

# IEEE TRANSACTIONS ON PLASMA SCIENCE

The IEEE Nuclear and Plasma Sciences Society is an organization, within the framework of the IEEE, of members with principal professional interest in the field of plasma science. All members of the IEEE are eligible for membership in the Society and will receive this TRANSACTIONS upon payment of the annual Society membership fee of \$16.00 plus an annual subscription fee of \$50.00. For information on joining, write to the IEEE at the address below. *Member copies of Transactions/Journals are for personal use only.*

## ADMINISTRATIVE COMMITTEE

### Society Officers

#### President

W. W. MOSES  
Lawrence Berkeley Laboratory  
Mailstop 55-121  
1 Cyclotron Road  
Berkeley, CA 94720  
(510) 486-4432  
FAX: (510) 486-4768  
wwmoses@lbl.gov

#### Vice President

J. M. LEHR  
Sandia National Laboratories  
P.O. Box 5800, MS 1193  
Albuquerque, NM 87185-1193  
(505) 844-8554  
FAX: (505) 844-8467  
jmlegr@sandia.gov

#### Secretary

A. M. DAWSON LARSEN  
Stanford Linear  
Accelerator Ctr.  
P.O. Box 4349  
Stanford, CA 94309  
(650) 926-2748  
FAX: (650) 926-5124  
a.dawson@ieee.org

#### Treasurer

E. J. LAMPO  
Univ. of Calif.  
Lawrence Berkeley  
Laboratory, 80-101  
Berkeley, CA 94720  
(510) 486-6779  
FAX: (510) 486-5800  
e.lampo@ieee.org

#### Past President

P. S. WINOKUR  
Office of Senator Reid  
528 Hart Senate Office  
Building  
Washington, DC 20510  
(202) 224-3542  
FAX: (202) 224-7327  
p.winokur@ieee.org

## Technical Committee Chairmen

(see directory)

*Computer Applications in  
Nuclear and Plasma Sciences*  
C. BOULIN

*Fusion Technology*  
P. J. HEITZENROEDER

*Nuclear Instruments  
and Detectors*  
R. M. KEYSER

*Nuclear and Medical Imaging  
Sciences*  
R. J. JASZCZAK

*Particle Accelerator Science  
and Technology*  
B. C. BROWN

*Plasma Science and  
Applications*  
T. W. HUSSEY

*Radiation Effects*  
D. G. PLATTETER

*Radiation Instrumentation*  
R. M. KEYSER

*Pulsed Power Science  
and Technology*  
R. E. REINOVSKY

## Functional Committee Chairmen

*Awards*  
I. ALEXEFF

*Chapter and  
Local Activities*  
V. G. PRICE

*Communications*  
P. N. CLOUT

*Conference Policy*  
R. S. LARSEN

*Fellow Candidate  
Evaluation*  
O. ISHIHARA

*Finance*  
H. L. FLESCHER

*Membership*  
V. G. PRICE

*Newsletter*  
W. K. DAWSON

*Nominations*  
P. S. WINOKUR

*Publications*  
P. V. DRESSENDORFER

*Students and Careers*  
K. A. CONNOR and  
E. SCHAMILOGLU

*Transnational*  
E. H. M. HEIJNE

## NPSS Liaison Representatives in IEEE Committees

*Transactions on Medical Imaging Steering Committee*  
A. B. BRILL and R. J. JASZCZAK

*Professional Activities Council for Engineers (PACE)*  
J. R. FORSTER

## NPSS Liaison Representatives to IEEE-USA Committees

*Energy Policy*  
N. R. SOUTHOFF

*Distinguished Lecturer Program*  
V. G. PRICE

*Research and Development Policy*  
VACANT

*TAB Newsletters*  
W. K. DAWSON

*TAB New Technology Directions*  
P. S. WINOKUR

*Social Implications of Technology*  
R. S. LARSEN

*Sensors Council*  
E. H. M. HEIJNE

*Standards Liaison*  
J. R. FORSTER

*TAB Products*  
P. S. WINOKUR

*TAB Awards and Recognition*  
R. J. JASZCZAK

## IEEE TRANSACTIONS ON PLASMA SCIENCE

S. J. GITOMER, *Editor*

### Associate Editors

I. ALEXEFF  
R. L. BOXMAN  
R. J. COMMISSO

S. H. GOLD  
A. HIROSE  
T. C. KATSIOULEAS  
J. DRUMMOND, *Founding Editor (1973-1978)*

H. KUEHL  
M. J. KUSHNER  
G. S. NUSINOVICH

A. L. PERATT  
G. L. ROGOFF  
E. SCHAMILOGLU  
E. J. POWERS, JR., *Editor (1979-1983)*

K. H. SCHOENBACH  
J. L. SHOHET  
P. K. SHUKLA

## IEEE Officers

W. CLEON ANDERSON, *President and CEO*  
MICHAEL R. LIGHTNER, *President-Elect*  
MOHAMED EL-HAWARY, *Secretary*  
JOSEPH V. LILLIE, *Treasurer*  
ARTHUR W. WINSTON, *Past President*  
MOSHE KAM, *Vice President, Educational Activities*

LEAH H. JAMIESON, *Vice President, Publication Services and Products*  
MARC T. APTER, *Vice President, Regional Activities*  
DONALD N. HEIRMAN, *President, IEEE Standards Association*  
JOHN R. VIG, *Vice President, Technical Activities*  
GERARD A. ALPHONSE, *President, IEEE-USA*

STUART A. LONG, *Director, Division IV—Electromagnetics and Radiation*

## IEEE Executive Staff

DONALD CURTIS, *Human Resources*  
ANTHONY DURNIAK, *Publications Activities*  
JUDITH GORMAN, *Standards Activities*  
CECELIA JANKOWSKI, *Regional Activities*  
BARBARA COBURN STOLER, *Educational Activities*

MATTHEW LOEB, *Corporate Strategy & Communications*  
RICHARD D. SCHWARTZ, *Business Administration*  
CHRIS BRANTLEY, *IEEE-USA*  
MARY WARD-CALLAN, *Technical Activities*  
SALLY A. WASELIK, *Information Technology*

## IEEE Periodicals

### Transactions/Journals Department

*Staff Director:* FRAN ZAPPULLA

*Editorial Director:* DAWN MELLEY      *Production Director:* ROBERT SMREK

*Managing Editor:* JEFFREY E. CICHOCKI      *Assistant Editor:* CYNTHIA BALEJCSIK

IEEE TRANSACTIONS ON PLASMA SCIENCE (ISSN 0093-3813) is published bimonthly by The Institute of Electrical and Electronics Engineers, Inc. Responsibility for the contents rests upon the authors and not upon the IEEE, the Society/Council, or its members. **IEEE Corporate Office:** 3 Park Avenue, 17th Floor, New York, NY 10016-5997. **IEEE Operations Center:** 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331. **NJ Telephone:** +1 732 981 0060. **Price/Publication Information:** Individual copies: IEEE members \$20.00 (first copy only), nonmembers \$136.00 per copy. (Note: Postage and handling charge not included.) Member and nonmember subscription prices available on request. Available in microfiche and microfilm. **Copyright and Reprint Permissions:** Abstracting is permitted with credit to the source. Libraries are permitted to photocopy for private use of patrons, provided the per-copy fee indicated in the code at the bottom of the first page is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. For all other copying, reprint, or republication permission, write to Copyrights and Permissions Department, IEEE Publications Administration, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331. Copyright © 2005 by The Institute of Electrical and Electronics Engineers, Inc. All rights reserved. Periodicals Postage Paid at New York, NY and at additional mailing offices. **Postmaster:** Send address changes to IEEE TRANSACTIONS ON PLASMA SCIENCE, IEEE, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331. GST Registration No. 125634188. Printed in U.S.A.