Preface

The 6th International Conference on Medical Imaging and Computer-Assisted Intervention, MICCAI 2003, was held in Montréal, Québec, Canada at the Fairmont Queen Elizabeth Hotel during November 15–18, 2003. This was the first time the conference had been held in Canada. The proposal to host MICCAI 2003 originated from discussions within the Ontario Consortium for Image-guided Therapy and Surgery, a multi-institutional research consortium that was supported by the Government of Ontario through the Ontario Ministry of Enterprise, Opportunity and Innovation.

The objective of the conference was to offer clinicians and scientists a forum within which to exchange ideas in this exciting and rapidly growing field. MICCAI 2003 encompassed the state of the art in computer-assisted interventions, medical robotics, and medical-image processing, attracting experts from numerous multidisciplinary professions that included clinicians and surgeons, computer scientists, medical physicists, and mechanical, electrical and biomedical engineers.

The quality and quantity of submitted papers were most impressive. For MICCAI 2003 we received a record 499 full submissions and 100 short communications. All full submissions, of 8 pages each, were reviewed by up to 5 reviewers, and the 2-page contributions were assessed by a small subcommittee of the Scientific Review Committee. All reviews were then considered by the MICCAI 2003 Program Committee, resulting in the acceptance of 206 full papers and 25 short communications. The normal mode of presentation at MICCAI 2003 was as a poster; in addition, 49 papers were chosen for oral presentation. All of the full papers are included in these proceedings in 8-page format, without any differentiation between the mode of presentation. All of the accepted 2-page short communications are also included, these appeared at the meeting as posters.

It was our great pleasure to welcome this year’s MICCAI 2003 attendees to Montréal, the world’s second-largest French-speaking city, and to the Fairmont Queen Elizabeth hotel, Montréal’s finest conference venue. In addition to attending the conference, we trust that the attendees took the opportunity to explore what Montréal, and other parts of Canada, had to offer, and that they will return to see Canada’s other face in a not-so-chilly time of the year. For those unable to attend, we trust that these volumes will provide a valuable record of the state of the art in the MICCAI 2003 disciplines.

We look forward to welcoming you to MICCAI 2004, scheduled to be held next year in St. Malo, France.

November 2003
Randy E. Ellis and Terry M. Peters
Organization

The institutional sponsor for MICCAI 2003 was The Robarts Research Institute, London, Ontario, Canada, which also provided the conference management facilities. Our major commercial sponsor was Northern Digital, Inc. of Waterloo, Ontario, Canada.

Executive Committee

Terry M. Peters (General Chair), London, Canada
Randy Ellis (Co-chair/Program Chair), Kingston, Canada
Christian Barillot, Rennes, France
Guido Gerig, Chapel Hill, USA
Nobuhiko Hata, Tokyo, Japan
Mike Sherar, London, Canada

Program Committee:

Nicholas Ayache, Sophia Antipolis, France
Christian Barillot, Rennes, France
Guido Gerig, Chapel Hill, USA
Leo Joskowicz, Jerusalem, Israel
Ron Kikinis, Boston, USA
Yoshinobu Sato, Osaka, Japan
Mike Sherar, London, Canada
Stephen M. Pizer, Chapel Hill, USA
Russell Taylor, Baltimore, USA
Walter Kucharczyk, Toronto, Canada

MICCAI Board

Alan Colchester (General Chair), University of Kent at Canterbury, UK

Nicholas Ayache, INRIA, Sophia Antipolis, France
Christian Barillot, IRISA, Rennes, France
Takeyoshi Dohi, University of Tokyo, Japan
James Duncan, Yale University, New Haven, USA
Terry Peters, Robarts Research Institute, London, Canada
Stephen Pizer, University of North Carolina, Chapel Hill, USA
Richard Robb, Mayo Clinic, Rochester, USA
Russell Taylor, Johns Hopkins University, Baltimore, USA
Jocelyne Troccaz, University of Grenoble, France
Max Viergever, University Medical Center, Utrecht, The Netherlands
CME Coordination
Walter Kucharczyk, Toronto, Canada

Poster Coordination
Don Plewes, Toronto, Canada

Tutorial Chair
Gábor Székely, Zurich, Switzerland

Industrial Exhibition Co-chairs
Mike Sherar, London, Canada
Ron Kikinis, Boston, USA

Student Liaison
Guy-Anne Turgeon, London, Canada
Emma Duerden, Montréal, Canada

Conference Secretariat/Management
Janet Wallace, London, Canada
Dayna Maki, London, Canada
Ravi Gupta, London, Canada
Jackie Williams, London, Canada
Jeff Gardiner, London, Canada

Proceedings Management
Jessie Ting Guo, London, Canada
Hualiang Zhong, London, Canada
Mark Wachowiak, London, Canada
Melanie Josseau, London, Canada
Stanislaw Szpala, London, Canada
Sean Deoni, London, Canada
Xunhua Yuan, London, Canada
Pencilla Lang, London, Canada
Guy-Anne Turgeon, London, Canada
Weiguang Yao, Kingston, Canada
Yan Chen, Kingston, Canada
Local Arrangements

Louis Collins, Montréal, Canada
Simon Drouin, Montréal, Canada
Simon Duchesne, Montréal, Canada
Ingerid Reinertsen, Montréal, Canada
Mallar Chakravarty, Montréal, Canada

Referees

The Scientific Review Committee was responsible for the detailed reviewing of 599 submissions, producing a total of over 1500 reviews for the Program Committee. Our heartfelt thanks for all the hard work to:

Takehide Asano Stefan Hassfeld
Fred S. Azar Peter Hastreiter
Fernando Bello Nobuhiko Hata
Ewert Bengtsson David Hawkes
Michael Bronskill Pierre Hellier
Richard Bucholz Pheng Ann Heng
Catherina R. Burghart Derek Hill
Darwin G. Caldwell Karl-Heinz Höhne
Kiyoyuki Chinzei Robert Howe
Jin-Ho Cho Koji Ikuta
Philippe Cinquin Hiroshi Iseki
Jean-Louis Coatrieux James Gee
Alan C.F. Colchester Branislav Jaramaz
D. Louis Collins Tianzi Jiang
Eve Coste-Manière Ferenc Jolesz
Brian Davies Amami Kato
Hervé Delingette Yoshiki Kawata
Jaydev P. Desai Erwin Keeve
Takeyoshi Dohi David Kennedy
James S. Duncan Sun I. Kim
Rudolf Fahlbusch Masaki Kitajima
Gabor Fichtinger Etsuko Kobayashi
J. Michael Fitzpatrick Yukio Kosugi
Masakatsu Fujie Frithjof Krüggel
Robert Galloway, Jr. Luigi Landini
Maryellen Giger Stéphane Lavallée
Miguel Angel Gonzalez Ballester Heinz U. Lemke
Eric Grimson Alan Liu
Gregory D. Hager William Lorensen
Steven Haker Shuqian Luo
Makoto Hashizume Sherif Makram-Ebeid
Additional reviews and technical assistance were also needed to form the final program. We extend our thanks to the following people for their invaluable contributions.

Takehide Asano
Purang Abolmaesumi
Kadi Bouatouch
Michael Choti

Peter Kazanzides
Hanif Ladak
Alexis Roche
Weiguang Yao