

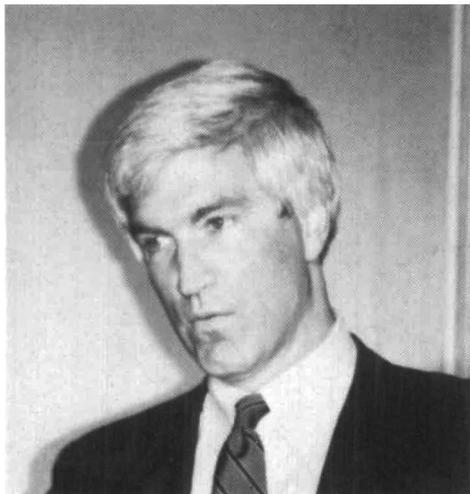
ASAE Hosts Members of Congress at Focus 87

On May 13, 1987, the American Society of Association Executives (ASAE) held "Focus 87," sponsored by its Government Relations Section and Government Affairs Division. The event was intended to bring together association executives from throughout the country and policymakers in government. ASAE members are normally chief executive officers of many different types of associations as well as representatives of organizations which serve associations, such as hotels and travel suppliers. ASAE has proven to be a useful source of information on associations in general and the Materials Research Society has drawn on its expertise in the past.

Speakers from Congress and government agencies covered a variety of topics. Of interest to members of the Materials Research Society were those pertaining to the technology-connected economic state of the United States vis-a-vis deficits, trade imbalances, industrial competitiveness, and related issues.

Speaker of the House of Representatives James Wright (D-Texas) indicated that the trade deficit is partly due to a shortfall of U.S. graduates in the engineering and science disciplines. He compared the number of graduates over the past year in the United States (54,000) and Japan (79,000), a country with half the population of the United States. He also decried an expenditure of \$300 billion this year on the military compared to only \$18 billion on the education of our youth, implying that the priorities of the current administration need revision.

Following Wright, two freshmen congressmen spoke. The first, Thomas McMillen (D-Maryland), echoed the Speaker's contention concerning problems with the



Congressman T. McMillen (Democrat, Maryland). Photo courtesy of ASAE.

trade imbalance and industrial competitiveness, paying special attention to problems of foreign capital and how they relate to issues of industrial competitiveness. Following McMillen, Congressman Fred Grandy (R-Iowa) spoke on largely agricultural issues.



Honorable J.J. Pickle (Democrat, Texas), chairman of the House Ways and Means Subcommittee on Oversight. Photo courtesy of ASAE.

The Honorable J.J. Pickle (D-Texas), chairman of the House Ways and Means Subcommittee on Oversight, then spoke on a subject germane to an audience of association executives. His subcommittee is considering the role of tax-exempt, nonprofit organizations and the fact that legislation covering the criteria for their tax-exempt status has not been revised in 19 years.

Section 501(c) of the Internal Revenue Code includes 25 different categories of tax-exempt organizations. The 501(c)3's, which are charitable organizations, comprise 800,000 corporations and represent a tax loss to the U.S. government of approximately \$300 billion dollars. Pickle said his subcommittee will examine the situation and recommend legislation to the full Ways and Means Committee concerning such issues as the degree to which nonprofit organizations may espouse political views, the degree to which to which donors to "charitable" organizations are explicitly informed if their donations are tax deductible, and what penalties might be levied for associated violations. Another issue the subcommittee will review concerns how tax-exempt organizations deal with unrelated business income, which may or may not be taxed depending on how it is interpreted under the present IRS code. (MRS is a 501(c)3, tax-exempt, nonprofit corporation.)

Following Pickle, Congressman John Porter (R-Illinois) described House bill HR-

911, the Volunteer Protection Act, which he introduced. This act is designed to protect volunteers who serve nonprofit organizations such as MRS from being held liable for actions taken by the organization, or by them on behalf of the organization, except in cases of obvious willful negligence. The legislation will attempt to redress an apparent drop in volunteerism which is explained by fears of liability. These fears appear to be very strong but are not strongly borne out by litigation. The proposed bill would encourage state enactment of immunity laws for volunteers by providing a negative incentive on federal grants contingent upon enactment of such statutes.

Daniel Oliver, Chairman of the Federal Trade Commission, then addressed many issues, including the relative benefits of antitrust laws, open competition, and protection of consumer rights. Oliver's remarks centered on maintaining an open competitive posture and avoiding legislation or regulation which would create artificial protection for any U.S. industry which would not otherwise survive. He conceded that some businesses might fail but charged that only truly unfair competitive practices from abroad should be redressed by U.S. government action.



D. Oliver, chairman of the Federal Trade Commission. Photo courtesy of ASAE.

The ASAE session closed with a luncheon address by Congressman Jack Kemp (R-New York), who spoke on the concept of open markets and the lowering of trade barriers throughout the world. In answer to a question from the audience, he indicated that he includes the free exchange of technical information between nations in the lowering of trade barriers, except for particularly sensitive national defense data.

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One theme pervading many of the addresses was a call from Members of Congress for input from the constituency of association executives. For science and technology, this call seemed particularly strong because the topics of industrial competitiveness and trade deficits seem to center on technological issues. The MRS External Affairs Committee continues to watch the events in Washington and will participate in this type of interchange whenever possible.

DOE Notes

BES/DMS Holds Info Exchange on High T_c Superconductors

On May 14 and 15, the U.S. Department of Energy, Office of Basic Energy Sciences (BES), Division of Materials Sciences (DMS), held its third information exchange on high T_c superconductors. The meeting was organized by Donald Liebenberg of DMS and hosted by Liebenberg, Louis Ianiello, and Iran Thomas of BES/DMS. Attending were representatives from DOE national laboratories and from industry and universities. This was a broader spectrum of participants than were invited to the previous two information exchange meetings in January and February of 1987. The primary purpose of the meeting was to allow individual investigators from the DOE facilities to interact on all the aspects involved in the synthesis, processing, and characterization of the new superconducting materials.

While providing input from university and industry researchers, the meeting was also a *de facto* mechanism for technology transfer for the private sector to learn about government laboratory activities. At present, DOE has diverted 10 million dollars toward research on the new superconducting materials, according to Louis Ianiello of DOE.

The preparation mechanism and format for the meeting also engendered an inter-laboratory exchange of information. Given representatives from the national laboratories each described a particular area of work being pursued at all the laboratories. Short "late-news" presentations from the audience were also permitted. Because of the lively and productive exchange, other such information exchange meetings are anticipated.

Two presentations during the first day's session were particularly exciting. First, representatives from IBM described recent work on measuring critical currents in physical vapor deposited films of the yttrium-barium-copper-oxide material on strontium titanate substrates. They reported a 100,000 A/cm² critical current at liquid nitrogen temperature and a 3×10^6 A/cm² critical current at liquid helium temperature. Second, Stanford Ovshinsky and

Rosa Young of Energy Conversion Devices reported fabricating a material which superconducts at 155 K and shows significant hysteresis effects. The transition temperature can be observed between 148 and 168 K depending on previous cooling and heating cycles. The normal resistivity of this material is also unusual, following a T^8 dependence. No details were given concerning composition, constituents, or fabrication techniques, except that the material is a multiphase, multicomponent, ceramic-type material.

The second day of the meeting was devoted primarily to panel discussions on the areas of materials synthesis, processing defects and microstructure, processing and macrostructure, structural characterization, and property measurement and behavior. A panel on cooperation within the university, industrial, and laboratory communities was also featured.

Editor's Note: For further details, see S. Ovshinsky et al., *Phys. Rev. Lett.* 58 (June 15, 1987) p. 2579.

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After presenting data on a new $T_c = 155$ K superconductor, S. Ovshinsky (left) and R. Young answer audience questions.



Left to right: I. Thomas, L. Ianiello, and D. Liebenberg of the DOE Office of Basic Energy Sciences.

SBIR Awards Made to 113 Small Businesses

The Department of Energy selected 113 proposals from small high-technology firms in 26 states for funding under its Small Business Innovation Research (SBIR) program. The proposals were chosen on the basis of technical merit from 942 submitted in 28 technical, energy-related research topics ranging from chemical sciences research to solar thermal technology. Initial contracts will average \$50,000 for about six months.

Under the contracts, each firm will attempt to determine the feasibility of its proposed concept. After that, each will be eligible to compete for a second phase with funding up to \$500,000 over two years. During that time, the selected concepts would be further developed.

The firms receiving awards are as follows:

- Health and Environmental Effects Instrumentation—Creare, Southwest Sciences
- Nuclear Medicine—Aerodyne Products Corporation, Applied Research Corporation, Computer Technology and Imaging, RhoMed
- Health and Environmental Effects Methodologies—DURA Research Products, Genetics Data Services, KMS Fusion, Stephen A. Myers
- Chemical Sciences Research—Bend Research (3 awards), EIC Laboratories, Integrated Chemical Sensors Corporation, Precision Analytics, Southwest Sciences, Spectral Sciences, TACAN Corporation
- Materials Sciences—Advanced Research and Applications Corporation, Advanced Technology Materials, Ceramtec (2 awards), Plasma Physics Corporation, Plasmion, Spire Corporation, Universal Energy Systems, Xi Magnetics
- Advanced Control Systems—Expert-EASE Systems
- Plant Natural Product Chemistry—Complex Carbohydrate Corporation
- High Energy Physics Technology and Research—Alabama Cryogenic Engineering, Aspen Systems, Creare, Sonoscan, Spire Corporation, Supercon (2 awards)
- High Energy Physics Data Processing and Detector Instrumentation—Coherent Data Systems, Digital Video Processing, KineticSystems Corporation, Lucitron, NYCB Real-Time Computing, Scientific Systems International/Modular Software Systems, Synetics Corporation
- Particle Accelerator Technology—DULY Consultants, Mission Research Corporation, Spire Corporation
- Nuclear Physics Instrumentation and Techniques—Radiation Monitoring Devices and Devcom (joint venture)
- Plasma Diagnostics—Atom Sciences, EOTec Corporation, Radiation Science, Science Research Laboratory

- Plasma Confinement Systems Technology—Applied Science and Technology, Batzer and Associates, Composite Technology Development, InterScience, Material Concepts, Physical Sciences, Pyromet, Spire Corporation, Supercon (2 awards)
- Fusion Energy Systems—Corium Industries, Foster-Miller, KMS Fusion, Remote Technology Corporation, Technical Research Associates
- Robotics and Remote Systems Technology for Nuclear Facilities—Odetics (2 awards), Reinhart and Associates, Visual Interface Corporation
- Sensors and Monitoring for Advanced Nuclear Reactors—ENSCO, Phoenix Digital Corporation
- Space Nuclear Power Technology and System Concepts—GINER, Materials Sciences Corporation, PAI Corporation
- Fuel Cycle Technology—Creare, Thermacore
- Advanced Technologies for Decontamination and Decommissioning of Nuclear Facilities—Energy and Minerals Research Company, Flow Research Company, Scientific Associates
- Computer Applications to Nuclear Power Plants—Applied Research Associates, Expert-EASE (2 awards), SoHar, Technology International
- Coal Utilization and Conversion—ElectroChem (2 awards), Energy and Minerals Research Company, GINER, KSE, Spire Corporation, Technor
- Fossil Energy Instrumentation—Hart Scientific, Southwest Sciences
- Enhanced Oil Recovery and Tar Sands—Carbotek, Energy Recovery Technology, Remington Energy Corporation
- Fossil Energy Materials—Ceramtec, Energy Materials Research Company
- Photovoltaic Research—Advanced Technology Materials, Spectracom
- Solar Thermal Technology—Dan-Ka Products, LaJet Energy Company, M.L. Energia, Solar Kinetics
- High Temperature Structural Ceramics for Heat Engines—American Research Corporation of Virginia, Ceramtec, Materials and Electrochemical Research Corporation
- Industrial Separation, Conversion, and Recovery Processes—Albers Research and Development Associates, KSE, Surfactant Associates, Uintex Corporation

Invitation Issued for SSC Site Proposals

The Department of Energy issued its invitation for site proposals for the Superconducting Super Collider (SSC) on April 1, 1987. The deadline for submitting proposals to DOE is August 3, 1987.

The super collider will be located in a racetrack-shaped tunnel about 53 miles in circumference and 10 feet in cross-section diameter. Other facilities will include four large halls for experiments, a series of in-

jector accelerators, and several support buildings. The super collider facility will encircle about 200 square miles that will not be affected, allowing continued use and habitation. The entire complex will eventually occupy about 16,000 acres located entirely within the United States.

The invitation provides guidance for preparing and submitting a proposal. It consists of three sections and several appendices and attachments. The first section introduces the project. The second section primarily provides instructions for preparing proposals and includes a list of the information to be provided to DOE. The third section describes the review and selection process and the screening criteria, technical evaluation criteria, and cost considerations that will be used in the review process.

In September, DOE will submit proposals that have passed its initial screening process to an expert committee established by the National Academy of Sciences and National Academy of Engineering. The expert committee will evaluate these proposals against the DOE-established technical evaluation criteria and cost considerations and submit an unranked list of best qualified sites to DOE in December. After additional detailed evaluation of the best qualified list, DOE will identify the preferred site in July 1988. Final site selection is targeted for January 1989.

According to the proposal invitation, the goal is "to select a site that will permit the highest level of research productivity and overall effectiveness of the SSC facility at a reasonable cost of construction and operation and with minimal adverse impact on the environment." Land acquisition must be free of cost to the government.

In descending order of importance, the technical evaluation criteria include: geology and tunneling, regional resources, environment, setting, regional conditions, and utilities. Cost considerations, to be used in conjunction with the technical criteria, include such factors as construction costs, annual operating costs, environmental mitigation costs, and a life-cycle cost.

Although cost considerations are significant, primary emphasis will be on the results of the technical evaluations. In their overall evaluations, NAS/NAE and DOE will consider whether a higher technical evaluation is worth the extra cost of a particular proposal and whether the life-cycle cost of a proposal is low enough to overcome a lower technical evaluation.

Copies of the invitation are available from: U.S. Department of Energy, Office of Energy Research, SSC Site Task Force, Washington, DC 20545. Requesters should specify whether they want a copy for information purposes or whether they are potential proposers.

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