

PROCEEDINGS OF SPIE

Optomechatronic Computer-Vision Systems II

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Editors

**8–10 October 2007
Lausanne, Switzerland**

Organized by
Ecole Polytechnique Fédérale de Lausanne (Switzerland)

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SPIE

Published by
SPIE

Volume 6718

Proceedings of SPIE, 0277-786X, v. 6718

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

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Please use the following format to cite material from this book:

Author(s), "Title of Paper," in *Optomechatronic Computer-Vision Systems II*, edited by Jonathan Kofman, Yuri Lopez de Meneses, Shun'ichi Kaneko, Claudio A. Perez, Didier Coquin, Proceedings of SPIE Vol. 6718 (SPIE, Bellingham, WA, 2007) Article CID Number.

ISSN 0277-786X
ISBN 9780819468666

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445
SPIE.org

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Printed in the United States of America.

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International Symposium on Optomechatronic Technologies ISOT 2007

In recent years, most engineered products, processes, and systems have been evolving towards higher functionality, flexibility, intelligence, and miniaturization. This trend is stimulated by the ongoing fusion between optical and mechatronic technologies leading not only to enhanced performance but also to the creation of new, innovative functionalities. Because of its synergistic effect, the integration of these engineering fields, labeled optomechatronic technology, is becoming a major driving force to future enabling technologies.

The objective of this symposium is to gather researchers and engineers working in the field of optomechatronics and to provide them with a forum for discussion for exchanging their points of view and experience and sharing their research results through high quality peer reviewed papers.

The symposium consists of five conferences:

- 1) **Optomechatronic Actuators and Manipulation**
- 2) **Optomechatronic Sensors and Instrumentation**
- 3) **Optomechatronic Micro / Nano Devices and Components**
- 4) **Optomechatronic Computer-Vision Systems**
- 5) **Optomechatronic Systems Control**

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Introduction

Computer-vision systems are being developed and employed in an increasing range of applications from surveillance and security to manufacturing and industry, archaeology, entertainment, and medicine. Recent advances in research and development of vision-based sensors and systems have been the result of advances in both computer-vision and optical-system design, and the innovative fusion of these technologies. Optomechatronic computer-vision systems have evolved in intelligent robot-vision systems, automated inspection, autonomous tracking systems, medical, biological, and agricultural imaging and diagnosis, and novel biometric techniques, to name only a few areas. Improved technology in optical devices and computer-vision techniques has led to increased intelligence and capabilities of new systems. This conference will bring together scientists from academia and industry to exchange the latest ideas and newest techniques, principles, and applications related to optomechatronic computer-vision systems.

Jonathan Kofman

