# OPTICS AND LASERS IN ENGINEERING

Optics and Lasers in Engineering aims to provide an international forum for the interchange of information on the development and application of optical techniques and laser technology in engineering. Emphasis is placed on contributions dealing with the practical use of methods and devices, the evaluation of results and developments and enhancement of solutions and new theoretical foundations for experimental methods.

Optics and Lasers in Engineering reflects the main areas in which optical methods are being used and developed in an engineering environment. The scope of the journal is defined to include the following:

Optical metrology

Optical methods for process control

Machine vision and image processing

Optical microelectromechanical systems (MEMS)

Optical techniques in micro-mechanics

Imaging, microscopy and adaptive optics

Laser material processing

Laser beam delivery and diagnostics

Fibre optic sensors

Laser remote sensing and environmental monitoring

Laser safety

Lasers in medicine and biology

Engineering applications of spectroscopy

#### **Editors**

# PROFESSOR A. K. ASUNDI

School of Mechanical and Production Engineering. Nanyang Technological University,

Nanyang Avenue, Singapore 639698

#### DR P. K. RASTOGI

Laboratory for Stress Analysis (IMAC, DGC), Swiss Federal Institute of Technology (EPFL), CH-1015 Lausanne, Switzerland

### Associate Editors

## PROFESSOR J. D. C. JONES

Department of Physics. Heriot-Watt University, Riccarton, Edinburgh, UK, EH14 4AS

# PROFESSOR A. SHUKLA

Department of Mechanical Engineering, Wales Hall, University of Rhode Island, Kingston, Rhode Island 02881-0805, USA

# **Book Reviews Editor** PROFESSOR M. A. PLAYER

Department of Engineering, University of Aberdeen, Fraser Noble Building, Kings College, Aberdeen,

# UK, AB24 3UE Editorial Board

#### G. von Ballv

Institute of Experimental Audiology, University of Münster, Münster, Germany

# J. S. Barton

Heriot-Watt University, Edinburgh, UK

Department of Materials Science & Metallurgy, University of Cambridge, Cambridge, UK

#### L. Cooke

Sowerby Research Centre, British Aerospace Ltd, Bristol, UK

EMPA, Section Electronics/Metrology, Duebendorf, Switzerland

## N. A. Halliwell

Loughborough University of Technology, Loughborough, UK

# P. Hariharan

Division of Applied Physics, CSIRO, Lindfield, NSW, Australia

#### J. M. Huntley

Department of Mechanical Engineering, Loughborough University of Technology, Loughborough, UK

#### D. Inaudi

Smartec SA, Grancia, Switzerland

## G. H. Kaufmann

Instituto de Fisica Rosario, Universidad Nacional de Rosario, Rosario, Argentina

#### W. Osten

Insitut für Technische Optik, Universität Stutgart, Stutgart, Germany

Warsaw University of Technology, Institute of Micro- mechanics and Photonics, Warsaw, Poland

#### A. M. Richmond

Spectrum Laser Systems, Warwickshire, UK

## A. Selvarajan

Department of Electrical and Communication Engineering, Indian Institute of Science, Bangalore, India

# C. J. R. Sheppard

Department of Physical Optics, The University of Sydney, Sydney, NSW, Australia

#### K. Singh

Department of Physics, Indian Institute of Technology — Delhi, New Delhi, India

#### U. N. Singh

NASA Langley Research Center, Hampton, Virginia, USA

# X. Y. Su

Optoelectronics Department, Sichuan University, Chengdu, Peoples Republic of China.

#### Y. Surrel

CNAM/INM, Paris, France

# M. Takashi

Department of Mechanical Engineering, Ayoma Gakuin University, Tokyo, Japan

#### M. Takeda

Department of Communication & Systems Engineering, UEC—The University of Electro-Communications, Tokyo, Japan

# R. P. Tatam

School of Mechanical Engineering, Cranfield University, Bedford, UK

#### H. V. Tippur

Department of Mechanical Engineering, Auburn University, Alahama USA

# I. A. Watson

Department of Mechanical Engineering, University of Glasgow, Glasgow, UK

#### X.-P. Wu

Department of Modern Mechanics, USTC, Anhui, People's Republic of China