

## MRS Members Elect 1992 Officers, Councillors

In the yearly elections held this past September, MRS members elected eight colleagues to leadership positions in the MRS Council. Newly elected as MRS officers are First Vice President and President Elect, S. Thomas Picraux, Second Vice President John C. Bravman, and Secretary Lynn A. Boatner. The six newly elected Councillors include Aaron N. Bloch, R.P.H. Chang, Russell R. Chianelli, Robert Hull, Carol M. Jantzen, and Paul S. Peercy.

Previously elected First Vice President in 1991, G. Slade Cargill automatically becomes the 1992 MRS President. Also in 1992, Charles B. Duke continues as Treasurer in his two-year position, and 1991 President James B. Roberto serves as Immediate Past President.

### 1992 MRS Officers

#### President

G. Slade Cargill III (1992)  
IBM T.J. Watson Research Center

#### Immediate Past President

James B. Roberto (1992)  
Oak Ridge National Laboratory

#### First Vice President (President Elect)

\* S. Thomas Picraux (1992)  
Sandia National Laboratories

#### Second Vice President

\* John C. Bravman (1992)  
Stanford University

#### Secretary

\* Lynn A. Boatner (1993)  
Oak Ridge National Laboratory

#### Treasurer

Charles B. Duke (1992)  
Xerox Webster Research Center

### 1992 MRS Councillors

John E.E. Baglin (1992)  
IBM Almaden Research Center

\* Aaron N. Bloch (1994)  
Columbia University

\* R.P.H. Chang (1994)  
Northwestern University

\* Russell R. Chianelli (1994)  
Exxon Research and Engineering  
Company

Mildred S. Dresselhaus (1992)  
Massachusetts Institute of Technology

Gregory C. Farrington (1993)  
University of Pennsylvania

J. Murray Gibson (1992)  
University of Illinois-Urbana

\* Robert Hull (1994)  
AT&T Bell Laboratories

\* Carol M. Jantzen (1994)  
Westinghouse Savannah River  
Company

Edward J. Kramer (1992)  
Cornell University

\* Paul S. Peercy (1994)  
Sandia National Laboratories

Julia M. Phillips (1993)  
AT&T Bell Laboratories

Rustum Roy (1993)  
Pennsylvania State University

Frans Spaepen (1992)  
Harvard University

Carl V. Thompson (1993)  
Massachusetts Institute of Technology

\* Newly Elected  
(Term of office expires at end of year indicated in  
parenthesis.)

## MRS Establishes David Turnbull Lectureship

The Materials Research Society recently approved establishment of the David Turnbull Lectureship. This yearly award will recognize the career of a scientist who has made outstanding contributions to understanding materials phenomena and properties through research, writing, and lecturing, as exemplified by the life work of David Turnbull. The Lectureship will also be a means to provide lectures of exceptional quality and scientific significance for the MRS Fall Meeting as well as, possibly, MRS Section and University Chapter meetings.

The Turnbull Lecturer will receive a \$2,000 honorarium and a citation plaque. The award will include travel expenses to the MRS meeting at which the Turnbull Lecture is given and also additional funds to enable the recipient to speak as the Turnbull Lecturer for MRS Sections and University Chapters.

Plans are to name the first David Turnbull Lecturer at the 1992 MRS Fall Meeting and nominations are being accepted.

### Rules and Eligibility

Nominations for the Turnbull Lecturer may be made for scientists and engineers

in all areas of materials science. The primary consideration in making the award is the nominee's career contribution to the fundamental understanding of materials phenomena and properties, through research, writing, and lecturing.

Nominees need not be members of the Materials Research Society, and nominees of any national origin or citizenship are eligible.

Current members of the MRS Awards Committee, MRS officers, and previous Turnbull Lecturers are not eligible.

Selection of the Turnbull Lecturer must be approved by the MRS Executive Committee with recommendation from the Awards Committee. The decision of the Executive Committee is final.

The Lectureship will not be awarded in absentia. The Lecture must be given within 12 months of the selection at an MRS Fall Meeting.

### Nomination Procedure

A package containing the following is required:

1. A statement by the nominator supporting the candidate's suitability to be designated the Turnbull Lecturer, with re-


spect to the importance of the candidate's research contributions to the fundamental understanding of materials, quality of the candidate's writing and lectures, candidate's role in education and graduate training in materials research.

2. Supporting information and documents, e.g., curriculum vitae including a list of key publications.

3. Letters of support from established scientists familiar with the nominee's qualifications and area of research. Only three such letters will be accepted with each nomination. Each letter should make specific reference to the criteria listed in item 1.

4. A list of supporting documents submitted. The entire nomination package, excluding (p)reprints, should not exceed 12 pages.

A nomination for a Turnbull Lectureship remains under consideration for three years, and it may be updated by the nominator during that time.

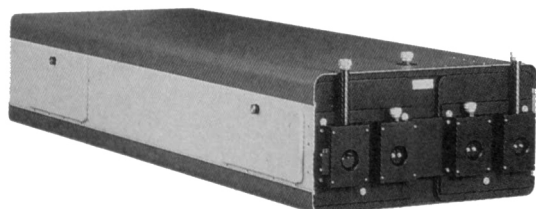
Nominations can be submitted to: John B. Ballance, Executive Director, Attention: Turnbull Lectureship (B), Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237. 

Please visit Booth No. 610 at the MRS Equipment Exhibit in Boston, December 3-5, 1991.



# The DMDP 2000 SPECTROMETER

“An enabling technology for  
Raman and Brillouin  
Spectroscopy”



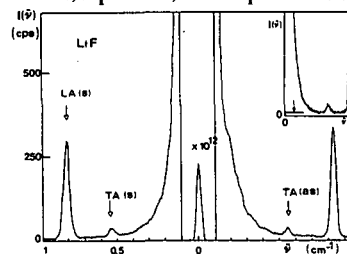
SOPRA's new DMDP 2000 high resolution spectrometer is a high performance two meter double-pass double monochromator.

The DMDP 2000 combines a resolution of  $0.025 \text{ cm}^{-1}$  and a contrast of  $10^{-14}$  while utilizing the same sound engineering design for which SOPRA spectrometers are renowned. The resulting precision, flexibility, and stability truly put the DMDP 2000 in a class of its own.

The benefits of the DMDP 2000 can easily be recognised in a wide variety of spectroscopic techniques :

- Raman and micro-Raman spectroscopy
- Brillouin spectroscopy/acoustic mode analysis
- Fluorescence spectroscopy
- Emission spectroscopy

The DMDP 2000 is an enabling technology for the understanding of materials such as semiconductors, superlattices, HTC superconductors and diamond.



In order to get more information on the DMDP 2000, just fax or call :

**North America**  
SOPRA Inc. : Tel. : (508) 263-25 20 - Fax : (508) 263-27 90  
**Japan**  
SEIKA Corp. : Tel. : (33) 346-83 11 - Fax : (33) 346-8314  
**Europe**  
SOPRA GmbH : Tel. : (06152) 5092 - Fax : (06152) 55201  
SOPRA S.A. : Tel. : 47 81 09 49 - Fax : 42 42 29 34

Circle No. 40 on Reader Service Card.

D S R C

## NEW FROM MRS—1991 Spring Meeting Proceedings

### Amorphous Silicon Technology — 1991

Editors: A. Madan, Y. Hamakawa, M. Thompson,  
P.C. Taylor, P.G. LeComber, 1991, 885 pgs.  
ISBN: 1-55899-113-1 Volume 219B  
\$57 MRS Members \$64 U.S. List \$71 Foreign

### Silicon Molecular Beam Epitaxy

Editors: J.C. Bean, S. Iyer, K. Wang, 1991, 649 pgs.  
ISBN: 1-55899-114-X Volume 220B  
\$52 MRS Members \$59 U.S. List \$66 Foreign

### Heteroepitaxy of Dissimilar Materials

Editors: R.F.C. Farrow, J.P. Harbison, P.S. Peercy,  
A. Zangwill, 1991, 499 pgs.  
ISBN: 1-55899-115-8 Volume 221B  
\$56 MRS Members \$63 U.S. List \$68 Foreign

### Atomic Layer Growth and Processing

Editors: T.F. Kuech, P.D. Dapkus, Y. Aoyagi, 1991,  
359 pgs.  
ISBN: 1-55899-116-6 Volume 222B  
\$52 MRS Members \$59 U.S. List \$66 Foreign

### Low Energy Ion Beam and Plasma Modification of Materials

Editors: J.M.E. Harper, K. Miyake, J.R. McNeil,  
S.M. Gorbalkin, 1991, 397 pgs.  
ISBN: 1-55899-117-4 Volume 223B  
\$49 MRS Members \$56 U.S. List \$63 Foreign

### Rapid Thermal and Integrated Processing

Editors: J.C. Gelpey, M.L. Green, J. Wortman,  
R. Singh, 1991, 503 pgs.  
ISBN: 1-55899-118-2 Volume 224B  
\$53.00 MRS Members \$60 U.S. List \$67 Foreign

### Materials Reliability Issues in Microelectronics

Editors: J.R. Lloyd, P.S. Ho, C.T. Sah, F. Yost, 1991,  
359 pgs.  
ISBN: 1-55899-119-0 Volume 225B  
\$47 MRS Members \$54 U.S. List \$61 Foreign

### Mechanical Behavior of Materials and Structures in Microelectronics

Editors: E. Suhir, R.C. Cammarata, D.D.L. Chung,  
M. Jono, 1991, 454 pgs.  
ISBN: 1-55899-120-4 Volume 226B  
\$49 MRS Members \$56 U.S. List \$63 Foreign

### Materials Science of High Temperature Polymers for Microelectronics

Editors: D.T. Grubb, I. Mita, D.Y. Yoon, 1991, 400 pgs.  
ISBN: 1-55899-121-2 Volume 227B  
\$52 MRS Members \$59 U.S. List \$64 Foreign

### Materials for Optical Information Processing

Editors: C. Warde, J. Stamatoff, W. Wang  
ISBN: 1-55899-122-0 Volume 228B  
\$47 MRS Members \$54 U.S. List \$61 Foreign

### Structure/Property Relationships for Metal/Metal Interfaces

Editors: A.D. Romig, D.E. Fowler, P.D. Bristowe, 1991,  
357 pgs.  
ISBN: 1-55899-123-9 Volume 229B  
\$52 MRS Members \$59 U.S. List \$63 Foreign

Order from: Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237; Phone (412) 367-3012, FAX (412) 367-4373.

In Europe, Africa and the Middle East: Clarke Associates—Europe Ltd., 13a Small Street, Bristol BS1 1DE, England, Phone 0272 268864; FAX: 0272 226437.

### Phase Transformation Kinetics in Thin Films

Editors: M. Chen, M. Thompson, R. Schwarz,  
M. Libera  
ISBN: 1-55899-124-7 Volume 230B  
\$42 MRS Members \$49 U.S. List \$56 Foreign

### Magnetic Thin Films, Multilayers and Surfaces

Editor: S.S.P. Parkin  
ISBN: 1-55899-125-5 Volume 231B  
\$47 MRS Members \$54 U.S. List \$60 Foreign

### Magnetic Materials: Microstructure and Properties

Editors: T. Suzuki, Y. Sugita, B.M. Clemens, K. Ouchi,  
D.E. Laughlin, 1991, 347 pgs.  
ISBN: 1-55899-126-3 Volume 232B  
\$47 MRS Members \$54 U.S. List \$60 Foreign

### Synthesis/Characterization and Novel Applications of Molecular Sieve Materials

Editors: R.L. Bedard, T. Bein, M.E. Davis, J. Garces,  
V.A. Maroni, G.D. Stucky, 1991, 303 pgs.  
ISBN: 1-55899-127-1 Volume 233B  
\$47 MRS Members \$54 U.S. List \$60 Foreign

### Modern Perspectives on Thermoelectrics and Related Materials

Editors: D.D. Allred, C. Vining, G. Slack, 1991,  
245 pgs.  
ISBN: 1-55899-128-X Volume 234B  
\$52 MRS Members \$59 U.S. List \$66 Foreign

910011/910043B

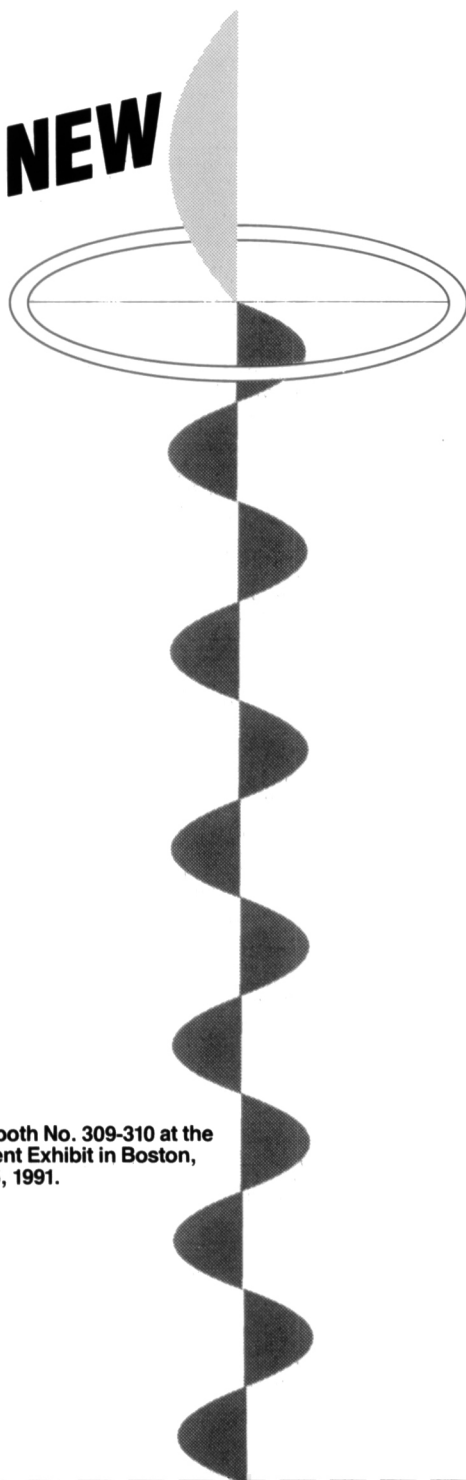
# Corporate Affiliates

(As of November 1, 1991)

- Advanced Control Systems Corporation  
Advanced Energy Industries, Inc.  
Advanced Materials Laboratory, Inc.  
Aerospace Corporation  
AET addax, Inc.  
AG Associates  
Air Products and Chemicals, Inc.  
Aixtron GmbH  
Akzo America Inc.  
Alcan International Limited  
Alcoa  
Alliance Analytical  
Allied-Signal Inc.  
American Cyanamid Company  
Ames Laboratory  
Amoco Corporation  
Amoco Chemical Corporation  
Amoco Oil Co.  
Amoco Technology Company  
Anatech Ltd.  
Angstrom Sciences  
APD Cryogenics Inc.  
APL Engineered Materials, Inc.  
Applied Materials, Inc.  
Applied Science and Technology, Inc. (ASTeX)  
Argonne National Laboratory/IPNS  
Atomic Energy of Canada Limited  
AT&T Bell Laboratories  
Bandgap Technology Corporation  
Barbeau-Hutchings Advertising, Inc.  
Bausch and Lomb  
Bell Communications Research, Inc.  
Billiton Precursors B.V.  
Bio-Rad Laboratories  
Blake Industries, Inc.  
The BOC Group  
Bomem Inc.  
BP America Research & Development  
British Telecom Research Labs  
Brookhaven Instruments Corp.  
Bruker Instruments Inc.  
Butterworths Scientific Ltd.  
Cameca Instruments, Inc.  
Center for Waste Minimization & Management  
Centorr Furnaces/Vacuum Industries  
Coherent Laser Group  
Collagen Corporation  
Commonwealth Scientific Corporation  
Computer Graphic Service  
Conversion Technology Corporation  
Corning Inc./Corning Glass Works  
Crystallume  
CVC Products, Inc.  
David Sarnoff Research Center  
Denton Vacuum Inc.  
Digital Equipment Corporation  
Digital Instruments, Inc.  
Doty Scientific, Inc.  
The Dow Chemical Company  
Dow Corning Corporation  
E.I. duPont de Nemours & Company  
Eastman Kodak Company  
Eaton Corporation  
EG&G Idaho, Inc.  
EG&G Instruments, Inc.  
EG&G Princeton Applied Research  
Electric Power Research Institute (EPRI)  
ElectroScan Corporation  
Elettrorava S.p.A.  
Elsevier Science Publishers B.V.  
Emcore Corporation  
Energy and Environmental Research Center (EERC)
- Engelhard Corporation  
EPI Division Chorus Corporation  
Epitaxial Products International, Ltd.  
Epitronics Corporation  
Charles Evans & Associates  
Evans East, Inc.  
Extrel FTMS  
Exxon Basic Chemicals Technology  
Exxon Production Research Company  
Exxon Research & Engineering Co.  
FEI Company  
E.A. Fischone Instruments Manufacturing  
Flexus Incorporated  
Ford Motor Company  
Forest Products Laboratory  
Fuji Electric Co., Ltd.  
Fuji Xerox Co., Ltd.  
Fujitsu Ltd.  
Furukawa Electric Yokohama R&D Lab  
Gatan, Inc.  
Gelest Inc.  
General Electric Corporation  
General Electric Corp./Advanced Inorganic Materials Lab.  
General Electric Corp./Aircraft Engines Division  
General Electric NMR Instruments  
General Motors Research Laboratories  
Genetics Institute, Inc.  
Geo-Centers, Inc.  
Getty Conservation Institute  
Goodfellow Corporation  
Granville-Phillips Company  
GTE Laboratories Inc.  
Hewlett-Packard, NMD  
High Voltage Engineering Europa B.V.  
Hitachi Ltd.  
Hitachi Scientific Instruments  
Hoechst Celanese Research Division  
Howmedica  
Hoya Optics, Inc.  
Hughes Research Laboratories  
Huntington Mechanical Laboratories, Inc.  
IBM Corporation  
ICI Polyurethanes  
Imperial Chemical Industries  
Implant Sciences Corporation  
Innovative Technology, Inc.  
INSPEC/IEE  
Instron Corporation  
Instruments S.A., Inc./Riber Division  
Intel Corporation  
Ion Tech, Inc.  
Ionic Atlanta  
Janis Research Company, Inc.  
JCPDS - International Centre for Diffraction Data  
JEOL U.S.A., Inc.  
Johnson Controls, Inc.  
Johnson & Johnson  
Johnson & Johnson Orthopaedics, Inc.  
Kennametal, Inc.  
Kinzoku Giken Co., Ltd.  
Kluwer Academic Publishers  
Kobe Development Corporation  
Kobe Steel, Ltd.  
Kogakugiken Co., Ltd.  
Kopin Corporation  
Kratos Analytical, Inc.  
Kyocera Corporation  
Lake Shore Cryotronics, Inc.  
Lam Research Corporation
- Lambda Physik, Inc.  
Lawrence Berkeley Laboratory  
Lawrence Livermore National Laboratory  
Lehighon Electronics, Inc.  
Kurt J. Lesker Company  
Leybold Vacuum Products, Inc.  
Link Analytical/Oxford Group  
Los Alamos National Laboratory  
Lumonics, Inc.  
Martin Marietta Energy Systems, Inc.  
Martin Marietta Laboratories  
Matec Instruments, Inc.  
Materials Research Corporation  
Matheson Gas Products  
Matsushita Electrical Industrial Co.  
MCC (Microelectronics & Computer Technology)  
MDC Vacuum Products Corporation  
Medisorb Technology International  
MEMC Electronic Materials Inc.  
Micromap Corp.  
Mitsubishi Electric Corporation  
Mitsubishi Kasei Corporation  
MKS Instruments, Inc.  
Mobay Corporation  
Mobil Research & Development Corporation  
Molycorp, Inc. (a Unocal Company)  
MR Semicon, Inc.  
Nano Instruments, Inc.  
NASA Lewis Research Center  
National Electrostatics Corporation  
National Renewable Energy Laboratory (NREL)  
National Semiconductor  
NEC Corporation  
NEC Research Institute Inc.  
Nippon Mining Company, Ltd.  
Nippon Telegraph & Telephone Corporation  
Nissei Sangyo America, Ltd.  
Nissen Electric Co., Ltd.  
Nisshin Flour Milling Co., Ltd.  
NKK Corporation  
Noran Instruments, Inc.  
North Eastern Analytical Corporation  
Northern Telecom Electronics Ltd.  
Norton Company  
Oak Ridge National Laboratory  
OIS, Inc. (Optical Imaging Systems, Inc.)  
Oxford Instruments North America Inc.  
Oxford Plasma Technology  
Pacific Northwest Laboratory  
Peak Systems, Inc.  
Pechiney Corporation  
Pergamon Press, Inc.  
Perkin-Elmer Corp.  
Pfizer Inc.  
Philips Electronic Instruments Co. (PEI)  
Plasma Sciences, Inc.  
Plasma-Therm Industrial Products  
Plenum Publishing Corp.  
PPG Industries Glass R&D Center  
PQ Corporation  
The Proctor & Gamble Company  
Prometrix Corporation  
Quantum Design, Inc.  
Rapra Technology Inc.  
Raytheon Company  
Resonetics, Inc.  
Rhone-Poulenc Inc.  
Rigaku USA Inc.  
Riken Corporation  
Rockwell International Science Center
- Sandia National Laboratories  
Sanyo Electric Co., Ltd.  
Schlumberger-Doll Research  
Schlumberger Technologies  
Instruments Division  
Scintag, Inc.  
Sharp Corporation  
Shell Oil Company  
Shoei Glass Company, Ltd.  
Siemens Analytical X-Ray Instruments, Inc.  
Siemens Solar Industries  
Sienna Technologies Inc.  
Solarex Corporation  
Solid State Measurements, Inc.  
Sony Co., Ltd.  
South Bay Technology, Inc.  
Spectra-Physics Lasers, Inc.  
SpecTran  
Spex Industries, Inc.  
Spire Corporation  
Springer-Verlag New York, Inc.  
SSC, Inc.  
Staub Instrumente GmbH  
Strem Chemicals, Inc.  
Sumitomo Electric USA, Inc.  
Sumitomo Electric Industries, Ltd.  
Sumitomo Metal Mining Co., Ltd.  
Superconductive Components, Inc.  
Surface/Interface Inc.  
Tamarack Scientific Co., Inc.  
TDK Corporation  
Technics, Inc.  
Telios Pharmaceuticals  
Texas Instruments, Inc.  
Thermionics Laboratory, Inc.  
3M Company  
Toei Industry Co., Ltd.  
Topcon Technologies, Inc.  
Toshiba R&D Center  
Tosoh USA, Inc.  
Toyobo Co., Ltd.  
Ultra High Vacuum Instruments Inc.  
Ulthatherm Inc.  
ULVAC Japan, Ltd.  
United Technologies Research Center  
Universal Energy Systems, Inc. (UES)  
UOP  
USG Research Center  
Vacuum/Atmospheres Company  
Vacuum Barrier Corporation  
Varian Assocs., Inc./Continental Electronic Div.  
Varian Assocs., Inc./Ion Implant Systems  
Varian Assocs., Inc./Thin Film Technology Div.  
VCH Publishers, Inc.  
VG Instruments, Inc./Fisons Division  
VG Microscopes Ltd.  
Virginia Semiconductors, Inc.  
Voltaix, Inc.  
Vulcan Harex Steelfiber (North America) Inc.  
Wacker Siltronic Corporation  
Wavemat Inc.  
Westinghouse Science & Technology Center  
John Wiley & Sons Ltd.  
W.R. Grace & Company  
W.R. Grace & Co./Research and Davison Chemical Div.  
Xerox Corporation  
XMR Incorporated  
Carl Zeiss, Inc.

**NEW**

ISSN 0925-3467



# OPTICAL Materials

**Audience:** Academic and industrial researchers involved in emerging optical technologies such as optical computing, optical communications, optics in medicine, etc.

Editor-in-Chief: **R.C. Powell**

Center for Laser Research, Noble Research Center 413, Oklahoma State University, Stillwater, Oklahoma 74078, USA

*The Editor-in-Chief is actively supported by an international board of associate editors:*

**C.B. de Araujo** (Recife, Brasil), **T.T. Basiev** (Moscow, USSR), **J. Bierlein** (Wilmington, DE, USA), **L.A. Boatner** (Oak Ridge, TN, USA), **L.L. Chase** (Livermore, CA, USA), **Chen Chuangtian** (Fujian, China), **H.J. Eichler** (Berlin, Germany), **J. Foušek** (Prague, Czechoslovakia), **Fuxi Gan** (Shanghai, China), **D.C. Hanna** (Southampton, UK), **J. Hegarty** (Dublin, Ireland), **J.P. Huignard** (Orsay, France), **C. Klingshirn** (Kaiserslautern, Germany), **G.C. Righini** (Firenze, Italy), **J. Rubio** (Iztapalapa, Mexico), **J. Shirk** (Washington, DC, USA), **G. Stegeman** (Orlando, FL, USA), **A. Szabo** (Ottawa, Canada), **S. Umegaki** (Tokyo, Japan), **M. Weber** (Livermore, CA, USA), **B. Wherrett** (Edinburgh, Scotland), **D.J. Wolford** (Yorktown Heights, NY, USA)

Please visit Booth No. 309-310 at the MRS Equipment Exhibit in Boston, December 3-5, 1991.

**OPTICAL MATERIALS** will focus on:

- Optical Properties of Material Systems
- The Materials Aspects of Optical Phenomena
- The Materials Aspects of Devices and Applications

The first issue of OPTICAL MATERIALS will appear in January 1992. Initially, the journal will be published on a quarterly basis.



## North-Holland

(Elsevier Science Publishers),  
P.O. Box 103,  
1000 AC Amsterdam,  
The Netherlands

*In the USA and Canada:*

Elsevier Science Publishing Co. Inc.,  
Journal Information Center,  
P.O. Box 882,  
Madison Square Station,  
New York, NY 10159

- Please send me instructions to authors
- Please send me a complimentary copy of Optical Materials.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Fields of Interest: \_\_\_\_\_



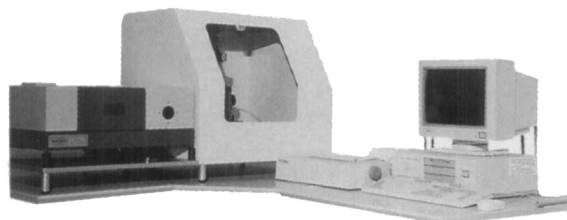
Circle No. 41 on Reader Service Card.

Please visit Booth No. 610 at the MRS Equipment Exhibit in Boston, December 3-5, 1991.



## VASE FTIR MODEL 3

**AUTOMATED  
VARIABLE ANGLE  
SPECTROSCOPIC ELLIPSOMETRY  
BY FOURRIER TRANSFORM  
INFRA - RED**



Circle No. 42 on Reader Service Card.

### Full FTIR capabilities

Absorbance, transmittance or reflectance

### Advanced computer control & data analysis

Spectral range : 5000 cm<sup>-1</sup> to 600 cm<sup>-1</sup> (2 to 16 μm)  
Spectral resolution : variable from 2 to 32 cm<sup>-1</sup>  
Beam diameter : 3 to 12 mm manual setting  
Angle of incidence : computer controlled, settable  
from 40° to 90° ± 0.01°

Standard software package includes :

- System calibration software
- File data handling utility software
  - Data acquisition and display
  - Bulk sample real and imaginary indices calculation
  - Single layer thickness and real and imaginary index calculation
  - Multi layer data reduction

**Measurement time :** 2 to 420 mn

**Repeatability :** for Tan Psi = 1: ± 0.006  
for Cos Del = 0.5: ± 0.009

FOR FURTHER INFORMATION CALL US AT :

- SOPRA Inc. : 33 NAGOG PARK - PO BOX 2619,  
ACTOM MA 01720 - 6619 USA  
Tel : 508 263 25 20 - Fax : 508 263 27 90
- SOPRA GmbH : Schubertstrasse 9-11  
DW 6087 BUETTELBOERN - RFA  
Tel : 6152 5092 - Fax : 6152 55201
- SOPRA S.A. : 26, rue P. Joigneaux - F 92270 Bois Colombes  
Tel : 47 81 09 49 - Fax : 42 42 29 34
- SEIKA Corp : Tel : 33 346 83 11 - Fax : 33 346 83 14

DSRC

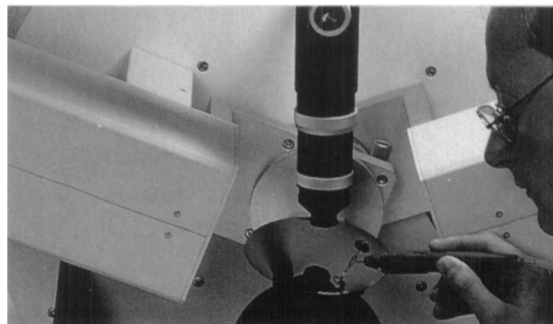
## M.O.S.S. The solution for non-destructive evaluation of multilayer structures

Please visit Booth No. 610 at the MRS Equipment Exhibit  
in Boston, December 3-5, 1991.



Circle No. 43 on Reader Service Card.

The M.O.S.S. (Multilayer Optical Scanning Spectrometer) is the latest solution to non-destructive evaluation of multilayer structures in both semiconductor and optical applications. The MOSS offers a number of unique advantages to fine-tune your process :



- Fully automated measurement of multilayer thin films
- high accuracy thickness measurements at high throughput
- mapping of material homogeneity over large areas

To learn more about our MOSS ELLIPSOMETERS call us at (508) 263 2520 in the US, (33) 1 47 81 09 49 in Europe, or (81) 3 346 83 11 in Japan and ask to speak to our MOSS Application Specialist.

SOPRA INC. 898 Main Street, Acton  
MA 01720 USA. Tel.: (1) 508 263 2520  
SOPRA SA. 68, rue Pierre Joigneaux  
92270 BOIS-COLOMBES / FRANCE.  
Tel.: (33 1) 47 81 09 49

DSRC Conseil: 47 33 12 36