Micro-Optics

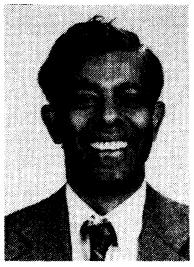
Chandra Sekhar Roychoudhuri, MEMBER SPIE
University of Connecticut
Photonics Research Center
MS 157, Room 312
260 Glenbrook Road
Storrs, Connecticut 06269-3157

There is a major trend to create miniature instruments and/or subsystems as the field of micro-electronics has given rise to computers, automations, and robotics revolution. In anticipation, the field of optics has been developing integrated opto-electronics and micro-optics where optical functions cannot/should not be integrated. Similarly the field of mechanics has been developing micro-mechanical components and systems., In response to all these developments, SPIE has held a series of conferences on micro-optic devices and system applications (*Proceedings of SPIE,* Vols. 1544, 1751, and 1992) that inspired us to organize this special section. Considering the future trend, this conference series has been expanded to micro-opto-electro-mechanical devices and systems for the next conference occurring in January 1995 in San Jose, California.

This special section has 21 papers, of which almost half are devoted to systems/subsystems for specific applications. Nine papers are devoted to diffractive lenses, six papers are devoted to refractive lenses (all laser-assisted fabrication except one), three are devoted to micro-mirrors, two are devoted to using complex micro-optics, and one reviews the entire field of micro-opto-electro-mechanics. We believe the readers will find this collection of papers a very useful glimpse at the state of the art in applications of micro-optics.

The success of the special section, of course, lies with the contributing authors who have taken the time to report their research in the field through *Optical Engineering.* On behalf of the guest editorial board, I would like to thank all the authors for their effort. Many thanks are also due to all the members of the board and the referees who have diligently sought out the authors and helped in timely publications. Special thanks to Brian Thompson, my professor from Rochester and the Editor of this journal, for giving me this opportunity to serve as the guest editor for such an important and emerging field of optical engineering.

May you all find new opportunities in the rapidly changing world.



Chandra Sekhar Roychoudhuri is the director of the Photonics Research Center at the University of Connecticut. Previously he was in aerospace industries for 14 years and worked for the United Technologies Research Center, United Technologies Optical Systems, Perkin Elmer, and TRW. He has an extensive research background in applications of low- and high-power laser diodes for aerospace and commercial applications such as 20-channel WDM GHz space communications systems, blue-green SLCSAT communication by laser diode summation, self-feedback laser diode radar, compact spectrometric sensors, and coherent and incoherent combining of lasers. He obtained his BS degree in 1963 and MS degree in 1965 in physics from Jadavpur University, Calcutta, and his PhD in optics from the Institute of Optics, University of Rochester.