
CANDIDATES FOR THE LEADERSHIP

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and "one" being the most highly ranked.

Ballots must be received no later than Aug. 31 in University Park, PA. Please allow sufficient time for postal delivery.

For 1st Vice President

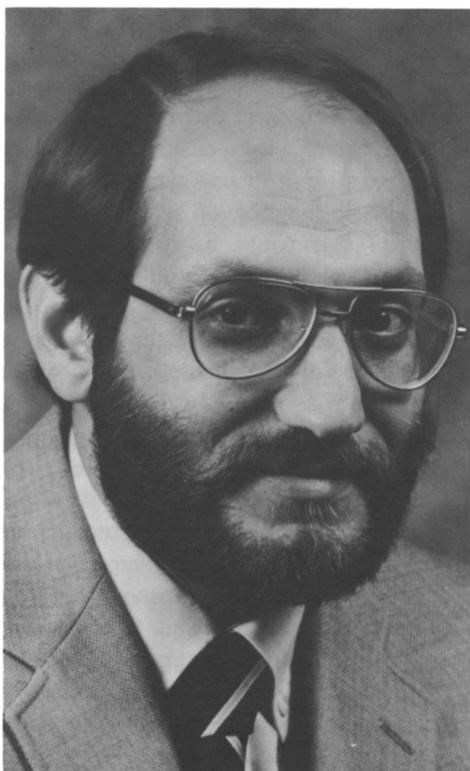
ELTON N. KAUFMANN

Lawrence Livermore National
Laboratory
P.O. Box 808, L-217
Livermore, CA 94550
(415) 423-2640

Elton Kaufmann joined the Materials Science Division of Lawrence Livermore National Laboratory in 1981. Presently he is studying the application of directed energy processing methods to materials.

Elton earned his BS in 1964 from Rensselaer Polytechnic Institute and completed his Ph.D. in 1968 at the California Institute of Technology. Both degrees are in physics. From 1968 through 1981 he was a member of the technical staff of Bell Laboratories, where he studied materials properties using hyperfine interactions, ion-solid interactions and laser-solid interaction techniques. He is editor of *Hyperfine Interactions* and two books, and author of more than 80 technical articles. In 1980, he co-chaired the MRS Symposium on Nuclear and Electron Resonance Spectroscopies Applied to Materials Science. In 1982, he co-chaired the Annual Meeting in Boston. Presently, he is the Society's Second Vice President.

"The MRS is experiencing rapid growth in several areas," Kaufmann notes. "A new spring meeting in the Western U.S. is in place. A new and expanded Society headquarters is in the offing. The skeleton of an international MRS has been built. Member services have expanded, notably an expansion of



ELTON KAUFMANN

the *Bulletin* and association with the new journal, *Materials Letters*. Short course offerings have become a standard meeting complement. The ranks of MRS corporate affiliates are swelling. And, soon, equipment exhibits will likely be available to our members and other participants at our meetings. This expansion is a direct response to demand from members and meeting attendees, who clearly feel the MRS is playing a valuable role in their participation in the materials research community.

"I attribute this success both to the interdisciplinary nature of our forums, which so well emulates the way materials science is pursued in the real world, and to the flexible and innovative methods of meeting and program formulation, which have allowed rapid response to changing research emphasis and opportunities for individual initiative in shaping the

direction of the Society. The challenge now is the maintenance and nurturing of those attributes during the Society's growth as an institution.

"As an officer of the MRS, I regard my primary responsibility as insuring the availability of the appropriate implements and atmosphere to guarantee technically excellent and exciting meetings, while using the Society's resources in the most efficient manner possible. If elected First Vice President, I will continue to pursue that course while helping the MRS grow in areas where the demand warrants."

DON'T NEGLECT TO VOTE

For 2nd Vice President

GORDON E. PIKE

Sandia National Laboratories
Division 1815
Albuquerque, NM 87185
(505) 844-9168

Gordon was graduated from Carnegie Mellon University in 1963 with a B.S. in physics. He received his Ph.D. in solid state physics from the University of Pittsburgh in 1969. That year he joined Sandia National Laboratories, where he has worked in the general area of electrical properties of materials. He has made experimental and theoretical contributions in the fields of electronic hopping transport in insulators, superconductivity, radiation

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GORDON PIKE

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effects in MOSFET transistors, percolative conduction in heterogeneous materials and the electronic properties of semiconductor grain boundaries.

For the Materials Research Society he has served as co-chairman for the Grain Boundaries in Semiconductors symposium at the 1981 Annual Meeting, and currently is serving as program co-chairman for this year's Boston meeting and for the newly instituted 1984 spring meeting in Albuquerque. He is also a member of the American Physical Society and the American Ceramic Society.

"The major issues facing the MRS in the near future all arise from the successful growth of the Society," he says. "International participation in the meetings has been increasing steadily, and there is a need to include the Europeans and the Japanese more directly in the programming of meeting

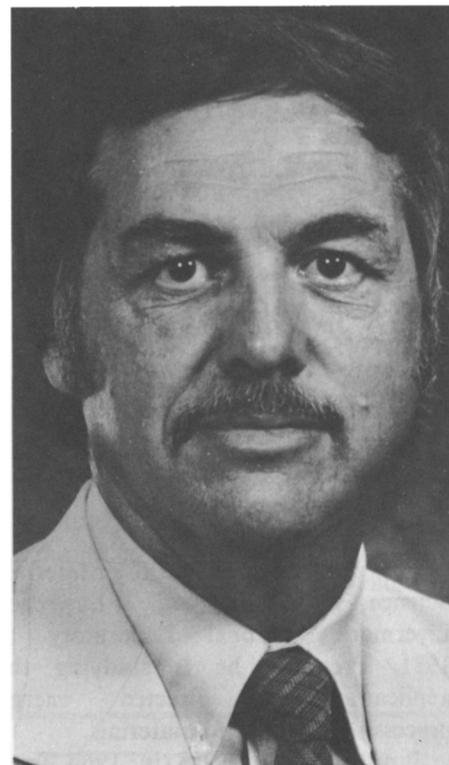
topics. Co-chairmen from abroad or steering committees with an international membership would be useful for this. An MRS-Europe is being formed, and we must cooperate with them to ensure continued European input at our symposia, and to prevent duplication of symposia topics. Part of this could be handled by co-sponsoring meetings, and possibly by alternating meeting sites.

"Two other areas of attention involve funding - of the Society and of the individual symposia. The increased activities of the Society, such as the spring meeting and the affiliation with *Materials Letters*, has intensified the need for a proper headquarters rather than the Secretariat arrangement which has evolved from the time when the MRS was younger. This will be more costly. Also, for the symposia we find that while federal agencies are often anxious to fund new and promising fields of research, they are sometimes reluctant to contribute to the successful, repeating symposia. Additional contributions from Corporate Affiliates have helped both the Society and the symposia, and this program should be expanded."

BILL R. APPLETON

Solid State Division Oak Ridge National Laboratory P.O. Box X Oak Ridge, TN 37830 (615) 574-6283

Bill is a Section Head in the Solid State Division at Oak Ridge, where he directs and performs research into fundamental ion-solid interactions, ion implantation doping and the use of ion beam and laser processing for the alteration and analysis of materials. He received his Ph.D. from Rutgers University, worked at Bell Laboratories



BILL APPLETON

in Murray Hill, NJ, for two years, and joined Oak Ridge in 1969. He has published more than 125 journal articles, reviews and book chapters, is a Fellow of the American Physical Society and a member of APS, AAAS, SESAPA, Bohmische Physikalische Gesellschaft, as well as the MRS.

He has served the Materials Research Society as a symposium chairman (Laser Processing); is a member of the Nominating, Corporate Affiliate and Program Committees, and is one of this year's meeting chairmen. He serves on several journal editorial boards and national and international committees serving materials science.

Bill tells the *Bulletin*, "I feel that the major challenges and opportunities

MAIL YOUR BALLOT TODAY

CANDIDATES

facing the MRS are associated with its present success and projected rapid growth. Expansion of the Society to include regional meetings and foreign affiliates needs to be carefully charted to provide maximum benefits to the profession and to the membership. The financial base of the Society needs to be expanded through grants, foundation funds, industrial affiliations and educational courses to reduce our dependence on agency funding. Acquisition and retention of members and Corporate Affiliates need to be pursued vigorously.

"In general, the Society should continue comprehensive, long-range planning, keeping in mind that our primary responsibilities are to serve the educational and publication needs of our members and to establish a representative voice in materials science."

For Councillor

ROBERT K. MACCRONE
Professor of Materials Science



ROBERT MACCRONE

Department of Materials Engineering
School of Engineering
Rensselaer Polytechnic Institute
Troy, NY 12181
(518) 266-6449

Bob took degrees in physics and mathematics from South Africa's University of the Witwatersrand, and his Ph.D. in physics from Oxford. He came to the United States in 1960 as a Post-doctoral Associate at the University of Pennsylvania, where he subsequently was appointed to the faculty. He moved to Rensselaer in 1967, rising to his present Professorship in 1974.

He has published papers on the ionosphere, fatigue at low temperatures and following ion implantation, X-ray topography, bound polarons, excess vibrational modes in glasses, electrical magnetic, optical, EPR, Mossbauer studies of transition metal ions in oxide glasses, spinodal decomposition and crystallization, and SAXS. His present research includes studies of spin glasses prepared by sol-gel, oxidation mechanisms of Ni and Ti, anomalous properties of pressure-quenched LdS, and plasma-assisted CVD.

"I like the MRS for many reasons," he says. "The symposia and proceedings are the extraordinary result of the focussed attention of members from different specialized approaches. Such input to a topic from different directions is perhaps the essence of materials research. I would like to see these symposia continue, with subject matter largely following the interests of the members. Presently I am particularly partial to "materials engineering:" modulated structures, structures produced by phase separation, chemical modification of polymeric systems and so on. MRS sponsorship of symposia at times and places different from the Annual Meeting in Boston seems to be an excellent recent addition.

"In addition to promoting basic

research, I believe the Society should provide a forum for national concerns. Such comprehensive discussions would be particularly valuable because of the broad spectrum of our members' disciplines. Chemical pollution and acid rain seem prime candidates from a host of topics.

"In these times of rapid developments, the MRS should continue with well-planned tutorial activity for the benefit of its members. One form this could take is some emphasis on review papers in symposia.

"Finally, I would like to see discussion within the MRS on the possible value of 'industrial' interactions, and what should be done to encourage student participation and the formation of local chapters."

JOHN C.C. FAN
Electronic Materials Group
Lincoln Laboratory
Massachusetts Institute of Technology
244 Wood Street

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JOHN FAN

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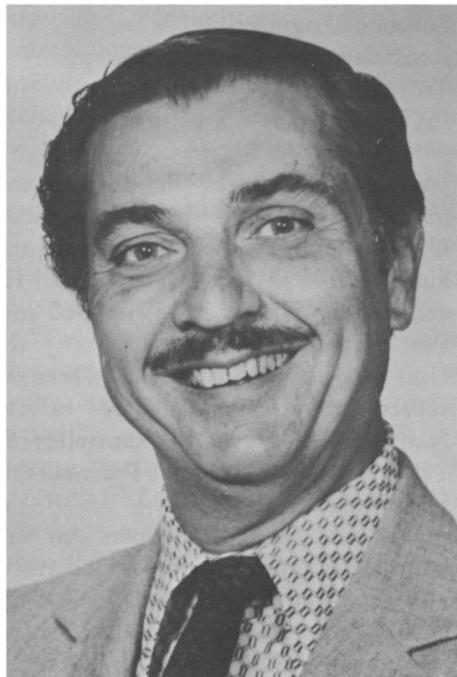
Lexington, MA 02173
(617) 863-5500

John received his B.S. degree in 1966 from the Department of Electrical Engineering at the University of California at Berkeley, and his M.S. and Ph.D. in applied physics at Harvard University in 1972. Since 1972 he has been working at the Lincoln Laboratory, where he is Assistant Leader of the Electronic Materials Group. He is the author or co-author of more than 100 publications in the fields of thin films and crystals of semiconductors, solar cells and solid state electronic and optical materials and devices. He is on the editorial boards of *Solar Cells* and *Applied Physics Communications*, and is a member-at-large of the Executive Committee of the Electronics Division of the Electrochemical Society.

For the MRS, John is a member of the Corporate Affiliates Committee, an Associate Editor of the new journal, *Materials Letters*, and co-chairman of the meeting at this year's conclave in Boston on Energy Beam-Solid Interactions and Transient Thermal Processing. He has given invited talks and chaired sessions at many other MRS symposia.

"I would welcome the opportunity to serve on the MRS Council," John says. "Obviously my research interests are very strong, and the Society's focus on research is what attracted me and has maintained my enthusiasm. I would hope as a Councillor to help foster a core of excellent technical meetings around which the MRS can expand. The expansion we have already experienced has been very dynamic and I would like to help direct the continuation of this process."

LOUIS R. TESTARDI
Chief, Metallurgy Division
National Bureau of Standards



LOUIS TESTARDI

U.S. Department of Commerce
Washington, DC 20234
(301) 921-2811

Louis took his B.S. from the University of California, did graduate study at the University of Rome and was awarded his Ph.D. by the University of Pennsylvania in 1963. He became a member of the technical staff at Bell Laboratories, and while there was for a year a visiting professor at Princeton University. He left Bell in 1980 to join the Materials Processing in Space Program of the National Aeronautic and Space Administration, and after two years joined the National Bureau of Standards. He has some 95 publications and two patents, and is a Fellow of the American Physical Society.

Among his research interests are structural instabilities, high temperature superconductivity, new thin-film phases and compositionally modulated structures, defects in solids, ultrasonics, pressure, optical, magnetic and transport properties of bulk metals,

semiconductors and glasses, and thin films.

"Government - industry relations in the United States have traditionally been adversarial and legally encumbered. Among the consequences of this for materials scientists is the difficulty of coupling the vast resources of government-sponsored research with the technical challenge of industrial problems.

"The Materials Research Society," he says, "with the approval of its membership should advocate the benefits of this collaboration for the health of the economy and the sciences in America. Our effort must be focused.

"One possibility might be a government-industry sponsored center where the modern techniques of materials and process testing and characterization can be developed and made available, particularly to small businesses and low-technology concerns."

RICHARD M. OSGOOD JR.
Department of Electrical Engineering
Columbia Radiation Laboratory
Columbia University
New York, NY 10027
(212) 280-4462

Dick is Professor of Electrical Engineering and Applied Physics at Columbia. Prior to this appointment he served on the scientific staff at MIT Lincoln Laboratory, the Air Force's Avionics Laboratory, and the Materials Laboratory of the Air Force. He received his Ph.D. in physics from MIT, his M.S. in physics from Ohio State and his B.S. in engineering from the U.S. Military Academy. During his career his research has been centered on electrical engineering, physical chemistry and optical physics. His most extensive research has been in the development of new infrared and ultraviolet lasers, the application of laser induced chemistry to materials

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preparation and the study of molecular kinetics and spectroscopy.

A member of the IEEE, ACS and OSA in addition to the MRS, Dick is co-editor of *Applied Physics* and associate editor of the *Journal of Quantum Electronics*. With S.R.J. Brueck, he organized the first MRS symposium on Laser Diagnostics and Photochemical Processing. He has served as a consultant to numerous government and industrial organizations, including serving as a member of the ad hoc ERAB Committee on Advanced Uranium Isotope Separation.

"Modern materials research is necessarily interdisciplinary," he says, "and owes much of its vitality and interest to addressing specific problems in government and industry. The 'symposia' format of the MRS allows the flexibility of exploring in detail specific applications or materials problems. A major challenge to the MRS is to retain the vitality of its established symposia. I would urge

that a major effort be made to reorient each symposium after three years of operation. In addition, each symposium should be encouraged to keep a tight format.

"A second difficulty is the escalating cost of conferences. This problem can be alleviated by: 1) a more judicious choice of conference sites - for example, the spring Albuquerque site next year, and 2) contingent on a vote of the membership, allowing a conference equipment exhibition."

SUBHASH MAHAJAN

Department of Metallurgical Engineering and Materials Science
Carnegie-Mellon University
Pittsburgh, PA
(412) 578-2000

After obtaining his B.S. from Panjab University and B.E. from the Indian Institute of Science with highest honors, Subhash took his Ph.D. from the University of California at Berkeley. His first appointment was with the University of Denver, where he investigated the strengthening effects of shock waves on metals and alloys. In 1968 he joined the Atomic Energy Research Establishment at Harwell, England, as a Harwell Fellow. During his stay there he did research on the nucleation and growth of deformation twins in B.C.C. crystals and their role in the nucleation of fracture. In 1971, he joined Bell Laboratories, where the central theme of his research has been to establish the correlations between structure and properties in materials. More recently he has been involved in understanding the interrelationships between substructure and growth parameters in III-V compound semiconductors. Effective Sept. 1, he is joining Carnegie-Mellon University.

He is a member of AIME, the Electrochemical Society, Sigma Xi and the New York Academy of Sciences. For the MRS, he was involved in the organization of the Defects in Semiconductors symposium at the 1982

Annual Meeting.

"I feel the MRS needs to broaden its membership base," he says. "One of the most effective ways to achieve this would be to foster MRS chapters at universities active in interdisciplinary materials research. The first such chapter [at UCLA] was established last year. A continuing emphasis on this program will not only expose students to the goals of the Society, but will also stimulate their participation in its activities."

THOMAS TSAKALAKOS

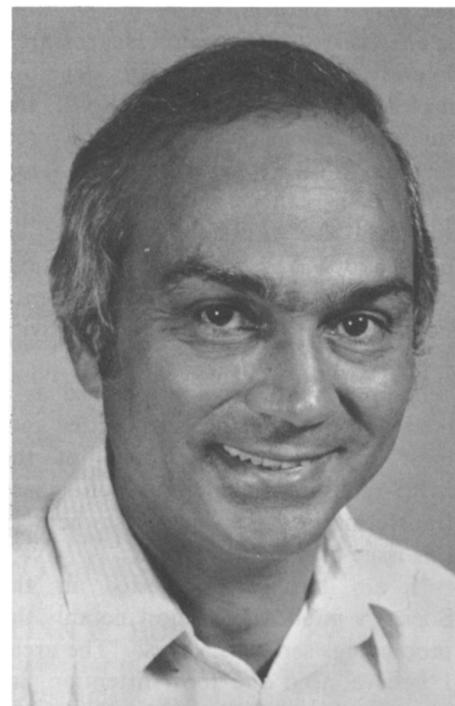
Department of Mechanics and Materials Science
College of Engineering
Rutgers University
P.O. Box 909
Piscataway, NJ 08854
(201) 932-3666

Tom received his B.S. in physics from the University of Athens and his Ph.D. from Northwestern University.

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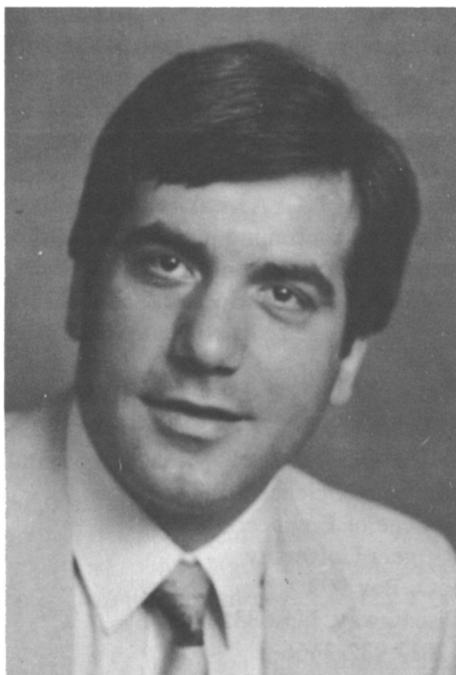


RICHARD OSGOOD



SUBHASH MAHAJAN

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TOM TSAKALAKOS

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He joined Rutgers, where presently he is an Associate Professor. His research interests include modulated structure materials, phase transformations, the supermodulus effect, artificial layered metallic films, spinodal alloys, X-ray diffraction methods and corrosion. His work on the supermodulus effect in bulk alloys has received recognition, including the National Science Foundation's Research Creativity Award.

For the MRS, Tom has served as a member of the Finance Committee and, most recently, as chairman of the MRS-sponsored conference on phase transformations [reported elsewhere in this issue of the *Bulletin*].

"I am strongly interested in the Society's publications, most notably the proceedings series," he says. "The areas I believe need the most attention are the editorial quality of the publications, their cost and their promotion. The topics of the MRS proceedings series

represent the state-of-the-art of science and technology, particularly in the high technology areas. I feel this is the most important issue confronting the Society today.

"Another issue the MRS should address is its expansion to include the European and Japanese communities in materials science, and the form this expansion should take. At the meeting I recently chaired in Crete, there was a general consensus these links should be forged."

FRANKLIN D. LEMKEY
Senior Consulting Scientist
Materials Technology
United Technologies Research Center
East Hartford, CT 06108
(203) 727-7318

Frank has spent his entire career with United Technologies, which he joined in 1960 after taking his B.S. in metallurgical engineering from the University of Michigan. He did graduate work in solid state physics at Trinity College and in materials science at the University of Connecticut, taking his Ph.D. from Oxford University. Presently Principal Scientist in the Metallurgy Group, he directs research on melt grown metallic and ceramic composites for high temperature and low temperature structural and nonstructural applications. He also directs research in high strength electrical conductor alloy development and mechanical testing techniques as an aid in failure analysis and alloy optimization.

Frank was a co-chairman of the first Conference on In-Situ Composites, held in 1972. He was co-editor of the proceedings of the second conference, in 1975, and organized the third one in 1978. It was in that year that his enthusiasm for the youthful MRS led him to seek - successfully - election to the Council. Between times his interests have ranged from serving as a participant in the NAS/NSF U.S.-

Japan Cooperative Science Program to a year as adjunct professor of engineering at Dartmouth College.

"The challenges confronting the Society in the Eighties are much different than those we faced during the years of rapid growth in the Seventies where operational, financial and identity concerns were successfully met," he says. "They center now on sustaining the quality, relevance and technical exchange recognized as being unique to the materials community through the sponsorship of interdisciplinary symposia. Early and broad dissemination of basic materials research findings and future trends to the ever-expanding materials community through meetings and publications requires not only dedicated symposia chairpersons but a vital professional society organization. This organization must administer the defined objectives of the MRS together with the current, more centralized assistance of AIP. "Longer-range



FRANK LEMKEY

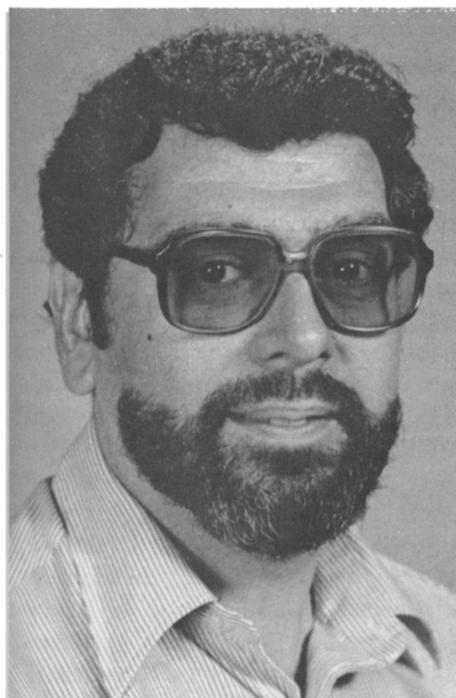
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issues concerning international growth, private and public funding and integration with other sub-critical national and international conferences in materials technologies will confront the Society in the Eighties. I favor a steady expansion of meeting interaction and resulting publications based on both the personal and financial commitments expressed by the members of the Society and the organizations they represent. The MRS must strive to convince the materials community that its mission and meetings involving the multidisciplinary efforts of professional scientists and engineers brings the best results."

LEONARD C. FELDMAN

Bell Laboratories
600 Mountain Avenue
Murray Hill, NJ 07974
(201) 582-5470

Len is Supervisor of the Materials Interface Characterization Group at Bell Labs, where his 16-year career has



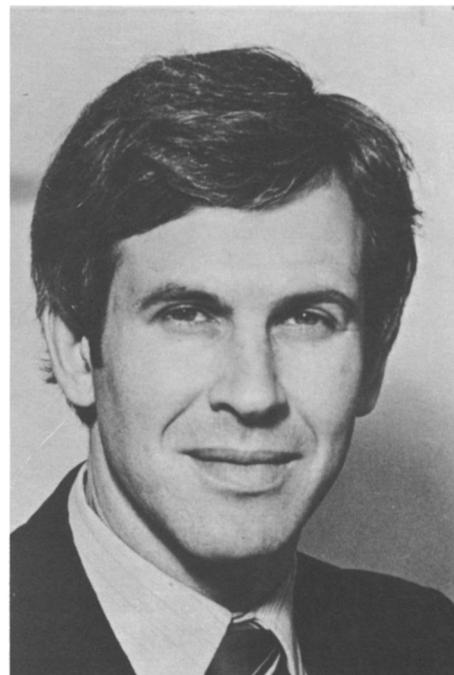
LEONARD FELDMAN

encompassed research in the areas of surface and interface physics, and materials modification and analysis using ion beams and atomic collisions in solids. He developed the use of energetic ion beam scattering for detailed structural characterization of surfaces and solid/solid interfaces. The major theme of his research recently has been the relationship between surface structure and the initial stages of epitaxial growth. Educated at Drew University and Rutgers, where he took his Ph.D., Len is organizer and instructor in the MRS short-course program, and Chairman of the MRS Education Committee. "The quality of education has piqued the interest of people in this country and it ought to be piquing the interest of the MRS," he says.

"This Society (and others) has a massive job in materials science education. We have already started in the traditional sense by providing short courses on particular technical subjects. There is, however, a much larger effort required in the non-technical community. How many laymen could define the sphere of activities of a materials scientist, as opposed to a chemist or physicist? Could a non-technical person recite a recent success of materials science? And this is only one community we must educate.

"There is work to be done in the more formal framework of undergraduate and graduate education. Does an aspiring young scientist consider materials science as one of the choices available; how many enter the field by default? The Society is considering a graduate thesis prize; this is one way of making our subject better known in academia, but more needs to be done.

"There is also the job of educating our fellow physical scientists. Are the areas of overlap between them and ourselves properly recognized and exploited? Are they aware of our



LINN HOBBS

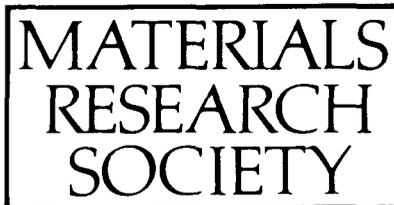
interests and expertise? The mere existence of this Society, its excellent symposia and its ever expanding role is helpful, but more interaction is necessary.

"Finally, there is the task of educating ourselves. Materials science is a broad area with various sub-specialties. Are we doing an adequate job of opening the Society to all of materials science, making sure each sub-field is properly presented and, occasionally, highlighted - thus increasing the benefits that are derived from scientific communication? We have made some small steps through the Society and its broadening range of activities; however, more can be done. This has to be one of the main concerns of the MRS in the coming years."

LINN W. HOBBS

Professor of Materials Science
Department of Materials Science and
Engineering

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ANNUAL ELECTION OF OFFICERS AND COUNCILLORS

VOTING INSTRUCTIONS: *For Officers of the Society - vote for one person for each position; for Councillors, rank each candidate from one to nine with no ties votes and (one) being the highest vote. Five councillors will be elected.*

First Vice President/President Elect

Elton N. Kaufmann _____

Second Vice President

Gordon E. Pike _____
Bill R. Appleton _____

Councillor

Robert K. MacCrone _____
John C.C. Fan _____
Louis R. Testardi _____
Richard M. Osgood _____
Subhash Mahajan _____
Thomas Tsakalakos _____
Franklin D. Lemkey _____
Leonard C. Feldman _____
Linn W. Hobbs _____

Complete Ballot and Mail to Arrive no Later Than August 31 to:

Ernest Hawk
Executive Secretary,
Materials Research Society
110 Materials Research Laboratory, University Park, PA 16802



MATERIALS RESEARCH SOCIETY
102C Materials Research Laboratory
University Park, PA 16802

FIRST CLASS MAIL

CANDIDATES

[Continued from Page 13]

Massachusetts Institute of Technology
Cambridge, MA 02139
(617) 253-6835

Linn earned his B.S. summa cum laude from Northwestern University and his doctorate in 1972 from Oxford University, where he was a Marshall Scholar. He remained in Britain as an NSF postdoctoral fellow, Fellow of Wolfson College, Oxford. He was a section leader at AERE Harwell until 1976, when he joined the faculty of Case Western Reserve University.

Linn is a co-organizer of this year's symposium in Boston on Electron Microscopy of Materials, is a sub-editor of the *Journal of the American Ceramic Society*, and was co-organizer of the First International Conference on the Science and Technology of Zirconia. He has authored more than 60 technical papers, several book

chapters and a book. His current research interests include oxidation/sulfidation of metals, non-stoichiometry in ceramic compounds, radiation damage in ceramic and organic solids, nuclear waste isolation, intercalation of graphite, rapidly solidified ceramics and the history of several materials technologies.

"Having forged its credibility as a multidisciplinary professional society," he tells the *Bulletin*, "the MRS now faces two major didactic challenges: educating the general public about the role and the materials scientist in our society, and acquainting more science and engineering students with materials science as an established pursuit claiming a universal approach to metals, ceramics, polymers and electronic materials. It is telling, on both counts, that the recent national ranking of graduate departments in U.S. universities did not list materials science departments. The ultimate aim

of a professional Materials Research Society ought to be to produce professional materials scientists and not simply to embrace a spectrum of narrowly focused specialists. This goal requires strong and innovative direction from the Education and Long-range Planning Committees and increased emphasis on continuing professional education for MRS members in Society symposia, short course and publications."

Vote Today

Casting your vote for next year's officers and councillors is the most serious responsibility your membership in the MRS imposes. Please take the time right now to mark your ballot and return it.

The results of the election will be published in the *Bulletin* number appearing prior to the Annual Meeting in Boston.

And to the candidates - Good Luck!