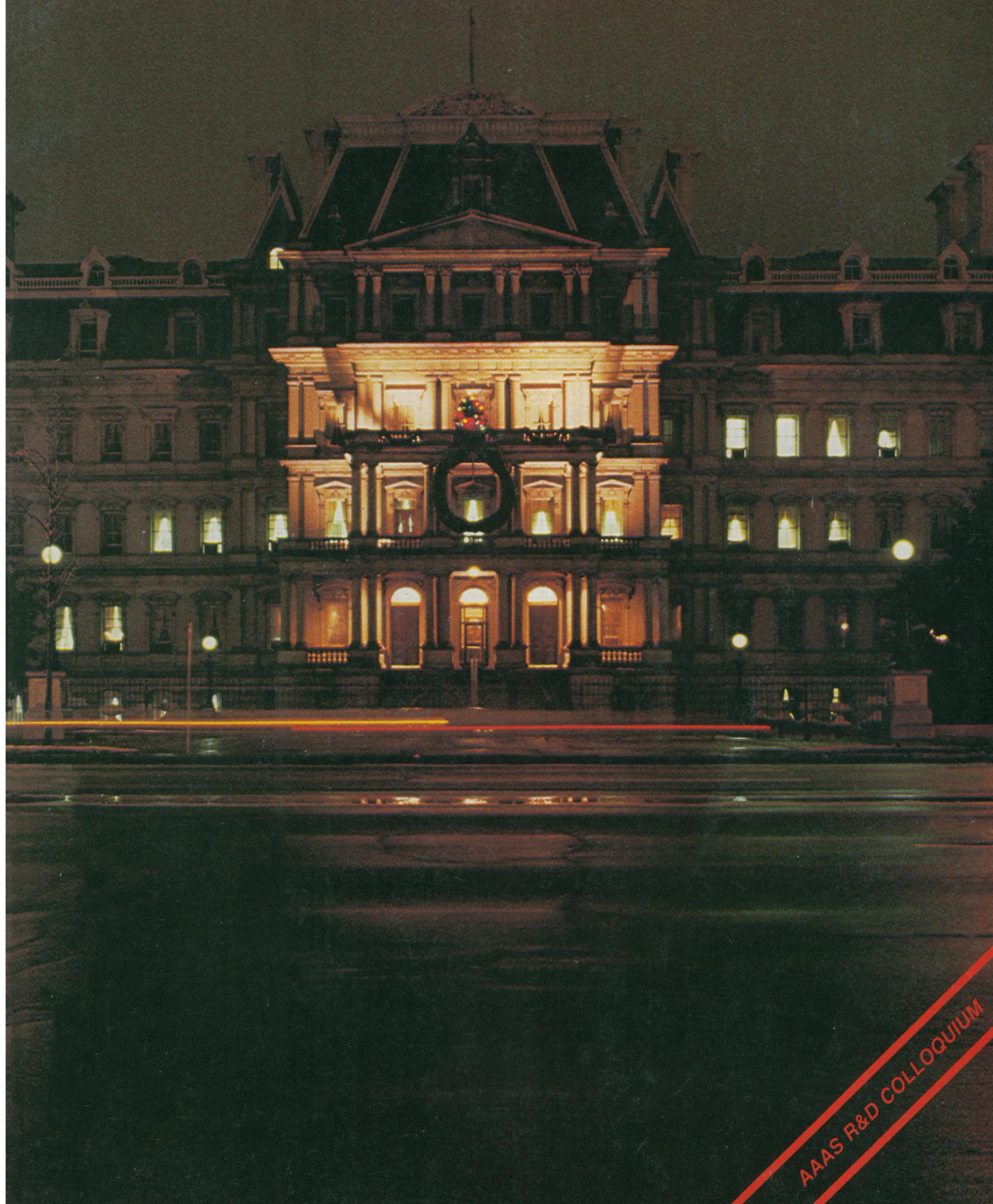


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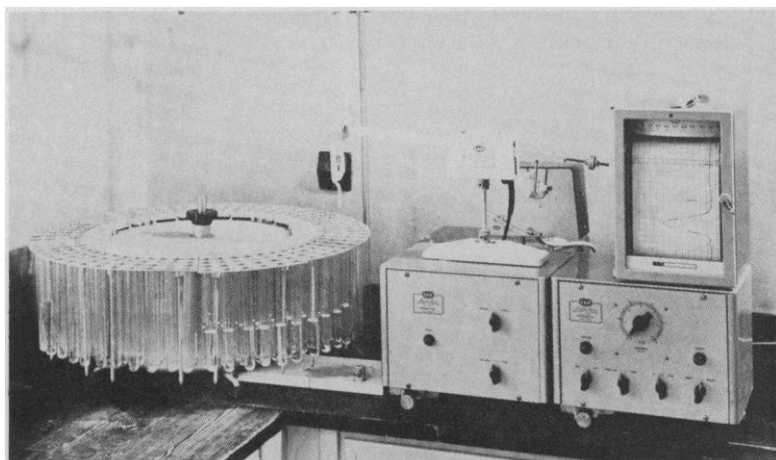
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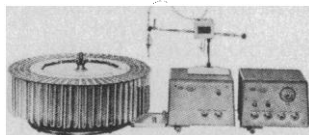
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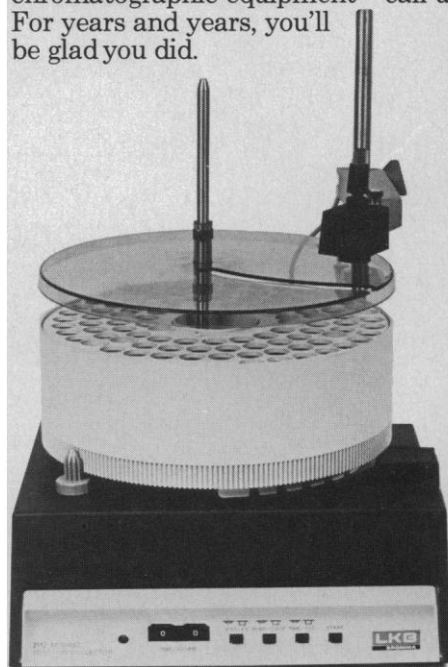
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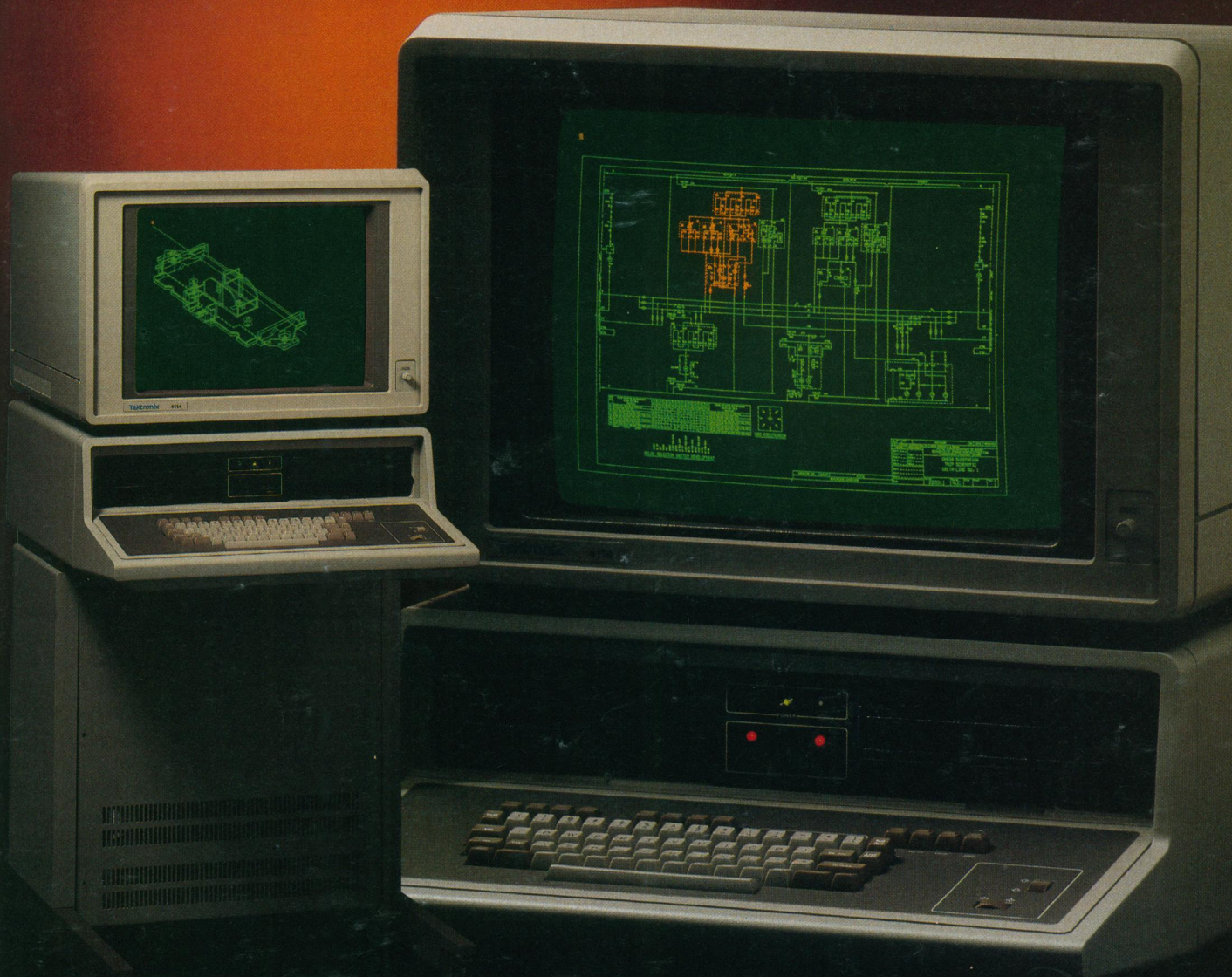
COVER

"Burning the midnight oil" at the Old Executive Office Building, Washington, D.C., late December 1982. Officials of the Office of Management and Budget work nights and weekends preparing the President's fiscal budget for presentation to Congress in January. R & D in the budget will be discussed at the Eighth Annual AAAS Colloquium on R & D Policy, 24-25 March 1983, Washington, D.C. See page 834. [Al Teich, Office of Public Sector Programs, AAAS]

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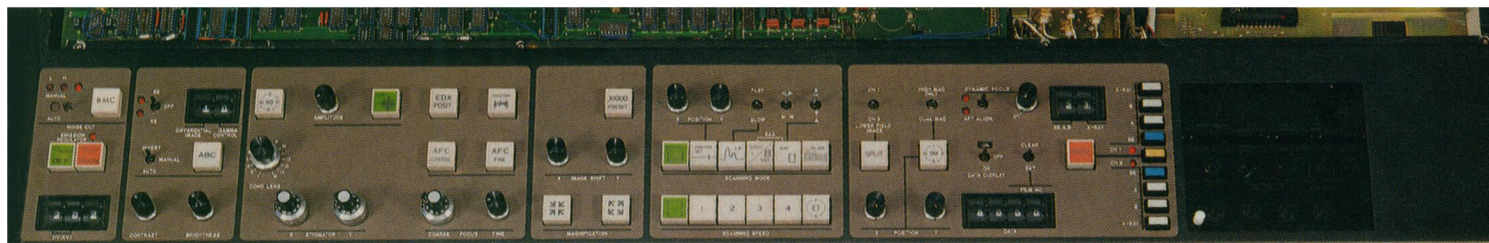
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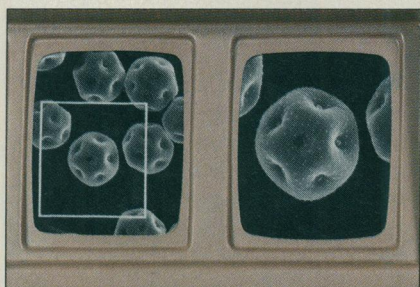
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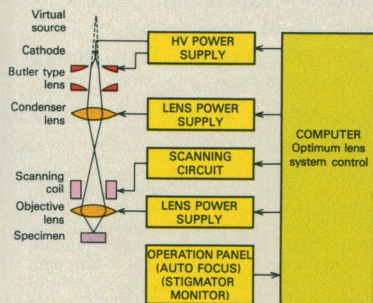
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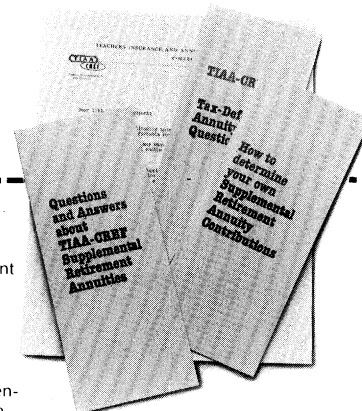
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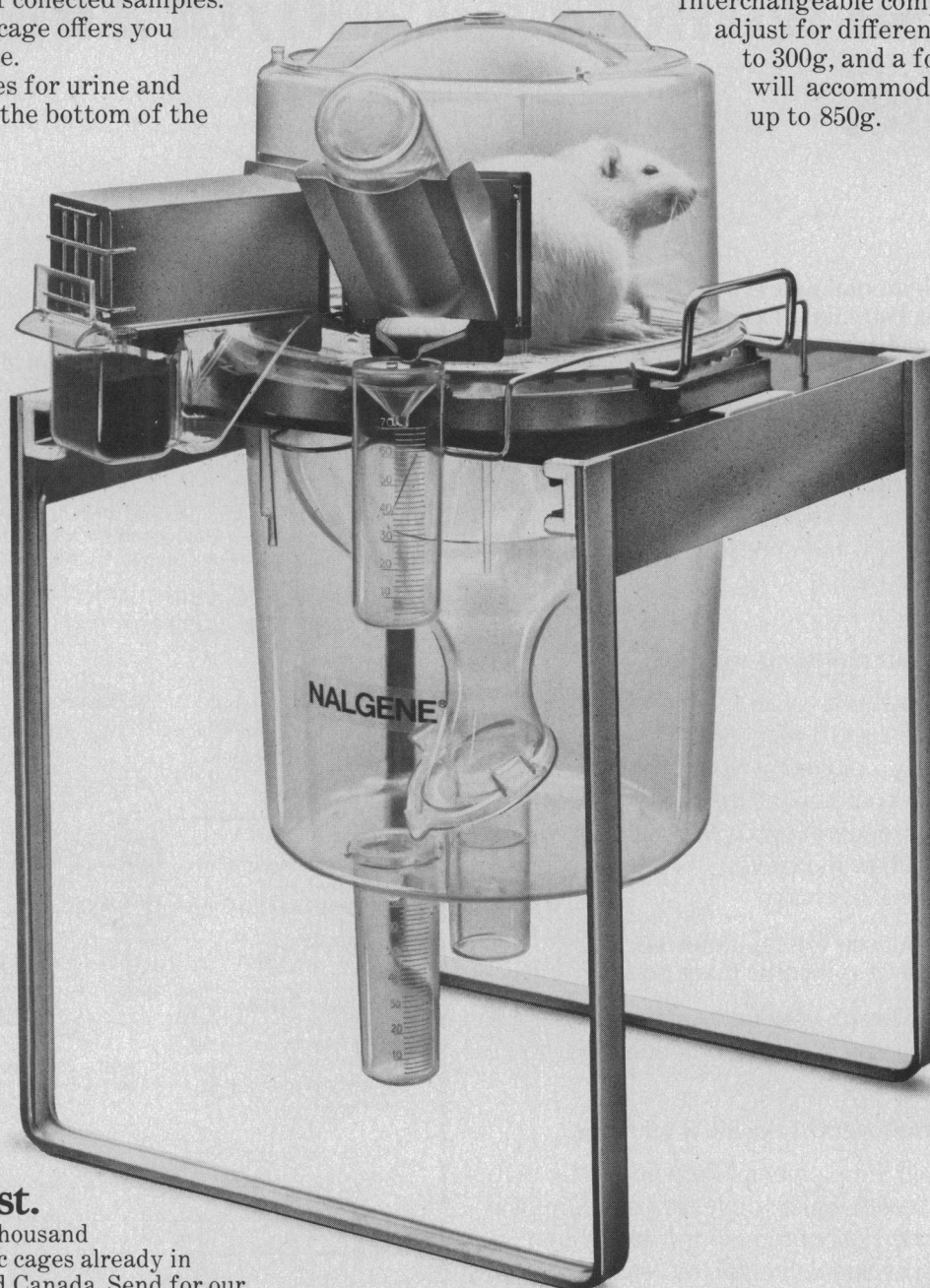
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- Defense R & D, consistently neglected for nearly 20 years, is now being addressed. This includes more than \$850 million for basic research.

- Basic research in the physical sciences and engineering, underfunded since the mid-1960's, will receive large, selective increases.

- Much of the increased basic research will be directed to universities, where it will also help train new scientists and engineers.

Over the years, in unpredictable, leisurely ways, basic research has led to new technology, which in turn has been the dominant source of growth and of new jobs. But now, in light of what has been happening to the competitiveness of U.S. industries, it is obvious that we cannot simply wait for good things to happen. Science in the universities and the federal laboratories can and must be better attuned to the opportunities of the industrial world. Our leadership in the international marketplace is at stake.

As a result, our fiscal 1984 program emphasizes selectivity. Increases are targeted to areas likely to have the greatest long-term impacts on new technologies—fields such as mathematics, physics, engineering, plant biology, materials science, astronomy, and space sciences—and specifically to universities, where research involves training of people needed in our increasingly technology-dependent economy. In fact, we consider the opportunities so great, and their potential impact so important, that basic research in those fields receives some of the greatest emphasis of any part of the federal budget. For example, overall basic research would grow by 10 percent, and agencies that support primarily physical sciences and engineering would grow by 15 percent. Moreover, in the National Science Foundation some disciplines, such as mathematics and electrical engineering, would grow by about 25 percent. And in the life sciences, with overall level funding, there are large support "spikes" in important subareas such as plant and molecular biology and the neurosciences. Civilian basic research is undergoing some of the most profound changes in decades. The essential point is that these selective increases neither "reward" nor "punish" fields of science. While segments of the research community may view our actions from personal perspectives, I hope they will realize that the increases are the Administration's way of addressing a very real national objective: our economic future.

Just as we have not allocated these funds for the usual reasons, we do not expect them to be used in the usual ways. Naturally, the various disciplines would welcome infusions of money to support more projects, say the next 10 or 15 percent of the proposals—all good—that missed the funding cutoff. But the President has not allocated these growth funds to support "next best" research. The real return on this federal investment will come from focusing on the best projects and permitting those nuclei to grow to world-leading concentrations of research excellence. This approach will yield two invaluable products: front-line scientific advances, and a growing body of superbly trained new scientists and engineers.

In spite of its utility, this kind of highly selective approach may not be popular. But science is not on the list of public obligations—like social security or Medicare or veterans' pensions—that have to be funded according to an egalitarian formula. Discretionary spending, which includes all of R & D, makes up only 22 percent of the federal budget today. Every budget item is under intense pressure, and arguments for increases have to be immensely convincing. The fact that so many arguments for research were so persuasive testifies to the central role of research in national policy.—G. A. KEYWORTH, II, *Science Advisor to the President, Office of Science and Technology Policy, Washington, D.C. 20500*

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24-25 MARCH 1983

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R & D, High Technology, and Economic Recovery

Trends and Topics

- R & D in the FY 1984 budget
- Congressional reactions
- Industry R & D funding
- International competition
- Human resources
- Research partnership

Current Data

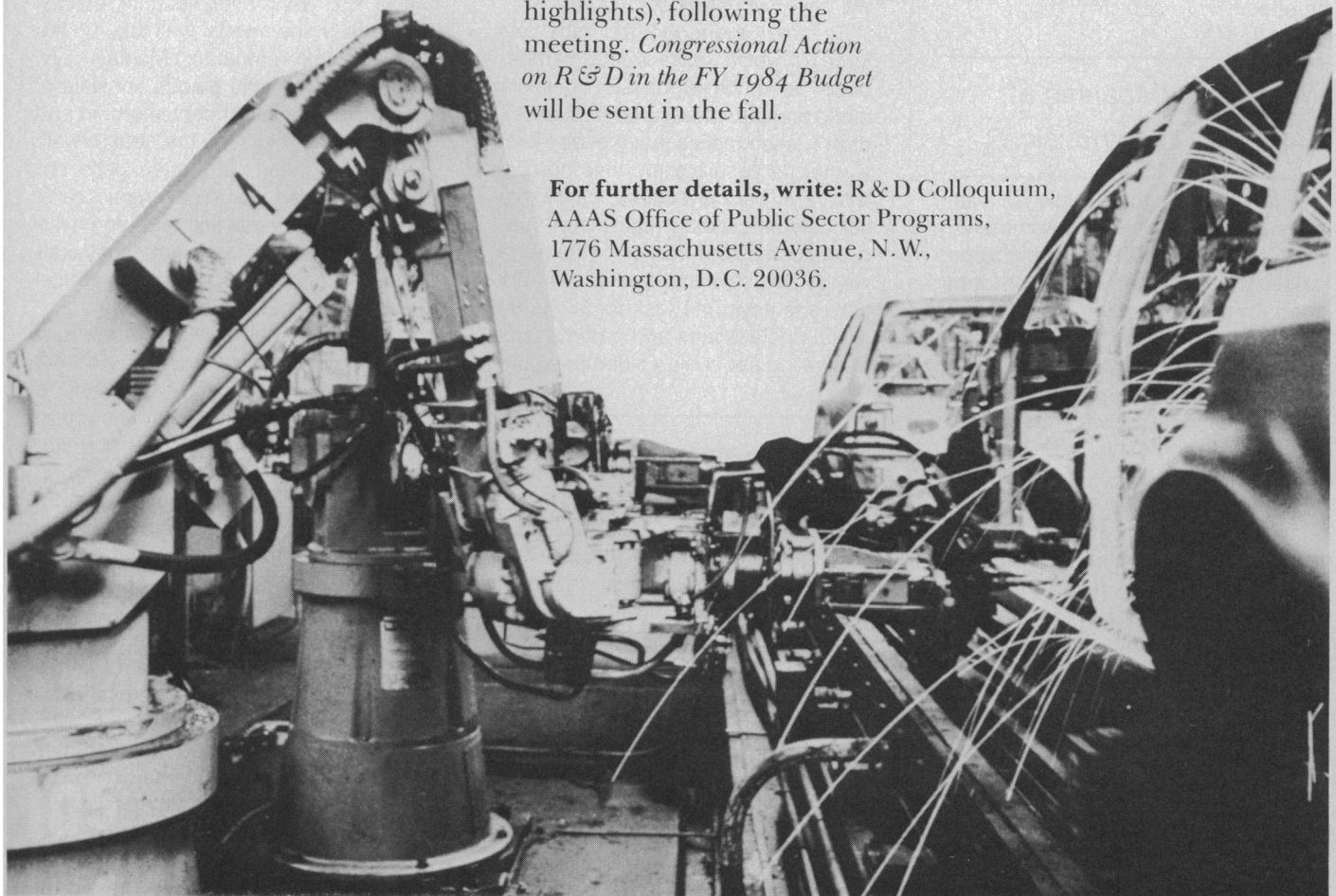
Registrants will receive *R & D in the FY 1984 Budget: A Preliminary Analysis* in advance of the Colloquium and AAAS *Report VIII: Research and Development, FY 1984*, by Willis H. Shapley, Albert H. Teich, and Jill P. Weinberg (including Colloquium highlights), following the meeting. *Congressional Action on R & D in the FY 1984 Budget* will be sent in the fall.

Informed Debate

Leaders from:

- The White House
- Federal R & D agencies
- Congress
- Industry
- Universities

For further details, write: R & D Colloquium,
AAAS Office of Public Sector Programs,
1776 Massachusetts Avenue, N.W.,
Washington, D.C. 20036.



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For advance registration, please use the form on the facing page.



8th AAAS R & D Colloquium
Washington, D.C.
24 & 25 March 1983

**Advance
Registration
Form**

Thursday & Friday, 24 & 25 March, at The Shoreham Hotel, 2500 Calvert St., N.W., Washington, D.C.

Registrant's Name _____
(last name) (first name and initial)

Affiliation _____

Mailing Address _____
(street and number)

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☐ \$ 80 Partial Registration (sessions, three publications)
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☐ Lunch on Thursday, 24th ☐ Lunch on Friday, 25th

Program, badge, meal tickets, and R&D in the FY 84 Budget: A Preliminary Analysis will be mailed 11 March. Registrations received after 11 March will be held at the AAAS Registration Desk at The Shoreham Hotel. AAAS Report VIII: Research & Development FY 1984 will be mailed in June and Congressional Action on R&D in FY 84 Budget will be mailed in the fall. (Highlights of the Colloquium will appear in Report VIII. Inquire for earlier reports and proceedings.)

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Return both top & bottom forms (full page) to the following address:
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Shoreham Hotel Reservation—AAAS Colloquium (24 & 25 March 1983)

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Preliminary Program
Eighth Annual AAAS Colloquium on R & D Policy
24–25 March 1983 ● The Shoreham Hotel ● Washington, D.C.

Thursday, 24 March

- 8:00 a.m. **Registration**
- 9:00 a.m. **Welcome**
E. Margaret Burbidge, *President, AAAS; and Director, Center for Astrophysics and Space Sciences, University of California, San Diego*
- Overview of R & D in the FY 1984 Budget**
Willis H. Shapley, *Consultant to AAAS for the R & D Budget Project*
Albert H. Teich, *Manager, Science Policy Studies, AAAS*
- 9:30 a.m. **R & D FY 1984: The Budgetary Context**
Moderator:
J. Thomas Ratchford, *Associate Executive Officer, AAAS*
Speakers:
Frederick N. Khedouri, *Associate Director for Natural Resources, Energy and Science, Office of Management and Budget*
Van Doorn Ooms, *Chief Economist, Committee on the Budget, U.S. House of Representatives*
Third speaker to be announced
- 12:30 p.m. **Luncheon**
Presiding:
Ray Thornton, *Chairman, AAAS Committee on Science, Engineering and Public Policy; and President, Arkansas State University*
Address:
Ed Zschau, *Member, U.S. House of Representatives (R-Calif.)*
- 2:15 p.m. **R & D and Economic Recovery in a World Context**
Speakers:
George A. Keyworth II, *Director, Office of Science and Technology Policy, Executive Office of the President*
Milton D. Stewart, *President, Small Business High Technology Institute*
Third speaker to be announced
- 4:30 p.m. **Agency Perspectives on R & D in the FY 1984 Budget**
Department of Defense
Moderator:
Richard A. Scribner, *Staff Representative, AAAS Committee on Science, Arms Control and National Security*
Speaker:
Paris Genalis, *Assistant Director, Research and Laboratory Management, Office of the Secretary of Defense*
Discussant:
Willis D. Smith, *Professional Staff Member, Committee on Armed Services, U.S. Senate*
Department of Energy
Moderator:
Allan R. Hoffman, *Executive Director, Committee on Science, Engineering and Public Policy, National Academy of Sciences*
Speaker:
Joel A. Snow, *Director, Science and Technology Affairs Staff, Office of Energy Research, Department of Energy*
Discussant:
Martha A. Krebs, *Staff Director, Subcommittee on Energy Development and Applications, U.S. House of Representatives*

National Aeronautics and Space Administration

- Moderator:**
Willis H. Shapley, *Consultant to AAAS for the R & D Budget Project*
- Speaker:**
Robert F. Allnutt, *Acting Associate Administrator for External Relations, National Aeronautics and Space Administration*
- Discussant:**
Dennis W. Barnes, *Chief Scientist, Committee on Commerce, Science and Transportation, U.S. Senate*
- National Institutes of Health**
Moderator:
Jerold Roschwalb, *Director of Government Relations, National Association of State Universities and Land Grant Colleges*
Speaker:
Michael I. Goldberg, *Associate Director for Program Planning and Evaluation, National Institutes of Health*
Discussant:
David N. Sundwall, *Professional Staff Member, Committee on Labor and Human Resources, U.S. Senate*

National Science Foundation

- Moderator:**
John C. Crowley, *Director of Federal Relations for Science Research, Association of American Universities*
- Speaker:**
M. Kent Wilson, *Director, Office of Planning and Resources Management, National Science Foundation*
- Discussant:**
Thomas R. Kramer, *Staff Director, Subcommittee on Science, Research and Technology, U.S. House of Representatives*

6:00 p.m. **Reception**

Friday, 25 March

- 9:00 a.m. **Science, High Technology and the Research Partnership**
Moderator:
Sheila E. Widnall, *Member, AAAS Board of Directors; and Professor of Aeronautics, Massachusetts Institute of Technology*
Speakers:
Donald S. Fredrickson, *Scholar-in-Residence, National Academy of Sciences*
Roland W. Schmitt, *Senior Vice President, Corporate Research and Development, General Electric Co.*
George Bugliarello, *Member, AAAS Committee on Science, Engineering and Public Policy; and President, Polytechnic Institute of New York*
D. Bruce Merrifield, *Assistant Secretary for Productivity, Technology and Innovation, Department of Commerce*
- 12:15 p.m. **Reception**
- 12:45 p.m. **Luncheon**
Speaker:
John Slaughter, *Chancellor, University of Maryland; and former Director, National Science Foundation*
- Concluding Remarks:**
William D. Carey, *Executive Officer, AAAS*
- 2:30 p.m. **Adjournment**