The Pacific Asia Conference on Language, Information and Computation is an annual gathering of scholars with a wide range of interests in theoretical and computational linguistics. For PACLIC 13, the topics of the papers comprise nearly all fields of linguistic studies including semantics, pragmatics, syntax, phonology, natural language processing, and computer applications. This year 48 full papers were submitted to the Program Committee of PACLIC 13 from all over the world. Basing our acceptance on the traditional “family-atmosphere” and to encourage more and more people to contribute the technical fruits of their efforts, we decided to accept 36 papers, 19 long- and 17- short papers.

The majority of participants come from Pacific Asia region: 11 from Japan, 4 from Korea, 2 from USA, 2 from Hong Kong, 1 from Thailand, and 11 from Taiwan. Five paper presenters come from non-Pacific Asian areas including UK, Germany, and India.

It is our great honor to be able to invite two key researchers to deliver speeches in their respective field of expertise. Prof. Christopher Manning from University of Sydney, Australia, will speak on “Linguistics in an Age of Engineering.” Dr. Chin-Hui Lee, who is a Distinguished Member of Technical Staff and Head of the Dialogue Systems Research

Department, Bell Laboratories, will deliver his keynote speech on “ Spoken Language Systems-Technical Challenges for Speech and Natural Language Processing.”

We wish to take this opportunity to express our gratitude to the Ministry of Education, R.O.C., National Science Council, R.O.C., the research Center for Computer System Technology, National Cheng Kung University, and The Association for Computational Linguistics and Chinese Language Processing for their financial and logistic support. We would like to give thanks to the PACLIC13 co-chairs and technical program committee members, especially Professor Chu-Ren Huang for his enthusiastic assistance. We also wish to thank all our learned colleagues who submitted papers and who have come to Taipei to attend the conference. Finally, we extend our gratitude to all those who helped make this conference a success.

Jhing-Fa Wang
Conference Chair
Chung-Hsien Wu
Program Chair

Organizing Members

Honorable General Chair:

Cheng-I Weng, President of National Cheng Kung University, Taiwan, R.O.C.

Conference Chairs

Chairman:

Jhing-Fa Wang, National Cheng Kung University, Taiwan, R.O.C.

Co-chairmen

Kim Teng Lua, National University of Singapore

Benjamin K. T'sou, City University of Hong Kong

Young-Hern Lee, Chosun Univ., President of KSLI, Korea

Akira Ikeya, Tokyo Gakuen University, Japan

Lin-Shan Lee, Academia Sinica, Taiwan, R.O.C.

Program Chairs

Chairman:

Chung-Hsien Wu, National Cheng Kung University, Taiwan, R.O.C.

Co-chairman:

Jen-Tzung Chien, National Cheng Kung University, Taiwan, R.O.C.

Program Committee

Ozeki Kazuhiko, The University of Electro-Communications, Japan

Yuji Matsumoto, Nara Institute of Science and Technology, Japan

Masahito Kawamori, NTT Basic Research Laboratories, Japan

Makoto Kanazawa, Chiba University, Japan

Igarashi Yoshiyuki, Tokyo International Univ., Japan

Suk-Jin Chang, Seoul National Univ., Korea

Jaewoong Choe, Korea University, Korea

Chungmin Lee, Korea

Ik-Hwan Lee, Yonsei University, Korea

Byung-Soo Park, Kyung Hee University, Korea

Bong Yeung Tom LAI, City University of Hong Kong

Samuel W. K. Chan, City University of Hong Kong

Jin Guo, Motorola Lexicus Division, Singapore

Jie Xu, Singapore

Hai Zhou Li, Kent Ridge Digital Labs, Singapore

One-Soon Her, National Chengchi University, Taiwan, R.O.C.

Zhao-Ming Gao, National Chi Nan University, Taiwan, R.O.C.

Hsue-Hueh Shih, National Sun Yat-sen University, Taiwan, R.O.C.

Charles C. Lee, National Chiao Tung University, Taiwan, R.O.C.

Chu-Ren Huang, Academia Sinica, Taiwan, R.O.C.

Hsiao-Chuan Wang, National Tsing Hua University, Taiwan, R.O.C.

Chao-Huang Chang, Industrial Technology Research Institute, Taiwan, R.O.C.

Sin-Horng Chen, National Chiao Tung University, Taiwan, R.O.C.

Yau-Tarng Juang, National Central University, Taiwan, R.O.C.

Bor-Shenn Jeng, Chunghwa Telecom Labs, Taiwan, R.O.C.

June-Jei Kuo, Matsushita Electric Institute of Technology (Taipei) Co., Ltd., Taiwan, R.O.C.

List of Reviewers

- Benjamin K. T'sou, *City University of Hong Kong*
- Byung-Soo Park, *Kyung Hee University, Korea*
- Bor-Shenn Jeng, *Chunghwa Telecom Labs, Taiwan, R.O.C.*
- Chao-Huang Chang, *Industrial Technology Research Institute, Taiwan, R.O.C.*
- Charles C. Lee, *National Chiao Tung University, Taiwan, R.O.C.*
- Chiu-Yu Tseng, *Academia Sinica, Taiwan, R.O.C.*
- Chung-Hsien Wu, *National Cheng Kung University, Taiwan, R.O.C.*
- Chu-Ren Huang, *Academia Sinica, Taiwan, R.O.C.*
- Hsiao-Chuan Wang, *National Tsing Hua University, Taiwan, R.O.C.*
- Hsin-Hsi Chen, *National Taiwan University, Taiwan, R.O.C.*
- Hsue-Hueh Shih, *National Sun Yat-sen University, Taiwan, R.O.C.*
- Jen-Tzung Chien, *National Cheng Kung University, Taiwan, R.O.C.*
- Jhing-Fa Wang, *National Cheng Kung University, Taiwan, R.O.C.*
- June-Jei Kuo, *Matsushita Electric Institute of Technology (Taipei) Co., Ltd., Taiwan, R.O.C.*
- Jyun-Sheng Chang, *National Tsing Hua University, Taiwan, R.O.C.*
- Keh-Jiann Chen, *Academia Sinica, Taiwan, R.O.C.*
- Lee-Feng Chien, *Academia Sinica, Taiwan, R.O.C.*
- One-Soon Her, *National Chengchi University, Taiwan, R.O.C.*
- Sin-Horng Chen, *National Chiao Tung University, Taiwan, R.O.C.*
- Von-Wen Soo, *National Tsing Hua University, Taiwan, R.O.C.*
- Yau-Tarng Juang, *National Central University, Taiwan, R.O.C.*
- Zhao-Ming Gao, *National Chi Nan University, Taiwan, R.O.C.*