

Carnegie Commission Examines Congressional Science Policy Formulation

Scientists interested in finding out how Congress develops science policy and what can be done to improve the complex process will find useful two reports by the Carnegie Commission's Committee on Science, Technology, and Congress.

The first report, *Science, Technology, and Congress: Expert Advice and the Decision-Making Process*, considers the mechanisms by which Congress receives and uses information, expert analyses, and advice from sources outside Congress, including academia, industry, and nongovernmental organizations.

Members of Congress and their staff do not need more information, says the Committee, but they need high-quality information directed specifically to issues of concern to them. The information should be accurate, balanced (biases clearly identified), properly packaged, readily accessible, and delivered when the issue is being

addressed. "Information, analysis, and advice are most useful...when presented in such a way that they can be readily applied to the decision-making process," says the report.

The report also offers insights into the content and quality of effective communication between legislators and scientists, who often view problems and solutions in different terms. Most useful according to the Committee are brief, nontechnical reports that summarize key facts, present policy issues and options, and suggest a course of action that takes into account political and economic realities. "The information received by staff rarely has all these characteristics," notes the report.

"Trust is the key to access to Members and staff," finds the Committee. "Building relationships and creating mechanisms to nurture trust are as important as improving the quality of analyses available to Congress."

Recommendations are grouped into those for consideration by Congress and those directed toward the scientific com-

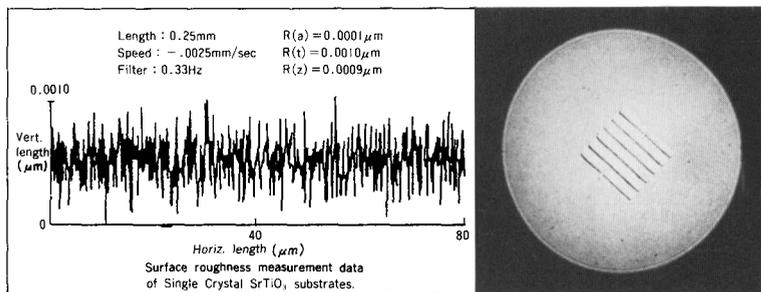
munity. The Committee recommends that Congress:

- Establish a bipartisan Science and Technology Study Conference or related bicameral legislative service organization to function as a focal point for the timely analysis of science and technology related legislative issues, to develop strategies to address matters that cut across multiple committees, and to facilitate the acquisition and dissemination of information on science and technology related activities;
- Improve its approaches to obtaining science and technology analyses and advice from the scientific community;
- Devise a way to make direct requests for certain studies to the National Academy of Sciences complex;
- More frequently use the results of the scientific merit review process in making decisions on the funding of science and technology projects and facilities;
- Make scientific and technical information developed at hearings and elsewhere more readily available to the scientific community and to the public.

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For the scientific community, the Committee recommends that the Congressional Science and Engineering Fellows Program be strengthened and expanded; that more scientists, engineers, and others become actively involved in science and technology policy activities; and that the National Academy of Sciences complex strengthen its abilities to meet congressional analytical and advisory needs.

The second report, *Science, Technology, and Congress; Analysis and Advice from the Congressional Support Agencies*, focuses on the contributions to congressional policy made by each of the four support agencies: Office of Technology Assessment (OTA), Congressional Research Service (CRS) of the Library of Congress, General Accounting Office (GAO), and the Congressional Budget Office (CBO).

"The congressional support agencies are indispensable, vital sources of analysis and advice to Congress in the areas of science and technology and they need to be strengthened, but resource constraints may impede the support agencies' capac-

ity to help Congress address many increasingly complex scientific and technological issues of national importance," says John Brademas, president of New York University and chair of the Carnegie Commission's Committee on Science, Technology, and Congress.

The report offers a range of recommendations to Congress and to the support agencies, both collectively and individually, for improving support agency activities. Of nine recommendations for consideration by Congress, the report recommends that Congress modify Library of Congress personnel policies to allow the CRS more flexibility in attracting and retaining individuals with outstanding credentials in science, technology, and public policy.

All four support agencies should explore approaches to delivering information more effectively to Congress and the public, improve their abilities to analyze international issues with substantial scientific and technological content, and enhance efforts to communicate and cooperate with one an-

other in the analysis of science and technology issues, says the report.

Recommendations to the individual support agencies focus on maintaining their strength and vitality while noting that "resources available to the support agencies have not kept pace with the rising demand for information." OTA assessments are widely used and appreciated by those within and outside Congress, but "less technical discussion and greater attention to policy issues and options would strengthen these reports," says the Committee.

The Committee's concern regarding the CRS is that it "faces shortages of scientific and technical personnel, particularly at the senior levels, at a time when the demand for S&T-related services is steadily increasing."

The scientific and technical staff at GAO is also limited in relation to the organization's mission and size, says the Committee. It recommends that GAO strengthen its technical expertise and also establish an Office of Science and Technology to advise

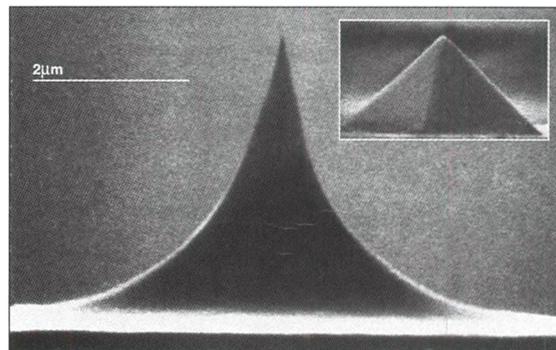
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and assist the Comptroller General and other senior officials.

The CBO is encouraged to enhance its abilities to analyze the budgetary impact of science and technology programs and proposed initiatives.

The Committee on Science, Technology, and Congress plans two more studies in this series. A third study will focus on congressional procedures, including appropriations, authorization, and oversight of science and technology programs. The final study will examine scientific literacy, how an informed electorate influences the congressional agenda, and the role of the media in informing the public about science and technology related issues.

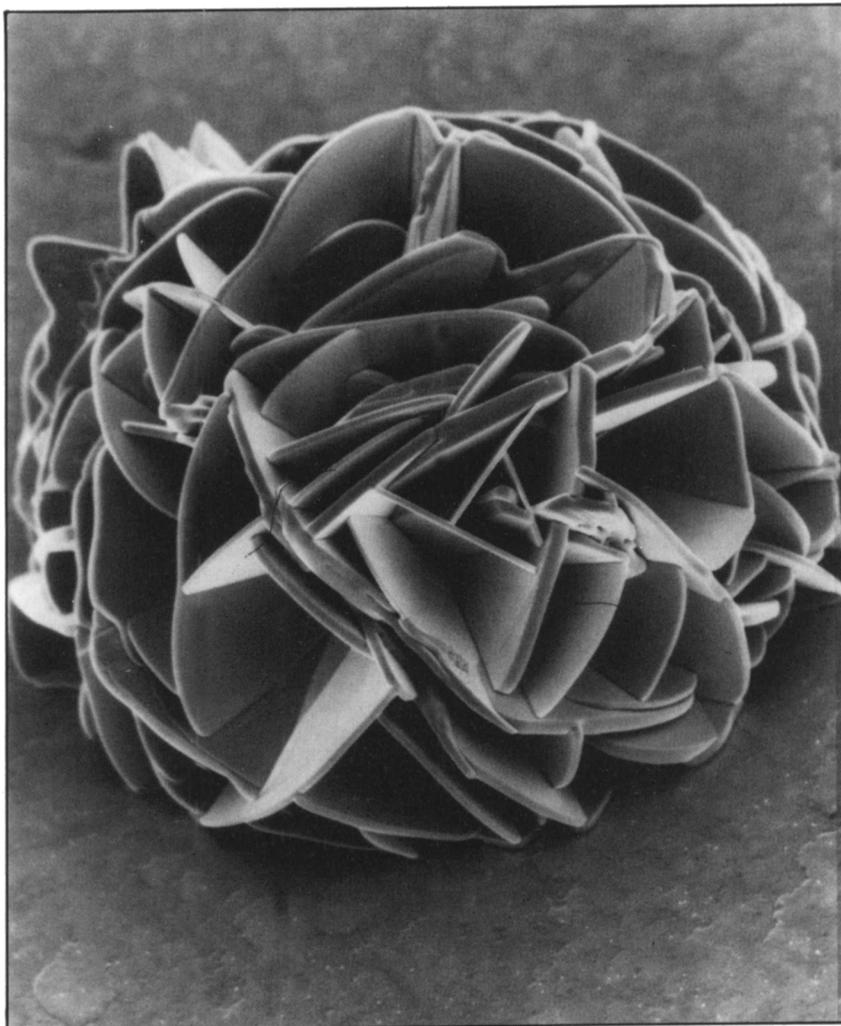
For a copy of the first report, *Science, Technology, and Congress: Expert Advice and the Decision-Making Process*, circle 125 on the Reader Service Card. For a copy of the second report, *Science, Technology, and Congress: Analysis and Advice from the Congressional Support Agencies*, circle 130 on the Reader Service Card. Supplies of the reports are limited. □

The Carnegie Commission on Science, Technology, and Government was created in April 1988 by Carnegie Corporation of New York. It analyzes and assesses the factors that shape the relationship between science, technology, and government and is seeking ways to make this relationship more effective. The Commission sponsors studies, conducts seminars, and establishes task forces to focus on specific issues.

Within the Commission, the Committee on Science, Technology, and Congress is examining issues specific to the legislative branch of the federal government. The Committee's activities are guided by a Congressional Advisory Council of more than 40 Senators and Representatives. Senators and Representatives on the Council do not necessarily endorse conclusions or recommendations of the Commission's reports.

The Committee on Science, Technology, and Congress is chaired by John Brademas, who served in the U.S. House of Representatives from 1959 to 1981 and is currently president of New York University. Committee members include Jimmy Carter, Lawton Chiles, Daniel J. Evans, Charles McC. Mathias Jr., and H. Guyford Stever.

Figures appearing in the EDITOR'S CHOICE are those arising from materials research which strike the editor's fancy as being aesthetically appealing and eye-catching. No further criteria are applied and none should be assumed. When taken out of context, such figures often evoke images beyond and unrelated to the original meaning. Submissions of candidate figures are welcome and should include a complete source citation, a photocopy of the report in which it appears (or will appear), and a reproduction-quality original drawing or photograph of the figure in question.



Could it be that unwanted artifacts are the more interesting features of materials preparation and processing experiments? Just one year ago (*MRS Bulletin*, April 1991, p. 21) EDITOR'S CHOICE showcased unintentional zinc "grass" grown on a crucible wall. This month we have what its creators call a "Dixie rose" of lead oxide, formed on the surface of a thin film of lead-zirconate-titanate ferroelectric. They see this 35-micron diameter structure in their scanning electron microscope when an excess of tetraethyl lead is present in the gas feed of their metalorganic chemical vapor deposition reactor. Perhaps "Dixie" is attributed to this rose because A. Erbil and W. Braun, who cultivated it, hail from the Georgia Institute of Technology. (A description of the MOCVD process for ferroelectric film deposition will be found in B.S. Kwak et al., *Appl. Phys. Lett.* 53 (18) (1988) p. 1702.) Considering that one wants to eventually dispose of this elegant structure, to EDITOR'S CHOICE it appears more like the collection of crumpled nonbiodegradable Styrofoam™ coffee cups typically deposited in the wastebasket of the average MOCVD lab after a long day of deposition.