Preface

This is the second MICCAI – the flagship international conference for medical image computing and computer-assisted intervention. MICCAI was created by merging three closely related and thriving conference series – VBC (Visualisation in Biomedical Computing), MRCAS (Medical Robotics and Computer Assisted Surgery) and CVRMed (Computer Vision, Virtual Reality and Robotics in Medicine) – to provide a single focus for the presentation of high-quality research in this important multi-disciplinary area. The first MICCAI was held in Boston, USA in October 1998. It attracted a large number of excellent submissions and was extremely well attended. The meeting went a long way towards meeting its ambitious objectives of bringing together the best theoretical and applied work in this rapidly emerging field, and encouraging constructive dialogue between computer scientists and clinicians.

We are delighted to report a similar level of interest in MICCAI 99. A total of 213 full-length papers were submitted, covering a broad range of topics. Of these 133 were accepted for inclusion in the conference – 49 as oral presentations and 84 as posters. All the selected papers appear in these proceedings. Each paper was reviewed by four members of the Scientific Review Committee, selected for scientific or clinical expertise of relevance to the subject matter. Final decisions were made by the Programme Committee, following closely the advice of the reviewers. We are indebted to the members of the Scientific Review Committee for the time they devoted to the review process and for their well-informed and generally detailed feedback to authors.

The result is another volume of high-quality papers that we hope will contribute to the development of this important and exciting area. We are also indebted to the dedicated team of staff and students at Manchester who helped to put together the proceedings, particularly Angela Castledine, Alan Brett, Mike Rodgers, Danny Allen, Christine Beeston, Karen Davies, Tony Lacey, and Chris Wolstenholme. We are very pleased to welcome delegates to Cambridge and hope that you will find MICCAI an enjoyable and stimulating experience. For readers unable to attend the conference, we hope that you will find this a valuable record of the scientific programme, and look forwards meeting you at MICCAI 2000, which will be held in Pittsburgh, USA.

September 1999

Chris Taylor and Alan Colchester
Proceedings Editors
MICCAI99
Conference Organising Committee

Second International Conference on
Medical Image Computing and Computer-Assisted Intervention
Cambridge, England
September 19–22, 1999

General Chair
Alan Colchester  University of Kent at Canterbury and Guy’s Hospital, London, UK

Co-chairs
Mike Brady  University of Oxford, UK
Jun-Ichiro Toriwaki  University of Nagoya, Japan

Programme Chair
Chris Taylor (Chair)  University of Manchester, UK

Programme Committee
Nicholas Ayache  INRIA Sophia Antipolis, France
Richard D Bucholz  St Louis University School of Medicine, USA
Brian Davies  Imperial College, UK
Tony DiGioia  Shadyside Hospital, Pittsburgh, USA
James Scott Duncan  Yale University, USA
Guido Gerig  University of North Carolina, USA
David Hawkes  Guy’s Hospital, UK
Max A Viergever  Utrecht University, Netherlands

Clinical Advisory Commitee Chair
Tony DiGioia  Shadyside Hospital, Pittsburgh, USA

Tutorials
Guido Gerig  University of North Carolina, USA
Industry Liaison

Nicholas Ayache INRIA Sophia Antipolis, France
Mike Brady University of Oxford, UK
Bart ter Haar Romeny University of Utrecht, Netherlands
Jocelyne Troccaz University of Grenoble, France
Nigel John (coordinator) University of Manchester, UK

Local Organising Committee

Richard Prager University of Cambridge, UK
Andrew Gee University of Cambridge, UK

Scientific Review Committee

James Anderson Johns Hopkins School of Medicine, USA
Takehide Asano Chiba University School of Medicine, Japan
Gerard A Ateshian Columbia University, USA
Nicholas Ayache INRIA Sophia Antipolis, France
Isabelle Bloch Ecole Nationale Superieure des Telecommunications, France
Fred Bookstein University of Michigan, USA
Mike Brady University of Oxford, UK
Richard D Bucholz St Louis University School of Medicine, USA
Steve Charles University of Tenessee, USA
Philippe Cinquin Institut Albert Bonniot, France
Ela Claridge University of Birmingham, UK
Court Cutting New York University, USA
Paolo Dario ARTS Lab, Italy
Brian Davies Imperial College, UK
Scott Delp Stanford University, USA
Tony DiGioia Shadyside Hospital, Pittsburgh, USA
Takeyoshi Dohi University of Tokyo, Japan
James Scott Duncan Yale University, USA
Norberto Ezquerra Universidad Politecnica de Catalunya, Spain
Elliot Fishman The Johns Hopkins Hospital, USA
J Michael Fitzpatrick Vanderbilt University, USA
Henry Fuchs University of North Carolina, USA
Toshio Fukuda Nagoya University, Japan
Guido Gerig University of North Carolina, USA
Sarah Gibson Mitsubishi Electric Research Lab, USA
Eric L Grimson MIT AI Lab, USA
Blake Hannaford University of Washington, USA
Dave Hawkes Guy’s Hospital, UK
Derek Hill Guy’s Hospital, UK
Karl Heinz Hohne  
Koji Ikuta  
Branislav Jaramaz  
Chris Johnson  
Ferenc Jolesz  
Leo Joskowicz  
Takeo Kanade  
Lou Kavoussi  
Peter Kazanzides  
Ron Kikinis  
Andres Kriete  
Stephane Lavalle  
Heinz Lemke  
Robert J Maciunas  
Gregoire Malandain  
Jean-Francois Mangin  
Maurilio Marzacci  
Dwight Meglan  
Dimitris Metaxas  
Cluck Meyer  
Brent D Mittelstadt  
Heinrich Muller  
Alison Noble  
Lutz-P Noile  
Wieslaw Nowinski  
Michael Peshkin  
Stephen Pizer  
Rob Playter  
Jerry L Prince  
Klaus Radermacher  
Richard Robb  
Jean-Marie Rocchisani  
Joseph Rosen  
Ichiro Sakuma  
Tim Salcudean  
Kenneth Salisbury  
Rick Satava  
Achim Schweikard  
H Siegfried Stielh  
Paul Suetens  
Gabor Szekely  
Mark A Talaman  
Russ Taylor  
Frank Tendick  
Demetri Terzopoulos  

University Hospital Eppendorf, Germany  
Nagoya University, Japan  
UPMC Shadyside, USA  
University of Utah, USA  
Brigham and Women’s Hospital, USA  
Hebrew University of Jerusalem, Israel  
Carnegie Mellon University, USA  
Brady Urological Institute, USA  
Integrated Surgical Systems, USA  
Brigham and Women’s Hospital, USA  
University Clinic Giessen, Germany  
PRAXIM, France  
Technical University Berlin, Germany  
University of Rochester Medical Center, USA  
INRIA, France  
Service Hospitalier Frederic Joliot, France  
Laboratorio di Biomeccanica, Italy  
Mitsubishi Electric, USA  
University of Pennsylvania, USA  
University of Michigan, USA  
Integrated Surgical Systems, USA  
Universtitat Dortmund, Germany  
University of Oxford, UK  
M.E. Muller Institute, Switzerland  
Kent Ridge Digital Labs, Singapore  
Northwestern University, USA  
University of North Carolina, USA  
Boston Dynamics Inc (BDI), USA  
Johns Hopkins University, USA  
Helmholtz-Institute f. Biomedizinische Technik, Germany  
Mayo Clinic, USA  
Hopital Avicenne, France  
Dartmouth-Hitchcock Medical Centre, USA  
University of Tokyo, Japan  
University of British Columbia, Canada  
Intuitive Surgical, Inc, USA  
Yale Laproendoscopic Surgery Center, USA  
TU Munchen, Germany  
University of Hamburg, Germany  
KU Leuven, Belgium  
Swiss Federal Institute of Technology, Switzerland  
Johns Hopkins University, USA  
John Hopkins University, USA  
University of California San Francisco, USA  
University of Toronto, Canada
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jean-Philippe Thirion</td>
<td>FOCUS Imaging, France</td>
</tr>
<tr>
<td>Andrew Todd-Pokropek</td>
<td>University College London, UK</td>
</tr>
<tr>
<td>Jun-Ichiro Toriwaki</td>
<td>Nagoya University, Japan</td>
</tr>
<tr>
<td>Jocelyne Troccaz</td>
<td>Laboratoire TIMC, France</td>
</tr>
<tr>
<td>Jay Udupa</td>
<td>University of Pennsylvania, USA</td>
</tr>
<tr>
<td>Dirk Vandermeulen</td>
<td>University Hospital Gasthuisberg, Belgium</td>
</tr>
<tr>
<td>Michael Vannier</td>
<td>University of Iowa, USA</td>
</tr>
<tr>
<td>Baba Vemuri</td>
<td>University of Florida, USA</td>
</tr>
<tr>
<td>Max A Viergever</td>
<td>Utrecht University, Netherlands</td>
</tr>
<tr>
<td>Simon Warfield</td>
<td>Brigham &amp; Women's Hospital, USA</td>
</tr>
<tr>
<td>William Wells</td>
<td>Massachusetts Institute of Technology, USA</td>
</tr>
<tr>
<td>Tian-ge Zhuang</td>
<td>Shanghai Jiao Tong University, China</td>
</tr>
<tr>
<td>James Zinreich</td>
<td>The Johns Hopkins Hospital, USA</td>
</tr>
</tbody>
</table>
MICCAI Conference Series

MICCAI Board

Nicholas Ayache  
INRIA Sofia Antipolis, France

Alan Colchester  
University of Kent at Canterbury & Guy’s Hospital, London, UK

Toni Digioia  
Shadyside Hospital, Pittsburgh, USA

Takeyoshi Dohi  
University of Tokyo, Japan

Jim Duncan  
Yale University, USA

Eric Grimson  
MIT Artificial Intelligence Laboratory, USA

Karl-Heinz Höhne  
University of Hamburg, Germany

Ron Kikinis  
Brigham and Women’s Hospital, Boston, USA

Steve Pizer  
University of North Carolina, USA

Richard Robb  
Mayo Clinic, USA

Russ Taylor  
Johns Hopkins Hospital, Baltimore, USA

Jocelyne Troccaz  
University of Grenoble, France
Taylor, C.; Colchester, A. (Eds.)
1999, XLII, 1242 p. 657 illus., 54 illus. in color. In 2 volumes, not available separately. Softcover
ISBN: 978-3-540-66503-8