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Biomedical Image Registration

**International Workshop, WBIR'99
Bled, Slovenia, August 30-31, 1999
Proceedings**



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Preface

These proceedings contain the papers and posters of the International Workshop on Biomedical Image Registration, WBIR'99, held in Bled, Slovenia, August 30-31, 1999.

In modern medicine and biology, a valuable method of gathering knowledge about healthy and diseased organs, tissues, and cells is the integration of complementary information from images of these objects. Such information may be obtained by different modalities, different image acquisition set-ups, or different object preparation procedures. A necessary pre-processing step for the integration of image information is image registration by which images, containing complementary information, are brought into the best possible spatial correspondence with respect to each other. Registration is finding increasing use in diagnosis, treatment planning, and surgical guidance, as physicians combine information about location, form and function to sharpen their understanding of pathology in clinical situations.

The aim of WBIR'99 was to bring together scientists who devise image registration techniques and clinicians who use these techniques for the purpose of fostering a dialogue and debate on important problems and promising solutions associated with biomedical image registration. The international flavour of these efforts is indicated by the fact that the attendees of the workshop represented 14 countries. The idea to establish an international workshop entirely devoted to biomedical image registration was motivated by the fact that image registration had become a matured discipline with many contributions appearing each year. We sincerely believe that WBIR'99 will be the first in a series of regular events.

Each paper submitted to the workshop was reviewed by at least two referees selected from the Program Committee. The final program consisted of 20 presentations, 4 invited talks, and 4 discussions on important aspects of the workshop (Classification of registration methods, The role of image registration in image guided surgery, The role of image registration in brain mapping, and Registration validation).

We would like to thank everyone who contributed to the success of this workshop: the four invited speakers and the authors of the proffered papers for their excellent contributions, the referees for their review work, the members of the program committee for their promotion of the workshop and general support, the local organisation staff for their precious time and diligent efforts, the industrial and institutional sponsors for their financial support, and all attendees for their active participation in the formal and informal discussions.

Bled, August 1999

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Invited Speakers

Richard Donald Bucholz, Saint Louis University of Medicine, USA
J. Michael Fitzpatrick, Vanderbilt University, USA
J. B. Antoine Maintz, Utrecht University, The Netherlands
Arthur W. Toga, UCLA School of Medicine, USA

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