

"ULTRA THIN"



2-4 μ THIN

silicon membranes!

Available in 2 and 3" diameters, these double side polished elastic membranes combine a balance of thinness, parallelism and flatness heretofore not available in single crystal silicon.

Applications include:

- micromachining
- X-ray lithography
- particle beam focusing
- stress diaphragms
- bonded silicon

All processing from crystal growth to polishing, is done on VSI premises.

Whether your requirements are in research or production quantities, let's talk about putting these membranes to work for you.



VIRGINIA SEMICONDUCTOR, INC.

1501 Powhatan Street
Frederickburg, VA 22401
Phone (703) 373-2900
Telex 9102506565
Fax (703) 371-0371

Circle No. 35 on Reader Service Card.

Graduate Finalists Compete for Awards at 1992 MRS Spring Meeting

At the 1992 MRS Spring Meeting in San Francisco, 20 finalists will compete for MRS Graduate Student Awards to be presented Monday evening, April 27, during the Plenary and Awards session also honoring the 1992 Outstanding Young Investigator.

Graduate Award Finalists, all authors or co-authors of papers to be presented at the Spring Meeting, were selected based on the quality and thoroughness of their research, originality and independence of their contributions, and their promise for future achievement in materials research.

During two special sessions on Monday, April 27, the finalists will give brief talks explaining their research to a panel of judges who will select the award recipients. Among the judges will be organizers from the symposia in which the finalists are participating, members of the MRS Awards Committee, and other MRS representatives. MRS Spring Meeting participants are also invited to attend.

Following is a list of the finalists, where they are studying, their paper titles, and the symposium in which they are participating.

Graduate Student Award Finalists 1992 MRS Spring Meeting

Rachid Amokrane

Ecole Polytechnique, France, "Effect of Photodegradation on Transient and Steady-State Forward Bias Characteristics of a-Si:H PIN Diodes"
(Symposium A).

Robert A. Rice

University of Colorado, "Dynamic Thresholding with the Three-Terminal Optically Addressed Spatial Light Modulator"
(Symposium A).

Suzanne E. Mohney

University of Wisconsin-Madison, "Phase Equilibria in the Metal-In-P Ternary Systems and Their Application to the Design of Metal Contacts to InP"
(Symposium C).

Silvia L. Mioc

University of Illinois-Chicago, "Vacuum Electoreflectance: Overcoming the Difficulties of Photoreflectance and Electrolyte Electoreflectance"
(Symposium D).

Mehrdad Ziari

University of Southern California, "Optically Controlled Space Charge Fields Under the Electrode Region in Cadmium Telluride"
(Symposium D).

Jeffrey W. Honeycutt

North Carolina State University, "Effects of Ti and Co Silicidation on Point Defects Dopant Diffusion, and Extended Defects in Silicon"
(Symposium E).

Graduate Student Awards 1992 MRS Fall Meeting in Boston

All application materials for 1992 MRS Fall Meeting Graduate Student Awards must be received by MRS headquarters by August 28, 1992.

For application forms and details about eligibility, contact: Anne Wagner (GSA-B), Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237; phone (412) 367-3003; fax (412) 367-4373.

Koenraad M. Wuyts

Instituut voor Kern-en Stralingsfysika, Belgium, "Evidence for a Defect-Assisted Low Resistive Conductivity in Continuous Wave Laser Beam Mixed Au/Te/GaAs Contacts" (Symposium E).

Thomas Schweizer

Fraunhofer-Institut IAF, Germany, "Differences in the Growth Mechanism of $\text{In}_x\text{Ga}_{1-x}\text{As}$ On GaAs Studied by the Electrical Properties of $\text{Al}_{0.3}\text{Ga}_{0.7}\text{As}/\text{In}_x\text{Ga}_{1-x}\text{As}$ Heterostructures ($0.2 \leq x \leq 0.4$)" (Symposium F).

Kai Yang

Rensselaer Polytechnic Institute, "Film Growth on Vicinal GaAs(111)B Substrates by Molecular Beam Epitaxy" (Symposium F).

Alison Murray

Johns Hopkins University, "Analysis of Delaminations in Art Objects Using Air-Coupled Ultrasound" (Symposium J).

Salwan Al-Assafi

University of Florida, "Microwave Joining of Ceramics: A Study on Joining Alumina Both Directly and With Alumina Gel" (Symposium L).

Zakaryae Fathi

University of Florida, "Surface Modification of Ceramics Using Microwave Energy" (Symposium L).

Otto Z. Zhou

University of Pennsylvania, "Temperature Dependent Structural Studies of Rubidium Doped C_{60} Buckminsterfullerene (Rb_xC_{60})" (Symposium M).

M. Kamal Akhtar

University of Cincinnati, "Effect of Dopants in Vapor Phase Synthesis of Titania Powders" (Symposium N).

Kelly S. Kirkpatrick

Northwestern University/Argonne National Laboratory, "Impedance Spectra Analysis During Cooling of ZnO Varistor Prototypes" (Symposium N).

Robert F. Jarvis Jr.

University of California-Los Angeles, "Solution Synthesis and Photoluminescence Studies of Small Particles of Cadmium Telluride" (Symposium O).

Ulrich Simon

Universität Essen, Germany, "Electronic Properties of Compact and Diluted Metal Clusters by Impedance Spectroscopy" (Symposium O).

V. S. Achutharaman

University of Minnesota, "Reflection of High Energy Electron Diffraction Studies of the Growth of $\text{DyBa}_2\text{Cu}_3\text{O}_{7-x}$ Films and Structures on SrTiO_3 Substrates" (Symposium S).

John Robert LaGraff

University of Illinois at Urbana-Champaign, "The Chemical Diffusion of Oxygen in $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ Via Electrical Resistance Measurements: Intrinsic and Extrinsic Mechanisms" (Symposium S).

Susan E. McKinstry

Pennsylvania State University, "Characterization of Ferroelectric Films by Spectroscopic Ellipsometry" (Symposium T).

MRS

NEW FOR
1992!**Essential Reading Material
For the Materials Scientist****SUPERCONDUCTIVITY: Its Historical Roots and
Development from Mercury to the Ceramic Oxides**

Per Fridtjof Dahl, *Superconducting Super Collider Laboratory, Dallas*

The first truly comprehensive history of superconductivity—from the first studies in the late 19th century to the present. The book delves deeply into a largely undocumented early history, marked by H.K. Onnes's first successes with mercury in 1911 and extending to the onset of World War II. Encompasses the materials development of the fifties; the work that culminated in the BCS theory of the early sixties; and the important recent application of ceramic oxides.

1992, 400 pages, illustrated • 0-88318-797-3, hardcover, \$60.00

PIEZOELECTRICITY

C.Z. Rosen, *GEC-Marconi Electronic Systems Corp.*,
B.V. Hiremath, *AT&T Bell Laboratories*,
and R.E. Newnham, *Penn State University*

Thirty-two major review papers guide you in preparing and choosing piezoelectric materials and assist you in designing signal processing devices. Coverage ranges from the mundane to the arcane—from the dimmer switch in your home to sonar on an attack submarine. Major sections explore measurements and standards and the derivation of piezoelectric coefficients and the equations of state for coupling mechanical, electrical, and thermal fields.

1992, 512 pages • 0-88318-647-0, hardcover, \$95.00

**COMPUTATIONAL METHODS IN CONDENSED MATTER:
ELECTRONIC STRUCTURE**

A.A. Katsnelson and V.S. Stepanyuk, *Moscow State University*,
A. Szasz, *Eotvos University, Budapest*,
and O.V. Faberovich, *Voronezh University*

Here is the first book to make accessible a large number of computational results previously known only by a few experienced practitioners. You'll find a comprehensive analysis of electron states, calculation methods for electronic structures, pseudopotential methods, and electron methods and functional theory designed to calculate physical properties.

1992, 320 pages • 0-88318-865-1, hardcover, \$80.00

**AIP CONFERENCE
PROCEEDINGS**

Stay in Touch With the
Important Work in Your Field

**#251. SUPERCONDUCTIVITY
AND ITS APPLICATIONS**
Proceedings of the 5th Annual
Conference on Superconductivity
and its Applications,
Buffalo, NY, 1991

Edited by Y.H. Kao, A.E.
Kaloyeros, and H.S. Kwok,
SUNY Buffalo
1992, 750 pages
1-56396-016-8
hardcover, \$120.00

**#256. SLOW DYNAMICS
IN CONDENSED MATTER**
Proceedings of the 1st Tohwa
University International
Symposium on Slow Dynamics
in Condensed Matter, Fukuoka,
Japan, November 1991

Edited by K. Kawasaki and
T. Kawakatsu, *Kyushu
University*, and
M. Tokuyama,
Tohwa University.
1992, 624 pages
0-88318-938-0
hardcover, \$110.00

AMERICAN
INSTITUTE
OF PHYSICS

MARKETING & SALES DIVISION
335 EAST 45th STREET
NEW YORK, NY • 10017

COME SEE US AT BOOTH 611
AT THE MRS
SHOW

Circle No. 36 on Reader Service Card.