

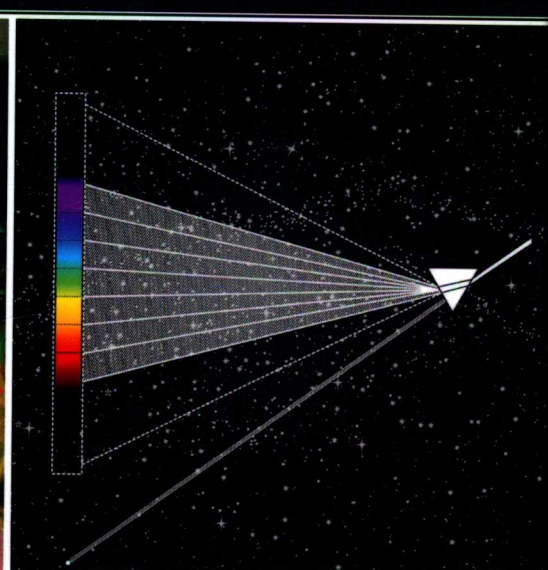
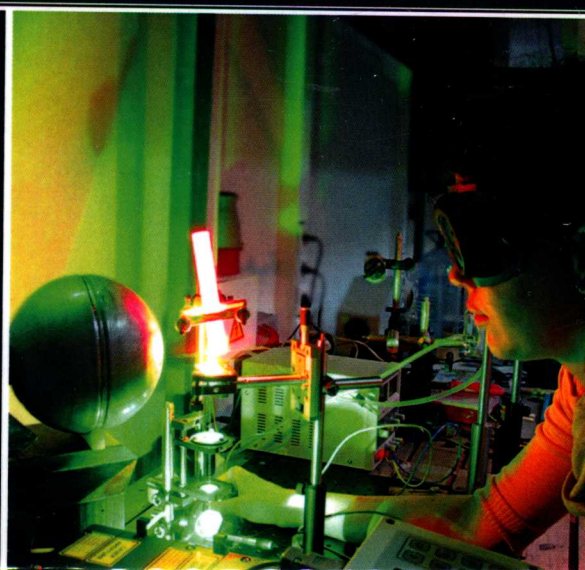
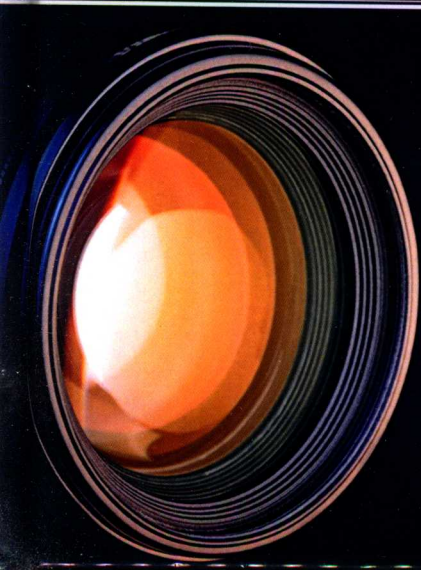
Volume IV

Optical Fiber—Random

 CRC Press
Taylor & Francis Group

Encyclopedia of
**OPTICAL AND
PHOTONIC
ENGINEERING**
SECOND EDITION

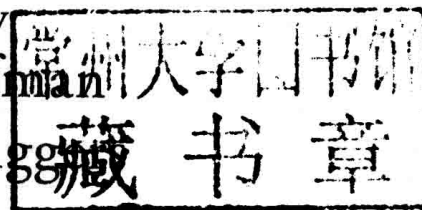
Edited by
Craig Hoffman • Ronald Driggers



Encyclopedia of
**OPTICAL AND
PHOTONIC
ENGINEERING**
SECOND EDITION

Volume IV
Optical Fiber—Random

Edited by
Craig Hoffman
Ronald Drigg



CRC Press
Taylor & Francis Group
Boca Raton London New York

CRC Press is an imprint of the
Taylor & Francis Group, an Informa business

CRC Press
Taylor & Francis Group
6000 Broken Sound Parkway NW, Suite 300
Boca Raton, FL 33487-2742

© 2016 by Taylor & Francis Group, LLC
CRC Press is an imprint of Taylor & Francis Group, an Informa business

No claim to original U.S. Government works

Printed on acid-free paper
Version Date: 20150803

International Standard Book Number-13: 978-1-4398-5113-5 (Hardback)

This book contains information obtained from authentic and highly regarded sources. Reasonable efforts have been made to publish reliable data and information, but the author and publisher cannot assume responsibility for the validity of all materials or the consequences of their use. The authors and publishers have attempted to trace the copyright holders of all material reproduced in this publication and apologize to copyright holders if permission to publish in this form has not been obtained. If any copyright material has not been acknowledged please write and let us know so we may rectify in any future reprint.

Except as permitted under U.S. Copyright Law, no part of this book may be reprinted, reproduced, transmitted, or utilized in any form by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying, microfilming, and recording, or in any information storage or retrieval system, without written permission from the publishers.

For permission to photocopy or use material electronically from this work, please access www.copyright.com (<http://www.copyright.com/>) or contact the Copyright Clearance Center, Inc. (CCC), 222 Rosewood Drive, Danvers, MA 01923, 978-750-8400. CCC is a not-for-profit organization that provides licenses and registration for a variety of users. For organizations that have been granted a photocopy license by the CCC, a separate system of payment has been arranged.

Trademark Notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Visit the Taylor & Francis Web site at
<http://www.taylorandfrancis.com>

and the CRC Press Web site at
<http://www.crcpress.com>



Printed and bound in Great Britain by
TJ International Ltd, Padstow, Cornwall

Encyclopedia of
OPTICAL AND
PHOTONIC
ENGINEERING
SECOND EDITION

Volume IV
Optical Fiber—Random

Encyclopedias from the Taylor & Francis Group

Agropedia

Encyclopedia of Agricultural, Food, and Biological Engineering, Second Ed. (2 Vols.)

Edited by Dennis R. Heldman and Carmen I. Moraru Published 10/21/10
Print: K10554 (978-1-4398-1111-5) Online: K11382 (978-1-4398-2806-9)

Encyclopedia of Animal Science, Second Ed. (2 Vols.)

Edited by Duane E. Ullrey, Charlotte Kirk Baer, and Wilson G. Pond Published 2/1/11
Print: K10463 (978-1-4398-0932-7) Online: K10528 (978-0-415-80286-4)

Encyclopedia of Biotechnology in Agriculture and Food (1 Vol.)

Edited by Dennis R. Heldman, Dallas G. Hoover, and Matthew B. Wheeler Published 7/16/10
Print: DK271X (978-0-8493-5027-6) Online: DKE5044 (978-0-8493-5044-3)

Encyclopedia of Pest Management (1 Vol.)

Edited by David Pimentel, Ph.D. Published 5/9/02
Print: DK6323 (978-0-8247-0632-6) Online: DKE517X (978-0-8247-0517-6)

Encyclopedia of Plant and Crop Science (1 Vol.)

Edited by Robert M. Goodman Published 2/27/04
Print: DK1190 (978-0-8247-0944-0) Online: DKE9438 (978-0-8247-0943-3)

Encyclopedia of Soil Science, Second Ed. (2 Vols.)

Edited by Rattan Lal Published 12/22/05
Print: DK830X (978-0-8493-3830-4) Online: DKE5051 (978-0-8493-5051-1)

Encyclopedia of Water Science, Second Ed. (2 Vols.)

Edited by Stanley W. Trimble Published 12/26/07
Print: DK9627 (978-0-8493-9627-4) Online: DKE9619 (978-0-8493-9619-9)

Business and Public Administration

Encyclopedia of Public Administration and Public Policy, Third Ed. (5 Vols.)

Edited by Melvin J. Dubnick and Domonic Bearfield Published 7/15/15
Print: K16418 (978-1-4665-6909-6) Online: K16434 (978-1-4665-6936-2)

Encyclopedia of Supply Chain Management (2 Vols.)

Edited by James B. Ayers Published 12/21/11
Print: K12842 (978-1-4398-6148-6) Online: K12843 (978-1-4398-6152-3)

Encyclopedia of U.S. Intelligence (2 Vols.)

Edited by Gregory Moore Published 12/19/14
Print: AU8957 (978-1-4200-8957-8) Online: AUE8957 (978-1-4200-8958-5)

Chemistry, Materials, and Chemical Engineering

Encyclopedia of Chemical Processing (5 Vols.)

Edited by Sunggyu Lee Published 11/1/05
Print: DK2243 (978-0-8247-5563-8) Online: DKE499X (978-0-8247-5499-0)

Encyclopedia of Chromatography, Third Ed. (3 Vols.)

Edited by Jack Cazes Published 10/12/09
Print: 84593 (978-1-4200-8459-7) Online: 84836 (978-1-4200-8483-2)

Encyclopedia of Iron, Steel, and Their Alloys (2 Vols.)

Edited by George E. Totten and Rafael Colas Published 9/15/15
Print: K14814 (978-1-4665-1104-0) Online: K14815 (978-1-4665-1105-7)

Encyclopedia of Supramolecular Chemistry (2 Vols.)

Edited by Jerry L. Atwood and Jonathan W. Steed Published 5/5/04
Print: DK056X (978-0-8247-5056-5) Online: DKE7259 (978-0-8247-4725-1)

Encyclopedia of Surface and Colloid Science, Third Ed. (10 Vols.)

Edited by P. Somasundaran Published 5/8/15
Print: K20465 (978-1-4665-9045-8) Online: K20478 (978-1-4665-9061-8)

Environment

Encyclopedia of Environmental Management (4 Vols.)

Edited by Sven Erik Jorgensen Published 12/13/12
Print: K11434 (978-1-4398-2927-1) Online: K11440 (978-1-4398-2933-2)

Encyclopedia of Natural Resources (2 Vols.)

Edited by Yeqiao Wang Published 7/23/14
Print: K12418 (978-1-4398-5258-3) Online: KE12440 (978-1-4398-5283-5)

Engineering

Dekker Encyclopedia of Nanoscience and Nanotechnology, Third Ed. (7 Vols.)

Edited by Sergey Edward Lyshevski Published 3/20/14
Print: K14119 (978-1-4398-9134-6) Online: K14120 (978-1-4398-9135-3)

Encyclopedia of Energy Engineering and Technology, Second Ed. (4 Vols.)

Edited by Sohail Anwar Published 12/1/14
Print: K14633 (978-1-4665-0673-2) Online: KE16142 (978-1-4665-0674-9)

Encyclopedia of Optical and Photonic Engineering, Second Ed. (3 Vols.)

Edited by Craig Hoffman and Ronald Driggers Published 6/1/15
Print: K12323 (978-1-4398-5097-8) Online: K12325 (978-1-4398-5099-2)

Medicine

Encyclopedia of Biomaterials and Biomedical Engineering, Second Ed. (4 Vols.)

Edited by Gary E. Wnek and Gary L. Bowlin Published 5/28/08
Print: H7802 (978-1-4200-7802-2) Online: HE7803 (978-1-4200-7803-9)

Encyclopedia of Biomedical Polymers and Polymeric Biomaterials (11 Vol.)

Edited by Munmaya Mishra Published 3/12/15
Print: K14324 (978-1-4398-9879-6) Online: K14404 (978-1-4665-0179-9)

Encyclopedia of Biopharmaceutical Statistics, Third Ed. (3 Vols.)

Edited by Shein-Chung Chow Published 5/20/10
Print: H100102 (978-1-4398-2245-6) Online: HE10326 (978-1-4398-2246-3)

Encyclopedia of Clinical Pharmacy (1 Vol.)

Edited by Joseph T. DiPiro Published 11/14/02
Print: DK7524 (978-0-8247-0752-1) Online: DKE6080 (978-0-8247-0608-1)

Encyclopedia of Dietary Supplements, Second Ed. (1 Vol.)

Edited by Paul M. Coates, Joseph M. Betz, Marc R. Blackman, Gordon M. Cragg, Mark Levine, Joel Moss, and Jeffrey D. White Published 6/25/10
Print: H100094 (978-1-4398-1928-9) Online: HE10315 (978-1-4398-1929-6)

Encyclopedia of Medical Genomics and Proteomics (2 Vols.)

Edited by Jürgen Fuchs and Maurizio Podda Published 12/29/04
Print: DK2208 (978-0-8247-5564-5) Online: DK501X (978-0-8247-5501-0)

Encyclopedia of Pharmaceutical Science and Technology, Fourth Ed. (6 Vols.)

Edited by James Swarbrick Published 7/1/13
Print: H100233 (978-1-84184-819-8) Online: HE10420 (978-1-84184-820-4)

Software, Networking, and Security

Encyclopedia of Information Assurance (4 Vols.)

Edited by Rebecca Herold and Marcus K. Rogers Published 12/21/10
Print: AU6620 (978-1-4200-6620-3) Online: AUE6620 (978-1-4200-6622-7)

Encyclopedia of Information Systems and Technology (1 Vol.)

Edited by Phillip A. Laplante Published 10/15/15
Print: K15911 (978-1-4665-6077-2) Online: K21745 (978-1-4822-1432-1)

Encyclopedia of Library and Information Sciences, Third Ed. (7 Vols.)

Edited by Marcia J. Bates and Mary Niles Maack Published 12/17/09
Print: DK9712 (978-0-8493-9712-7) Online: DKE9711 (978-0-8493-9711-0)

Encyclopedia of Software Engineering (2 Vols.)

Edited by Phillip A. Laplante Published 11/24/10
Print: AU5977 (978-1-4200-5977-9) Online: AUE5977 (978-1-4200-5978-6)

Encyclopedia of Wireless and Mobile Communications, Second Ed. (3 Vols.)

Edited by Borko Furht Published 12/18/12
Print: K14731 (978-1-4665-0956-6) Online: KE16352 (978-1-4665-0969-6)

Encyclopedia titles are available in print and online.

To order, visit <http://www.crcpress.com>

Telephone: 1-800-272-7737 Fax: 1-800-374-3401

E-Mail: orders@taylorandfrancis.com

Encyclopedia of Optical and Photonic Engineering

Second Edition

Editors-in-Chief

Craig A. Hoffman

Optical Sciences Division, U. S. Naval Research Laboratory, Washington, District of Columbia, U.S.A.

Ronald G. Driggers

St. Johns Optical Systems, Lake Mary, Florida, U.S.A.

Editorial Advisory Board

Girish S. Agarwal

*Department of Physics, Oklahoma State University,
Stillwater, Oklahoma, U.S.A.*

Larry C. Andrews

University of Central Florida, Orlando, Florida, U.S.A.

Bruce Batchelor

Cardiff University, Cardiff, U.K.

Harold E. Bennett

*Bennett Optical Research, Inc., Ridgecrest,
California, U.S.A.*

Piet Bijl

*Human Factors, Netherlands Organization for
Applied Scientific Research (TNO), Soesterberg,
the Netherlands*

Vincent A. Billock

*Ohio State University College of Optometry, Columbus,
Ohio, U.S.A.*

Joseph Braat

Delft University of Technology, Delft, the Netherlands

James J. Coleman

University of Illinois, Urbana, Illinois, U.S.A.

David Dickensheets

*Electrical and Computer Engineering Department,
Montana State University, Bozeman,
Montana, U.S.A.*

Timothy C. Edwards

*U.S. Army Redstone Technical Test Ctr., Redstone AL,
U.S.A.*

Robert D. Fiete

*Eastman Kodak Company, Rochester,
New York, U.S.A.*

Melvin Friedman

*U.S. Army Night Vision and Electronic
Sensors Directorate, Ft. Belvoir, Virginia,
U.S.A.*

Gary Gilbert

*Advanced Coherent Technologies, San Diego,
California, U.S.A.*

John Gowar

*Department of Electrical and Electronic Engineering,
University of Bristol, Bristol, U.K.*

Russell C. Hardie

*Electrical and Computer Engineering Department,
University of Dayton, Dayton, Ohio, U.S.A.*

Marjeed M. Hayat

*Department of Electrical and Computer Engineering,
University of New Mexico, Albuquerque,
New Mexico, U.S.A.*

Alan W. Hoffman

Acumen Scientific, Goleta, CA, U.S.A.

Dennis G. Howe

University of Arizona, Tucson, Arizona, U.S.A.

Jean-Pierre Huignard

Thales Research and Technology, Orsay, France

Jeffrey H. Hunt

Boeing Company, Canoga Park, California, U.S.A.

Suganda Jutamulia

*OmniVision Technologies Inc., University of
Northern California, Rohnert Park,
California, U.S.A.*

Abraham Katzir

Tel Aviv University, Tel Aviv, Israel

Norman S. Kopeika

Ben-Gurion University of the Negev, Be'er-Sheva, Israel

Keith Krapels

*U.S. Army Night Vision and Electronic Sensors
Directorate, Ft. Belvoir, Virginia,
U.S.A.*

Gerald F. Marshall

*Consultant, Optical Design and Engineering, Niles,
Michigan, U.S.A.*

Iraj Najafi

*Consultant, Photonics Industry, Vancouver, British
Columbia, Canada*

Gustaf Olsson

*Swedish Defense Research Agency,
Linköping, Sweden*

Jean-Paul Pocholle

Thales Research and Technology, Orsay, France

Dennis W. Prather

*Department of Electrical and Computer Engineering,
University of Delaware, Newark, Delaware, U.S.A.*

Bradley W. Schilling

*U.S. Army Night Vision and Electronic Sensors
Directorate, Ft. Belvoir, Virginia, U.S.A.*

Mark Schmalz

*Department of Computer and Information Science and
Engineering, University of Florida, Gainesville,
Florida, U.S.A.*

Joseph Shamir

*Department of Electrical Engineering,
Technion-Israel Institute of Technology, Haifa, Israel*

James Sowell

*School of Physics, Georgia Institute of Technology,
Atlanta, Georgia, U.S.A.*

Eberhard Spiller

Spiller X-Ray Optics, Livermore, California, U.S.A.

Richard Sutherland

*School of Natural and Social Sciences, Mount Vernon
Nazarene University, Mount Vernon, Ohio, U.S.A.*

Brian H. Tsou

*U.S. Air Force Research Laboratory,
Wright-Patterson Air Force Base, Ohio, U.S.A.*

J. Mathieu Valetton

*Netherlands Organization for Applied Scientific
Research (TNO), Soesterberg, the Netherlands*

Penny Warren

*Ball Aerospace & Technologies Corp., Boulder,
Colorado, U.S.A.*

Frank Wise

*School of Applied Engineering and Physics,
Cornell University, Ithaca, New York, U.S.A.*

Cynthia Y. Young

*Department of Mathematics, University of Central
Florida, Orlando, Florida, U.S.A.*

Contributors

- Joshua Abell** / *Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- Ilesanmi Adesida** / *Department of Electrical and Computer Engineering, Micro- and Nanotechnology Laboratory, University of Illinois at Urbana-Champaign, Urbana, Illinois, U.S.A.*
- G.S. Agarwal** / *Department of Physics, Oklahoma State University, Stillwater, Oklahoma, U.S.A.*
- Fernando Agulló López** / *Department of Materials Physics, Autonomous University of Madrid, Madrid, Spain*
- Mohammad S. Alam** / *Department of Electrical and Computer Engineering, University of South Alabama, Mobile, Alabama, U.S.A.*
- Javier Alda** / *Optics Department, Complutense University, Madrid, Spain*
- Larry C. Andrews** / *University of Central Florida, Orlando, Florida, U.S.A.*
- Josep Arasa** / *Department of Optics and Optometry, Polytechnic University of Catalonia, Barcelona, Spain*
- Mario N. Armenise** / *Department of Electrical and Information Engineering, Polytechnic University of Bari, Bari, Italy*
- George R. Armstrong** / *Thales Optronics Ltd., Glasgow, Scotland*
- John R. Arnold** / *Commercial Development, Dymax Corporation, Torrington, Connecticut, U.S.A.*
- Shlomi Arnon** / *Department of Electrical and Computer Engineering, Ben-Gurion University of the Negev, Be'er-Sheva, Israel*
- Francisco J. Arregui** / *Electrical and Electronic Engineering Department, Public University of Navarre, Pamplona, Spain*
- Gordon Arthur** / *Thales Optronics Ltd., Glasgow, Scotland*
- Andrew G. Bachmann** / *Research and Development, Dymax Corporation, Torrington, Connecticut, U.S.A.*
- Mauro Barni** / *Department of Information Engineering, University of Siena, Siena, Italy*
- Michael F. Barnsley** / *University of Melbourne, Parkville, Victoria, Australia*
- Julia A. Barsi** / *NASA Goddard Space Flight Center, Greenbelt, Maryland, U.S.A.*
- Franco Bartolini** / *Department of Electronics and Telecommunications, University of Florence, Florence, Italy*
- Bruce Batchelor** / *Cardiff University, Cardiff, U.K.*
- Mikhail S. Belen'kii** / *TREX Enterprises Corporation, San Diego, California, U.S.A.*
- Henri Benisty** / *Polytechnic School, Palaiseau, France*
- Harold E. Bennett** / *Bennett Optical Research, Inc., Ridgecrest, California, U.S.A.*
- Jean M. Bennett** / *Naval Air Warfare Center, China Lake, California, U.S.A.*
- Wendy Bennett** / *Pacific Northwest National Laboratory, Richland, Washington, U.S.A.*
- William W. Bewley** / *Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- Irving J. Bigio** / *Department of Biomedical Engineering, Boston University, Boston, Massachusetts, U.S.A.*
- Piet Bijl** / *Human Factors, Netherlands Organization for Applied Scientific Research (TNO), Soesterberg, the Netherlands*
- Vincent A. Billock** / *Ohio State University College of Optometry, Columbus, Ohio, U.S.A.*

- Bill Blecha** / *U.S. Army Night Vision and Electronic Sensors Directorate, Fort Belvoir, Virginia, U.S.A.*
- Florian Bociort** / *Delft University of Technology, Delft, the Netherlands*
- Donald Bord** / *Department of Natural Sciences, University of Michigan, Dearborn, Michigan, U.S.A.*
- Vladimir Bordo** / *Mads Clausen Institute, University of Southern Denmark, Sønderborg, Denmark*
- Sean Borman** / *Department of Electrical Engineering, University of Notre Dame, Notre Dame, Indiana, U.S.A.*
- Joseph Braat** / *Delft University of Technology, Delft, the Netherlands*
- Sophie Brasselet** / *Alembert Institute, Cachan, France*
- Christopher M. Brislawn** / *Computer Research and Applications, Los Alamos National Laboratory, Los Alamos, New Mexico, U.S.A.*
- F. Bucholtz** / *Optical Sciences Division, Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- Geoffrey W. Burr** / *IBM Almaden Research Center, San Jose, California, U.S.A.*
- José Manuel Cabrera Castillo** / *Department of Materials Physics, Autonomous University of Madrid, Madrid, Spain*
- Frank M. Caimi** / *Florida Institute of Technology, Melbourne, Florida, U.S.A.*
- Chadwick L. Canedy** / *Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- John Canning** / *Interdisciplinary Photonics Laboratories, University of Sydney, Sydney, New South Wales, Australia*
- Liangcai Cao** / *Department of Precision Instruments, Tsinghua University, Beijing, China*
- William H. Carter** / *Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- Alexander N. Cartwright** / *Department of Electrical Engineering, State University of New York–Buffalo, Buffalo, New York, U.S.A.*
- H. John Caulfield** / *Fisk University, Nashville, Tennessee, U.S.A.*
- Alex Lipchen Chan** / *U.S. Army Research Laboratory, Adelphi, Maryland, U.S.A.*
- F. Chen** / *Oracle Corporation, Nashua, New Hampshire, U.S.A.*
- Andrea Chiappini** / *Institute of Photonics and Nanotechnologies, Trento, Italy*
- Jaehee Cho** / *Future Chips Constellation, Department of Electrical, Computer, and Systems Engineering, Rensselaer Polytechnic Institute, Troy, New York, U.S.A.*
- Jong-Soo Choi** / *Department of Image Engineering, Chung-Ang University, Seoul, South Korea*
- K.K. Choi** / *U.S. Army Research Laboratory, Adelphi, Maryland, U.S.A.*
- Bhaskar Choubey** / *School of Engineering, University of Glasgow, Glasgow, Scotland*
- Inci Çilesiz** / *Electronics and Communication Engineering Department, Istanbul Technical University, Istanbul, Turkey*
- Caterina Ciminelli** / *Department of Electrical and Information Engineering, Polytechnic University of Bari, Bari, Italy*
- Thomas L. Clarke** / *Mathematics Department, University of Central Florida, Orlando, Florida, U.S.A.*
- William B. Clodius** / *Los Alamos National Laboratory, Los Alamos, New Mexico, U.S.A.*
- J.J. Coleman** / *University of Illinois, Urbana, Illinois, U.S.A.*
- Razvan Dabu** / *National Institute for Lasers, Plasma, and Radiation Physics, Bucharest, Romania*
- John G. Daly** / *Vector Engineering Inc., Sorrento, Florida, U.S.A.*
- Arnold Daniels** / *Keren-Or Engineering, Rocklin, California, U.S.A.*

- Panos G. Datskos** / *Engineering Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge / Department of Physics and Astronomy, University of Tennessee, Knoxville, Tennessee, U.S.A.*
- E.R. Davies** / *Department of Physics, Royal Holloway, University of London, Surrey, U.K.*
- Dawne M. Deaver** / *Communications-Electronics Research, Development and Engineering Center (CERDEC), U.S. Army Night Vision and Electronic Sensors Directorate, Ft. Belvoir, Virginia, U.S.A.*
- Nazif Demoli** / *Institute of Physics, Zagreb, Croatia*
- Carsten Denker** / *Physics Department, New Jersey Institute of Technology, Newark, New Jersey, U.S.A.*
- Cornelia Denz** / *University of Munster, Munster, Germany*
- Sandor Z. Der** / *U.S. Army Research Laboratory, Adelphi, Maryland, U.S.A.*
- Craig M. Deyerle** / *MacAulay-Brown, Inc., Shalimar, Florida, U.S.A.*
- Vikram Dhar** / *Solid State Physics Laboratory, Delhi, India*
- David Dickensheets** / *Electrical and Computer Engineering Department, Montana State University, Bozeman, Montana, U.S.A.*
- Ariela Donval** / *Alembert Institute, Cachan, France*
- Kyoung-Soo Doo** / *Department of Image Engineering, Chung-Ang University, Seoul South, Korea*
- Thomas H. Drayer** / *Electrical Engineering, Virginia Polytechnic Institute and State University, Falls Church, Virginia, U.S.A.*
- Yingzi Du** / *Electrical Engineering Department, United States Naval Academy, Annapolis, Maryland, U.S.A.*
- N.K. Dutta** / *Department of Physics, University of Connecticut, Storrs, Connecticut, U.S.A.*
- Vardit Eckhouse** / *Civcom Devices and Systems, Petah-Tikva, Israel*
- Louay Eldada** / *DuPont Photonics, Wilmington, Massachusetts, U.S.A.*
- Martin Elvis** / *Harvard University, Cambridge, Massachusetts, U.S.A.*
- Ludovic Escoubas** / *Field University of Saint Jerome, Marseille, France*
- Richard L. Espinola** / *Night Vision and Electronic Sensors Directorate, U.S. Army Communications-Electronics Research, Development and Engineering Center, Fort Belvoir, Virginia, U.S.A.*
- Patrick Fay** / *Department of Electrical Engineering, University of Notre Dame, Notre Dame, Indiana, U.S.A.*
- Mário F.S. Ferreira** / *I3N-Institute of Nanostructures, Nanomodelling and Nanofabrication, Department of Physics, University of Aveiro, Aveiro, Portugal*
- Michael Feser** / *Carl Zeiss X-Ray Microscopy, Pleasanton, California, U.S.A.*
- Robert D. Fiete** / *Eastman Kodak Company, Rochester, New York, U.S.A.*
- J. Fitzsimmons** / *Department of Radiology, University of Florida, Gainesville, Florida, U.S.A.*
- Francois Flory** / *Aix-Marseille University, Marseille, France*
- Nicklaus F. Fogt** / *Ohio State University, Columbus, Ohio, U.S.A.*
- Mário Marques Freire** / *Department of Informatics, University of Beira Interior, Covilha, Portugal*
- Michael Friedmann** / *KLA-Tencor Corporation, Migdal Ha'Emek Israel*
- James G. Fujimoto** / *Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, Massachusetts, U.S.A.*
- Madalina Furis** / *Department of Electrical Engineering, State University of New York-Buffalo, Buffalo, New York, U.S.A.*

- Nikolas P. Galatsanos** / *Department of Electrical and Computer Engineering, Illinois Institute of Technology, Chicago, Illinois, U.S.A.*
- A.R. Ganesan** / *Department of Physics, Indian Institute of Technology Madras, Chennai, India*
- Angel García Cabañes** / *Department of Materials Physics, Autonomous University of Madrid, Madrid, Spain*
- Marc Gazalet** / *Electronics Institute, University of Valenciennes Le Mont Houy, Valenciennes, France*
- Kurt W. Getreuer** / *Engineering, Plasmon Inc., Colorado Springs, Colorado, U.S.A.*
- Honor Glenn** / *Center for Biosignatures Discovery Automation, Arizona State University, Tempe, Arizona, U.S.A.*
- Dennis H. Goldstein** / *U.S. Air Force Research Laboratory, Eglin Air Force Base, Florida, U.S.A.*
- Leon Golub** / *Center of Astrophysics, Harvard University, Cambridge, Massachusetts, U.S.A.*
- Francisco González** / *Department of Applied Physics, University of Cantabria, Santander, Spain*
- Milton Gottlieb** / *Carnegie Mellon University, Pittsburgh, Pennsylvania, U.S.A.*
- John Gower** / *Department of Electrical and Electronic Engineering, University of Bristol, Bristol, U.K.*
- Arnaud Grisard** / *Thales Research and Technology, Orsay, France*
- Gilbert Grynberg** / *Department of Physics, Kastler-Brossel Laboratory, Paris, France*
- Claire Gu** / *Department of Electrical Engineering, University of California, Santa Cruz, California, U.S.A.*
- Min Gu** / *Centre for Micro-Photonics, Faculty of Science, Engineering and Technology, Swinburne University of Technology, Hawthorn, Victoria, Australia*
- Minzhi Gu** / *Department of Optical Engineering, Zhejiang University, Hangzhou Taiwan*
- Chun Guan** / *Department of Electrical Engineering and Computer Science, University of Kentucky, Lexington, Kentucky, U.S.A.*
- Philippe Guyot-Sionnest** / *Departments of Chemistry and Physics, University of Chicago, Chicago, Illinois, U.S.A.*
- David J. Hagan** / *College of Optics and Photonics, University of Central Florida, Orlando, Florida, U.S.A.*
- Carl E. Halford** / *Electrical and Computer Engineering Department, University of Memphis, Memphis, Tennessee, U.S.A.*
- John Hall** / *Optics 1, Inc., Manchester, New Hampshire, U.S.A.*
- Sung-Hyun Han** / *Software Development Department, Induk Institute of Technology, Seoul, South Korea*
- Russell C. Hardie** / *Electrical and Computer Engineering Department, University of Dayton, Dayton, Ohio, U.S.A.*
- Kevin G. Harding** / *Corporate Research and Development, General Electric Company, Schenectady, New York, U.S.A.*
- Neal R. Harvey** / *Los Alamos National Laboratory, Los Alamos, New Mexico, U.S.A.*
- Laurence G. Hasebrook** / *Department of Electrical Engineering and Computer Science, University of Kentucky, Lexington, Kentucky, U.S.A.*
- Michael P. Hasselbeck** / *Department of Astronomy, University of New Mexico, Albuquerque, New Mexico, U.S.A.*
- Majeed M. Hayat** / *Department of Electrical and Computer Engineering, University of New Mexico, Albuquerque, New Mexico, U.S.A.*
- John Hayes** / *Optical Sciences Center, 4D Technology Corporation, Tucson, Arizona, U.S.A.*
- Richard Heinisch** / *Technical Marketing Services, Lithonia Lighting, Conyers, Georgia, U.S.A.*

- Benno Hendriks** / *Department of Optics and Mechanics, Philips Research Laboratories, Eindhoven, the Netherlands*
- David S. Hermann** / *Department of Microelectronics and Nanoscience, Chalmers University of Technology, Gothenburg, Sweden*
- Hans Peter Herzig** / *Optics and Photonics Technology Laboratory, Swiss Federal Institutes of Technology, Neuchâtel, Switzerland*
- Van A. Hodgkin** / *Science Applications International Corporation, Arlington / Communications–Electronics Command (CECOM), U.S. Department of the Army, Fort Belvoir, Virginia, U.S.A.*
- John A. Hoffnagle** / *IBM Almaden Research Center, San Jose, California, U.S.A.*
- Hyun-Ki Hong** / *Department of Image Engineering, Chung-Ang University, Seoul South, Korea*
- Verena Horneffer** / *Medical Laser Center, Institute of Biomedical Optics, University of Luebeck, Luebeck, Germany*
- Adrian Horridge** / *Australian National University, Canberra, Australian Capital Territory, Australia*
- J. Grant Howard** / *Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- R. Hradaynath** / *Instruments Research and Development Establishment, Indian Defense Research and Development Organization, Dehradun, India*
- Hong Hua** / *University of Arizona, Tucson, Arizona, U.S.A.*
- Jean-Pierre Huignard** / *Thales Research and Technology, Orsay, France*
- Jeffrey H. Hunt** / *Boeing Company, Canoga Park, California, U.S.A.*
- Mike Hutley** / *Floating Images Ltd., Hampton, U.K.*
- John M. Irvine** / *Systems and Technology Division, Science Applications International Corporation, Burlington, Massachusetts, U.S.A.*
- Yasumasa Itakura** / *Department of Electronic Measurement, Shiga University, Otsu, Japan*
- Hiromasa Ito** / *Tohoku University, Sendai, Japan*
- Eddie Jacobs** / *Department of Electrical and Computer Engineering, University of Memphis, Memphis, Tennessee, U.S.A.*
- Sung-Gahb Jahng** / *Department of Image Engineering, Chung-Ang University, Seoul South, Korea*
- Jae-Hyung Jang** / *Department of Electrical and Computer Engineering, Micro- and Nanotechnology Laboratory, University of Illinois at Urbana–Champaign, Urbana, Illinois, U.S.A.*
- Guofan Jin** / *Department of Precision Instruments, Tsinghua University, Beijing, China*
- Stephen N. Joffe** / *LCA-Vision, Cincinnati, Ohio, U.S.A.*
- C. Bruce Johnson** / *Johnson Scientific Group Inc., Phoenix, Arizona, U.S.A.*
- Phil Jones** / *Physics and Astronomy, University College London, London, U.K.*
- Romuald Jozwicki** / *Warsaw University of Technology, Warsaw, Poland*
- Suganda Jutamulia** / *OmniVision Technologies Inc., University of Northern California, Rohnert Park, California, U.S.A.*
- C. Kapoor** / *Marketing and Partnering Products, Oracle Corporation, Sunnyvale, California, U.S.A.*
- Jean-Claude Kastelik** / *Electronics Institute, University of Valenciennes Le Mont Houy, Valenciennes, France*
- Aggelos K. Katsaggelos** / *Electrical Engineering and Computer Science, Northwestern University, Evanston, Illinois, U.S.A.*
- William Keel** / *Department of Physics and Astronomy, University of Alabama, Tuscaloosa, Alabama, U.S.A.*
- R. Norris Keeler** / *Directed Technologies, Inc., Arlington, Virginia, U.S.A.*

- Laimonas Kelbauskas** / *Center for Biosignatures Discovery Automation, Arizona State University, Tempe, Arizona, U.S.A.*
- Chul-Soo Kim** / *Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- Mijin Kim** / *Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- Masafumi Kimata** / *Mitsubishi Electric Corporation, Amagasaki, Japan*
- Jason M. Kinser** / *School of Physics, Astronomy, and Computational Sciences, George Mason University, Fairfax, Virginia, U.S.A.*
- Richard Klein** / *Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- P.L. Knight** / *Imperial College, London, U.K.*
- Abraham G. Kofman** / *Chemical Physics Department, Weizmann Institute of Science, Rehovot, Israel*
- Frank L. Kooi** / *Human Factors, Netherlands Organization for Applied Scientific Research (TNO), Soesterberg, the Netherlands*
- Norman S. Kopeika** / *Ben-Gurion University of the Negev, Be'er-Sheva, Israel*
- Keith Krapels** / *U.S. Army Night Vision and Electronic Sensors Directorate, Ft. Belvoir, Virginia, U.S.A.*
- Vishnu Vardhan Krishnamachari** / *University of Munster, Munster, Germany*
- Thomas U. Kuehl** / *Helmholtz Center for Heavy Ion Research (GSI), Darmstadt, Germany*
- Gershon Kurizki** / *Chemical Physics Department, Weizmann Institute of Science, Rehovot, Israel*
- R. Kuszelewicz** / *National Center of Scientific Research (CNRS), Marcoussis, France*
- Sven T. Lagerwall** / *Department of Microelectronics and Nanoscience, Chalmers University of Technology, Gothenburg, Sweden*
- Akhlesh Lakhtakia** / *Department of Engineering Science and Mechanics, Pennsylvania, State University, University Park, Pennsylvania, U.S.A.*
- Philippe LaLanne** / *National Center of Scientific Research (CNRS), Orsay, France*
- Eric Lallier** / *Thales Research and Technology, Orsay, France*
- Nicole Langer** / *Research and Development, Dymax Corporation, Torrington, Connecticut, U.S.A.*
- Nickolay V. Lavrik** / *Engineering Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee, U.S.A.*
- J. Le Rouzo** / *Aix-Marseille University, Marseille, France*
- Jon C. Leachtenauer** / *J/M Leachtenauer Associates, Charlottesville, Virginia, U.S.A.*
- Isabelle Ledoux-Rak** / *Alembert Institute, Cachan, France*
- C. Leonard** / *Department of Neuroscience, University of Florida, Gainesville, Florida, U.S.A.*
- A. Levenson** / *National Center of Scientific Research (CNRS), Marcoussis, France*
- Uriel Levy** / *Department of Physical Electronics, Tel-Aviv University, Tel-Aviv, Israel*
- Cheng-Chung Li** / *Corning, Inc., Corning, New York, U.S.A.*
- Xiangping Li** / *Centre for Micro-Photonics, Faculty of Science, Engineering and Technology, Swinburne University of Technology, Hawthorn, Victoria, Australia*
- Adam Liebert** / *Polish Academy of Sciences, Warsaw, Poland*
- J. Ryan Lindle** / *Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- Jingfeng Liu** / *Carnegie Mellon University, Pittsburgh, Pennsylvania, U.S.A.*
- William Livingston** / *National Solar Observatory, Tucson, Arizona, U.S.A.*
- Mats Löfdahl** / *Royal Swedish Academy of Sciences, Stockholm, Sweden*
- Eric Logean** / *Optics and Photonics Technology Laboratory, Swiss Federal Institutes of Technology, Neuchâtel, Switzerland*
- José Manuel López-Alonso** / *Optics Department, Complutense University, Madrid, Spain*

- Pascal Lorenz** / *University of Upper Alsace, Colmar, France*
- K. Lu** / *Multiplex Inc., South Plainfield, New Jersey, U.S.A.*
- A. G. Luchinin** / *Russian Academy of Science, Nizhny Novgorod, Russia*
- Alexander I. Lvovsky** / *Department of Physics and Astronomy, University of Calgary, Calgary, Alberta, Canada*
- Robert P. Madding** / *FLIR Systems, Inc., North Billerica, Massachusetts, U.S.A.*
- Virendra N. Mahajan** / *Aerospace Corporation, El Segundo / Electrical Engineering-Electrophysics Department, University of Southern California, Los Angeles, California, U.S.A.*
- Joseph N. Mait** / *U.S. Army Research Laboratory, Adelphi, Maryland, U.S.A.*
- Walter Makous** / *University of Rochester, Rochester, New York, U.S.A.*
- Daniel Malacara-Hernández** / *Center for Optical Investigations, A.C., Leon, Mexico*
- Eliot Malumuth** / *Science Systems and Applications, Inc., Goddard Space Flight Center, Greenbelt, Maryland, U.S.A.*
- Roman Maniewski** / *Polish Academy of Sciences, Warsaw, Poland*
- Robert L. Marcialis** / *Lunar and Planetary Laboratory, University of Arizona, Tucson, Arizona, U.S.A.*
- Peter Martin** / *Pacific Northwest National Laboratory, Richland, Washington, U.S.A.*
- Guillermo Martin-Fuchs** / *Alembert Institute, Cachan, France*
- Ignacio R. Matias** / *Electrical and Electronic Engineering Department, Public University of Navarre, Pamplona, Spain*
- Martin W. McCall** / *Department of Physics, Blackett Laboratory, Imperial College of Science, Technology and Medicine, London, U.K.*
- William Ross McCluney** / *Florida Solar Energy Center, University of Central Florida, Cocoa, Florida, U.S.A.*
- Robert S. McCuskey** / *Department of Cell Biology and Anatomy, University of Arizona, Tucson, Arizona, U.S.A.*
- Mark D. McDowell** / *Fluid Physics Flight Projects Branch, National Aeronautics and Space Administration (NASA), Cleveland, Ohio, U.S.A.*
- Matthew J. McGill** / *National Aeronautics and Space Administration (NASA), Greenbelt, Michigan, U.S.A.*
- Don M. McKeown** / *Rochester Institute of Technology, Rochester, New York, U.S.A.*
- C. McLaughlin** / *Optical Sciences Division, Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- David Mendlovic** / *Department of Physical Electronics, Tel-Aviv University, Tel-Aviv, Israel*
- Hongxiang Meng** / *Department of Optical Engineering, Zhejiang University, Hangzhou, Taiwan*
- Francois Meyer** / *Department of Electrical Engineering, Department of Radiology, University of Colorado, Boulder, Colorado, U.S.A.*
- Jerry R. Meyer** / *Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- J. Michalowicz** / *Sotera Defense Solutions, Herndon, Virginia, U.S.A.*
- Leonard Miglore** / *Laser Kinetics, Inc., Sunnyvale, California, U.S.A.*
- Jean Montagu** / *Brookline, Massachusetts, U.S.A.*
- Mark Montgomery** / *NOAH Industries, Inc., Melbourne, Florida, U.S.A.*
- Fernando Moreno** / *Department of Applied Physics, University of Cantabria, Santander, Spain*
- Geert Morthier** / *Department of Information Technology, Ghent University, Ghent, Belgium*
- Judith R. Mourant** / *Los Alamos National Laboratory, Los Alamos, New Mexico, U.S.A.*
- Pantazis Z. Mouroulis** / *Jet Propulsion Laboratory, California Institute of Technology, Pasadena, California, U.S.A.*

- Mikhail Mozerov** / *Autonomous University of Barcelona, Barcelona, Spain*
- W.J. Munro** / *Hewlett-Packard Laboratories, Bristol, U.K.*
- Allen L. Nagy** / *Department of Psychology, Wright State University, Dayton, Ohio, U.S.A.*
- Nasser M. Nasrabadi** / *U.S. Army Research Laboratory, Adelphi, Maryland, U.S.A.*
- J.M. Nichols** / *Optical Sciences Division, Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- Paul Norton** / *Night Vision and Electronic Sensors Directorate, U.S. Army Communications—Electronics Research, Development and Engineering Center, Fort Belvoir, Virginia, U.S.A.*
- Barbara L. O’Kane** / *Communications-Electronics Research, Development and Engineering Center (CERDEC), U.S. Army Night Vision and Electronic Sensors Directorate, Ft. Belvoir, Virginia, U.S.A.*
- Gary O’Brien** / *Science Applications International Corporation, Arlington, Virginia, U.S.A.*
- John D. O’Connor** / *U.S. Army Communications—Electronics Command, Research, Development and Engineering Center, U.S. Army Night Vision and Electronic Sensors Directorate, Fort Belvoir, Virginia, U.S.A.*
- Takeo Ohta** / *Energy Conversion Devices, Inc., Rochester Hills, Michigan, U.S.A.*
- Gustaf Olsson** / *Swedish Defence Research Agency, Linköping, Sweden*
- Stanford R. Ovshinsky** / *Energy Conversion Devices, Inc., Rochester Hills, Michigan, U.S.A.*
- Stephen J. Pearton** / *Department of Materials Science and Engineering, University of Florida, Gainesville, Florida, U.S.A.*
- Saravanan M. Peelamedu** / *Mechanical, Industrial, and Manufacturing Engineering Department, University of Toledo, Toledo, Ohio, U.S.A.*
- Ronald L. Phillips** / *University of Central Florida, Kennedy Space Center, Florida, U.S.A.*
- Jean-Paul Pocholle** / *Thales Research and Technology, Orsay, France*
- Alois K. Popp** / *Unilever Research, Vlaardingen, the Netherlands*
- Dennis W. Prather** / *Department of Electrical and Computer Engineering, University of Delaware, Newark, Delaware, U.S.A.*
- Mihaela D. Quirk** / *Los Alamos National Laboratory, Los Alamos, New Mexico, U.S.A.*
- James A. Ratches** / *U.S. Army Communications—Electronics Command, Research, Development and Engineering Center, U.S. Army Night Vision and Electronic Sensors Directorate, Fort Belvoir, Virginia, U.S.A.*
- Deqing Ren** / *Department of Astronomy and Astrophysics, Pennsylvania State University, University Park, Pennsylvania, U.S.A.*
- William R. Reynolds** / *Signature Research, Inc., Calumet, Michigan, U.S.A.*
- John A. Richards** / *Sandia National Laboratories, Albuquerque, New Mexico, U.S.A.*
- Giancarlo C. Righini** / *Enrico Fermi Center, Rome / Nello Carrara Institute of Applied Physics, Florence, Italy*
- Francesc Rocadenbosch** / *Antennas, Microwaves Radar and Optics Group (AMRO), Polytechnic University of Catalunya, Barcelona, Spain*
- Joel J.P.C. Rodrigues** / *Department of Informatics, University of Beira Interior, Covilha, Portugal*
- Antoni Rogalski** / *Institute of Applied Physics, Military University of Technology, Warsaw, Poland*
- Jannick P. Rolland** / *University of Central Florida, Orlando, Florida, U.S.A.*
- Hendrik Rothe** / *Department of Mechanical Engineering, University of the Federal Armed Forces, Hamburg, Germany*
- Per G. Rudquist** / *Department of Microelectronics and Nanoscience, Chalmers University of Technology, Gothenburg, Sweden*

- S. Sahni** / *Department of Computer and Information Science and Engineering (CISE), University of Florida, Gainesville, Florida, U.S.A.*
- Jose M. Saiz** / *Department of Applied Physics, University of Cantabria, Santander, Spain*
- Alan C. Samuels** / *Edgewood Chemical and Biological Center, Department of the Army, Aberdeen Proving Ground, Maryland, U.S.A.*
- Pedro Sanchez** / *Electrical and Electronic Engineering Department, Public University of Navarre, Pamplona, Spain*
- Jasbinder S. Sanghera** / *U.S. Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- José M. Sasián** / *University of Arizona, Tucson, Arizona, U.S.A.*
- Toralf Scharf** / *Optics and Photonics Technology Laboratory, Swiss Federal Institutes of Technology, Neuchâtel, Switzerland*
- Andreas Schilling** / *OVD Kinegram AG, Zug, Switzerland*
- Bradley W. Schilling** / *U.S. Army Night Vision and Electronic Sensors Directorate, Ft. Belvoir, Virginia, U.S.A.*
- Jean Schleipen** / *Department of Optics and Mechanics, Philips Research Laboratories, Eindhoven, the Netherlands*
- Mark S. Schmalz** / *Department of Computer and Information Science and Engineering, University of Florida, Gainesville, Florida, U.S.A.*
- John R. Schott** / *Rochester Institute of Technology, Rochester, New York, U.S.A.*
- E. Fred Schubert** / *Future Chips Constellation, Department of Electrical, Computer, and Systems Engineering, Rensselaer Polytechnic Institute, Troy, New York, U.S.A.*
- Jonathon M. Schuler** / *Optical Sciences Division, Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- Sylvain Schwartz** / *Thales Research Group and Technology France, Palaiseau, France*
- Steven M. Scott** / *Precision Technology Center, Reflexite, West Henrietta, New York, U.S.A.*
- Dean Scribner** / *Naval Research Laboratory, Washington, District of Columbia, U.S.A.*
- Richard Sears** / *Department of Astronomy, University of Michigan, Ann Arbor, Michigan, U.S.A.*
- C. Andrew Segall** / *Electrical Engineering and Computer Science, Northwestern University, Evanston, Illinois, U.S.A.*
- J. Anthony Seibert** / *Department of Radiology, University of California–Sacramento, Sacramento, California, U.S.A.*
- Gal Shabtay** / *Department of Physical Electronics, Tel-Aviv University, Tel-Aviv, Israel*
- Joseph Shamir** / *Department of Electrical Engineering, Technion-Israel Institute of Technology, Haifa, Israel*
- David L. Shealy** / *Department of Physics, University of Alabama at Birmingham, Birmingham, Alabama, U.S.A.*
- Mansoor Sheik-Bahae** / *Department of Physics and Astronomy, University of New Mexico, Albuquerque, New Mexico, U.S.A.*
- Colin Sheppard** / *Italian Institute of Technology, Genova, Italy*
- Bhimsen K. Shivamoggi** / *Department of Mathematics, University of Central Florida, Orlando, Florida, U.S.A.*
- Vitaly E. Shubin** / *Solid State Department, P.N.Lebedev Physical Institute, Moscow, Russia*
- Dmitry A. Shushakov** / *Solid State Department, P.N.Lebedev Physical Institute, Moscow, Russia*
- Jan Sijbers** / *University of Antwerp, Antwerp, Belgium*

- Paulo E.X. Silveira** / *Network Photonics, Inc., Boulder, Colorado, U.S.A.*
- J.J. Simon** / *Aix-Marseille University, Marseille, France*
- Jonathan Simpkins** / *Department of Electrical Engineering, University of Notre Dame, Notre Dame, Indiana, U.S.A.*
- Ikbal Singh** / *Instruments Research and Development Establishment, Indian Defense Research and Development Organization, Dehradun, India*
- Shyam Singh** / *Department of Physics, University of Namibia, Windhoek, Namibia*
- L.N. Sinita** / *Russian Academy of Sciences, Tomsk, Russia*
- Rajpal S. Sirohi** / *Department of Physics and Optical Engineering, Rose-Hulman Institute of Technology, Terre Haute, Indiana, U.S.A.*
- G. Smith** / *Department of Optometry and Vision Sciences, University of Melbourne, Carlton, Victoria, Australia*
- Abian B. Socorro** / *Electrical and Electronic Engineering Department, Public University of Navarre, Pamplona, Spain*
- Manjunath Somayaji** / *Image Sensing Group, ON Semiconductor, San Jose, California, U.S.A.*
- Feijun Song** / *China Daheng Corporation, Beijing, China*
- Thomas F. Soules** / *Lawrence Livermore National Laboratory, Livermore, California, U.S.A.*
- James R. Sowell** / *School of Physics, Georgia Institute of Technology, Atlanta, Georgia, U.S.A.*
- Eberhard Spiller** / *Spiller X-Ray Optics, Livermore, California, U.S.A.*
- Kenneth R. Spring** / *Kidney and Electrolyte Metabolism Laboratory, National Institutes of Health, Bethesda, Maryland, U.S.A.*
- Sjoerd S. Stallinga** / *Department of Optics and Mechanics, Philips Research Laboratories, Eindhoven, the Netherlands*
- Daniel D. Stancil** / *Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, Pennsylvania, U.S.A.*
- Ian C. Stevenson** / *Coating Division, Denton Vacuum, LLC, Moorestown, New Jersey, U.S.A.*
- Robert L. Stevenson** / *Department of Electrical Engineering, University of Notre Dame, Notre Dame, Indiana, U.S.A.*
- Larry B. Stotts** / *Stotts Consulting LLC, Vienna, Virginia, U.S.A.*
- Thomas J. Suleski** / *Department of Physics and Optical Science, University of North Carolina, Charlotte, North Carolina, U.S.A.*
- Richard L. Sutherland** / *School of Natural and Social Sciences, Mount Vernon Nazarene University, Mount Vernon, Ohio, U.S.A.*
- Lars O. Svaasand** / *Faculty of Electrical Engineering and Telecommunications, Norwegian University of Science and Technology, Trondheim, Norway*
- Donald W. Sweeney** / *Lawrence Livermore National Laboratory (Retired), Livermore, California, U.S.A.*
- Robert M. Sweet** / *Biology Department, Brookhaven National Laboratory, Upton, New York, U.S.A.*
- Robert C. Sze** / *Los Alamos National Laboratory, Los Alamos, New Mexico, U.S.A.*
- Aris Tanone** / *Teledyne Brown Engineering, Huntsville, Alabama, U.S.A.*
- Myrian Tebaldi** / *Department of Physics and Mathematics, Center for Optical Investigations, La Plata, Argentina*
- Ari Tervonen** / *Nokia Research Center, Helsinki, Finland*
- James Theiler** / *Los Alamos National Laboratory, Los Alamos, New Mexico, U.S.A.*
- Alexander Toet** / *Human Factors, Netherlands Organization for Applied Scientific Research (TNO), Soesterberg, the Netherlands*