Introduction

This issue contains the proceedings of the 1st International RIKEN Symposium on Laser Precision Microfabrication (LPM 2000), held on June 14–16 at Omiya Sonic City, Omiya, Saitama, Japan. The symposium was organized by the Laser Technology Laboratory and supported by the Japan Laser Processing Society (JLPS) and SPIE - The International Society for Optical Engineering.

The symposium was planned as a three-day event with 16 invited, 46 oral and 31 poster papers and a tabletop exhibition. Scientists and engineers from 13 countries presented their most recent research results at this symposium, and the number of participants reached 179. From all of the papers presented at LPM 2000, twelve were selected to be published in this issue.

Laser precision microfabrication (LPM) has been a rapidly growing area of research and practical application in electronics, optoelectronics, micromachining, and medical devices. In view of the impact of LPM, JLPS initiated the Working Group in 1996 as a four-year research program to further expand the market size of these areas. The main focus included analyzing the present status of LPM, defining critical LPM techniques to be developed, and forecasting future markets of LPM. In order to expand the reach of JLPS's LPM program, an inaugural international symposium is planned. The aim of this symposium is to provide a forum where leading experts, end users, and vendors can meet together to discuss both the fundamental and practical aspects of LPM. Topics of this symposium include:

- Fundamentals of laser-material interactions
- Ultrashort pulsed laser processing
- Microdrilling
- Patterning
- Microdevices
- Annealing
- Trimming
- Modeling and simulation
- Micromachining
- Microcutting
- Microforming
- Cleaning
- Marking
- Microwelding
- Lithography
- Market of precision microprocessing
- Medical applications
- Beam diagnostic systems
- Others
- Thin-film deposition
- New laser resonators
- Surface modification
- Optics

The great success of LPM 2000 convinced us to organize a LPM symposium annually. LPM 2001 is planned to be held on May 16–18, 2001 in Singapore. We sincerely hope that this annual symposium will contribute to the rapid progress of LPM.

We would like to thank all participants, particularly the invited speakers who contributed papers to this issue and Professor Isamu Miyamoto and other organizing committee members who denoted their time for organizing this symposium and for helping it to be a great success. Finally, we also appreciate the valuable assistance of our secretaries, Ms. Michiko Hamada (JLPS), Ms. Yukari Nakajima (JLPS), Ms. Masako Furusawa (RIKEN), and Ms. Hiroko Ito (RIKEN).

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