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Experimental Robotics III

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Preface

Experimental Robotics III – *The Third International Symposium* took place at Kyodai-Kaikan (a conference hall affiliated with Kyoto University) in Kyoto, Japan, in October 1993. It was the third in a series of specialized small-sized international symposia dedicated to presenting and discussing in-depth research results and on-going developments in robotics which have both theoretical foundations and experimental validations. The number of the presentations was kept rather small to guarantee a thorough discussion and friendly interaction among the participants during the three-day, single-session meeting.

The first symposium was held in Montreal, Canada, in June 1989, organized by V. Hayward and O. Khatib, and the second was held in Toulouse, France, in June 1991, organized by R. Chatila and G. Hirzinger. The Proceedings of these two symposia were also published from the Springer-Verlag as *Experimental Robotics* I and II (Lecture Notes on Control and Information Sciences, Vol.139 and Vol.190). The next symposium will be held in Stanford, USA, in 1995 and will be organized by Oussama Khatib and Ken Salisbury. As can be seen from these data, this meeting is being held every two years in a circular fashion around North America, Europe, and Asia.

All of the 43 papers from 10 countries presented at the Symposium are included in this volume. Thanks to the wonderful attendees who are actively working at the forefront of their research fields and made their valuable contributions to the Symposium, we are very pleased to say with confidence that this Proceedings volume represents an essence of the state of the art of the experimental robotics research and gives a good insight into its future directions. The book consists of nine sections: Planning and Arm Control, Force Control, Visual Servoing, Sensing and Learning, Dynamic Skills, Robot Design, Teleoperation, Mobile Robots, and Space Robotics and Flexible Manipulators. Each section is forwarded by a brief introduction of the papers in the section for the convenience of the reader. The keynote lecture "Insect-Model Based Microrobotics" was given by Prof. Hirofumi Miura from the University of Tokyo, whose experimental research effort for the new AI (Artificial Insects) strongly impressed the audience. In addition to the regular sessions, two video sessions were held and the following researchers presented their video films: K. Yokoi (*MEL*, Japan), J. Trevelyan (*University of Western Australia*, Australia), T. Yoshimi (*Toshiba Corp.*, Japan), M.R. Stein (*University of Pennsylvania*, USA), and A.A. Goldenberg (*University of Toronto*, Canada).

Almost all presentations at the Symposium were accompanied by video films, which is a natural consequence of the theme of the meeting: theoretical work validated by experiments. A compilation of part of these video films, along with those of the video sessions, will be made available soon as Video Proceedings.

The international program committee consists of the following individuals:

T. Yoshikawa	*Kyoto University*, Japan (Co-chair)
F. Miyazaki	*Osaka University*, Japan (Co-chair)
R. Chatila	*LAAS/CNRS*, France
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