

Preface

The international gesture workshops are interdisciplinary events for those researching gesture-based communication and wishing to meet and exchange ideas across disciplines. A focus of these events is a shared interest in using gesture and sign language in human-computer interaction. Since 1996 international gesture workshops have been held roughly every second year, with fully reviewed post-proceedings typically published by Springer-Verlag.

Held at City University, London, April 18 - 20, 2001, and attended by more than 70 participants from all over the world, Gesture Workshop 2001 was the fourth in a highly successful workshop series. It was organized in association with the British HCI Group, a specialist group of the British Computer Society. As its predecessors in 1999 (Gif-sur-Yvette), 1997 (Bielefeld), and 1996 (York), GW 2001 aimed to encourage multidisciplinary collaboration by providing a platform for participants to share, discuss, and criticize both research in progress and more complete research with a multidisciplinary audience.

Consistent with the steady growth of research activity in this area, a large number of high-quality submissions were received, which made GW 2001 an exciting and important event for anyone interested in gesture-related and technological research relevant to human-computer interaction. In line with the practice of previous gesture workshops, presenters were invited to submit their papers for publication in a subsequent peer-reviewed publication of high quality. The present book is the outcome of this effort. Representing the research work from 10 countries, it contains a selection of 25 articles, and 8 short papers reflecting work in progress.

An invited contribution by Annelies Braffort (LIMSI/CNRS France) is concerned with ethical aspects of research on computer science and sign language and posits that linguists specialized in sign language as well as deaf people should be involved when developing tools that are meant to be helpful to the deaf. Six sections of reviewed papers pertain to the following themes:

- *Gesture Recognition*
- *Recognition of Sign Language*
- *Gesture and Sign Language Synthesis*
- *Nature and Notation of Sign Language*
- *Gestural Action and Interaction*
- *Applications Based on Gesture Control*

The work presented in these papers encompasses a multitude of research areas from among: automatic recognition, interpretation, and synthesis of gestures and sign language; computational representation of gestures and sign language; user issues and application paradigms; gesture and human-movement tracking techniques; gesture and sign language perception and production; modeling, analysis, and coding techniques; coverbal gestures; temporal relations between gestures

and other modalities; system architectures; applications and demonstrator systems.

The present volume is edited by Ipke Wachsmuth and Timo Sowa, University of Bielefeld, who agreed to take over editorship when the organizers and co-chairs of GW 2001, Marilyn Panayi and David Roy (Zeric Ltd, London), could not continue with their editorial roles due to unforeseen circumstances. On behalf of all the participants of GW 2001, we would like to express our deepest thanks to Marilyn and David who worked tirelessly to make Gesture Workshop 2001 a successful event with a program of a very high standard.

Thanks also to the local committee, Bencie Woll, Chair of Sign Language and Deaf Studies at City University, and her colleagues Martha Tyrone and Klimis Antzakas, for hosting the event and contributing to a well-attended and lively meeting.

Last but not least, the editors are grateful to the authors of the papers, as well as to the international reviewers. As a result of their hard work this volume will serve as a timely and comprehensive reference for researchers and practitioners in all the related disciplines.

A final note. In connection with the preparation of this volume, a Gesture Workshops website was created at <http://www.TechFak.Uni-Bielefeld.DE/ags/wbski/GW/> as a permanent reference and portal for those interested in the workshop series and their proceedings. It contains links to all previous (and prospectively future) gesture workshops and related publications, and it will hopefully prove helpful to those wishing to join, or further interact with, an interdisciplinary and international gesture community.

February 2002

Ipke Wachsmuth, Timo Sowa

Reviewers

Daniel Arfib	CNRS - LMA, France
Annelies Braffort	LIMSI - CNRS, France
Antonio Camurri	University of Genoa
Christophe Collet	LIMSI - CNRS, France
Holk Cruse	University of Bielefeld
Susan Duncan	University of Chicago
Rachid Gherbi	LIMSI - CNRS, France
Sylvie Gibet	Université de Bretagne Sud, Valoria
Marianne Gullberg	Max-Planck Institute of Psycholinguistics, Nijmegen
John Haviland	Reed College, Portland
Yushi Kato	Testing Organization for Proficiency of Sign Language, Tokyo
Richard Kennaway	University of East Anglia, Norwich
Karl-Friedrich Kraiss	Aachen University of Technology
Paul McKeivitt	University of Ulster
David McNeill	University of Chicago
Ryohei Nakatsu	Media Integration & Communication Research Labs, Kyoto
Francis Quek	Wright State University
Gerhard Rigoll	University of Duisburg
Timo Sowa	University of Bielefeld
Ipke Wachsmuth	University of Bielefeld
Marcelo Wanderley	McGill University, Montreal
Peter Wittenburg	Max-Planck Institute of Psycholinguistics, Nijmegen
Bencie Woll	City University, London
Ying Wu	Northwestern University, Evanston