

Originally Processed With FOIA(s):
2005-0336-F

FOIA Number:
2005-0336-F

FOIA MARKER

**This is not a textual record. This is used as an
administrative marker by the George Bush Presidential
Library Staff.**

Record Group/Collection: George H.W. Bush Presidential Records
Collection/Office of Origin: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Correspondence Files

OA/ID Number: 62017
Folder ID Number: 62017-004

Folder Title:
Invitations: Speech (1) [10 of 11] [1991]

Stack:

Row:

Section:

Shelf:

Position:

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"INVITATION FOR DR. BROMLEY"

TYPE: INVITATION-SPEECH

DOCUMENT NUMBER: 9120521

SPEECH: YES NO

FROM: OWENS, Albert H.: JOHN HOPKINS ONCOLOGY CENTER

DATE OF EVENT: 06/20/91

LOCATION OF EVENT: EVERGREEN HOUSE, BALTIMORE, MARYLAND

TIME OF EVENT: 06:30PM

SUBJECT: INVITATION TO BE THE AFTER DINNER SPEAKER AT THE
ASSOCIATION OF AMERICAN CANCER INSTITUTES' ANNUAL
MEETING.

RSVP:

CONTACT PERSON:

CONTACT NUMBER:

INVITATION ACCEPTED?

YES NO

COPIES TO:

REMARKS:

DATE OF LETTER: 02/22/91

DATE RECEIVED: 02/25/91

FILE: P- INVITATION *Speech*

THE WHITE HOUSE

WASHINGTON

March 11, 1991

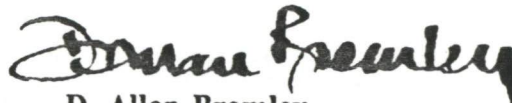
Dear Dr. Owens:

Thank you for your letter of February 22, 1991, inviting me to give an after dinner address to the members of the Association of American Cancer Institutes scheduled for June 20, in Baltimore.

As much as I would like to join you, I must regretfully decline your kind invitation due to the fact that I will be traveling at that time.

Thank you for thinking of me, and may I offer my best wishes for a successful meeting.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "D. Allan Bromley". The signature is fluid and cursive, with the first name "D. Allan" and last name "Bromley" clearly distinguishable.

D. Allan Bromley
Assistant to the President
for
Science and Technology

Dr. Albert H. Owens, Jr.
Johns Hopkins Oncology Center
600 North Wolfe Street
Baltimore, Maryland 21205



Johns Hopkins
Oncology Center

600 North Wolfe Street/Baltimore, MD 21205

(301) 955-8822

FAX: (301) 955-1904

Office of the Director

9120521
RECEIVED

91 FEB 25 P 3:13

OFFICE OF THE

February 22, 1991

The Honorable D. Allan Bromley
Assistant to the President for
Science and Technology
358 Old Executive Office Building
17th and Pennsylvania Avenue, N.W.
Washington, D.C. 20506

Dear Dr. Bromley:

Please receive this invitation to join with the members of the Association of American Cancer Institutes at their annual meeting in Baltimore on June 20. We would be particularly pleased to have you as our after dinner speaker on Thursday evening.

We expect over 100 individuals at our meeting including the directors and other representatives from all of the major cancer centers in this country. They would be most interested in hearing you speak about the support for science in this country and any views you may care to express about the NIH as a science program.

Our dinner will be held at an historic mansion, the Evergreen House, 4545 N. Charles Street, Baltimore, 21210, beginning at 6:30 p.m. If your remarks were about 30-35 minutes in length, I believe it would be possible for you to leave at 9:00 p.m. or before.

John Grupenhoff will facilitate all travel arrangements, etc., for us. He can also tell you a great deal about the AACI.

Sincerely,

Albert H. Owens, Jr., M.D.
Director

AHO:eht

cc: J. Grupenhoff

2/20/91

TENTATIVE AACI PROGRAM

Thursday, June 20

NCI - Centers Program in a.m. (if Brian Kimes wishes)

- 12:00 noon - Lunch (AHO explains AACI agenda)
- 1:15 p.m. - Congressional Visitations to Cancer Centers
- 2:30 p.m. - Meetings of AACI Interest Groups
 - Community Programs
 - Public Issues
 - Administrators
 - Board of Directors
- 3:30 p.m. - Business Meeting AACI
- 6:00 p.m. - Reception at Evergreen House
(Guided tours)
- 7:30 p.m. - Dinner at Evergreen House
(D.A. Bromley, President's Science Advisor)

Friday, June 21*

- 8:30 a.m. - The State of the National Cancer Program
(S. Broder, Director, NCI)
- 9:15 a.m. - The Role of a Research University:
The Importance of Discovery
(W. Richardson, President, JHU)
- 10:00 a.m. - Break
- 10:30 a.m. - Current Research Challenges at JHOC:
The Potential Impact of Discovery
 - Molecular Genetics of Bowel Tumors - B. Vogelstein
 - Toward Effective Chemoprotection - P. Talalay
 - Toward Effective Tumor Immunity - D. Pardoll

- 12:00 p.m. - Lunch
The National Cancer Act of 1971 - Honorable Paul Rogers
- 1:45 p.m. - Aging and Cancer - T. F. Williams
- 2:30 p.m. - Congressional Support of
Cancer Research - S. Hoyer
- 3:15 p.m. - Adjournment

* J. Gruppenhoff will organize approximately 20 Congressional health aides to join the program between 10:00 and 10:30 a.m. From 2:00 p.m. to 4:00 p.m. they will visit the Oncology Center, with introductions and explanations provided by Donald S. Coffey, Ph.D., Deputy Director; and Martin D. Abeloff, M.D., Clinical Director.

"CORRESPONDENCE TRACKING"

TYPE: INVITATION*ACTION

DOCUMENT NUMBER: 9120522

FROM: STROSCIO, Michael A.: DEPARTMENT OF THE ARMY

TO: DR. BROMLEY

DATE OF
CORRESPONDENCE: 02/21/91

SUBJECT: -INVITATION TO GIVE THE AFTER DINNER ADDRESS.
-FOLLOW UP ON INTERDISCIPLINARY RESEARCH AT YALE.
-REQUEST TO MEET WITH DR. GERALD J. IAFRATE.

ASSIGNED TO: Steve Olson
Thomas Ratchford

ACTION REQUIRED: AS NECESSARY

SENDER'S DUE DATE: OSTP DUE DATE: 03/17/91

DATE COMPLETED: -----

COPIES TO: Ken Yale
Michelle Van Cleave

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:

DATE RECEIVED: 02/25/91

FILE: *P- Invitation Speech & Invitation meeting & Education*
~~SPEECH*MEETING*EDUCATION~~

THE WHITE HOUSE

WASHINGTON

March 11, 1991

Dear Dr. Stroschio:

Thank you for your letter of February 21, 1991, inviting me to give the dinner address at your 40th Anniversary Symposium, scheduled for June 14, 1991, in Durham, North Carolina.

As much as I would like to join you, I must regretfully decline your kind invitation because I will be travelling during that time.

Thank you for thinking of me, and may I offer my best wishes for a successful symposium.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "D. Allan Bromley". The signature is fluid and cursive, with a small flourish at the end.

D. Allan Bromley
Assistant to the President
for
Science and Technology

Dr. Michael A. Stroschio
Senior Research Scientist
Department of the Army
United States Army Laboratory Command
Army Research Office
P.O. Box 12211
Research Triangle Park, North Carolina 27709-2211

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01a. Letter	To: Allan Bromley From: Michael Stroschio Re: Follow-up on Interdisciplinary Research at Yale (2 pp.)	2/21/91	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Correspondence Files
WHORM Cat.:
File Location: Invitations: Speech (1) [10 of 11] [1991]

Date Closed:	2/23/2010	OA/ID Number:	62017-004
FOIA/SYS Case #:	2005-0336-F	Appeal Case #:	
Re-review Case #:		Appeal Disposition:	
P-2/P-5 Review Case #:		Disposition Date:	
AR Case #:		MR Case #:	
AR Disposition:		MR Disposition:	
AR Disposition Date:		MR Disposition Date:	

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

P-1 National Security Classified Information [(a)(1) of the PRA]
 P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]
 P-3 Release would violate a Federal statute [(a)(3) of the PRA]
 P-4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]
 P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]
 P-6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

C. Closed in accordance with restrictions contained in donor's deed of gift.

PRM. Removed as a personal record misfile.

Freedom of Information Act - [5 U.S.C. 552(b)]

(b)(1) National security classified information [(b)(1) of the FOIA]
 (b)(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]
 (b)(3) Release would violate a Federal statute [(b)(3) of the FOIA]
 (b)(4) Release would disclose trade secrets or confidential or financial information [(b)(4) of the FOIA]
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 (b)(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]
 (b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
 (b)(9) Release would disclose geological or geophysical information

YALE UNIVERSITY
NEW HAVEN CONNECTICUT

OFFICE OF THE PRESIDENT

January 29, 1991

Mr. Michael A. Stroschio
Yale Science & Engineering Association Inc.
Post Office Box 1968
New Haven, Connecticut 06520-1968

Dear Mr. Stroschio:

Thank you for your telephone call, which follows up on your earlier letter concerning the steps we are taking to secure the sciences and engineering at Yale. I am grateful for your interest and suggest that you continue discussing YSEA concerns with the Council of Engineering. You might also wish to talk with members of the University Council Committee on Physical Sciences and Engineering. That Committee is chaired by Professor C. Judson King, Provost for Professional Schools and Colleges at the University of California at Berkeley.

Let me say, however, that I do not agree with your assertion that Yale is making only "very limited efforts" to improve our science and engineering programs. We are taking active and specific steps on a number of fronts, each of which is aimed at firmly securing the excellence we believe is necessary for any academic department at Yale. First of all, we are working to increase the number of undergraduates who are planning to major in the sciences. As you may know, Yale has been publicly commended for our efforts to bring the level of undergraduate science education to the acknowledged excellence of programs in the humanities and social sciences. The Office of Undergraduate Admissions is making active efforts to recruit students with a commitment to the sciences and Engineering, and the Dean of Admissions has appointed a member of his staff specifically to oversee that effort. The effort to increase the applicant pool of potential science and Engineering majors is having good results, and the College has admitted more students interested in science than any other class in recent history.

Mr. Michael A. Stroschio
January 29, 1991
Page 2

Another effort to increase the number of undergraduate students majoring in the sciences and in Engineering, which is being encouraged by Donald Kagan, Dean of Yale College, is the establishment of a special program in the sciences which would be similar to the present program in Directed Studies for students in the Humanities. It would provide a focused and rather intensive opportunity for students to explore their scientific interests. In addition, as you may know, Yale College has recently strengthened distributional requirements for students and now requires three courses in the sciences for graduation. And, the College has created a Math/Science Tutoring Program in the Residential Colleges, to provide students with ready access to tutors proficient in the sciences and Engineering, as well as a special Academic Mentorship Program for students in the sciences.

These efforts are part of our general commitment to enhancing programs in Engineering and science. That effort also includes the expansion of the Engineering faculty by more than 10% in the next five years, with ten new junior faculty appointments. Special emphasis will be placed on adding faculty committed to interdisciplinary teaching and research that crosses engineering disciplines and connects with other science departments. The increase is the most significant focused expansion in the Faculty of Arts and Sciences in recent years and follows major enhancements of teaching and research facilities. Those enhancements, as you may know, in recent years include a 3,000 square-foot "clean room" for the production of computer chips, which will enable researchers to explore new directions in semiconducting, superconducting, and optoelectronic materials; renovations of laboratory space to house the Center for System Science, whose research will encompass robotics, learning theory, image processing, and adaptive signal processing and control; renovation of laboratories for the departments of Chemical Engineering and Mechanical Engineering; and the establishment of a new Electrical Engineering Teaching Center.

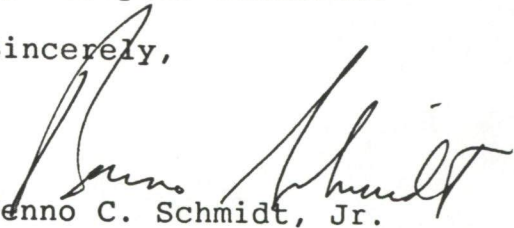
Our academic planning for the next ten years emphasizes securing the excellence of the sciences. Part of that effort, of course, is the renovation of existing laboratories on Science Hill as well as the construction of a new Center for Structural Biology to house the teaching and research efforts of the Department of Molecular Biophysics and Biochemistry. That is in addition to the creation of a new Institute of Biospheric Studies, which

Mr. Michael A. Stroschio
January 29, 1991
Page 3

will bring together many departments and schools in the study of issues relevant to the interests of YSEA as well. These are in addition to a number of construction projects at the School of Medicine -- including a new Center for Molecular Medicine -- designed to ensure Yale's leadership in the biomedical sciences as well.

Let me assure you that the University is fully committed to securing programs in the sciences and in Engineering and that we are backing that commitment with increased resources. The encouragement and support of YSEA is important to that effort, and I am grateful that you have taken the time to write to me to express your concerns.

Sincerely,



Benno C. Schmidt, Jr.

BCS:baf

YALE SCIENCE & ENGINEERING ASSOCIATION INC.



Yale in
SCIENCE
ENGINEERING
INDUSTRY AND
COMMERCE

10 HILLHOUSE AVENUE
P.O. BOX 1968
NEW HAVEN, CT. 06520-1968

Steven E. Lasewicz Jr. '60E
President

John P. Marano '66 MS, '69Ph.D.
Executive Vice President

Hugo H. Beit '53E
Secretary

Robert W. Cornell '45WE, '46ME
Treasurer '50D.Eng.

COMMITTEE CHAIRS:

George Gagliardi '79BS
Schools

Peter C. Van Dine '60
Communication

William H. Oler II '45E
Awards

F. Steele Blackall III '45WE
Industry

Lazaros P. Mavrides '68, '73PhD
Membership

Scott R. Dardig '73
Nominating

DISTRICT VICE PRESIDENTS:

Dorothy J. Cunningham '66PhD
Metropolitan

C. Peter Van Dine '60
Connecticut

George Gagliardi '79BS
New England

Richard B. Russ '40E, '56ME
Empire

John C. Dorfman '45W
Mid-Atlantic

Andrew A. Pouring '63PhD
Southeast

Herbert S. Cook '37S
Ohio-Michigan

Barry S. Crown '53E, '54E
Midwest

Robert R. J. Kunkler '88
Southwest

P. Thomas Schoenemann '58E, '59ME
Pacific

EXECUTIVE BOARD:

Class of 1992

Joan K. Alexander '84
F. Steele Blackall III '45WE
Anne M. Briscoe '49PhD
David L. G. Gallimore '84
Michael A. Strosio '73PhD

Class of 1991

Bruce A. Cunningham '66PhD
David Goldfarb '77, '81MD
Anna Marie Lyles '83
Sal J. Nuzzo '53E
William H. Oler II '45E

Class of 1990:

Phillip S. Babb '35
Scott R. Dardig '73
Richard N. Foster '63E, '66PhD
Lazaros P. Mavrides '68 '73PhD
David M. McConoughey '64

ASSOCIATION OF YALE ALUMNI REPRESENTATIVE

F. Steele Blackall III '45WE
George Gagliardi '79
David Goldfarb '77, '81MD

October 18, 1990

Dr. Benno C. Schmidt, Jr.
President
Yale University
New Haven, CT 06520

Dear Dr. Schmidt:

The purposes of this letter are to apprise you of the Yale Science and Engineering Association's (YSEA's) deep concerns in the area of interdisciplinary research and to congratulate you on recent initiatives in interdisciplinary research at Yale.

First, let me tell you that YSEA's Executive Board wholeheartedly supports recent Yale initiatives, including: the establishment of interdisciplinary research centers such as the Yale Center for Microelectronic Materials and Structures; the creation of new faculty positions and endowed professorships in Engineering and; the establishment of research coordination offices reporting to the Provost. These are all positive steps and YSEA is pleased to have had a part in selectively fostering and supporting these initiatives.

The YSEA Executive Board is deeply concerned that Yale is still not competing well with major research universities in the important and rapidly expanding area of interdisciplinary research. In our view, the bold and successful initiatives of the Council of Engineering must be emulated in all areas of science and engineering at Yale. Furthermore, Yale must provide far more extensive services to faculty in the sciences and engineering in "marketing" and in proposal preparation.

Such services would help to reverse the alarming trends illustrated by the fact that external resources attracted by Yale in engineering average \$107,000. per faculty member, while the annual averages at Harvard and Princeton are \$271,000. and \$211,000., respectively. These statistics are given in the attachment and are based on a recent compilation of the American Society of Engineering Education. The last two sets of statistics from the American Society of Engineering Education support the conclusion that research resources acquired per engineering faculty member at Yale are only roughly half of those awarded to per faculty member at Columbia, Harvard or Princeton.

To help reverse this trend, a central research coordination office should assist the faculty in the preparation of research proposals; such assistance should be so comprehensive that faculty inputs to proposal preparation and submission would be limited to writing of technical sections of proposals and the identification of resources needed for the proposed research.

As you may know, very large building programs are planned for Harvard and Princeton engineering. In recent years, Columbia University has invested approximately one-hundred million dollars in new chemistry and engineering buildings. As a means to encourage the growth of interdisciplinary research programs and to attract resources for interdisciplinary research, many major research universities are committed to providing buildings to house interdisciplinary research centers. In our view, Yale should give serious consideration to earmarking funds from the new Yale Capital Drive for such interdisciplinary research centers.

Finally, the YSEA Executive Board is concerned that Yale's interdisciplinary research centers do not span the sciences and engineering and, for the most part, focus on integrating only closely allied disciplines such as electronic materials and electronics or physics and astronomy. Such centers are not truly interdisciplinary in nature. Yale must provide for much more comprehensive research coordination in order to compete with a large number of major research universities.

Congratulations on your fine, albeit very limited, efforts in the sciences and engineering. On behalf of YSEA, I would like to meet with you to elaborate on these views. The purpose of this meeting would be to give you the benefit of hearing our concerns personally. To enhance the value of this meeting, I propose to invite senior members of the scientific and engineering com-

munities who are friends of Yale and who have an intimate knowledge of the support of federally-funded research.

I look forward to meeting with you and intend to keep you apprised of our future efforts on behalf of science and engineering at Yale. Mail will reach me at the U.S. Army Research Office, P.O. Box 12211, Research Triangle Park, North Carolina 27709-2211 and I may be contacted on (919) 549-0641. Thank you for your personal reflection on these matters and for your efforts to host a meeting at Yale.

Sincerely,

Attachment

Michael A. Stroschio '74PhD
Chairman, Yale Science and
Engineering Association
Committee on Interdisciplinary
Research

cf: The Honorable D. Allan Bromley
Dr. Burton I. Edelson '54MS, '60PhD
Dr. David Goldfarb '77, '81MD
Dr. Gerald J. Iafrate
Mr. Steven E. Lasewicz, Jr. '60E
Dr. Richard N. Foster '63E, '66PhD

	FEDERAL SUPPORT (A)	BUSINESS SUPPORT	OTHER SUPPORT	TOTAL SUPPORT	RESOURCES PER FACULTY MEMBER
COLUMBIA	\$14,306	\$6,108	\$1,725	\$22,139	\$183
HARVARD	\$11,800	\$266	\$1,494	\$13,561	\$271
PRINCETON	(B)	(B)	(B)	\$19,368	\$211
YALE	\$4,024	\$881	(C)	\$4,906	\$107
U. of MICHIGAN	\$31,137	\$5,143	\$7,865	\$44,146	\$144

SOURCE: American Society of Engineering Education, March 1989

(A) All amounts are for a one year period starting in Summer 1987;
all amounts are given in thousands of dollars.

(B) No separate amounts listed.

(C) No funds reported in this category.

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01b. Chart	Army Research Office Impact on Patriot Missile (1 pp.)		(b)(1)	

Collection:

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Subseries: Correspondence Files
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File Location: Invitations: Speech (1) [10 of 11] [1991]

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P-2/P-5 Review Case #:		Disposition Date:	
AR Case #:		MR Case #:	
AR Disposition:		MR Disposition:	
AR Disposition Date:		MR Disposition Date:	

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U.S. ARMY RESEARCH OFFICE FORTIETH ANNIVERSARY SYMPOSIUM:
"BASIC RESEARCH - SHAPING THE FUTURE OF THE ARMY"

Friday, June 14, 1991
OMNI Durham Hotel and Conference Center
Durham, North Carolina

I. Introductory Session

9:00 am to 10:30 am

Dr. Gerald J. Iafrate,
Director, U.S. Army Research Office (ARO)
Presiding for 45 minutes

Remark by or recognition of:

- Major General Jerry C. Harrison,
Commander, U.S. Army LABCOM
- General William G.T. Tuttle, Jr.,
Commander, U.S. Army Materiel
Command
- Senior Official,
Office of the Secretary of the Army

Dr. Iafrate will give a short talk on
what ARO does. He will "turn the clock
back" and introduce:

Major General Chester W. Clark,
USA Retired
Zeroth Commander, Office of Ordnance
Research (OOR) (now ARO)
20 minutes

Prof. Marcus E. Hobbs, Distinguished
University Service Professor
Emeritus of Duke University
First OOR (ARO) Chief Scientist
20 minutes

Dr. Iafrate's summary

10:30 am to 11:00 am BREAK

II. Session on Payoff from ARO Research

Chairman from 11:00 am to noon: Dr. Hermann Robl

11:00 am to 11:30 am	Professor Charles Townes** 1964 Nobel Prize for Maser-Laser Concept "Investing in Research"
11:30 am to 12:00 am	Professor James Glimm State University of New York "Computational Research"
12:15 am to 1:20 pm	LUNCH

III. Session on Payoff from ARO Research

Chairman from 1:40 pm to 3:30 pm: Dr. George Wyman

1:40 pm to 2:10 pm	Professor Herbert C. Brown Purdue University 1979 Nobel Prize "Payoff from Basic Research in Chemistry"
2:10 pm to 2:40 pm	Professor W.E. Wallace University of Pittsburgh "Development and Army Applications of High Energy Permanent Magnets"
2:40 pm to 3:00 pm	BREAK
3:00 pm to 3:30 pm	Professor Erland M. Schulson Dartmouth College "Army Applications of Basic Findings in Ice Mechanics"
3:30 pm to 4:15 pm	BREAK

**University and industry speakers were all supported by ARO or its parent organizations; some government speakers were also supported by ARO.

IV. Panel Discussion

4:15 pm to 5:15 pm

Panel Discussion on the Future of
Mission-Oriented Basic Research

Moderator: Professor Eugene Wong,
Associate Director of the Office
of Science and Technology
Policy for Physical Sciences
and Engineering, Executive Office of
the President, White House

Members: Dr. Leo Esaki, IBM Fellow
1973 Nobel Prize, IBM

Professor Leon Cooper
1972 Nobel Prize, Brown Univ.

Professor Norman Hackerman,
President Emeritus
Rice University

Dr. Albert R.C. Westwood
Vice President of
Martin Marietta

Dr. Charles M. Vest
President, MIT

V. Reception, Dinner and After Dinner Address

5:15 pm to 6:15 pm

RECEPTION

6:15 pm to 7:15 pm

DINNER

7:15 pm to 7:45 pm

Dr. Gerald J. Iafrate,
Recognition of Selected Participants
and General Comments

7:45 pm to 8:30 pm

After Dinner Address
(Introduced by Dr. Iafrate)
(Speaker to be determined)

"INVITATION FOR DR. BROMLEY"

TYPE: INVITATION

DOCUMENT NUMBER: 9120519

SPEECH: YES NO

FROM: WALDERMAN, Thomas A.: DEPARTMENT OF HEALTH AND
HUMAN SERVICES

DATE OF EVENT:

LOCATION OF EVENT: MARVIN CENTER OF GEORGE WASHINGTON UNIVERSITY

TIME OF EVENT: 09:00PM

SUBJECT: REQUEST TO GIVE THE AFTER-DINNER TALK ON SCIENCE
POLICY AT THE ANNUAL BANQUET MEETING.

RSVP:

CONTACT PERSON: DR. DANIEL TOMPKINS

CONTACT NUMBER: 202/401-4201

INVITATION ACCEPTED?

~~YES~~ NO

COPIES TO:

REMARKS:

DATE OF LETTER: 02/21/91

DATE RECEIVED: 02/25/91

FILE: P- INVITATION-SPEECH

THE WHITE HOUSE
WASHINGTON

March 8, 1991

Dear Dr. Waldmann:

Thank you for your letter of February 21, inviting me to present an after dinner talk in connection with your annual banquet scheduled to be held in May of this year.

As much as I would like to join you, I must regretfully decline your kind invitation for scheduling reasons. I will away from Washington for much of that month and already have a large number of other commitments.

Thank you for thinking of me, and may I offer my best wishes for your commendable efforts in the field of science education.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "D. Allan Bromley". The signature is fluid and cursive, with the first name "D." being small and the last name "Bromley" being larger and more prominent.

D. Allan Bromley
Assistant to the President
for
Science and Technology

Dr. Thomas A. Waldmann
Chief, Metabolism Branch
Building 10, Room 4N115
National Institutes of Health
Bethesda, Maryland 20892



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

February 21, 1991

RECEIVED

91 FEB 25 P 3: 05

National Institutes of Health
National Cancer Institute
Bethesda, Maryland 20892

Dr. D. Allan Bromley
Presidential Science Advisor
Office of Science Technology and Policy
Old Executive Office Building
Washington, DC 20500

OFFICE OF THE
DIRECTOR

Dear Dr. Bromley:

I am writing to you in my capacity as president of the DC Chapter of Sigma Xi. Our society is dedicated to the promotion of science and science education in this area. Each year we hold an annual banquet meeting at the Marvin Center of George Washington University. We would be deeply honored if you would be willing to give us an after-dinner talk on science policy. I hesitate to make this request since I know that you are inundated with other requests to speak. Nevertheless, it would be an enormous treat for the approximately 100 officers and members of the society that attend this meeting to hear your views on the policies that are so critical for science education and scientific research. There is an exceedingly modest (\$250.00) honorarium for this talk. As I noted above, the talk is usually of 40-50 minutes starting at 9:00 p.m. at a time following the banquet and short business meeting. As I noted above, the meeting will be held in the Marvin Center of George Washington University. Dates that would be available at this facility include May 10, 11, 17 and 24, 1991. I would appreciate it if you would communicate your decision either to me or to Dr. Daniel Tompkins. Dr. Tompkins phone number is (202) 401-4201. I thank you for all of your efforts on our behalf.

Sincerely yours,

Thomas A. Waldmann, M.D.
Chief, Metabolism Branch/NCI
Building 10, Room 4N115
National Institutes of Health
Bethesda, MD 20892
(301) 496-6653 Fax (301) 496-9956

TAW/bh

"INVITATION FOR DR. BROMLEY"

TYPE: INVITATION-SPEECH

DOCUMENT NUMBER: 9120488

SPEECH: YES NO

FROM: ARCHEY, William T.

DATE OF EVENT: 03/12/91

LOCATION OF EVENT: ANHEUSER-BUSCH BRIEFING CENTER, U.S. CHAMBER BLDG,

TIME OF EVENT: 08:00AM

SUBJECT: REQUEST TO ADDRESS THE U.S. CHAMBER'S INTERNATIONAL
FORUM BREAKFAST MEETING ON THE TOPIC "RESEARCH AND
DEVELOPMENT: THE ROLE OF GOVERNMENT & PRIVATE
ENTERPRISE"

RSVP: 02/27/91

CONTACT PERSON:

CONTACT NUMBER: *David Roach*

INVITATION ACCEPTED?

~~YES~~ NO

COPIES TO: Dr. Phillips

REMARKS:

DATE OF LETTER: 02/20/91

DATE RECEIVED: 02/22/91

FILE: *P* INVITATION-SPEECH

9120488

U.S. Chamber of Commerce

1615 H Street, N.W.
Washington, D.C. 20062
202/463-5455



William T. Archey
Vice President
International

February 20, 1991

RECEIVED

91 FEB 22 A10:48

OFFICE OF THE
DIRECTOR

The Honorable D. Allan Bromley
Assistant to the President for Science
and Technology
Office of Science and Technology Policy
Old Executive Office Building, Room 358
17th Street and Pennsylvania Avenue, N.W.
Washington, D.C. 20506

Dear Dr. Bromley:

It is my pleasure to invite you to address the U.S. Chamber's International Forum breakfast meeting on Tuesday, March 12, 1991, on the topic "Research and Development: The Role of Government and Private Enterprise." Given your pivotal role in shaping the size and direction of U.S. research efforts, our members are especially interested in your views of the current trends in U.S. competitiveness in the "cutting edge" technologies and the way you believe business and government need to interact in order to improve our future performance.

The International Forum has become one of Washington's most prestigious platforms for the discussion of trade, foreign affairs and international economic policy. The Forum membership consists of 200 senior executives of U.S. and foreign multinationals, corporate representatives, trade experts, and members of the diplomatic community. Members of the press also regularly attend our meetings, as they are on the record. Distinguished Forum speakers have included President Ronald Reagan, House Majority Leader Richard Gephardt, Senator Lloyd Bentsen and U.S. Trade Representative Carla Hills.

The Forum will meet from 8:00 a.m. to 9:15 a.m. in the Anheuser-Busch Briefing Center, located in the U.S. Chamber building at 1615 H Street, N.W., Washington, D.C. Upon completion of breakfast at approximately 8:20, we would like you to make brief formal remarks (about 15-20 minutes), followed by questions from the audience.

Please feel free to call me if you have any questions about this event. If another date in March is more convenient for you, we would be pleased to work with you to accommodate your schedule. I look forward to hearing from you soon.

Sincerely,


William T. Archey

International Division
U.S. Chamber of Commerce
1615 H Street, N.W.
Washington, D.C. 20062



FYI

INTERNATIONAL

FORUM

Your International Connection in Washington

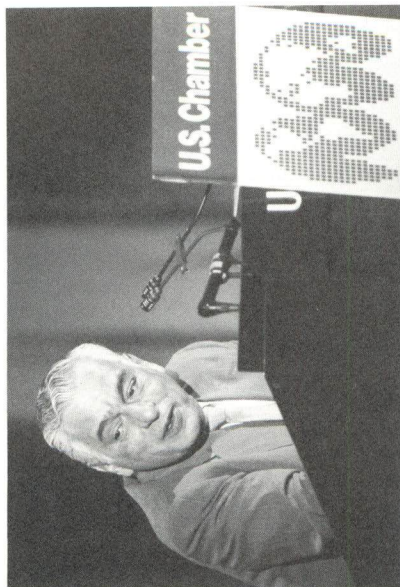


International Division
U.S. Chamber of Commerce

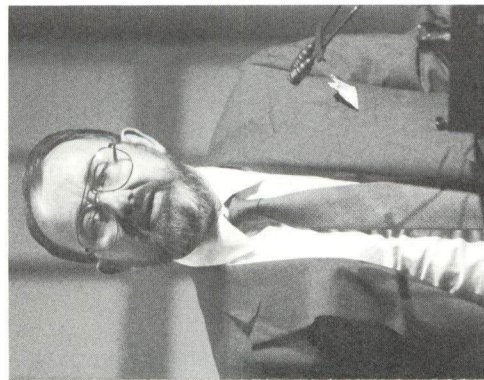


Previous International Forum Speakers

(from 1990 series)



His Excellency Gustavo Petricoli, Mexican Ambassador to the United States, evaluated the prospects of a U.S.-Mexico free trade agreement and its potential effects on the economies of both countries. September.



Pat Choate, author of *Agents of Influence*, gave his views on how foreign lobbyists in the United States influence America's political and economic system. October.



John D. Macomber, President and Chairman of the Export-Import Bank, described the Bank's expanded export financing programs. March.

Panelists Senator Frank Murkowski, Congressman John Bryant, Congressman Norman Lent, and Congressman Philip Sharp each discussed pending legislation on foreign investment reporting in the United States. May.

Theodore Sorensen, author of *Rethinking National Security*, spoke on the economic and political challenges of the 1990s. September.

**International Forum
U.S. Chamber of Commerce
1615 H Street, N.W.
Washington, D.C. 20062**

**International Division
U.S. Chamber of Commerce
1615 H Street, N.W.
Washington, D.C. 20062**



Deputy Secretary of State Lawrence Eagleburger assessed the political and economic developments in Eastern Europe. February.

1991 will be a year in which there will be negotiations toward a free trade agreement with Mexico, tough economic reforms in Central and Eastern Europe, continuation of the European Community's push for integration, expanded bilateral talks with Japan, follow on actions to the GATT Uruguay Round, and increasing concern for U.S. competitiveness at home and abroad. These events make it essential to keep abreast of the key international issues in the coming year.

The International Forum is one of Washington's most respected and influential platforms for the discussion of trade, foreign affairs and international economic policy. Leaders in Congress and the Administration, as well as experts from the academic and diplomatic communities, address critical international trade policy concerns in an informal program followed by questions from the audience.

Hosted by William T. Archey, the U.S. Chamber's Vice President, International, the International Forum promises you an opportunity to participate, first hand, in the fast-breaking international issues of 1991.



Ambassador Carla Hills, U.S. Trade Representative, updated Forum members on the status of the GATT negotiations. August.



House Majority Leader Richard Gephardt forecasted legislative activity in the 102nd Congress that could affect U.S. companies' international competitiveness. November.

BE INFORMED

- Review with experts critical developments in international trade and economics.
- Hear both sides of an issue.

MEET THE DECISION MAKERS

- Listen to people who formulate and influence international trade and finance, including high level Administration officials, members of Congress, Diplomats, and business leaders.
- Question the experts on matters affecting your international business.

MAKE NEW CONTACTS

- Meet other executives and administrators, from over 200 members and guests of the International Forum, who share your interests and business concerns.
- Confer informally with members of the government, diplomatic and press corps who regularly attend our breakfasts.

RECEIVE SPECIAL BENEFITS

- In addition to the regular Forum speakers, have the opportunity to hear influential speakers throughout the year, such as President Bush who spoke at the U.S. Chamber of Commerce Annual Meeting in April 1990.

YES, I WISH TO SUBSCRIBE TO THE 1991 INTERNATIONAL FORUM BREAKFAST SERIES.

Name: _____

Title: _____

Firm: _____

Address: _____

City: _____

State: _____ Zip: _____

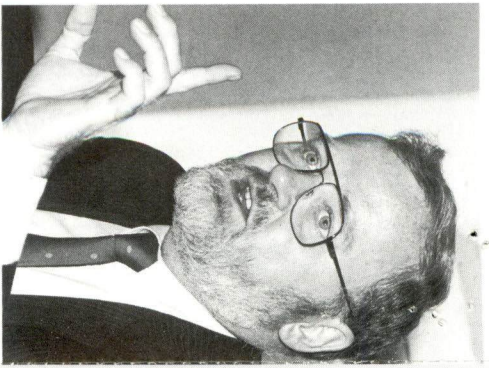
Fax: (_____) _____

Fees are as follows: \$240 regular membership
\$210 non-profit organization/government personnel
☐ Enclosed is my check.
☐ Please bill me.

Make check payable to the U.S. Chamber of Commerce
Mail to the International Forum, International Division, U.S. Chamber of Commerce, 1615 H Street, N.W., Washington, D.C. 20062



Ambassador Andreas Van Aagt, Head of Delegation, Commission of the European Communities, shared his perspectives on the evolving climate for American business in Europe as the EC pushes forward toward economic, monetary and political union. April.



William T. Archey, Vice President, International Forum, Washington's most prestigious platform for discussion of international trade and economic issues.

- Be informed about special publications such as the International Division's publication, *Europe 1992: A Practical Guide for American Business*.
- Receive invitations to special functions hosted by other divisions of the Chamber.

REGISTRATION INFORMATION

The International Forum is a breakfast series, held ten times a year at the U.S. Chamber of Commerce's Washington headquarters, at 1615 H Street, N.W., from 8:00 to 9:15 a.m. Forum subscribers are notified of the scheduled speaker two weeks in advance.

- Just \$240 per year, \$210 for non-profit organizations and government personnel, guarantees your place at each of the ten breakfast meetings held approximately once a month throughout the year.
- Alternates are welcome, with prior notice, giving you the option of sharing one subscription among several members of your staff.
- Members may also bring guests at \$27.50 per person, space permitting. Tables for larger groups can be arranged.

For further information on reservations, or the series itself, please contact the International Division of the U.S. Chamber of Commerce at 202/463-5460.

"INVITATION FOR DR. BROMLEY"

TYPE: INVITATION-SPEECH

DOCUMENT NUMBER: 9121903

SPEECH: YES NO

FROM: FUQUA, Don: AEROSPACE INDUSTRIES ASSOCIATION

DATE OF EVENT: 03/12/91

LOCATION OF EVENT:

TIME OF EVENT: 6:00PM

SUBJECT: INVITATION TO JOIN THE EXECUTIVE COMMITTEE OF THE
BOARD OF GOVERNORS AS THEIR GUEST DINNER SPEAKER.

RSVP: 03/04/91

CONTACT PERSON:

CONTACT NUMBER:

INVITATION ACCEPTED? N YES NO

COPIES TO:

REMARKS:

DATE OF LETTER: 02/21/91

DATE RECEIVED: 02/21/91

FILE: P- INVITATION-SPEECH

9121903

THE WHITE HOUSE
WASHINGTON

March 4, 1991

Dear Don:

Many thanks for your invitation to join the Executive Committee of your Board on Tuesday, March 12, for a reception and dinner.

This is obviously a very distinguished group and one with whom I would very much enjoy meeting, but unfortunately I am already committed to being out of town for a long-promised address at the Kennedy School in Boston.

Perhaps on a later occasion I can have the pleasure of joining you and would thus ask you for a raincheck on this invitation.

I have been very impressed by the work that you and your associates have been doing and was pleased to get the short form listing of the Aerospace Industries Association's 1991 Top Ten Issue list.

With warmest best wishes,

Sincerely yours,



D. Allan Bromley
Assistant to the President
for
Science and Technology

Mr. Don Fuqua
President
Aerospace Industries Association
of America
1250 Eye Street, Northwest
Washington, D. C. 20005



**Aerospace
Industries
Association**



Don Fuqua
President

February 21, 1991

Dr. D. Allan Bromley
Chairman, National Critical Materials Council
Office of Administration
Building 730 JP
730 Jackson Place NW
Washington, DC 20506

Dear Dr. Bromley:

The Aerospace Industries Association (AIA) is pleased to invite you to join the Executive Committee of our Board of Governors on Tuesday, March 12, at AIA Headquarters, 1250 Eye Street, NW (at the corner of 13th and Eye Streets) as our guest dinner speaker. We will have a short reception at 6:00 pm followed by dinner and would expect to be done no later than 8:00 pm.

This is done in a very informal atmosphere, is totally off the record and provides a unique opportunity to freely discuss mutual issues of importance. As Chairman of the National Critical Materials Council, I am sure there are many issues which are of mutual interest to you and our Executive Committee. I have enclosed a copy of our Top Ten Issues which have been identified by the AIA Board of Governors.

For your information, I have enclosed a copy of AIA's current Executive Committee and general information regarding the Association.

We certainly look forward to meeting with you. In the interim, if you have any questions, or if I can be of help in any way, please contact me or Sandra Wobbe of my office.

Sincerely,

Don Fuqua

Encl.

DF:sw

EXECUTIVE COMMITTEE - 1991

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Bldg. E2/11000
One Space Park
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United Technologies Bldg., 26th Floor
Hartford, CT 06101

Don Fuqua
President
Aerospace Industries Association
of America, Inc.
1250 Eye St., N.W.
Washington, DC 20005

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141 Spring Street
Lexington, MA 02173

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Chairman & Chief Exec. Officer
Lockheed Corporation
4500 Park Granada Blvd.
Calabasas, CA 91399

Aerospace Industries Association's 1991 Top Ten Issues

The Aerospace Industries Association (AIA) has identified the top ten issues of importance to the aerospace industry. The following short explanations of each issue are not arranged in any order of priority.

Aerospace: A Global Industry

The U.S. aerospace industry must operate in the global marketplace to maintain its world leadership. Our companies must have access to foreign markets on an equitable basis and be able to work with foreign partners to spread risk, raise capital, improve market access, and develop new technology. AIA will serve as a bridge between industry and government to improve mutual understanding and national policies related to:

- European efforts at greater economic and defense integration.
- The emergence of Eastern Europe and the U.S.S.R. as potential markets, competitors, and partners.
- Maintenance of a strong U.S. market share in the Pacific Rim countries.
- Sales of U.S. aerospace defense products to friendly Middle East states.
- Rational and efficiently administered U.S. technology transfer and R&D recoupment policies.
- The stimulation of a strong industrial base through strengthening industry and promoting exports rather than limiting imports and investment.
- Encouraging an overall U.S. Government policy that is strongly supportive of U.S. export efforts.

Source: Joel Johnson (202) 371-8420.

Maintaining a Vital Aerospace/Defense Technology Base

Increasingly, defense expenditures are a smaller share of aerospace business. Defense requirements no longer drive a large share of aerospace innovation, and technical breakthroughs more often come from our commercial markets. Unfortunately, excessive specifications, standards, and regulations tend to isolate defense manufacturing from the commercial sector at a time when cost savings and technology advances might be derived from a greater integration of the two. Therefore, AIA will work towards an appropriate strategy for taking advantage of commercial developments and products whenever possible while maintaining a strong technology base through:

- Reviewing the impact of government regulations, standards, and specifications on the isolation of the defense industrial base from the commercial sector.
- Reviewing policies and procedures that could give the government access to the much larger commercial industrial base.
- Supporting increases in technology funding essential to future U.S. aerospace leadership.
- Supporting a strong technology development program, balanced with realistic field demonstration, so that appropriate aerospace systems and components can be fielded quickly as military strategies and requirements evolve.
- Encouraging the education of future aerospace scientists, engineers, and technicians who can work to maintain the industry's vitality and strength.

Source: Virginia Lopez (202) 371-8560 and Stan Siegel (202) 371-8430.

National Space Activities

Proposed and ongoing space activities and their effective implementation are of major significance to aerospace. It is important to industry that we have a level playing field and equal access in all areas of space. The U.S. Government has made a commitment to promote the commercial launch industry, and it is appropriate to reaffirm that policy and ensure effective enforcement. AIA maintains continuing liaison with U.S. Government and international activities involving emerging space policy, missions, systems, transportation, infrastructure, operations, and related matters. Therefore, AIA will work towards:

- Assessment of global space activities in order to evaluate methods of other countries that may be beneficial to U.S. technological and industrial competitiveness.
- A long-term goal of free and fair trade in space services and hardware worldwide.
- Continued improvement of government commercial space policies as they affect space transportation systems.
- Securing government investment to enhance space launch technologies and infrastructure crucial to the long-term competitiveness of the U.S. space industry.
- Assessment of the Mission to Planet Earth and the Earth Observing System as an element of the Global Change Research Program.
- Assessment of the process for evaluating Space Exploration Initiative (SEI) concepts, a strategy for implementing the program, and the most effective approaches to managing a program of SEI's contemplated size and depth.
- Consideration of whether the National AeroSpace Plane (NASP) management structure and research and development techniques are appropriate to support other space technology initiatives.

Source: Stan Siegel (202) 371-8430.

Civil Aviation

Manufacturers of civil aviation products have entered a critical period. Industry and government are addressing major regulatory and policy issues, and the solutions will have a major effect on the industry for years to come. Broadly speaking, areas of important activity include the search for agreed rules covering the involvement of governments in support of civil programs, continuing efforts to improve safety, maintaining the role of the Federal Aviation Administration (FAA) as the world's preeminent airworthiness authority, and the development of a coherent national transportation policy.

AIA will

- Support international negotiations to limit government financial support of the civil aircraft industry.
- Propose measures needed to reinforce the FAA's role as the world's preeminent civil aviation authority.
- Continue to contribute to the development of national transportation and aviation policies, emphasizing implementation of the National Airspace Plan, modernization of the Air Traffic Control System, and federal preemption of local restrictions that adversely affect interstate commerce in aviation.
- Support efforts to reform product liability law.
- Promote the AIA civil aviation safety agenda and support similar efforts by other segments of the aviation community.

Source: Bob Robeson (202) 371-8415.

Key Technologies for the Year 2000

Key Technologies is an industry-led cooperative effort, with government and university participants, to develop National Technology Development Plans (NTDPs) emphasizing technologies most important to the aerospace industry during the next decade. When integrated with the DoD Critical Technologies Plan, the list of emerging technologies from the Commerce Department, and the Office of Science and Technology Policy's national critical technologies, the NTDPs will provide for greatly improved U.S. industrial competitiveness into the 21st century.

"Key Technologies for the Year 2000" is a three-pronged initiative:

- The National Center for Advanced Technologies (NCAT), an AIA-sponsored foundation, coordinates operations and with participation by other trade associations and professional societies, leads the integration effort. NCAT conducts periodic symposia to assess the status of NTDPs.
- Technology Teams develop roadmaps for discussion and are currently working on NTDPs for each technology.

- The Aerospace Technology Policy Forum, a voluntary group of senior policy leaders from industry, government, and academia, identifies barriers to implementing NTDPs and addresses needed policy, regulatory, or legislative changes.

Source: Stan Siegel (202) 371-8430.

Improved Acquisition Policy

The acquisition process should be simplified and policies adjusted to recognize the changing environment caused by defense down-sizing, to maximize the return to the taxpayer for every defense dollar, and to provide a more favorable atmosphere for changing the adversarial government/industry relationship. Nonessential specifications, data requirements, regulations, contract provisions, and excessive oversight should be reduced or eliminated. All of these add significantly to cost but provide little or no commensurate value. At the same time, they are continuing impediments to the teamwork and reliance on mutual trust and confidence that are essential to improved government/industry relations.

- Press for repeal or modification of legislation and regulations that threaten industry's financial health, tend to impair its efficiency, or create undue burdens on the acquisition system.
- Work to reduce the burdens created by legislative requirements such as Byrd Amendment disclosures, procurement integrity provisions, and proposed contingency fees in lobbying.
- Continue efforts to foster streamlining and simplification of the acquisition system.
- Promote cost reductions in the procurement process through increased reliance on industry's internal controls and reductions in government management oversight.
- Promote greater stability in programs through multi-year funding.
- Seek greater industry access to planning information early in the acquisition process and greater input to decisions affecting the industrial base.

Source: LeRoy Haugh (202) 371-8520.

Strengthening the Defense Industrial Base

Erosion of the defense and aerospace industrial base, resulting in recent years from increasing amounts of debt caused by unfavorable profit, procurement, and tax policies, is a critical problem. Congress, DoD, and industry must cooperate in bringing about an orderly transition to reduced spending levels and at the same time ensure a viable industrial base that is able to develop, produce, and support systems for our national defense, to compete for a significant share of the global market, and to respond with increased capacity in emergency situations.

AIA will continue to

- Work with the government and member companies to implement the TQM philosophy in a meaningful way.
- Provide manufacturing support to AIA's "Key Technologies for the Year 2000" program.
- Press for policy changes to improve overall financial health: higher progress payment rates, an end to fixed-price R&D contracts and Not-to-Exceed prices before development has begun, and cost principle changes that reflect commercial practices.
- Continue strong support for IR&D and for full recovery of the allocable share of IR&D/B&P costs from U.S. Government contracts.
- Pursue fairer tax treatment.
- Press to streamline and improve DoD industrial procedures and processes.
- Work to increase the stability and funding for manufacturing programs like Manufacturing Technology and the Industrial Modernization Incentives program.

Source: LeRoy Haugh (202) 371-8520 and Stan Siegel (202) 371-8430.

Economic Adjustment for Aerospace

The aerospace industry faces a challenging and critical future in light of the changing world situation and the declining defense budget. Downsizing will have some impact on virtually every company.

The problem of belt-tightening and reduced defense needs is

exacerbated by the numerous and costly regulatory and legislative requirements placed on the defense industry during the decade of rising budgets and unprecedented build-up. For reasons of national security and in the best interest of all—the taxpayer, the industry, and the government—Congress and DoD need to take action to streamline and simplify the acquisition process so that defense dollars go as far as possible. AIA and its member companies will

- Provide retraining and other benefits directly to displaced workers through existing programs.
- Urge Congress not to create new programs, supported by DoD funding, that would single out the defense industry for special "conversion" legislation.
- Pursue repeal of redundant and costly legislative requirements which burden the acquisition process.
- Work with DoD to simplify acquisition regulations.
- Pursue self-governance and other measures to demonstrate the integrity of the industry.

Source: LeRoy Haugh (202) 371-8520 and Dan Nauer (202) 371-8440.

SDB Subcontracting

The momentum of successful actions in 1990 by AIA and its member companies must be maintained to increase further subcontract awards to Small Disadvantaged Businesses (SDBs) and to continue to demonstrate industry's long-term efforts to address this issue.

In 1991 the association will extend efforts to make SDBs an integral part of the industrial base:

- Present SDB strategies to AIA member companies for their consideration.
- Report on specific member company actions on the AIA nine-point SDB resolution.
- Through a users conference, evaluate the SDB Database and implement improvements.
- Play a major role in initial actions of voluntary programs, such as the mentor-protégé program and the company-wide subcontracting plans program, and assist in developing implementing regulations.
- Meet with Congress, monitor legislation, and communicate industry's commitment to increasing subcontract awards to SDBs.

Source: LeRoy Haugh (202) 371-8520 and Stan Siegel (202) 371-8430.

Environmental Initiatives

The public consensus behind stricter environmental regulations on industrial activity is becoming ever stronger. Corporate America is being told not only to protect its productive resources but also to protect the environment that surrounds those resources. In light of this consensus, AIA member companies are engaged in ongoing efforts to demonstrate their commitment to protecting the health and safety of aerospace workers and surrounding communities and to being conscientious stewards of the environment. At the same time, however, the aerospace industry must ensure that there is no sacrifice in product quality or damage to the competitive position of American aerospace products in the international market.

AIA will continue to

- Cooperate with lawmakers and regulators as well as other organizations with concerns relating to environmental or safety issues.
- Exchange information and seek shared solutions or technical advances to solve environmental and safety problems.
- Work to resolve conflicts between U.S. Government specification requirements and new environment or safety requirements.
- Foster industry-wide efforts to minimize wastes and conserve energy.
- Work to establish clear and equitable contractor indemnification for non-nuclear or mixed environmental clean-up contractors.
- Work with the government to ensure allowability of environmental remediation costs.

Source: Glynn Rountree (202) 371-8441.

Contact the AIA staff person listed for more information or Sandra W. Wobbe (202) 371-8503.



Aerospace Industries Association 1250 Eye Street, N.W.,
Washington, D.C. 20005
(202) 371-8400

Facsimile Transmission Request

AIA FAX: (202) 371-8470

No. of pages: Cover + 4

Date Feb. 21, 1991

To: Dr. D. Allan Bromley
Attn. Marian Nida

Name _____ Company Office of Administration

Dept _____ City _____

Office Phone 456-7116 Fax Phone 395-3261

From:

Name Sandy Wobbe Phone (202) 371- 8503

Additional addresses or other information: _____

"INVITATION FOR DR. BROMLEY"

TYPE: INVITATION-SPEECH

DOCUMENT NUMBER: 9120465

SPEECH: YES NO

FROM: GINSBERG, WILLIAM W.

DATE OF EVENT: 05/29/91

LOCATION OF EVENT: BALTIMORE, MD

TIME OF EVENT:

SUBJECT: INVITATION TO BE THE KEYNOTE SPEAKER AT THE AURRP
1991 CONFERENCE.

RSVP:

CONTACT PERSON:

CONTACT NUMBER:

INVITATION ACCEPTED?

~~YES~~

NO

COPIES TO:

REMARKS:

DATE OF LETTER: 02/15/91

DATE RECEIVED: 02/20/91

FILE: P- INVITATION-SPEECH

THE WHITE HOUSE
WASHINGTON

March 11, 1991

Dear Mr. Ginsberg:

Thank you for your letter of February 15, 1991, inviting me present the keynote address at your AURRP Conference scheduled for May 29, 1991 in Baltimore, Maryland.

As much as I would like to join you, I must regretfully decline your kind invitation because I will be travelling during that time period. I might suggest that you contact my Associate Director for Life Sciences, Dr. D.A. Henderson. He may be reached at 202/456-2892.

Thank you for thinking of me, and may I offer my best wishes for success in the activities of the Conference.

Sincerely yours,



D. Allan Bromley
Assistant to the President
for
Science and Technology

Mr. William W. Ginsberg
President and Chief Operating Officer
Science Park Development Corporation
Five Science Park
New Haven, Connecticut 06511

s c i e n c e p a r k

9120465

William W. Ginsberg
President and Chief
Executive Officer

RECEIVED

91 FEB 20 AIO: 45

February 15, 1991

OFFICE OF THE
DIRECTOR

Dr. D. Allan Bromley
Director, Office of Science and Technology Policy
Old Executive Office Building
17th Street/Pennsylvania Avenue N.W.
Washington, D.C. 20506

Dear Dr. Bromley:

I am writing to you in my capacity as a member of the Board of Directors and Chairman of the Conference Committee of the Association of University Related Research Parks (AURRP). I trust you will recall that we have met in New Haven on several occasions, and we have spoken of Science Park and of your interest in research park development generally.

AURRP is an international organization with approximately 250 members, consisting of university-related research parks, universities, governmental agencies, private development organizations and other related parties. AURRP's membership consists primarily of organizations in the United States and Canada, and AURRP is affiliated with the International Association of Science Parks (IASP), whose membership consists of similar institutions in Europe, Asia, Australia and the Far East, particularly Japan. Each year, AURRP hosts a major national conference which brings together its membership and many IASP members. Our conference is the one major international annual gathering of organizations devoted to the basic mission of AURRP: the development, transfer and commercialization of technologies among universities, industry and government to enhance university teaching and research, to strengthen industry competitiveness and to achieve technology-based economic development.

In 1991, the AURRP conference will be held in Baltimore, Maryland from May 29-31. Thematically, the conference will focus on the role of government, particularly the Federal Government, in promoting research parks and in promoting technology-based economic development.



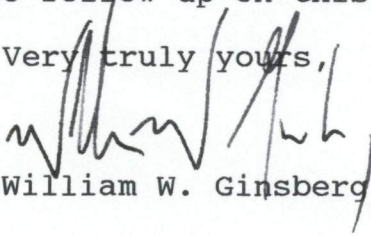
Science Park
Development
Corporation
Five Science Park
New Haven
Connecticut 06511
203 786-5000

Dr. D. Allan Bromley
February 15, 1991
Page 2

The keynote address of our 1991 conference will be at our luncheon on Wednesday, May 29. AURRP would be most honored if you would join us as our keynote speaker and address issues related to how research parks and their companies can be at the forefront of technology development and global competitiveness in the 1990's. It is my privilege to extend this invitation to you on behalf of the AURRP.

Thank you for your consideration of our request to be the keynote speaker at our 1991 Conference. I will telephone your office shortly to follow up on this request.

Very truly yours,


William W. Ginsberg

WWG/meg



STEVE OLSON

This seemed to me to be a group worth
addressing and at a place convenient to D.C.
I believe we will be discussing next week.

Document Originally
Attached to
Following Page

"INVITATION FOR DR. BROMLEY"

TYPE: INVITATION/SPEECH

DOCUMENT NUMBER: 9120440

SPEECH: YES NO

FROM: McCOMAS, JAMES D.M.

DATE OF EVENT: 05/29/91

LOCATION OF EVENT: HYATT REGENCY HOTEL, BALTIMORE, MD.

TIME OF EVENT:

SUBJECT: INVITATION TO BE THE KEYNOTE LUNCHEON SPEAKER AT THE
ASSOCIATION OF UNIVERSITY RELATED RESEARCH PARKS
SIXTH ANNUAL CONFERENCE.

RSVP:

CONTACT PERSON:

CONTACT NUMBER:

INVITATION ACCEPTED? YES NO

COPIES TO: Life Sciences
Thomas Ratchford

REMARKS:

DATE OF LETTER: 02/14/91

DATE RECEIVED: 02/19/91

FILE: INVITATION



February 14, 1991

91 FEB 19 AM : 27

The Honorable D. Allan Bromley, Ph.D.
Assistant to the President for
Science and Technology
Old Executive Office Building
17th and Pennsylvania Avenue, N.W.
Room 358
Washington, D.C. 20506

OFFICE OF THE
DIRECTOR

RE: Association of University
Related Research Parks
Sixth Annual Conference
May 29-31, 1991

Dear Dr. Bromley:

On behalf of the Association of University Related Research Parks (AURRP), I am pleased to extend to you an invitation to be our keynote luncheon speaker at AURRP's sixth annual conference in Baltimore, on May 29, 1991, at the Hyatt Regency Hotel. I recently spoke with D. A. Henderson about the possibility of your accepting our invitation and found him to be supportive of your participation in this important conference. He suggested I write you.

AURRP chose Baltimore for its sixth annual conference in order to emphasize the theme of the role of government in facilitating technology transfer, development and global competitiveness. Baltimore's close proximity to Washington, D.C. gives our membership the opportunity to hear from key federal policymakers in science and technology, and your remarks in this area will be extremely relevant to our association.

The conference is expected to attract over 300 professionals from the full spectrum of the technology development field, including such specialties as research and science park development, technology transfer, industry/university relations, hi-tech business incubators, intellectual property/patents and licensing, and local and state economic development - just to name a few of the key areas of interest.

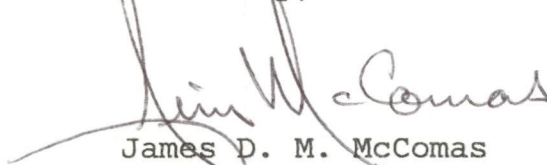
Our conferences have been held in cities where there are one or more successful university-related research parks. This year in Baltimore, the Dome Corporation - the development arm of the Johns Hopkins Institutions - and the University of Maryland at Baltimore County, are co-hosts. Each university is developing a major research park, with facilities and programs aimed at the commercialization of basic science and the attraction of technology-based companies who can benefit from collaboration with university researchers.

The Honorable D. Allan Bromley, Ph.D.
February 14, 1991
Page 2.

Prior to the luncheon keynote address, we will be conducting a plenary session on the role of the federal government in technology development. Top officials from the major federal agencies involved in research and development will be invited to discuss their agendas for the 90's. The overview and policy perspective that you could bring to us would help shape our own programs and direction - especially in light of the federal government's tremendous influence in shaping the nation's competitive position in technology.

We would be honored to have you join us on May 29. I will provide you with additional information about the conference program over the next several days. I look forward to hearing from you.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jim McComas", is written over the typed name.

James D. M. McComas
President & CEO

JMcC/dmm

cc: D. A. Henderson, M.D.
Dr. William Richardson, President of the Johns Hopkins
University

"CORRESPONDENCE TRACKING"

TYPE: INFORMATION

DOCUMENT NUMBER: 9120411

FROM: SADAGOPAN, V./R.J. REYNIK/M. FLEMINGS

TO: DR. BROMLEY

DATE OF
CORRESPONDENCE: 02/12/91

SUBJECT: MEETING FOR NSF/PYI IN MATERIALS SCIENCE AND
ENGINEERING PLANNED FOR APRIL 23-25. AGENDA
ENCLOSED.

ASSIGNED TO:

ACTION REQUIRED:

SENDER'S DUE DATE:

OSTP DUE DATE:

DATE COMPLETED:

COPIES TO: D. Allan Bromley

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:

DATE RECEIVED: 02/14/91

FILE: P- INVITATION ^{speech} FOLLOW-UP

Hardcopy of previously sent FAX.

F

91 F

Document Originally
Attached to
Following Page

9120411

NSF — Industry — University Symposium

National Agenda and Priorities in Material Science and Engineering

April 23 - 25, 1991

Sponsored by
International Business Machines Corporation and The National Science Foundation

February 12, 1991

Honorable Dr. D. A. Bromley
Assistant to The President
Office of Science and Technology
Old Executive Building, Room 358
17th Street and Pennsylvania Avenue, NW
Washington, DC 20506

Dear Dr. Bromley:

I am delighted to learn from Dr. Praveen Chaudhari that you have accepted our invitation to address the forthcoming meeting for NSF/PYIs in Material Science and Engineering (MSE) planned for April 23-25 at the IBM Thomas J. Watson Research Center. The agenda for this meeting is enclosed.

Your Plenary Session presentation is scheduled at 9:30 a.m. for an hour including ten minutes for Question and Answers. Dr. James C. McGroddy, IBM Vice-President and Director of Research will be the Chairman of the Plenary Sessions. The other speakers in the plenary Sessions are Dr. Walter Massey and Dr. Jack Kuehler, President of IBM. Their presentations will come after yours. We have set aside 9:00 to 9:30 a.m. for General Exchange of Information between yourself, Dr. Massey and Dr. J.C. McGroddy in his office.

We invited Congressman George Brown, Jr. to give the After Dinner Address on the evening of April 23. His schedule, however, does not permit his participation. We are inquiring about other possible candidates of national stature at this time.

We anticipate approximately one hundred and fifty attendants at this meeting including NSF/PYIs, Leaders in MSE from Industrial Labs, Government Agencies/Labs and selected universities.

On April 24, we plan to have five Parallel Sessions on priority areas in MSE; April 25 has been reserved for visits by NSF/PYIs to the Labs of their peers at IBM and Technical Exchanges of Information.

We hope that the planned NSF/PYI meeting would serve as a timely forum for bringing together the NSF/PYIs and the community of MSE leaders from industry and government labs and agencies active in this field to advance the national goals of the MSE community.

We look forward to your participation. We hope that you could arrive during the evening of April 22 and stay for the whole day of April 23, including the banquet for that evening.

Yours Sincerely,



Dr. V. Sadagopan
IBM Research Division
Symposium National Chairman



Dr. R. J. Reznick
Material Science and
Engineering Directorate, NSF
National Co-Chairman



Professor M. Flemings
Chairman, Material Science
and Engineering, MIT
National Co-Chairman

VS/rml

Enclosure

cc: Dr. P. Chaudhari
Dr. J.C. McGroddy

NSF — Industry — University Symposium

National Agenda and Priorities in Material Science and Engineering

April 23 - 25, 1991

IBM Thomas J. Watson Research Center, Yorktown Heights, New York 10598

Tentative Agenda

Monday - April 22

Hudson River Inn & Conference Center, Ossining, NY

15:00 - 17:00 Participants arrival and hotel registration

18:30 Welcome Reception and Buffet Dinner

Tuesday - April 23

IBM Thomas J. Watson Research Center, Yorktown Heights, NY
Auditorium

9:30 Welcome and Introductory Remarks

Dr. James C. McGroddy
*Chairman, Plenary Sessions
IBM Vice President and Director of Research*

Plenary Sessions

9:35 National Program for Material Science and Engineering

Honorable Allan Bromley
Science Advisor to The President

10:35 Coffee Break

11:00 NSF and Material Science and Engineering Programs

Dr. Walter E. Massey
*Vice President for Research
University of Chicago and ANL
Director-Designate, NSF*

12:00 Lunch

13:00 Research and Development in a Multinational Corporation

Dr. Jack Kuehler
President, IBM

14:00 Coffee Break

Technical Sessions

Dr. Praveen Chaudhari
*Chairman of Technical Sessions and
Co-Chairman of National Committee on
Materials Science and Engineering
IBM Research*

14:30 Electronic and Photonic Materials

Dr. Dean E. Eastman
*Vice President, System Technologies
and Science, IBM Research*

15:00 Storage Materials

Dr. Juri Matisoo
*Vice President for Storage
and Director of Almaden Research Center
IBM Research*

15:30 Structural Materials

Mr. Bert Welliver
*Senior Vice President,
Engineering and Technology,
Boeing Corporation*

16:00 Coffee Break

16:15 Materials Engineering at the Atomic Level

Dr. Robert L. Melcher
*Director, Physical Science
IBM Research*

16:45 Biomaterials

Professor Lee Huntsman
*Chairman, Dept. of Bioengineering
University of Washington, Seattle*

17:15 Concluding Remarks

Dr. Praveen Chaudhari

17:30 Adjourn

Tappan Hill Restaurant, Tarrytown, New York

18:00 Reception

18:30 Dinner

20:00 After Dinner Address

Speaker to be Announced

Wednesday - April 24

Edith Macy Conference Center, Briarcliff, New York

9:00 Introductory Remarks

Dr. V. Sadagopan
*National Chairman,
NSF-University-Industry Symposium
IBM Research*

9:15 **Parallel Sessions**

1. Superconducting Materials and Devices

Chairman: Open

2. Semiconductors and Photonic Materials

Chairman: Dr. Leo Esaki
*Nobel Laureate
IBM Research*

3. Biomaterials

Chairman: Dr. Lee Huntsman

4. Storage Materials

Chairman: Dr. David Lambeth
*Asst. Dir., Center for
Magnetic Recording Research
Carnegie Mellon University*

5. Structural Materials

Chairman: Dr. Merton Flemings
*Chairman, Material Science and Engineering
Massachusetts Institute of Technology
and Co-Chairman of National Committee on
Materials Science and Engineering*

12:30 Lunch

14:00 **Parallel Sessions (continued)**

16:45 Summary of Highlights of the Individual Parallel Sessions — Chairmen's Reports

18:00 Adjourn

Thursday - April 25

IBM Thomas J. Watson Research Center, Yorktown Heights, NY

9:00-12:00 Individual Visits of NSF-PYIs with their Peers

12:15 Lunch at Cafeteria

15:00 Adjourn and conclusion of meeting

"INVITATION FOR DR. BROMLEY"

TYPE: SPEECH

DOCUMENT NUMBER: 9120359

SPEECH: YES NO

FROM: SCHRIESHEIM, A.

DATE OF EVENT:

LOCATION OF EVENT: ARGONNE NATIONAL LABORATORY

TIME OF EVENT:

SUBJECT: INVITATION TO VISIT ARGONNE AND SPEAK AT THE
DIRECTOR'S SPECIAL COLLOQUIUM.

RSVP: 03/04/91

CONTACT PERSON:

CONTACT NUMBER:

INVITATION ACCEPTED?

YES

NO

COPIES TO: Steve Olson

REMARKS:

DATE OF LETTER: 02/04/91

DATE RECEIVED: 02/11/91

FILE: P- INVITATION-SPEECH

THE WHITE HOUSE
WASHINGTON

March 11, 1991

Dear Alan:

Thank you for your letter of February 4, 1991, in which you invite me to visit Argonne. I apologize for the much belated response.

With the understanding that it is always possible that Presidential scheduling may force a change in my plans, I would be delighted to accept your invitation. June 20 is the best date on my schedule, and I hope that all will go as planned.

I look forward to joining you.

Sincerely yours,



D. Allan Bromley
Assistant to the President
for
Science and Technology

Dr. Alan Schriesheim
Director
Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439

9120359

ARGONNE NATIONAL LABORATORY

9700 SOUTH CASS AVENUE, ARGONNE, ILLINOIS 60439

RECEIVED

TELEPHONE 708/972-3872

FAX 708/972-3679

February 4, 1991

91 FEB 11 PM 12:16

OFFICE OF THE
DIRECTOR

Dr. D. Allan Bromley
Assistant to the President for
Science and Technology
Executive Office of the President
Washington, DC 20506

Dear Allan,

Usually when writing a letter asking someone to visit Argonne and speak at the Director's Special Colloquium, I make a point of explaining the lecture series, note who has spoken previously, and emphasize how their participation would enhance the intellectual climate of the Laboratory. Since I'm hoping that you will be able to find time to repeat your earlier participation, I'll skip those details and just note that a lot has changed in the years since your last visit. It would be a wonderful opportunity for our staff to hear your views on current science policy and it would give me great personal pleasure to show you the exciting work now underway at ANL.

I can appreciate the demands on your time, but perhaps there is a date in the near future when you will be traveling through Chicago and can plan to include Argonne in your itinerary. We can, of course, make whatever arrangements are convenient; however, a typical lecture is held in the afternoon - often on a Tuesday or Thursday. I'll ask Dr. Richard Valentin, who chairs the Colloquium committee, to contact your office and discuss possible dates.

I hope that it will be possible for you to again address the Argonne staff and I look forward to your reply.

Regards,

A. Schriesheim, Director

RAV/AS:sam

cc: R. A. Valentin

*Engaged on "Chel" at the recent
Nobel and Hans reception -*

"INVITATION FOR DR. BROMLEY"

TYPE: SPEECH

DOCUMENT NUMBER: 9120314

SPEECH: YES NO

FROM: LOGSDON, JOHN M.

DATE OF EVENT: 05/07/91

LOCATION OF EVENT: GEORGE WASHINGTON UNIVERSITY

TIME OF EVENT:

SUBJECT: SPEECH TO THE G.W.U. SCIENCE AND TECHNOLOGY SEMINAR.

RSVP:

CONTACT PERSON: JOHN M. LOGSDON

CONTACT NUMBER: 994-7292

INVITATION ACCEPTED?

YES

NO

COPIES TO: Steve Olson

REMARKS:

DATE OF LETTER: 02/06/91

DATE RECEIVED: 02/07/91

FILE: INVITATION-SPEECH

THE WHITE HOUSE
WASHINGTON

March 1, 1991

Dear Dr. Logsdon:

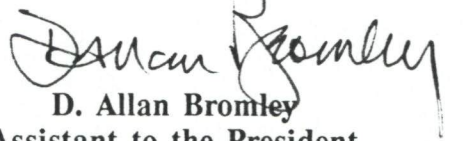
Thank you for your letter of February 6, 1991, inviting me, once again, to address your seminar on science and technology scheduled for May 7, 1991.

I am happy to accept your invitation but must caution you that occasionally I have to cancel engagements at the last moment due to Presidential requests. I sincerely hope that this does not happen.

As the time of the seminar approaches, my office will contact you to work out details for the event.

I am looking forward to meeting with you.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "D. Allan Bromley", is written over the typed name.

D. Allan Bromley
Assistant to the President
for
Science and Technology

Dr. John M. Logsdon
Director
Center for International Science and Technology Policy
The George Washington University
Washington, D.C. 20052



RECEIVED

91 FEB 7 P4:55

CENTER FOR INTERNATIONAL SCIENCE AND TECHNOLOGY POLICY

OFFICE OF THE
DIRECTOR

February 6, 1990

Dr. D. Allan Bromley
Office of Science and Technology Policy
Executive Office of the President
Washington, DC 20506

Dear Dr. Bromley:

I am delighted that you would consider rescheduling the talk you had to cancel last spring, for reasons we all understood, to the George Washington University science and technology policy seminar. In talking to Steve Olsen of your staff, we have tentatively set the evening of May 7 as the time for your talk.

The audience will be a cross-section of the senior working level community interested in science and technology policy. I am enclosing a copy of the participants list from a recent seminar by George Brown to give you a sense of the type and range of attendees.

What we hope for are thirty or so minutes of prepared remarks, followed by a Q & A session. You are of course free to pick your topic for the talk, but I hope that you will choose to focus on the some breaking issue or newly released report not already well known to the audience.

The seminar meets at the Vie de France Restaurant at 1990 K St. on the following schedule:

5:45-6:45	refreshments
6:45-7:30	dinner
7:30-8:45	talk and discussion.

Please have your office contact me if there are any questions associated with this invitation. I look forward to meeting you on May 7.

Sincerely yours,

John M. Logsdon
Director

cc: Steve Olsen, OSTP

"INVITATION FOR DR. BROMLEY"

TYPE: SPEECH

DOCUMENT NUMBER: 9120309

SPEECH: YES NO

FROM: POSVAR, WESLEY W.

DATE OF EVENT: 05/01/91

LOCATION OF EVENT: PITTSBURG, PA

TIME OF EVENT: 07:00PM

SUBJECT: REQUEST TO BE THE KEYNOTE SPEAKER AT A BANQUET
DURING THE AMERICAN NUCLEAR SOCIETY MEETING.

RSVP:

CONTACT PERSON:

CONTACT NUMBER: 412/624-4200

INVITATION ACCEPTED? YES NO

COPIES TO: Steve Olson

REMARKS: 2/27/91 Requested to Kevin!
mr

DATE OF LETTER: 02/05/91

DATE RECEIVED: 02/07/91

FILE: p- INVITATION-^{Speech}PHYSICS



University of Pittsburgh

PRESIDENT OF THE UNIVERSITY

RECEIVED

91 FEB 7 P 3: 05

February 5, 1991

OFFICE OF THE
DIRECTOR

D. Allan Bromley
Director
Office of Science and Technology Policy
Executive Office of the President
Washington, D.C. 20506

Dear Dr. Bromley:

I wish to invite your participation in a meeting of the American Nuclear Society to be held in Pittsburgh April 28 to May 2, 1991. We would be especially honored if you would be the keynote speaker at a special banquet at 7:00 p.m. on Wednesday, May 1.

The theme of this international topical meeting is *Advances in Mathematics, Computations, and Reactor Physics*. The Canadian Nuclear Society, the European Nuclear Society, and the Atomic Energy Society of Japan are co-sponsors of the event. I have enclosed the program summary for your review and, of course, will supply more information as needed.

If you can accept this invitation, we would very much like to include in your itinerary a visit to the Pittsburgh Supercomputing Center which is a joint effort of the University of Pittsburgh, Carnegie Mellon University, and Westinghouse Electric Corporation. The PSC is one of four supercomputer centers funded in part by the National Science Foundation. Dr. Ralph Roskies, Scientific Director, was a colleague of yours at Yale.

I know that the conferees would be very interested in your perspectives on the nation's High Performance Computing initiative, as well as other projects under your leadership. Also, a visit to the Pittsburgh Supercomputing Center would be mutually beneficial.

I hope that you are able to accept this invitation and I thank you in advance for giving it your serious consideration.

With best wishes,

Sincerely,

Wesley W. Posvar
President



Advances in Mathematics, Computations, and Reactor Physics

International Topical Meeting

April 28 - May 2, 1991

Greentree Marriott, Pittsburgh, PA, USA



PRELIMINARY PROGRAM

Largest ANS M&C and RP Topical in the U.S. to Date
217 Papers and 43 Computer Program Abstracts

SUNDAY, APRIL 28, 1991

4:00 PM - 8:00 PM Registration

6:00 PM - 8:00 PM Reception

MONDAY, APRIL 29, 1991 - 9:00 AM

KEY NOTE ADDRESS

PLENARY - Perspectives on Advances in Supercomputing Performance

MONDAY, APRIL 29, 1991 - 1:00 PM

S_N Methods on Vector/Parallel Architectures
Vector Parallel Techniques and Applications
Monte Carlo Methods
Collision Probability Methods
Numerical Methods in Multiphase Flow I & II
Advanced Core Design Concepts I & II
Criticality Safety Methods I & II

Dinner/River Cruise 7:00 PM

TUESDAY, APRIL 30, 1991 - 8:30 AM

Solution of Differential Equations & Applications
Iterative Methods for Linear Systems
Nodal Transport Methods
Transport Computations
AI-Expert Systems in Design, Operation, and Control
Numerical Methods in Thermal Hydraulics
Validation of Reactor Physics Methods Against Measurements
Validation of Reactor Physics Parameters
Advanced Methods for Lattice Assembly Computations I & II

TUESDAY, APRIL 30, 1991 - 1:30 PM

Acceleration Methods for Transport Computations I & II
Fluid Dynamics
Core Simulators and Plant Analyzers
Deterministic Transport Methods I & II
Neutronic Code Benchmarks Versus Measurements
Validation of Core Neutronics Computations
Flux Reconstruction and Data Adjustment
Energy Group Structures & Homogenization Procedures

WEDNESDAY, MAY 1, 1991 - 8:30 AM

Nodal Methods for Diffusion Theory I & II
Probabilistic Methods for Reactor Safety Analysis
Accident Analysis Methods
Fuel Management and Optimization I & II
Numerical Methods in Transport Theory
Charged Particle and Radiation Transport
Validation of Nuclear Data and Methods
Perturbation Theory and Sensitivity Analysis
Fourier Series, Error Analysis, and Methods for Reactor Modeling
Aids for Distributed Processing

WEDNESDAY, MAY 1, 1991

Parlor/Poster Sessions 1:30 PM

Mathematics and Computation and Reactor Physics Standards
Transport Theory Codes
Computational Benchmarks
Monte Carlo and Collision Probability Codes
Diffusion Theory and Kinetics Codes
Reactor Physics Application Codes
Neutronics - Thermal Hydraulics and Other Application codes

Poster Session Mixer 4:00 PM

Topical Banquet 7:00 PM

THURSDAY, MAY 2, 1991 - 8:30 AM

Core Kinetics Methods
Reactor Physics Transient Analysis
Asymptotic Methods in Transport Theory
Numerical Optimization - Techniques & Applications I & II
Monte Carlo Applications
Response Matrix Methods
Principles and Systems for Reactor Control
Core Monitoring Systems

Meeting includes Best Benchmark and Programs Paper Awards, Best Student Paper Awards, Guest Programs and Tours.

GENERAL CHAIRMAN

J. E. Olhoeft
Westinghouse Electric Corp.
P.O. Box 355, WEC-E205
Pittsburgh, PA 15230-0355
412/374-5704

ASST. GENERAL CHAIRMAN

D. E. Dei
Bettis Atomic Power Lab
P.O. Box 79, ZAP 34F
West Mifflin, PA 15122-0079
412/476-5139

PROGRAM CHAIRMAN

I. K. Abu-Shumays
Bettis Atomic Power Lab
P.O. Box 79, ZAP 34F
West Mifflin, PA 15122-0079
412/476-6469

ASST. PROGRAM CHAIRMAN

A. L. Casadei
Westinghouse Electric Corp.
P.O. Box 3912, MS 3-12
Pittsburgh, PA 15230
412/374-2064

Jointly Sponsored by the American Nuclear Society Pittsburgh Section, Mathematics and Computation Division, and Reactor Physics Division.
Co-sponsored by the Canadian Nuclear Society, the European Nuclear Society, and the Atomic Energy Society of Japan.
With the Cooperation of the Society for Industrial and Applied Mathematics (SIAM)

MONDAY, APRIL 29, 1991 - 1:00 PM

S_N Methods on Vector/Parallel Architectures

Monte Carlo Methods

Numerical Methods in Multiphase Flow I

Session 01A

- 1 A Discrete Ordinate Response Matrix Method for Massively Parallel Computers
U. Hanebutte
E. Lewis

- 2 Solution of the 3-D Even-Parity Sn Transport Equation on the Connection Machine
J. Morel
L. Olvey
G. Claiborn

- 3 Parallelization of a Spherical Sn Algorithm Based on the Spatial Domain Decomposition
A. Haghighat
Y. Azay

- 4 New Vector/Parallel Algorithms for the Two-Dimensional Curvilinear Sn Method
Ronald Mattis
Alireza Haghighat

Session 01B

- 1 Coupled Proton/Neutron Transport Calculations Using the Sn and Monte Carlo Methods
William Filippone
R. Little
J. Morel
R. MacFarlane
P. Young

- 2 Monte Carlo Next-Event Point Flux Estimation for RCP01
R. Martz
L. Tyburski

- 3 Extending the Alias Monte Carlo Sampling Method to General Distributions
Arthur Edwards
James Rathkopf
Robert Saldt

- 4 Parametric Design Calculations Using Green's Function to Determine Unique Source
L. Carter
J. Lan

Coffee Break

Vector Parallel Techniques and Applications

Session 02A

- 1 A Parallel Algorithm for Solving Linear Equations Arising from One-Dimensional Network Problems
G. Mesina

- 2 An Inherently Parallel, Semi-Analytical Algorithm for LWR Thermal-Hydraulics Feedback
A. Ougouag
M. Vandenryde
H. Rajic
B. Jones

- 3 Parallel processing for a 1-D Time-Dependent Solution to Impurity Rate Equations for Fusion Plasma Simulations
R. Veerasingam

- 4 Optimization Exercises: Block Jacobi for a Model Problem
Markus Hegland
Paul Saylor

Collision Probability Methods

Session 02B

- 1 Computation of Mixed Hexagonal-Cylindrical Cells Collision Probabilities Using the DPl Approximation
M. Oualoussou
Guy Marleau
A. Hebert
R. Roy

- 2 Calculation of Neutron Flux and Power Distribution in the Hexagonal Fuel Assembly of Light Water Reactor
Xie Zhongsheng
Xian Chunyu

- 3 The Using of the Monte-Carlo Method Geometrical Module for the First Collision Probability Method with the Expanding in the Spherical Modes
M. Gurevich
E. Golin

- 4 A Cyclic Tracking Procedure for Collision Probability Calculations in 2-D Lattices
Robert Roy
G. Marleau
A. Hebert
D. Rozon

Numerical Methods in Multiphase Flow II

Session 02C

- 1 FLIVA IV - An Implicit Upwind Method for 3-D Two-Phase Flows
Computation of P.W.R. Cores with Unstructured Meshes
I. Toumi
P. Raymond

- 2 Three-Dimensional Two-Phase Flow Module of the Code CATHARE 2
Bernard Brun
Marc Parent
Bertrand Spindler

- 3 A Strongly-Implicit, Fully-Compressible, Setup and Solution Procedure for Two-Phase Flow Problems in Real-Time Simulations
Charles Heck

- 4 A Nodal Method for Nonlinear Two-Phase Thermal Hydraulics Coupled to Nodal Neutron Kinetics
Rizwan-uddin
J. Dornling

Dinner/River Cruise 7:00 PM

MONDAY, APRIL 29, 1991 - 1:00 PM

Advanced Core Design Concepts I

Session 01D

- | | |
|--|---|
| 1 The Use of Axially Varying Enrichment Zones in ANF Fuel at Commonwealth Edison Company | Chau Nguyen |
| 2 Extension of PWR Fuel Cycles Through Axially Uniform Fuel Assembly Burnup | H. Rajic |
| 3 Neutron Physical Aspects of Core Design Optimization in MOX Fueled APWR's | Simon Misan |
| 4 Advanced BWR Core Design for MOX Fuel Utilization | Junichi Yamashita
Akira Nishimura
Takaaki Mochida
Hideo Sonoda |

Criticality Safety Methods I

Session 01E

- | | |
|---|---|
| 1 Fission Chain Length Effects on CF Source-Driven Subcriticality Measurements | J. Mihalcz
V. Pate
E. Blakeman |
| 2 Analysis of the 252Cf Noise Technique to Measure Subcriticality by the Method of Probability Generating Functions | W. Doub
T. Sutton |
| 3 Stochastic Transport Theory Analysis of the (252)Cf Noise Technique | T. Sutton
W. Doub |
| 4 KAPL Analysis of Oak Ridge Subcritical Reactivity Measurements for Uranyl Nitrate Solutions | J. Weinman
M. Mendelson
T. Sutton |

Coffee Break

Advanced Core Design Concepts II

Session 02D

- | | |
|---|---|
| 1 Characteristics of Gadofline in YGN 364 Initial Core | S. Kim
J. Song
C. Lee
D. Ahn
et al |
| 2 New LMR Core Designs Aiming at Reducing the Sodium Void Reactivity Effect | A. Zaetta
Ph. Bergeonneau
M. Martini
J. Cabrilhat
M. Tomasi |
| 3 A Parametric Neutronic Study of a Nuclear Propulsion Engine Concept | Todd Hilsmeier
Tunc Aldemir |
| 4 Safety Aspects of WWR Reactor Core Design and Skoda Computational System | J. Svorny
et al. |
| 5 Design of Rotating Reactor Cores for Ultra High Flux Generation | I. Orake
T. Shimoike |

Criticality Safety Methods II

Session 02E

- | | |
|--|-----------------------------|
| 1 Stochastic Processes in Nuclear Reactors Under Parametric Excitation | F. DiFilippo
K. Macko |
| 2 Monte Carlo Simulations of the Cf-252-Source-Driven Noise Analysis Measurements for Determining Subcriticality | Edward Ficaro
David Wehe |
| 3 Burnup Credit Criticality Analysis Using Advanced Nodal Techniques | D. Napolitano
D. Adil |

Dinner/River Cruise 7:00 PM

Solution of Differential Equations & Applications

Session 03A

- 1 Efficient, Variable Order, Variable Time Step Scheme for the Advancement of Solutions of Non-Linear Partial Differential Equations
U. Graf
G. Scheurer
W. Werner
- 2 Explicit Difference Schemes with Time-variable Steps for Solving Stiff Systems of Equations
V. Lebedev
- 3 Efficient Computation of Interfaces and Instabilities by Smoothing via Phase Field Methods
G. Caginalp
E. Socolovsky
- 4 MHD Equilibrium Properties of Magnetically Insulated Inertially Confined Plasmas
Necdet Aslan
Terry Kamnash

Nodal Transport Methods

Session 03B

- 1 A New Nodal Finite Element Method for the Numerical Solution of the Discrete-Ordinates Equations in X-Y Geometry
J. Hennart
E. Del Valle
C. Fillo
- 2 A Spectral Nodal Method for Discrete Ordinates Problems in X-Y Geometry
R. De Barros
Edvard Larsen
- 3 Two-Dimensional Discrete Nodal Transport Method for Solving Neutron Transport Problems in Curvilinear Coordinates
Xie Zhongsheng
Zhu Xuehua
Wu Hongchun
- 4 Three-Dimensional Nodal Transport Using the Simplified P-L Method
Ray Gamino

AI-Expert Systems in Design, Operation, and Control

Session 03C

- 1 Artificial Neural Networks Based System Identification and Control of Nuclear Power Plant Components
Alexander Parlos
Wei Tsai
- 2 Intelligent Control using Fuzzy Logic in Nuclear Reactor Operations
Lefteri Tsoukalas
R. Berkan
B. Upadhyaya
R. Kiser
- 3 An Expert System for Localization of Containment Leakage During an Accident in a PWR
J. Martinez
M. Libman
C. Chauliac
A. Jousier
- 4 Rule-Building Expert System for the Identification of Airborne Radiometric Anomalies
S. Raghuvanshi
B. Bhauik

Coffee Break

Iterative Methods for Linear Systems

Session 04A

- 1 Modified Two-Sweep Iterative Methods for Solving Large Linear Equation Systems
M. Manolova
- 2 Preconditioned Iterative Methods for Discretized Transport Equations
Steven Ashby
Peter Brown
Milo Dorr
Alan Hindmarsh
- 3 A Nine Point ADI Preconditioning for the Solution of Diffusion Equations
Tanju Sofu
Eugene Wachapress
H. Dodds
- 4 Three Dimensional Pin by Pin Core Diffusion Calculation
J. Lautard
S. Loubiere
C. Fedon-Magnaud

Transport Computations

Session 04B

- 1 Variational Nodal Solution Algorithms for Multigroup Criticality Problems
C. Carrico
E. Lewis
- 2 Nodal Approaches for VVER Core Analysis: Algorithms and Verification Results
A. Novikov
M. Lizorkin
V. Pashinin
A. Lazarenko
A. Badalov
- 3 The Mathematical Simulation in Large-Scale Problems of Nuclear Power Plant Radiation Shielding
L. Bass
I. Gerasimova
A. Petrukevitch
et al
- 4 Quasi-Analytical Solution of Gamma-Rays Transport Equation in One-Dimensional Geometries with Using Integral Transform
S. Romanin
V. Troyanskii

Numerical Methods in Thermal Hydraulics

Session 04C

- 1 The CERBERUS Ver.02 Code: A Parallel Six-Equation Thermal-Hydraulic-System Simulation Code
Henry Makowitz
- 2 A Four Equation Finite Element Thermal Hydraulics Code
Scott Lucas
- 3 Three Dimensional Computations of Thermal-Hydraulic Phenomena in Reactors Vessels
D. Grand
J. Magnaud
J. Pages
M. Villard
- 4 Linearization and Sequential Optimization of Nonlinear Empirical Correlations
D. Farnsworth

TUESDAY, APRIL 30, 1991 - 8:30 AM

Validation of Reactor Physics Methods Against Measurements

Advanced Methods for Lattice Assembly Computations I

Session 03D		Session 03E	
1	Benchmark Measurements and Calculations of a Three-Dimensional Neutron Streaming Experiment	1	The Physics Model of CASMO-4
	Douglas Barnett, Jr		M. Edenius B. Forsen C. Grag
2	An Experimental Versus Computational Benchmark for the Neutron/Gamma Mixed Field Near a Pulsed Reactor	2	Historical and Recent Developments, Applications and Performance of the DIT(TM) Assembly Lattice Code
	J. Jauregui G. Murdin M. Vie M. Zencilin		A. Jonsson Richard Loretz
3	Neutronic Decoupling and Space-Dependent Nuclear Characteristics for Large LMFBR Cores	3	The Multigroup Neutron Transport for Mutually Interacting Assemblies
	Toshio Sada Fumaki Nakashima Keisbo Shirakata		R. Sanchez Z. Stanekski I. Zmijarevic
4	Benchmark Measurements and Calculations of Neutron Leakage from Water Moderators	4	APOLLO-II Assembly Spectrum Code, New Features
	D. Gilliam Judith Brismester		R. Sanchez Z. Stanekski I. Zmijarevic M. Coate

Coffee Break

Validation of Reactor Physics Parameters

Advanced Methods for Lattice Assembly Computations II

Session 04D		Session 04E	
1	Benchmark Calculations for the Doppler Coefficient of Reactivity in Mixed-Oxide Fuel	1	HELIOS: Geometric Capabilities of a new Fuel-Assembly Program
	R. Mosteller J. Holly L. Mott		Juan Casal Rudi Stram'ler Eduardo Villalino Aldo Ferri
2	Belgian Experience with Moderator Temperature Coefficient Measurements in Power	2	New Physics Models Recently Incorporated in TCBLA
	M. Hollasky		Munenari Yamamoto
3	Benchmark Data for Light Water Reactors	3	A Multiple-Scales Lattice Cell and Fuel Assembly Homogenization Theory for Nodal Diffusion Methods
	Istvan Vidozsky		Hongbin Zhang Rizwan-uddin J. Dornig
4	Critical Experiments on 4.81 w/o Enriched UO(2) Fuel Pin	4	Spatial Self Shielding Treatment in the Analysis of Fast and Thermal Reactor Experiments
	D. Harris R. Kohn P. Angelo K. Bucknheat N. Patron		G. Rimpault

Acceleration Methods for Transport Computations I

Session 05A

- 1 The Consistent Methods of Acceleration of Iterations Convergence for the WDD and the Weighted Nodal Schemes
A. Avarin
A. Voloachenko
E. Kondratenko
- 2 Asymptotic Diffusion Acceleration of Transport Calculations
Todd Wareing
Edward Larsen
- 3 The Efficiency of Linear and Nonlinear Implementations of Diffusion Synthetic Acceleration
Tareq AboAlfara
Edward Larsen
- 4 A Multigrid Solution of the Three-Dimensional DSA Equation: A Question of Efficiency for Three-Dimensional Transport Iterations
R. Alcouffe

Fluid Dynamics

Session 05B

- 1 PLIM Shape-Preserving Characteristics Method for Flow Equations
Markku Rajamaki
- 2 A Higher-Order Nodal Solution Method for Heat Conduction and Incompressible Fluid Flow
P. Esser
R. Witt
M. Corradini
- 3 A Nodal Method for the Inviscid Shallow-Water Equations
John Hannon
James Holloway
J. Dornier
- 4 Impedance-Coupled Valve and Fluid System Instability
John Lynch
- 5 Bypass Flow Analysis in a Boiling Water Reactor
Jyun-An Jing
Lih-Yih Liaw
Song-Feng Wang

Deterministic Transport Methods I

Session 05C

- 1 Averaging of Transport Equation over the Lebesgue's Sets
A. Shilkov
I. Tsvetkova
- 2 Renormalized Equation for Linear Transport in Stochastic Media
Fausto Malvagi
G. Pomarini
- 3 Numerical Solutions of Flux Limited Diffusion Theory
Ronaldo Szilard
G. Pomarini
- 4 A Cellular Automata Model for Neutron Transport
Michael Gaeta
B. Nassersharif

Coffee Break

Acceleration Methods for Transport Computations II

Session 06A

- 1 Synthetic S2-Acceleration Scheme for Inner Sn-Iterations of Two-Dimensional Finite Element Transport Method
J. Stepanek
D. Davierwalla
- 2 Projected Discrete Ordinates Methods for Sn Problems in x - y Geometry
Mary Kulas
G. Moses
- 3 Diffusion-Accelerated Solution of the Even-Parity Sn Equations With Anisotropic Scattering
J. Morel
L. Olivey
G. Claiborn
- 4 Multi-Level Adaptive Techniques for the Acceleration of Nodal Reactor Calculations
H. Finneman
R. Boer
R. Muller
- 5 Quasi-Diffusion Method for Solving the Multigroup Transport Equation
D. Anistratov
V. Gol'din

Core Simulators and Plant Analyzers

Session 06B

- 1 A 3-D Reactor Core Simulation Code on a Desktop Computer
D. Bollacasa
H. Van de Berg
- 2 CENTS-BWR: An Interactive Nuclear Power Plant Simulator for the Boiling Water Reactor
Suk Sim
R. Espinosa
S. Leichberg
T. Yackie
- 3 Man-Machine Interface for A P.W.R. Simulator
Jose de Almeida
Joaquim Duque
- 4 Plant Analyser of Lovisa NPP
E. Puska
K. Portholm
- 5 PRISM: An Integrated RCS and Steam Generator Simulation Model
Shih-Ping Kao
- 6 A Nuclear Plant Analyzer for Pressurized Thermal Shock Evaluations under Stagnant Flow Conditions
D. Bollacasa
S. Shenoy
J. Flanagan

Deterministic Transport Methods II

Session 06C

- 1 Advances in Radiation Transport Theory by Invariant Embedding
Akino Shimizu
- 2 Investigation of Linear-Discontinuous Angular Differencing for the 1-D Spherical-Geometry Sn Equations
J. Morel
W. Walters
- 3 Step Adaptive Characteristic Spatial Quadrature for Discrete Ordinates Neutral Particle Transport in Two-Dimensional Cartesian Coordinates
Kirk Mathews
- 4 A New Way to Solve the 2D Discrete Ordinates Transport Equation
Craig Howe
Dale Metcalf

TUESDAY, APRIL 30, 1991 - 1:30 PM

Neutronic Code Benchmarks Versus Measurements

Flux Reconstruction and Data Adjustment

Session 05D

- 1 Benchmark of the General Electric TGBLA/PANACEA Codes for Commonwealth Edison BWRs

Joan Wiegand

- 2 BWR Benchmark Results for Different Code Packages

Adelmo Pallotta

- 3 A Three Dimensional PDQ Benchmark Comparison with the Advanced Test Reactor Measurement Data

S. Kim
J. Judd

- 4 Benchmark of the PHOENIX-P/AMC Computer Codes for Commonwealth Edison PWRs

D. Lee

Session 05E

- 1 Local Flux Reconstruction, Fine Shape Superposition in a Finite Element Core Calculation Code: CRONOS

S. Loubiere

- 2 Reconstruction of Pointwise Neutron Flux Distribution via Minimum Cross-Entropy Principle

Nam Cho
Woo Jung

- 3 Transport and Diffusion Infinite Medium Assembly Calculations of Pin Power Distribution

G. Bruna
M. Noble
A. Vallee

- 4 Uncertainty and Data Adjustment Analysis for PWR Shielding

I. Kodell
J. Nimal
J. Lefebvre

Coffee Break

Validation of Core Neutronics Computations

Energy Group Structures & Homogenisation Procedures

Session 06D

- 1 Core-Follow Studies of Quad Cycles Cycles 1 and 2 with Special Emphasis on Pin Power Comparisons at the End of Cycle 2

Erik Nonbol
C. Hojerup

- 2 PWR Core Analysis Using a CPM-2 Based System

R. Grow
R. Kent
J. Holly

- 3 Improvement of Cold Shutdown Margin in the Chusman BWR

P. Kao
J. Yang
T. Sung

Session 06E

- 1 Improvements in the Leakage Calculation of Nuclear Reactor Assemblies and Consistent Definition of Cell Leakage Coefficients by an Equivalence Procedure

Pierre Benoist
I. Petrovic
Z. Stankovski

- 2 Application-Dependent Cross-Section Library for IMPR In-Vessel Calculations

V. Bolyatko
V. Mashkovtch
V. Nersisyan
V. Savitsky
A. Stroganov

- 3 Algorithms for Creation Library of Few-Group Cell Characteristics in Surface Harmonic Method for Thermal Nuclear Reactors

N. Lalein
M. Sultanov
V. Boyarinov
S. Voytoshchy

- 4 Effect of Some Prescriptions for Diffusion Coefficients on Calculation of Neutron Leakage from an Assembly with Cluster Cells

N. Lalein
V. Boyarinov
I. Danicheva

- 5 A Cell Homogenization Method for Strongly Heterogeneous Research Reactors

Jong Lee
Byung Lee
Nam Cho

WEDNESDAY, MAY 1, 1991 - 8:30 AM

Nodal Methods for Diffusion Theory I

- Session 07A
- 1 High-Order Finite Difference Nodal Diffusion Method with Neutron Transport Effect Incorporated
Kazuo Azekura
Kunitoshi Kurihara
 - 2 On the Relationship Between Finite Difference and Nodal/Methods for the Diffusion Equation
Y. Azmy
 - 3 The Weighted-Difference Form of the Nodal Diffusion Method in Cylindrical Geometry
Lilliana Deleanu
Y. Azmy
 - 4 The Application of Nodal Equivalence Theory to Hexagonal Geometry Lattices
R. Finck
L. Derstine

Probabilistic Methods for Reactor Safety Analysis

- Session 07B
- 1 Probabilistic Reactor Dynamics: A Monte-Carlo Study of a Fast Reactor Transient
J. DeVooight
C. Saldts
 - 2 Probabilistic Reactor Dynamics: Continuous Event Trees
J. DeVooight
C. Saldts
 - 3 A Probabilistic Method for Evaluating Passive Safety and Its Application to EBR-II
R. Schaefer
 - 4 Beaver Valley 2 IPE Containment Response Analysis
Stephen Nass
R. Deremer

Fuel Management and Optimization I

- Session 07C
- 1 Improvement of Fuel Management for PWR Cores
Shoichiro Shiada
Hiroshi Tochiwara
Sadaaki Abeta
 - 2 Evolution and Performance of Westinghouse Loading Pattern Search Methodology
B. Alsop
Y. Chao
T. Morita
 - 3 PWR and BWR Reload Design Using LFC
R. Grow
R. Strong
 - 4 FUELEM: Automated Selection of Channels for Refueling in CANDU
B. Rouben
D. Jenkins

Coffee Break

Nodal Methods for Diffusion Theory II

- Session 08A
- 1 Technique of Division of the Thermal Neutrons in Nodal Method
Ruan Keqiang
Xue Changmin
 - 2 An Alternative Theoretical and Numerical Approach to the Analytic Nodal Method
D. Vogel
 - 3 Development of 3-D Nodal Diffusion Code Based on Group Theory in Hexagonal-Z Geometry
Y. Kawagoe
Toshikazu Takeda
J. Arkuszewski
 - 4 Recent Enhancements of the SIMULATE-3 Nodal Code
Kord Smith

Accident Analysis Methods

- Session 08B
- 1 RELAP5 Kinetics Model Development for the Advanced Test Reactor
J. Judd
W. Terry
 - 2 A RETRAN-03 Transport Model for Time Domain Analysis of BWR Stability Events
Mark Paulsen
Nick Newman
Lance Agee
 - 3 Time-Dependently Coupled 3D Analysis of a Main Steam Line Break at HZP Using the Star Reactor Kinetics and Retran Thermal-Hydraulics Codes
Madeline Feltus
 - 4 TRAC Loss-of-Coolant Accident Analysis of the Savannah River NPR Design
K. Maloney
R. Pryor

Fuel Management and Optimization II

- Session 08C
- 1 A Study of Erbium Burnable Absorber for a 4-Batch Low Leakage Fuel Management Scheme in Korean PWR's
Han Joo
Si Kim
Dawk Ahn
Sang Lee
Chang Kim
 - 2 Automatic Determination of BWR Fuel Loading Patterns Based on K.E. Technique with Core Physics Simulation
Tadashi Ikehara
Makoto Tsuiki
Mitsuo Ebisuwa
 - 3 The Scale Analysis Sequence for LWR Fuel Depletion
C. Parks
O. Hermann
 - 4 Complex of Mathematical Models for Operation Support of Fast Reactors and Numerical Analysis of Experiments
V. Khromov
V. Apse
L. Goncharov
E. Krjuchkov
et al

WEDNESDAY, MAY 1, 1991 - 8:30 AM

Numerical Methods in Transport Theory

Session 07D

- 1 Stability Analysis of Time-Dependent Transport Algorithms
Ahmed Badruzzaman

- 2 Variational Derivation of Multigroup P-1 Equations and Boundary Conditions
Robert Rulko
Edward Larsen

- 3 A Three Dimensional Method for the Solution of the Even Parity Transport Equation Using Finite Elements
R. Alcouffe
C. Fedon-Magnaud
J. Lazard

- 4 Amplitude and Shape Function Formulations of Transport Problems
Edward Larsen

Validation of Nuclear Data and Methods

Session 07E

- 1 Analysis of Benchmark Critical Experiments with ENDF/B-VI Data Sets
J. Hardy
A. Kahler

- 2 Integral Validation of the JEP2 Major Actinides for Thermal Neutron Reactors
Henry Tellier
C. Van der Gucht
J. Vanuxem

- 3 Application of the Single Collision Thermalization Approximation to Pin Cell Calculations
Roger Rydin
Roger Ritenour

- 4 Decay Heat Rates Calculated Using ORIGEN-S and CINDER10 with Common Data Libraries
M. Brady
C. Beard
W. Bohmfort
T. England
O. Hermann

Fourier Series, Error Analysis, and Methods for Reactor Modeling

Session 07F

- 1 Fourier Series Approximation to Randomize Data Used by Sequential Ratio Tests
Keith Humenik
Kenny Gross

- 2 Optimal Methods and Errors of the Diamond-Difference and Step-Characteristic Methods in One-Dimensional Transport
Paul Nelson
Fan Yu

- 3 Account of Anisotropic Scattering in Cell Calculations by Surface Pseudo-Sources Method
N. Laletin
N. Sultanov
V. Boyarinov

- 4 Quantitative Estimation of Some New Effects Taken into Account in Surface Harmonic Method
N. Laletin
V. Boyarinov
N. Sultanov

- 5 Reactor Physics Modeling Methods for MAPLE-X10 - A Comparison
P. Carlson
H. McIlwain
G. Dyck
S. King

Coffee Break

Charged Particle and Radiation Transport

Session 08D

- 1 Discrete Ordinates Calculations of Low Energy Electron Transport in Silicon Dioxide in the Presence of an Electric Field
Stanley Woolf
J. Bradford

- 2 An Extended First Collision Source Method for Electron Beam Source Problems
William Filippone
J. Morel
Wallace Walters

- 3 A Numerical Solution of the Boltzmann-Fokker-Planck Equation for Charged-Particle Transport
A. Voloschenko

- 4 Compton Diode and Coaxial Cable Response to Gamma Irradiation
Clifton Drumm
Gary Scribner
Jacque Hohlfeider

Perturbation Theory and Sensitivity Analysis

Session 08E

- 1 The Use of HCPT Theory for the Calculation of Sensitivity Coefficients of Thermohydraulic Systems
F. Andrade Lima
Augusto Gandini
A. Marques Alvim

- 2 Implicit Versus Explicit Perturbation Methods for the Efficient Evaluation of Alternative Core Designs
John White
Keith Robinson
Phillip Delmolino

- 3 Adjustment of Neutronic Coefficients of a PWR-Reactor Diffusion Model Using Generalized Perturbation Theory
G. Chavent
P. Hammerich
J. Joffre
J. Planchard

- 4 Adjoint Flux for One and a Half Group Models
C. Beard
Y. Chao

Aids for Distributed Processing

Session 08F

- 1 A Distributed Unix-Based Simulator
P. Wyatt
T. Arnold
K. Hammer
J. Peery
G. McKaskle

- 2 Client/Server Distributed Processing using SUNOS Remote Procedure Protocol
K. Hammer
T. Gilman

- 3 A Portable Message Passing System for Distributed Parallel Computing in Fortran
David Leibfritz
Ken Gross
William Nickless

WEDNESDAY, MAY 1, 1991

Parlor/Poster Sessions 1:30 PM

Mathematics and Computation and Reactor Physics Standards Computational Benchmarks

Session P01

1 Overview of the AMS
Mathematics and
Computation Software
Standards
Andrew Smetana

2 Advances in Reactor
Physics Standards
D. Harris
D. Harris

3 Standards for Nuclear
Data Sets
D. Harris
D. Harris

4 Overview of the AMS
Mathematics and
Computation Benchmarks I
& II
Ahmed Badruzzaman
Henry Makowitz

5 Hexagonal Diffusion
Theory Benchmark Problems
for WNER Reactors
Mihaly Makai

6 Interactive Monte Carlo
Simulation on the BBN
TC2000(TM) Computer
William Celmaster

7 Monte Carlo Photon
Benchmark Problems
Daniel Whalen
David Hollowell
John Hendricks

8 Criticality and Time
Eigenvalues for
Two-Medium Systems in
One-Speed Neutron
Transport Theory
Nilstrand Sjostrand
N. Garis

9 BWR Assembly Benchmark
Solutions by ANL General
Geometry Transport Theory
Codes
Jasmina Vujic
Roger Blomquist

10 Multigroup-Sn Benchmark
Comparison for Electron
Transport
B. Ganapol
S. Woolf
J. Garth

11 The Analytical Benchmark
Library for Nuclear
Engineering: PC Version
B. Ganapol
D. Nigg

Transport Theory Codes

Session P02

1 The TORT
Three-Dimensional
Discrete Ordinates
Neutron/Photon Transport
Code
Wayne Rhoades
R. Childs

2 TWODANT/GQ: A Discrete
Ordinates Neutral
Particle Transport Code
for General
Quadrilaterals
Ray Alcouffe
F. Brinkley
B. Clark
D. Marr
W. Walters

3 TWODANT/SYS: A System of
Discrete-Ordinates
Neutral Particle
Transport Codes
Ray Alcouffe
F. Brinkley
B. Clark
D. Marr
et al

4 RADUGA-4.0 -
Two-Dimensional Transport
Code
L. Bass
A. Goncharov
N. Grebennikova
L. Dadakina
et al

5 Abstract for the Code:
SYNTES
E. Selaznev

6 The KASKAD-1
Two-Dimensional Discrete
Ordinates Nodal Transport
Code
A. Voloschenko
A. Shvetsov

7 The ROZ-6.4
One-Dimensional Discrete
Ordinates Neutrons,
Gamma-Rays, and Charged
Particles Transport Code
A. Avarin
A. Voloschenko
T. Kondratenko
A. Dubinin

8 The ROZ-W.2
Time-Dependent
One-Dimensional Discrete
Ordinates Neutrons,
Gamma-Rays, and Charged
Particles Transport Code
A. Voloschenko
S. Gukov

Monte Carlo and Collision Probability Codes

Session P03

1 GTRAN2: A General
Geometry Transport Theory
Code in 2D
Jasmina Vujic

2 VM
Roger Blomquist

3 Development of a
Continuous Energy Monte
Carlo Code MVP for Vector
Supercomputers
Takamasa Mori
Masayuki Nakagawa
Makoto Sasaki
Kunio Kaneko

4 The MCNP4 Monte Carlo
General-Purpose Radiation
Transport Code
John Hendricks
Judith Briesemanster

4 General Purpose
Monte-Carlo Neutron
Transport Code for
Detailed Reactor and
Reactor Cell Analysis
A. Sboev
V. Kevrolev
M. Tsitovich
A. Mordvinov
et al

5 SABRINA - An Interactive
Geometry Modeler for MCNP
James West

7 An Object Oriented
Pre/post Processor for
Reactor Design
Applications "Using MCNP"
Kevin Greek
Bryan Lewis
Andrew Klein

8 The LAHET Monte Carlo
Radiation Transport Code
R. Prael

9 NOVICE, A Radiation
Transport/Shielding Code
Thomas Jordan

Poster Session Mixer 4:00 PM

Topical Banquet 7:00 PM

WEDNESDAY, MAY 1, 1991
Parlor/Poster Sessions 1:30 PM

Reactor Physics Application Codes

Session P04

- | | |
|---|--|
| 1 SCALE-4: An Updated Version of the Modular Code System for Performing Standardized Computer Analysis for Licensing Evaluation | C. Parks
L. Petrie
J. Mennschmidt
J. Bartley |
| 2 NPC3 System - A Complete Automation System for Nuclear Reactors Design | V. Arzhanov
A. Voronkov
A. Gorak
E. Zernakov
et al |
| 3 REACTOR - Program System for Neutron-Physical Calculations | V. Arganov
A. Voronkov |
| 4 DPT: A Computer Code to Generate Depletion Sensitivities | Thomas Downar |
| 5 GNDL - Program System of Group Constants to Provide Calculations of Neutron and Photon Fields | A. Voronkov
S. Gavrilin
V. Guryanov
S. Manakov |
| 6 MSILINK is a set of Computer Codes to Couple the NJOY Cross Section generation code to the SCALE-3 system retaining the Nordheim resonance Treatment Option | P.F.A. de Laege |
| 7 An In-Core Fuel Management Scoping Code for PWR: FMSOP | Chang Kim
Teak Kim
Sang You
Si-Hwan Kim |
| 8 RESUS-3: Fuel Cycle Analysis | B. Toppel |

Diffusion Theory and Kinetics Codes

Session P05

- | | |
|--|--|
| 1 Abstract for the Code: SYNHRON | M. Rahmatullin
E. Seleznev |
| 2 The Code SYNANS for Calculation of Neutron Flux for Training Simulator | E. Seleznev
E. Volcova |
| 3 The Code GEEST for Three-Dimensional Operational Calculations for the BN Type of Reactor | E. Seleznev
M. Alparovich
M. Grigor'eva
O. Sysoeva
et al |
| 4 HEXAB-3D - A Three Dimensional Few-Group Coarse-Mesh Diffusion Code for Reactor Calculations | K. Ivanov
T. Apostolov
M. Mamolova |
| 5 DIF3D | K. Detsline |
| 6 GRPQ-PC Program Abstract | George Poetschat |
| 7 HEXTRAN: Three-Dimensional Reactor Dynamics Code for VVER-Reactors Cores | R. Kyriki-Rajamaki |
| 8 Three-Dimensional, Multi-Group Nuclear Reactor Kinetic Analysis Program Based on a Vectorized Model Expansion Method | Hiroki Sano
Yoshitaka Ishii
Jun-ichi Koyama
Yasunori Osano |

Neutronics - Thermal Hydraulics and Other Application codes

Session P06

- | | |
|--|---|
| 1 FLICA IV: A Computer Code for 3-D Two-Phase Flows Computation of P.W.R. Cores: Validation and Mixing Grid Effects Computations | D. Caruge
P. Raymond |
| 2 COMIX-1AR/P | Roger Blomquist
P. Garner
E. Gelbard |
| 3 The THEATRE Code | Gary Salch
Zen-Yow Wang
Guan-Hwa Wang
Eric Lin |
| 4 The CONCERT Code | Gary Salch
Zen-Yow Wang
Guan-Hwa Wang
Eric Lin |
| 5 NORMA-3D: A Computer Code for PWR Simulation | E. Brega |
| 6 ABBORTA: 3-D Coupled Neutronic and Thermal Hydraulics Code for Core Representation of an LWR | L. Eisenhart |
| 7 STAR | Richard Weader II |
| 8 Application of RIAMAN 2.0 to the Beaver Valley Power Station IPE | Donald Wakefield
Stephen Nase |
| 9 A High-Speed Serial Communication Technique for an MS-DOS Based Simulation | John Porter
H Van de Berg |

Poster Session Mixer 4:00 PM

Topical Banquet 7:00 PM

THURSDAY, MAY 2, 1991 - 8:30 AM

Core Kinetics Methods

Session 09A

- 1 Linear Feedback Theory for a Nonlinear System of Equations with Application to a Point Reactor Kinetics
- 2 The Diff3D Nodal Kinetics Capability in Hex-Z Geometry - Formulation and Preliminary Tests
- 3 A Semi-Experimental, Nodal Synthesis Method for the On-Line Determination of Three-Dimensional Flux-Shapes and Reactivity
- 4 Numerical Methods for Space Time Kinetics in the COCCINELLE Code

Takeo Nishigori
T. Taiwo
H. Khalil
Allan Henry
R. Jacquin
C. Bangil
F. Blanchon
G. Nicolas
J. Planchard
et al

Asymptotic Methods in Transport Theory

Session 09B

- 1 Pn Theory as an Asymptotic Limit of Transport Theory
- 2 Even- and Odd-Parity Finite-Element Transport Solutions in the Thick Diffusion Limit
- 3 Discontinuous Finite-Element Transport Solutions in the Thick Diffusion Limit in Cartesian Geometry
- 4 Analysis of Spherical Geometry Finite Element Transport Solutions in the Thick Diffusion Limit
- 5 A New Discontinuous Finite-Element Method for Transport on Arbitrary Two-Dimensional Spatial Meshes

Edward Larsen
G. Pomraning
Marvin Adams
Marvin Adams
Todd Palmer
Marvin Adams
Marvin Adams

Numerical Optimization

- Techniques & Applications I

Session 09C

- 1 An Introduction to Genetic Algorithms
- 2 Promising New Interior-Point Methods for Large Scale Linear Programming and Linear Complementarity Problems
- 3 Entropy Optimization Methods and Bayesian Estimation Procedure
- 4 Reliability and Maintenance Analysis by Monte Carlo Method

Lawrence Davis
Shu-Cherng Fang
Elmor Peterson
S. Fang
D. Lee
H. Tsao
A. Gandini
A. Goldfeld
R. Righini
H. Simonot

Coffee Break

Reactor Physics Transient Analysis

Session 10A

- 1 A Comparison of ARROTTA and HERMITE Analysis of a PWR Rod Ejection Accident
- 2 Coupled Core Kinetics of Pulsed and Burst Power Multiple Cavity Gaseous Core Reactor System

K. Doran
L. Eisehart
P. Rohan
S. Wagner
B. Zolotar
Mathew Panicker
Edgar Dugan

Numerical Optimization - Techniques & Applications II

Session 10C

- 1 Support Method for Solving an Optimal Xenon Shutdown Problem
- 2 Optimization Techniques Used to Determine Superior Reload Configurations for the TMI-1 Core
- 3 Application of Simulated Annealing to In-Core Nuclear Fuel Management Optimization
- 4 Methods and Codes for Solving the Optimization Problem of Initial Distribution of Fuel Composition and Controlling of the Reactor during the Company

Le Chi Dung
S. Lavine
D. Bai
J. Luoma
M. Mahgerefteh
David Kropaczek
Paul Turinsky
O. Vtorova
L. Isakova
D. Rachkova
L. Sobol
M. Matekin

THURSDAY, MAY 2, 1991 - 8:30 AM

Monte Carlo Applications

Principles and Systems for Reactor Control

Session 09D

- 1 Monte Carlo Simulation of Gamma Ray Scanning Gauge

G. Hartfield
L. Freeman
D. Del
C. Emerit
et al

Session 09E

- 1 Application of the Sliding Mode Principle to the Control of Reactor Neutronic Power

John Bernard

- 2 Identification and Implementation of Variance Reduction Methods for Efficient Monte Carlo Criticality Calculations of Cereous Core Reactors

Mathew Panicker
Edward Dugan

- 2 Supervisory Constraints for the Control of Neutronic and Thermal Power in a Pressurized Water Reactor (PWR)

Brian Aviles
David Lanning
John Bernard

- 3 Enhanced Physics Design with Hexagonal Replicated Structure Tools Using Monte Carlo Methods

L. Carter
J. Lan
R. Schwarz

- 3 Direct Method of Search for the Optimal Xenon Oscillation Control Based on A New Concept of Axial Offsets

Yoichiro Shimazu

- 4 Sensitivity of Seabrook Station's Incore Platinum Detectors

D. Napolitano
D. Harris

Response Matrix Methods

Core Monitoring Systems

Session 10D

- 1 On Space Dependent Material Reproducing A Given Response Matrix

Mihaly Makai

Session 10E

- 1 Incore Power Monitoring using Platinum Incore Detectors at Seabrook Station

Joseph Gorski

- 2 Alternative Methods of Solving Response Matrix Equations

Z. Weiss
W. Joubert

- 2 Improved Core Monitoring Through Cooperative Use of Analytical Models and Plant Instrumentation

S. Condon
C. Martin
G. Parks
F. Rehman
R. Williams

- 3 Extension of the Fully Coupled Monte Carlo Response Matrix Method to Problems Including Upscatter and Fission

R. Baker
R. Alcouffe
W. Filippone

- 3 Operational Impact of Xenon Mode Control

Charles Beard
William Boyd
Albert Impink

- 4 Response Matrix Monte Carlo Based on a General Geometry Local Calculation for Electron Transport

Clinton Ballinger
James Ratkopf
William Martin

- 4 ARCHIMEDE: On Line Core Simulation Experience

Roger Fraikin

- 5 INER/Talpower BWR Core Monitoring System Development

Der-Jhy Shieh
Min-Huai Chen
Shian-Shing Hsu

- 6 LMR Failed Fuel Surveillance Implemented on a Loosely-Coupled Distributed-Memory Parallel Processing System

Kenny Gross
David Leibfritz
W. Nickless

Coffee Break

"CORRESPONDENCE TRACKING"

TYPE: INFORMATION

DOCUMENT NUMBER: 9121146

FROM: AZAROFF, Leonid V.: IMS

TO: DR. BROMLEY

DATE OF
CORRESPONDENCE: 01/29/91

SUBJECT: A COPY OF THE CURRENT IMS BULLETIN FEATURING A
SUMMARY OF THEIR 25th ANNIVERSARY SYMPOSIUM.

ASSIGNED TO:

ACTION REQUIRED:

SENDER'S DUE DATE:

OSTP DUE DATE:

DATE COMPLETED: 02/21/91

COPIES TO: D. Allan Bromley

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:

DATE RECEIVED: 02/06/91

FILE: P- INVITATION-SPEECH ~~FOLLOWUP~~

Institute of Materials Science
The University of Connecticut

Box U-136, Room 107
97 North Eagleville Road
Storrs, Connecticut 06268
FAX (203) 486-4745

Office of the Director
(203)486-4623/4



January 29, 1991

Dr. D. Allan Bromley
Assistant to the President
for
Science and Technology
THE WHITE HOUSE
Washington, DC 20007

Dear Allan:

Enclosed is a copy of the current *IMS Bulletin* featuring a summary of our 25th Anniversary Symposium in which you kindly participated.

Additional write-ups are scheduled to appear in the next issues of *CASE Reports* and of *Journal of Metals*.

Best wishes for a successful and prosperous 1991!

Sincerely,



Leonid V. Azaroff

LVA/lw

Encl:



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THE WHITE HOUSE
WASHINGTON

February 21, 1991

Dear Lee:

Many thanks for sending me a copy of the current **IMS Bulletin** featuring your 25th Anniversary Symposium. It was an excellent symposium and my only regret is that I was unable to hear more of the talks presented. I thoroughly enjoyed those where I did have an overlap.

Again, congratulations on the superb job you have done in building the IMS into one of the major centers for materials science in this country.

With warmest best wishes,

Sincerely yours,



D. Allan Bromley
Assistant to the President
for
Science and Technology

Professor Leonid V. Azaroff
Institute of Materials Science
The University of Connecticut
Box U-136, Room 107
97 North Eagleville Road
Storrs, Connecticut 06268

"INVITATION FOR DR. BROMLEY"

TYPE: SPEECH

DOCUMENT NUMBER: 9120278

SPEECH: YES NO

FROM: BALLANCE, JOHN J.

DATE OF EVENT: 03/15/91

LOCATION OF EVENT: WASHINGTON, D.C.

TIME OF EVENT:

SUBJECT: REQUEST TO BE A KEYNOTE SPEAKER AT THE ANNUAL
GODDARD MEMORIAL DINNER. THE THEME: "BUILDING A NEW
SCIENCE GENERATION"

RSVP: 02/14/91

CONTACT PERSON:

CONTACT NUMBER:

INVITATION ACCEPTED?

YES

COPIES TO: Steve Olson
Dr. Wong

REMARKS:

DATE OF LETTER: 02/04/91

DATE RECEIVED: 02/04/91

FILE: P- INVITATION-~~SPACE~~ *Speech*

THE WHITE HOUSE
WASHINGTON

February 14, 1991

Dear Mr. Ballance:

Thank you for your letter of February 4, 1991 inviting me to be the keynote speaker at the Goddard Memorial Dinner scheduled for March 15, 1991.

I am happy to accept your invitation but must caution you that occasionally I have to cancel engagements at the last moment due to Presidential scheduling that requires my presence. I sincerely hope that this does not happen.

As the time of the event approaches, my office will contact you to work out details. The date is on my calendar and I hope that I will be available to be with you and your colleagues during this special time for the National Space Club.

I am pleased that you thought of me and look forward to the occasion.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "D. Allan Bromley". The signature is fluid and cursive, with the first name "D." being small and the last name "Bromley" being larger and more prominent.

D. Allan Bromley
Assistant to the President
for
Science and Technology

Mr. John H. Ballance, President
National Space Club
655 15th Street, N.W. Suite 300
Washington, D.C. 20005

9120 278

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National Space Club

655 15TH STREET, N.W., SUITE 300, WASHINGTON, D.C. 20005 (202) 639-4210

91 FEB 4 P5:20



OFFICE OF THE
DIRECTOR

February 4, 1991

Dr. D. Allan Bromley
Assistant to the President for
Science and Technology
Office of Science and Technology Policy
Executive Office of the President
Washington, D.C. 20500

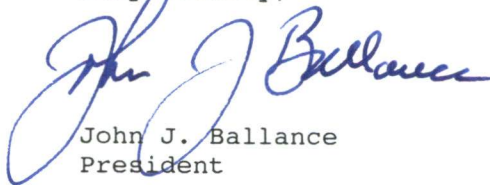
Dear Dr. Bromley:

The National Space Club would be honored to have you as our keynote speaker at the annual Goddard Memorial Dinner on Friday, March 15, 1991. The National Space Club, as you may know, fosters policies and programs necessary to maintain U.S. leadership in space. The Goddard Memorial Dinner is the premier space event of the nation's capital and recognizes persons and institutions for their contributions to space science and technology.

The theme for our banquet this year is "Building a New Space Generation". It is felt that America needs to build an interest in and a desire on the part of our young people to pursue the scientific disciplines and apply their learning to needed space technologies. From your vantage point in the President's office, we feel an important message can be delivered to the government, industry, press and the public that these resources need to be developed to assure our continued space leadership.

Our master of ceremonies will be Dr. Lennard Fisk, Associate Administrator of NASA for Space Science and Applications. He will make a few opening remarks and introduce you. Ms. Rory Heydon and Marion Hardy of Courtesy Associates (202-639-4210) will be making the banquet arrangements and can assist your staff in any way you need. Mr. Bob Kennedy (Bionetics Corp.) is the Goddard Dinner Chairman for this year and can be reached at 804-722-0330 for further insight on the event. We hope you will accept our invitation.

Respectfully,


John J. Ballance
President

NATIONAL SPACE CLUB



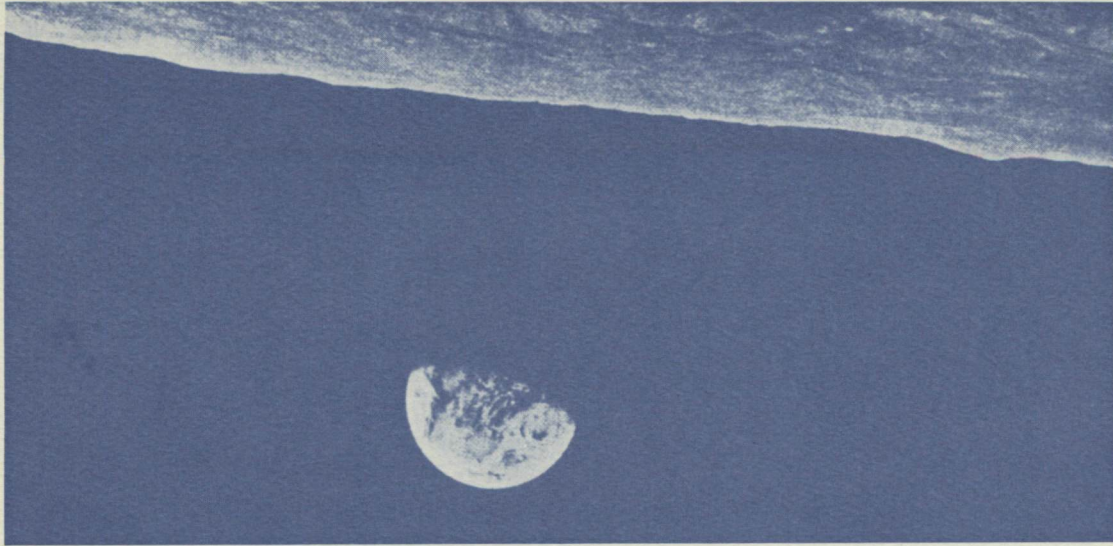
Personal Benefits

While your support and assistance helps the National Space Club to achieve its stated purpose and objectives, your association with others of the aerospace community returns many personal benefits:

- Offers an opportunity to broaden your associations in astronautics and related fields.
- Provides an opportunity to participate with others in support of our nation's space policies.
- Serves as a means of staying current with the latest activities in the field of astronautics and related sciences.
- Permits attendance to special receptions and functions in commendation of key space events.

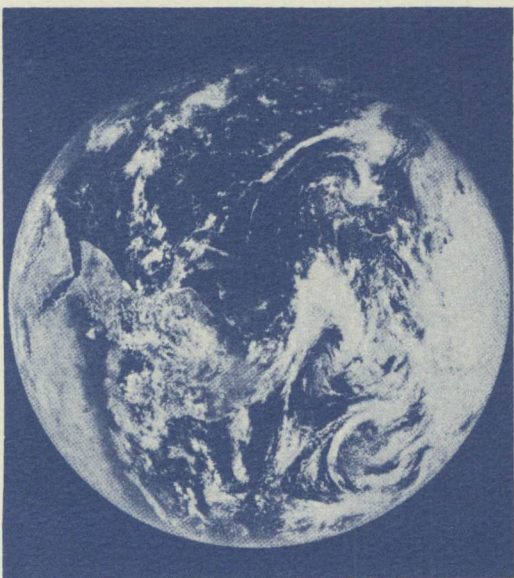
Corporate Membership

- Allows appointment of one nominee to the National Space Club Board of Governors whose names are listed on the Club's official letterhead.
- Permits nomination of ten individuals for National Space Club membership (no additional dues required).



History

The National Space Club (organized as the National Rocket Club) was founded on October 4, 1957 as a club to stimulate the exchange of ideas and information about rocketry and astronautics and to promote the recognition of United States achievements in space. The Club is a non-profit corporation composed of representatives of industry, government, educational institutions and private individuals to enhance the exchange of current information on astronautics and through them to relay it to the public at large. The Club cooperates with and helps to stimulate other organizations and individuals to advance the United States space efforts and addresses itself to the broad historical, educational and business aspects of the missile and space fields.



Activities and Objectives

Since its incorporation, the National Space Club objectives have been consistently to:

- Promote United States space leadership through conferences and other literary and educational means.
 - Stimulate the advancement of civilian and military applications of rocketry and astronautics and related technologies for the benefit of all mankind.
 - Bring together persons from the federal government, industry, educational institutions, the press, and other walks of life, for the exchange of information on rocketry and astronautics, and through them to inform the public at large.
 - Provide suitable recognition and do honor to individuals and organizations that have contributed to the advancement of rocketry and astronautics.
- To accomplish these objectives, the following activities are sponsored by the Club:
- Monthly luncheons where recognized leaders speak on timely subjects and issues.
 - The annual Goddard Memorial Dinner to honor individuals and institutions for their recognized contributions or achievements.
 - Annual National Space Outlook Conference.
 - Scholarships and awards to outstanding students to stimulate youth interest in astronautics and related sciences.
 - Special functions as dictated by specific situations and events.
 - Periodic newsletters to membership announcing Club activities and programs.

Application for Membership

Application for Membership (limited to U.S. citizens and corporations and subject to approval by the National Space Club Executive Committee).

Cost of NSC membership is \$20 for individual and \$1,600 for corporate per year. Complete this application and forward with check to:

Chairman, Membership Committee
National Space Club
655 15th Street, N.W.
Suite 300
Washington, D.C. 20005

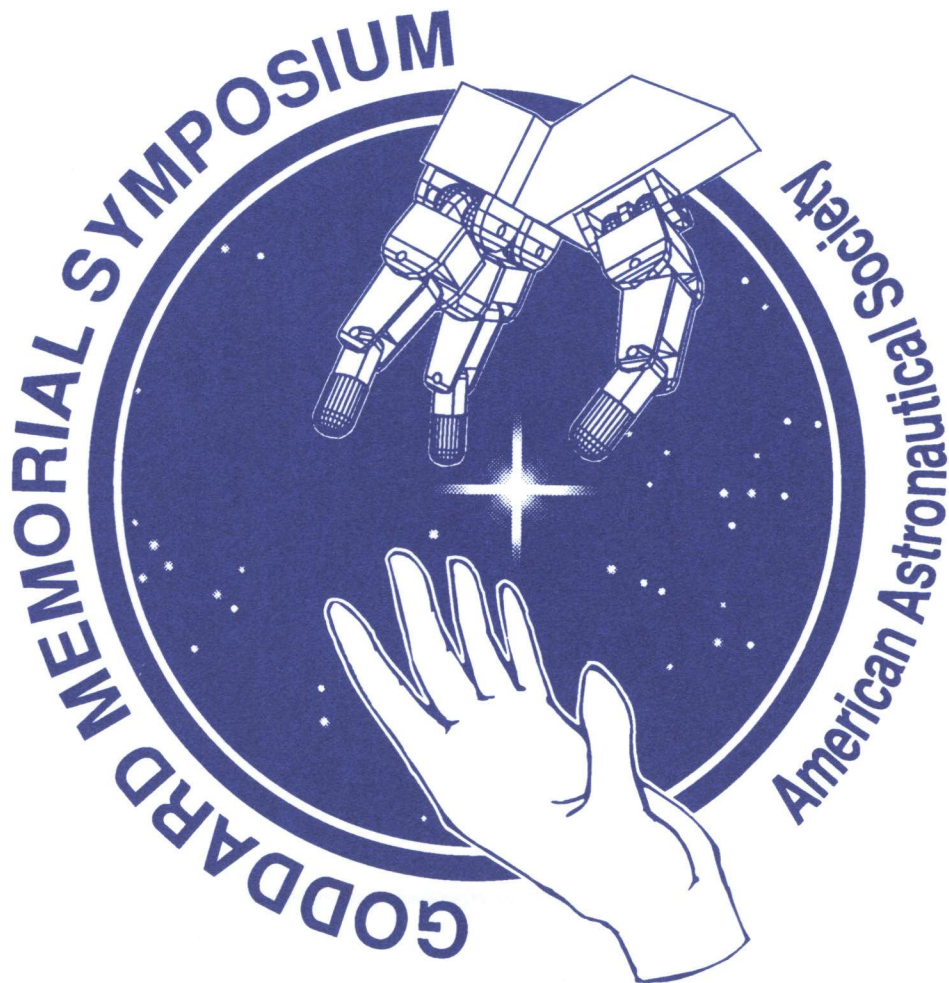
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Name _____	(Please Print)
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Type of Membership Desired	
☐ Individual at \$20 per year	
☐ Corporate at \$1,600 per year	
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Signature _____	
For Office Use Only	
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29th AAS Goddard Memorial Symposium

March 14-15, 1991, Washington Hilton Hotel, Washington, D.C.
(Student Program, March 13, 1991)

Final Program



**Humans and Machines In Space:
The Vision, The Challenge, The Payoff**



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**HUMANS AND MACHINES IN SPACE:
The Vision, The Challenge, The Payoff**

Final Program

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AMERICAN ASTRONAUTICAL SOCIETY

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29th AAS GODDARD MEMORIAL SYMPOSIUM

HUMANS AND MACHINES IN SPACE:
The Vision, The Challenge, The Payoff

As Americans prepare to go into space - to work, to live and to explore - we first must evaluate our human and machine resources. What are the capabilities, the limitations and the unknowns of humans and machines? How can the two work most effectively and productively together? What activities must be accomplished discretely, what activities are interactive/interdependent, and why?

The 29th Goddard Memorial Symposium will address these issues in the context of on-orbit, lunar and martian activities. It will offer scenarios for work environments and living habitats, describe existing and enabling technologies, and anticipate the potential payoffs, such as economic and educational gains, technological developments, U.S. leadership and competitiveness, and pragmatic readiness for a future in space.

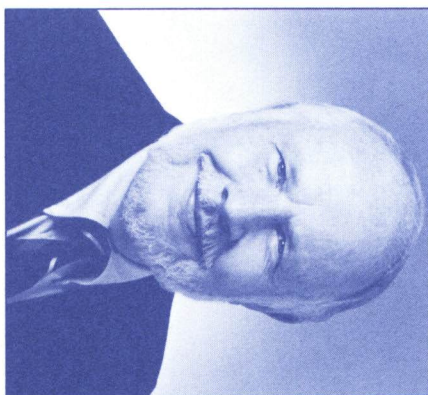
"We must commit ourselves anew to a sustaining program of manned exploration of the solar system - and yes - the permanent settlement of space. We must commit ourselves to a future where Americans and citizens of all nations will live and work in space."

- President George Bush, July 20, 1989

AAS 29th GODDARD MEMORIAL SYMPOSIUM
REGISTRATION FORM

Name (last, first) _____
Company _____
Address _____
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Phone (with area code) _____
Make your check payable to: American Astronautical Society
Mail to: American Astronautical Society
6352 Rolling Mill Place, Suite 102
Springfield VA 22152
Phone: 703-866-0020

**JOHN NOBLE WILFORD
CHAIRMAN, 29th AAS GODDARD MEMORIAL SYMPOSIUM**



John Noble Wilford is a two-time Pulitzer prizewinning writer for *The New York Times*. In his recently published book, *Mars Beckons* (1990), Mr. Wilford argues that probing Mars offers the best hope for regaining America's once formidable presence in space.

Mr. Wilford has been a space and science writer, and later an editor, since he joined *The New York Times* in 1965 as a science reporter. He was awarded the prestigious Pulitzer Prize in 1984 and again in 1987. Specializing in space science and exploration, Mr. Wilford has covered all major developments in the space program, including the Apollo moon landings, the Shuttle and unmanned missions to distant planets. He also writes extensively on paleontology, archeology and other scientific subjects.

In addition to *Mars Beckons*, Mr. Wilford also wrote the award-winning *We Reach the Moon* (1969), *The Mapmakers* (1981) and *The Riddle of the Dinosaur* (1985) and edited *Scientists at Work* (1979).

Mr. Wilford's numerous honors include the National Space Club's Press Award of 1974 and the American Association for the Advancement of Science/Westinghouse Science Writing Award of 1983. He has a B.S. degree in Journalism from the University of Tennessee/Knoxville and a M.A. degree in Political Science from Syracuse University. In 1985, he was the McGraw Distinguished Lecturer in Writing at Princeton University.

**AAS 29th GODDARD MEMORIAL SYMPOSIUM, March 13-15, 1991
REGISTRATION FEES**

Registration (includes refreshments, luncheon and reception)

Members.....	\$245
Non-member (includes one-year AAS membership).....	\$310
U.S. Government.....	\$160
Teachers, technical sessions only.....	\$ 15
Students, technical sessions only.....	\$ 5
Press (with credentials), technical sessions only.....	no charge
Luncheon (March 14) only.....	\$ 35
Reception (March 14) only.....	\$ 30

TOTAL AMOUNT ENCLOSED \$ _____

Check here if attending the free Student Program, March 13, (for students and teachers only) _____

AAS 29th GODDARD MEMORIAL SYMPOSIUM

REGISTRATION INFORMATION

WE URGE ALL PARTICIPANTS TO PRE-REGISTER TO AVOID LAST-MINUTE DELAYS. Please mail attached Registration Form. (We cannot accept registration by FAX.)

Registration

Wednesday, March 13, 1991 - Student Session
Student and teacher registration will be held in Building 3, NASA/Goddard Space Flight Center, beginning at Noon.

Thursday and Friday, March 14 and 15, 1991 - Technical Sessions
Registration will be held at the Washington Hilton Hotel, beginning at 7:30 am and continuing throughout the program.

REFUNDS will be made, less an administrative fee of \$75, PRIOR TO 5:00 PM ON FRIDAY, MARCH 8, 1991. Requests for refunds must be submitted in writing to the AAS and must be received by 5:00 pm, March 8, 1991. No refunds for registration fees, luncheon or reception will be made after 5:00 pm, March 8, 1991.

NO SHOWS WILL BE BILLED.

ALL PAYMENTS MUST BE MADE IN U.S. DOLLARS. THE AAS DOES NOT ACCEPT CREDIT CARDS.

HOTEL ACCOMMODATIONS

A block of rooms has been reserved at the Washington Hilton Hotel, Connecticut Ave. at Columbia Road, NW, Washington DC 20009. Phone 202-483-3000. Special rates are: single-\$125, double-\$145. PLEASE INDICATE THAT YOUR RESERVATION IS AFFILIATED WITH THE GODDARD DINNER/NATIONAL SPACE CLUB.

Because of the large block of rooms being held for the National Space Club's Goddard Dinner on the evening of Friday, March 15, hotel space will be limited. We urge you to make reservations well in advance.

29th AAS GODDARD MEMORIAL SYMPOSIUM

SPEAKERS

Lt. Gen. James A. Abrahamson, Hughes Aircraft Company
Gen. Spencer (Sam) Armstrong, Synthesis Group
James Beggs, Chairman, SPACEHAB, Inc.
Michael J. Boskin, Chairman, Council of Economic Advisors (invited)
Dr. D. Allan Bromley, Asst't to the President for Science & Technology
Rep. George E. Brown, Jr., Chair., Science, Space & Tech. Committee
Gus Guastafiero, Lockheed Missiles and Space Company
Donovan B. Hicks, Ball Aerospace Systems Group
Dr. Noel Hinners, Martin Marietta Corporation
Dr. Harry C. Holloway, Uniformed Services Univ. of Health Sciences
Dr. Carolyn L. Huntoon, NASA/Johnson Space Center
Brig. General Jean Klick, USAF Space Systems Division
Dr. Norman N. Li, Allied Signal Research Center
Dr. Hans Mark, Chancellor, University of Texas
Dr. Michael McGreevy, NASA/Ames Research Center
George C. Mohr, USAF School of Aerospace Medicine
Dr. Arnauld Nicogossian, NASA Headquarters
Janet Ruff, NASA/Goddard Space Flight Center
Dr. Peter Schultz, Brown University
Dr. Vladimir A. Solov'yev, Cosmonaut, USSR
Dr. Robert V. Stachnik, NASA Headquarters
Dr. Kathryn Sullivan, Astronaut, NASA/Johnson Space Center
James R. Thompson, Jr., NASA Deputy Administrator
Alvin Toffler, Author
Richard H. Truly, NASA Administrator
John Noble Wilford, *The New York Times*
Dr. Peter Wilkiss, National Science Foundation

29th AAS GODDARD MEMORIAL SYMPOSIUM

PLANNING COMMITTEE

FRIDAY, MARCH 15, 1991
TECHNICAL SESSIONS, Washington Hilton Hotel

AAS President
John A. Sand, Ball Aerospace Systems Group

Chairman
Stephan W. Fogleman, NASA Headquarters

Co-Chairman
William J. Cuneo, Jr., Motorola Strategic Electronics Division

Student Program
Stephen E. Dwornik, Ball Aerospace Systems Group

Session One
Bradley Johnson, CTA Inc.

Session Two
Gayle L. May, G. Lynwood May and Associates

Session Three
Paula Korn, Creative Consulting for the Space Program

Luncheon
W. Roger Lambertson, Lockheed Missiles and Space Company

Publicity
Sandra Lee Adamson, Center for Space and Advanced Technology

Arrangements
Carolyn F. Brown, American Astronautical Society

Registration
Sandra Hejlik, American Astronautical Society

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Advisors
Saunders B. Kramer, Department of Energy
Carol Lane, Lockheed Missiles and Space Company
Laura Lewis, Lockheed Engineering and Sciences Company
Richard S. Sade, Lockheed Engineering and Sciences Company

7:30 am Registration and Coffee

8:15 am Introductory Remarks

8:30 am SESSION III
THE PAYOFF

Chairman: Lt. Gen. James A. Abrahamson, USAF (R)
Exec. Vice President, Hughes Aircraft Company

We seek to conquer the unknowns of space because we are compelled to do so, to look beyond the known, to challenge our limitations. But to do so, the nation - its population, its economy, its politics - also must see tangible gains.

This session will discuss the anticipated outcome of our efforts to put humans and machines in space. The new science that is discovered along the way, and the technological developments that we create to get there, serve to drive the nation - the world - forward. Our monetary investment in space rewards us with even greater economic gains. Every dollar invested in space is multiplied in its returns in national output, including employment, products, procedures, technological spinoffs, etc. Societal gains are compounded similarly in industry, national leadership and international competitiveness.

Presentations: New Science
Impact on Education
Economic Impact
Impact on Society

Closing Remarks

12:30 pm Adjournment

THURSDAY, MARCH 14, 1991

TECHNICAL SESSIONS, Washington Hilton Hotel

2:00 pm

**SESSION II
THE CHALLENGE:
Enabling and Enhancing Human Performance
in Space**

Chairman: James R. Thompson, Jr.
NASA Deputy Administrator

The challenge of how and when we can achieve extended operations in space is determined primarily by recognizing and designing for the strengths and limitations of humans and machines in space.

Assuming the dominance and initiative capabilities of human beings, machines then serve as a multiplier of our basic abilities. Consequently, we create machines to carry out the tasks that machines do best, allowing people to manage and operate these systems and to pursue rational and imaginative thinking and actions. Through discussion and presentation in two panel formats, we will review the means by which we expect to accomplish the objectives of extended space operations.

Panels: Meeting Human Needs
Dr. Arnould Nicogossian, moderator

Living and Working in Space
Gus Guastaferro, moderator

Student Paper Presentation

6:00 pm

Reception, Washington Hilton Hotel

WEDNESDAY, MARCH 13, 1991

**STUDENT PROGRAM
NASA/Goddard Space Flight Center**

This special afternoon session is limited to the attendance of students and teachers. The program will highlight current space activities of the Federal government, private industry and academia. Following a panel presentation, students and teachers will have an opportunity to participate in detailed discussions within a discipline of choice.

While there is No Charge for this Student Program, ALL PARTICIPANTS MUST PRE-REGISTER, USING THE REGISTRATION FORM WITHIN THIS BROCHURE.

NOON Registration

1:00-4:00 pm STUDENT PROGRAM

Chairman: Stephen E. Dwornik
Ball Aerospace Systems Group

Panel: CIVIL SPACE/FEDERAL
Dr. Robert V. Stachnik
NASA Headquarters
Janet Ruff
NASA/Goddard Space Flight Center

INDUSTRY
Mr. Donovan B. Hicks
Ball Aerospace Systems Group

MILITARY
Brigadier General Jean Klick
USAF Space Systems Division

ACADEMIA
Dr. Peter Schultz
Brown University

THURSDAY, MARCH 14, 1991

TECHNICAL SESSIONS, Washington Hilton Hotel

7:30 am Registration and Coffee

8:30 am Welcoming Remarks

John A. Sand
President, American Astronautical Society

John Noble Wilford
Chairman, 29th Goddard Memorial Symposium

9:00 am Keynote Address

Richard H. Truly
NASA Administrator

9:30 am

SESSION I
THE VISION:

The Future of Humans and Machines in Space

Chairman:

James Beggs
Chairman of the Board, SPACEHAB, Inc.

This session will offer an overview of future plans for the space program, defining the activities envisioned in space, the environment for these activities, and scenarios for people and machines in space.

Presentations: Future Directions and Thrusts in Space

The Space Environment
Synergistic Relationships Between People and
Machines

NOON

Luncheon, Washington Hilton Hotel

Speaker: Honorable George E. Brown, Jr.

AAS Awards Presentation

THURSDAY, MARCH 14, 1991

LUNCHEON SPEAKER:
Congressman George E. Brown, Jr.



A Democratic Representative from Riverside CA, George Brown is chairman of the House Science, Space and Technology Committee. He was elected to the House in 1972, after serving a first term 1962-70. He also was a California State Assemblyman (1958-62), Mayor of Monterey Park (1955-56) and a member of the Monterey Park City Council (1954). During World War II he served in the U.S. Army as an infantry officer (1944-46).

During the past 26 years, Rep. Brown has pursued a wide range of interests, with an emphasis on science and technology policy, alternative energy development, space policy and environmental protection. His leadership led him to the creation in 1972 of the Office of Technology Assessment and, in 1976, of the Office of Science and Technology Policy. He has served as a member of OTA's governing body, the Technology Assessment Board, since its inception.

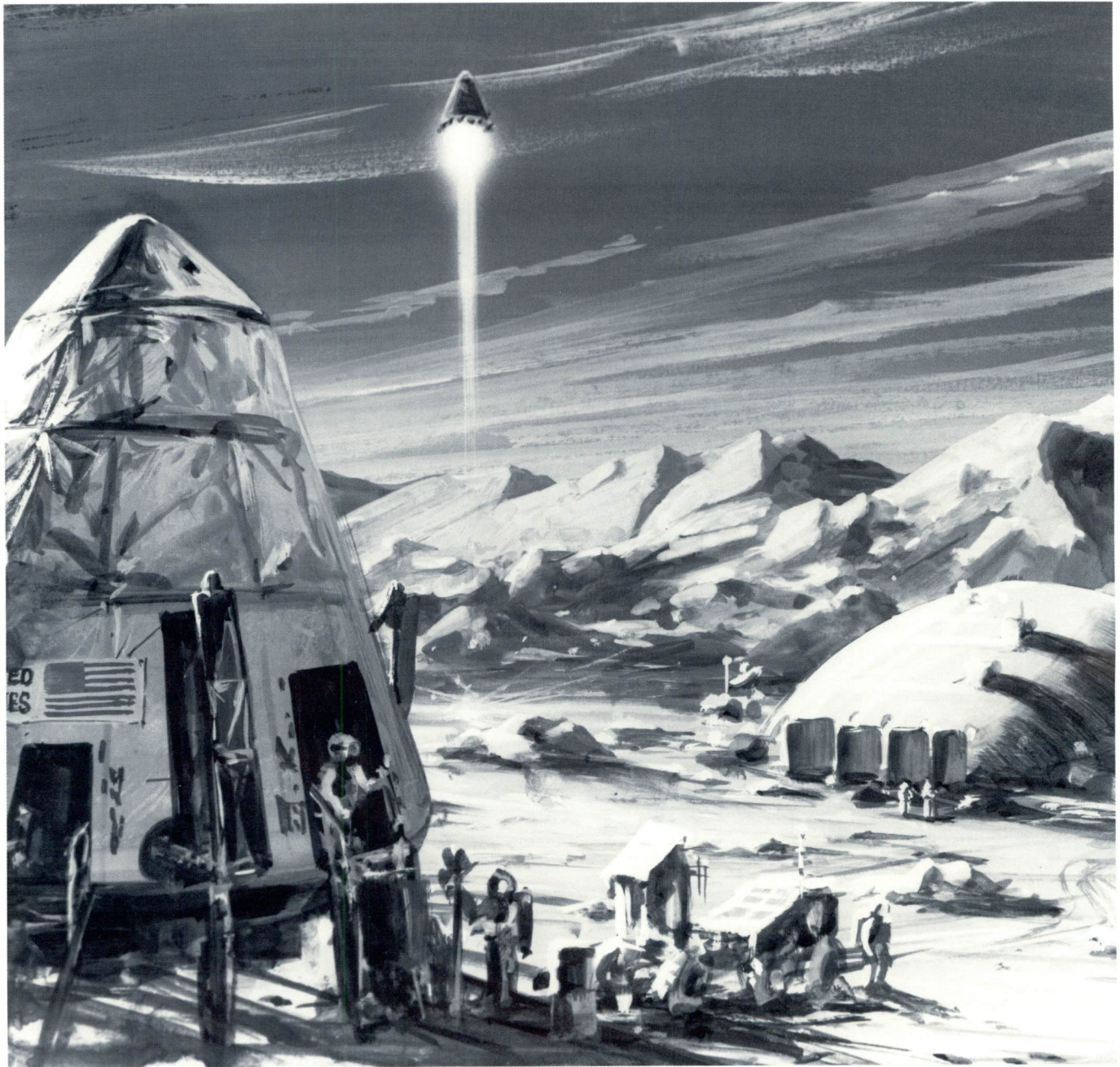
Rep. Brown has chaired the Subcommittee on the Environment and the Atmosphere (1975-78), Subcommittee on Science, Research and Technology (1979-80) and Subcommittee on Transportation, Aviation and Materials (1985-86). He served on the House Permanent Select Committee on Intelligence and also chaired the Subcommittee on Education and Training of the Veteran's Affairs Committee and the Agriculture Committee's Department Operations, Research and Foreign Agriculture Subcommittee. Presently, he is a senior member of the Agriculture Committee.

Rep. Brown is a native of California. He received a degree in Industrial Physics from UCLA where he received a Ford Foundation grant for some of his graduate work in physics, industrial relations, adult education and political science.



33rd Annual Goddard Memorial Dinner

Rebirth of America's Space Program





Welcome to this memorial dinner that honors the founder of United States rocketry. If Dr. Goddard could be with us today, he would be proud indeed: not just because his inventions have led to grand achievements in space, but also because our country can now boast a rebirth of its space program.

For many years, America's commitment to space seemed weakened—even as other nations strove feverishly to develop their launch and payload capabilities. During this painful period, we in the space community struggled to restore a space-conscious America, with its former leadership, prestige, and ability to exploit the benefits of space for the people of earth.

We're on our way back. Shuttles are flying, and we now have a mixed fleet of expendable launch vehicles. Government and industry are pledged to move forward with scientific, military, and commercial missions. The president's budget asks for more money for NASA's programs and continued support for strategic space activities. The National Space Council, chaired by the vice president, gives our country top-level authority to assess our needs, set goals, and implement a space policy to direct us well into the next century.

Space science is back in business. Next month, the Shuttle Discovery will carry into orbit the Hubble Space Telescope, the first of NASA's four great observatories that will give scientists a clear view in all wavelengths of the universe. We have Magellan on its way to radar-map the planet Venus, and Galileo has taken a slingshot route to Jupiter for a two-year study of the Jovian system. Ulysses, set to go next October, will orbit the sun for a first look at areas not seen from earth. The Cosmic Background Explorer, launched by an expendable rocket, is allowing us to study radiation which some scientists believe is left over from the beginning of the universe.

Unmanned science missions are only part of it. Space Station Freedom, long on standby, is now being designed as the United States works with its partners in Europe, Japan, and Canada. And last July, on the 25th anniversary of our first moon landing, President Bush announced plans for America's return to the lunar surface, followed by a manned mission to Mars.

With the resurgence of space exploration comes a renewed focus on the Mission to Planet Earth. Critical to this mission is NASA's Earth Observing System, strongly supported by environmental scientists and destined to move forward with this year's boost in funding. Our revitalized concentration on the earth and its climate will rely heavily on the National Oceanic and Atmospheric Administration, which is expanding its many years of success with weather satellites.

These major happenings, and others, confirm America's renaissance in space. With both the government and the private sector deeply involved, our country can now accept the challenge posed by other nations in a spirit of competitiveness and cooperation. Most important, our emphasis on technology transfer—from space to earth—promises even greater rewards for future generations.



J. Warner



Dr. Robert H. Goddard

Aiming a Bit Higher

More than a year before Charles Lindbergh made his historic airplane flight from New York to Paris, Dr. Robert H. Goddard, a young professor of physics, fired the world's first liquid-fuel rocket. Goddard's achievement on March 16, 1926, received little recognition, and he was even labeled "moon mad" by skeptics, but he knew that the range of human travel would someday extend far beyond the earth's atmosphere.

Space flight had been Goddard's preoccupation since his early teens, and his later work at the Worcester (Massachusetts) Polytechnic Institute and Clark University convinced him that rockets could efficiently power a space vehicle. In 1919, his theories and experiments attracted the attention of the Smithsonian Institution, which published his report, "A Method of Reaching Extreme Altitudes," and provided funds for his rocket research.

After the success of his liquid-fuel rocket, Dr. Goddard continued to develop concepts and techniques that would not be fully appreciated for another 30 years. With the support of Clark University and the Guggenheim Foundation, he demonstrated that rockets operated better in a vacuum than in the atmosphere, and he developed the theory of multistage rockets as a means of reaching the moon.

During World War II, Dr. Goddard served as the Director of Research, Bureau of Aeronautics for the Navy, developing variable-thrust rockets and jet-assisted take-off devices. At the time of his death in 1945, he had been awarded 214 patents, and he truly laid the foundation for today's space developments. He is aptly described as "the father of U.S. rocketry," and in his honor, the Goddard Space Flight Center was dedicated by NASA in 1962.



Agenda

Introduction of Distinguished Guests

James F. Kukowski
NASA

Invocation

Major General Norris L. Einertson
Chief of Chaplains, United States Army

Presentation of Colors

Joint Armed Forces Color Guard

Welcoming Remarks

W. Cooper Scott, III
President, National Space Club

Master of Ceremonies

Major General Robert R. Rankine, Jr.
United States Air Force

Keynote Speaker

Peter Hackes

Presentation of National Space Club Awards

The Dr. Robert H. Goddard Historical Essay Award
The Olin E. Teague Memorial Scholarship
The Dr. Robert H. Goddard Scholarship
The Dr. Hugh L. Dryden Memorial Science Fellowship
The Dr. George M. Low Memorial Engineering Fellowship
The National Space Club Space Educator Award
The National Space Club Media Award
The Eagle Manned Mission Success Award
The Astronautics Engineer Award
The National Space Club Science Award
The Nelson P. Jackson Aerospace Award
The Dr. Robert H. Goddard Memorial Trophy

Closing Remarks

Dinner and Dancing

The Starlite Orchestra

Music

The United States Air Force Band

March 16, 1990

Honored Guests

Dr. Mark J. Albrecht
National Space Council

Edward C. Aldridge, Jr.
*McDonnell Douglas Electronics
Systems Company*

Dr. Lew Allen, Jr.
*Jet Propulsion Laboratory
California Institute of Technology*

John J. Ballance
National Space Club

Howard Benedict
Associated Press

Frank Benz
The NASA White Sands Test Facility

RADM Thomas C. Betterton
United States Navy

Jeannette Campbell
University of South Florida

LGEN Donald L. Cromer
United States Air Force

MGEN Louis Del Rosso
United States Army

Dr. Russell De Young
NASA Langley Research Center

MGEN Norris L. Einertson
United States Army

The Honorable Martin C. Faga
United States Air Force

Dr. Craig I. Fields
*Defense Advanced Research
Projects Agency*

Eric Flescher
Shawnee Mission West High School

Dr. Herbert Friedman
Naval Research Laboratory

RADM David E. Frost
United States Navy

Howard Gabel
The NASA White Sands Test Facility

Christy Lynn Gagnon
Chopticon High School

The Honorable John Glenn
United States Senate

RADM R.G. Guilbault
United States Navy

Peter Hackes

LGEN Robert D. Hammond
United States Army

CAPT Frederick H. Hauck
United States Navy

Dr. Martin O. Harwit
*National Air and Space Museum
Smithsonian Institution*

E. Larry Heacock
American Astronautical Society

The Honorable John A. Knauss
*United States Department
of Commerce/NOAA*

John W. Lent
*National Space Club Scientific &
Educational Foundation*

COL Lester L. Lyles
United States Air Force

Stephanie Lee Miller
*United States Department
of Transportation*

LGEN George L. Monahan, Jr.
United States Air Force

Dr. Ronald A. Outlaw
NASA Langley Research Center

Mike Plaster
The NASA White Sands Test Facility

Thomas N. Pyke, Jr.
*United States Department
of Commerce/NOAA*

GEN Bernard P. Randolph
United States Air Force

MGEN Robert R. Rankine, Jr.
United States Air Force

W. Cooper Scott, III
Aerojet ElectroSystems

Joel Stoltzfus
The NASA White Sands Test Facility

Dr. Edward C. Stone
California Institute of Technology

Dr. Ralph Tapphorn
The NASA White Sands Test Facility

The Honorable James R. Thompson, Jr.
*National Aeronautics
and Space Administration*

The Honorable Richard H. Truly
*National Aeronautics
and Space Administration*

VADM Jerry O. Tuttle
United States Navy

Craig B. Waff
Jet Propulsion Laboratory

The Dr. Robert H. Goddard

Historical Essay Award

Established by the National Space Club in 1962, the Dr. Robert H. Goddard Historical Essay Award is made annually to the winner of a national competition in essays of a historical nature on rocketry and astronautics. The award, first of its kind, carries a \$1,000 prize and a plaque. Authors must be citizens of the United States. Entries are judged on originality, scholarship, and contributions to recorded history.

1990 Co-recipient

Edward C. Aldridge, Jr.

Citation

For his essay: "Assured Access: The Bureaucratic Space War."

1990 Co-recipient

Craig B. Waff

Citation

For his essay: "Planetary Exploration at the Brink: The Administration Debate Over the FY1983 NASA Budget."

Award Committee

Frederick C. Durant, III, Chairman
Astro Associates

Dr. Tom D. Crouch
National Air and Space Museum

Dr. Sylvia Fries
National Aeronautics and Space Administration

John M. Logsdon
George Washington University

Frederick I. Ordway, III
Author/Historian

Previous Recipients

R. Cargill Hall (1963, 1964)
John Tascher (1965)
Airman 2/c Frank H. Winter (1966)
Ensign Richard A. Hobbs, USN (1967)
No Award (1968)
Mitchell R. Sharpe (1969)
John M. Logsdon and
Frank H. Winter (1970)
No Award (1971)
Albert B. Christman (1972)
Barton C. Hacker (1973)
Norris S. Hetherington and
James A. Malloy, Jr. (1974)
Captain James E. Oberg, USAF (1975)
Mitchell R. Sharpe (1976)
Captain James E. Oberg, USAF (1977)
Dr. Roger E. Bilstein (1978)
Paul Hanle and William A. Ziglar (1979)
Dr. Richard P. Hallion (1980)
Stephen E. Doyle and
Pamela E. Mack (1981)
David Dooling (1982)
No Award (1983)
William David Compton (1984)
Sallie Birket Chafer (1985)
James R. Hansen (1986)
No Award (1987)
Virginia P. Dawson and
Michael Aaron Dennis (1988)
No Award (1989)

The Olin E. Teague

Memorial Scholarship

This award was established in 1981 by the Executive Committee of the National Space Club to recognize an outstanding graduating high school student who intends to pursue higher education in science and technology. The scholarship is awarded in the memory of the late Congressman Olin E. Teague of Texas, a distinguished member of the United States House of Representatives for more than three decades. As Chairman of the House Committee on Science and Technology during the 1970s, he was a powerful influence in the molding of public policy in support of America's space program. The grant of \$2,000 is accompanied by a plaque.

1990 Recipient

Christy Lynn Gagnon
Chopticon High School

Citation

For her performance at the Naval Air Test Center, Patuxent, Maryland, and the creation of flight fidelity test procedures to be used by qualified pilots and engineers on operational flight trainers and other aircraft.

Award Committee

Professor Marilyn Krupsaw, Chairman
George Washington University

Elva Bailey
NASA Goddard Space Flight Center

Donald A. Beattie
Consultant

Mrs. Olin E. Teague

Previous Recipients

Kathryn Partridge (1981)
Sophia Robinson (1982)
Thomas Maufer (1983)
Stephen William Rupp (1984)
Marcus Q. Mitchell (1985)
Virginia Felton (1986)
William Oliver Glascoe, III (1987)
Johanna Marie Ramos (1988)
Eric J. Brown (1989)

The Dr. Robert H. Goddard Scholarship

This award was established in 1960 by the Board of Governors of the National Space Club to stimulate the interest of talented students in the opportunity to advance scientific knowledge through space research and exploration. The grant of \$7,500 is made to the university of the recipient's choice, for use by the student, who must be in at least his junior year and have definite plans to pursue undergraduate or postgraduate studies in science or engineering during the interval of the scholarship. A plaque is also included in the award.

1990 Recipient

Jeannette Campbell
University of South Florida

Citation

For her academic achievements and dedicated pursuit of a career in space exploration that combines science, biomedical engineering and medicine.

Award Committee

Stephen E. Dwornik, Chairman
Ball Aerospace Systems Group

Dr. Duwayne Anderson
Texas A&M University

Daniel H. Herman
Consultant

Kathryn S. Schmoll
*National Aeronautics and Space
Administration*

Previous Recipients

Allen M. Lencheck (1961, 1962)
Marcia S. Miner (1963)
Robert P. Walker (1964)
Willard M. Cronyn (1965)
Benjamin N. Early (1966)
Joseph E. Ciotti (1967)
Dorian A. Demaio (1968)
C. Ronald Ames (1969)
James T. Johnson (1970)
Randy A. Roig (1971)
Whitney V. Myers (1972)
David O. Starr (1973)
Rosemarie Szostak (1974)
Alice K. Babcock (1975)
David Walker Thompson (1976)
Robert L. Staehle (1977)
Rex W. Ridenoure (1978)
Kathleen C. Howell (1979)
Kai John Baumann (1980)
Neil K. Jablon (1981)
Stephanie Anne Gajar (1982)
Richard S. Wallace (1983)
Shelley J. Bougan (1984)
Scott Thomas (1985)
James Evans Lyne (1986)
Eric J. Gaidos (1987)
H. Paul Shuch (1988)
Daniel M. Janes (1989)

Science Fellowship



This award was established in 1966 by the Board of Governors of the National Space Club to provide for the further education, beyond the bachelor level, of a deserving individual in one of the scientific disciplines. The fellowship is awarded in memory of Hugh L. Dryden who, during his distinguished career in government service, played a uniquely important role in the development of science-based technology, employing his remarkable personal gifts as a fundamental scientist, engineer, and public administrator. This \$2,000 fellowship grant was first given to Johns Hopkins University, Dr. Dryden's alma mater, for a worthy recipient of the school's choice. In subsequent years, the fellowship has been awarded to a career NASA employee to attend an institution of his choice.

1990 Recipient

Dr. Ronald A. Outlaw
NASA Langley Research Center

Citation

For outstanding research in materials science, low pressure physics and gas-surface interactions.

Award Committee

Frank R. Hammill, Jr., Chairman
Attorney at Law

Thomas H. Brownell
GE Aerospace

John L. Herre
Grumman Corporation

Previous Recipients

Harry L. Swinney (1966)
James Sacra Albus (1967)
Leon H. Touns (1968)
Richard J. Allen (1969)
Herbert B. Quinn, Jr. (1970)
Wallace Deckert (1971)
C. Thomas Snyder (1972)
Palmer Dyal (1973)
John W. Edwards (1974)
Bruce F. Smith (1975)
Wayne H. McCoy (1976)
James Phillips (1977)
Ming H. Tang (1978)
Dr. Dallas G. Denery (1979)
Dr. Sanford S. Davis (1980)
Dr. Sherwood Chang (1981)
Dr. Rodger A. Cliff (1982)
Dr. Dennis A. Johnson (1983)
Dr. Young-chung Cho (1984)
Dr. Larry L. Erikson (1985)
Dr. Melvin D. Montemerlo (1986)
Colleen N. Hartman (1987)
Dr. John H. Cantrel (1988)
Dr. John E. Lamar (1989)

The Dr. George M. Low Memorial

Engineering Fellowship

This award was established by the Board of Governors of the National Space Club in 1989, and is granted for the first time this year. The purpose of the award is to provide for the further education, beyond the bachelor level, of a career NASA employee engaged in one of the engineering disciplines. The fellowship of \$2,000 is awarded in the memory of Dr. George M. Low whose distinguished career began at the Lewis Research Center in 1949. Dr. Low rose to become Deputy Administrator of NASA in 1969, a position he held until his retirement in 1976.

1990 Recipient

Dr. Russell De Young
NASA Langley Research Center

Citation

For significant research on laser concepts for space application.

Award Committee

Frank R. Hammill, Jr., Chairman
Attorney at Law

Thomas H. Brownell
GE Aerospace

John L. Herre
Grumman Corporation

The National Space Club

Space Educator Award

This award was established in 1982 by the Executive Committee of the National Space Club, at the suggestion of and with support from Dr. Glen P. Wilson, to recognize the importance of the secondary school teacher in motivating and guiding high-school students toward study and careers in space science and technology. The award will help to enhance and support the National Science Teachers Association/National Aeronautics and Space Administration's Space Science Student Involvement Project by selecting a teacher who has advised and helped a national student winner in that program. The award includes a foundation grant of \$1,500 and plaque to the recipient and a plaque to the teacher's school.

1990 Recipient

Eric Flescher
Shawnee Mission West High School
Shawnee Mission, Kansas

Citation

For his outstanding achievements in motivating and guiding secondary school students toward study and careers in space science and technology.

Award Committee

Dr. Kerry M. Joels, Chairman
Aerospace Consultant

Dr. T. Stephen Cheston
Geostar Messaging Corporation

Gregory P. Kennedy
Space Center, International Space
Hall of Fame

Richard Methia
Challenger Center for Space Science
Education

Dr. Glen P. Wilson, Senior Advisor
National Space Society

Previous Recipients

Cheryl L. Mason (1983)
David W. McKay (1984)
Melodye A. Garner (1985)
Sister Mary Carroll McCaffrey (1986)
Judith M. Lachvayder (1987)
Lynne Zielinski (1988)
Ken Bingman (1989)

Media Award

The National Space Club believes the American people are entitled to full and frank disclosure of all aspects of the U.S. space program, limited only by the genuine requirements of national security. One of the organization's principal objectives has been to stimulate the dissemination of information concerning rocketry, astronautics and related aspects of space. The award seeks to further this objective. The award is presented annually in recognition of an individual who has added significantly to public understanding and appreciation of astronautics and its impact upon our nation and all mankind.

1990 Recipient

Howard Benedict
Associated Press

Citation

For his outstanding effort to create a better public understanding of the nation's space program — its past, its present, and its future.

Award Committee

James C. Elliott, Chairman
National Aeronautics and Space Administration

Bob Bishop
Contel Federal Systems

Gene Guerny
National Aeronautics and Space Administration

Harry Kolcum
Aviation Week

Bud Littin
National Oceanic & Atmospheric Administration

Montye Male
TRW

Carl Posey
Time-Life Books

Previous Recipients

Edward R. Murrow (1961)
The New York Times (1962)
The Radio Television Industry (1963)
The Editors and Staff of *Fortune* (1964)
Aviation Week & Space Technology (1965)
William P. Taub, NASA (1966)
William J. Coughlin (1967)
Edward C. Welsh (1968)
Evert Clark, *Newsweek* (1969)
Thomas O'Toole, *The Washington Post* (1970)
Kenneth F. Weaver, *National Geographic* (1971)
Howard Benedict, *Associated Press* (1972)
Ralph Morse, *Life Magazine* (1973)
John N. Wilford, *The New York Times* (1974)
Roy Neal, *National Broadcasting Company* (1975)
Marvin Miles, *The Los Angeles Times* (1976)
John Hannifin, *Time, Inc.* (1977)
John F. Loosbrock (1978)
Al Rossiter, Jr., *United Press International* (1979)
David Dooling, *The Huntsville Times* (1980)
Time Magazine (1981), (1982)
Cable News Network (1983)
Craig Covault, *Aviation Week & Space Technology* (1984)
William H. Gregory, Editor-in-Chief and Staff,
Aviation Week & Space Technology (1985)
C.W. Borklund, Publisher and Editor-in-Chief,
Government Executive Magazine (1986)
James J. Haggerty, *Aerospace Magazine*
and *NASA Spin Off Annual* (1987)
Jack Anderson (1988)
Craig Covault, *Aviation Week & Space Technology* (1989)

Success Award

This award was established in 1984 through a gift to the National Space Club Scientific and Educational Foundation by International Technology Underwriters in honor of the heroism and achievements of the STS Mission 51-A astronauts in recovering two failed satellites, Palapa B-2 and Westar VI.

The award is presented annually in recognition of the individual, or group of specifically named individuals, who by direct involvement in mission development, preparation, or execution, has made a significant contribution to U.S. manned space flight mission success during the previous year.

Each award this year is accompanied by a stipend of \$2,000.

1990 Recipients

White Sands Test Facility Hazards Assessment Team
Frank Benz
National Aeronautics and Space Administration
Howard Gabel
Lockheed Engineering & Sciences Company
Mike Plaster
Lockheed Engineering & Sciences Company
Joel Stoltzfus
National Aeronautics and Space Administration
Dr. Ralph Tapphorn
Lockheed Engineering & Sciences Company

Citation

For outstanding contributions in assessing explosion and combustion hazards associated with manned space flight.

Award Committee

Pat A. Scott, Chairman
IBM Systems Integration Division

James W. Barrett
International Technology Underwriters

John P. Fredericks
McDonnell Douglas Corporation

T. Jack Lee
NASA Marshall Space Flight Center

Donald R. Puddy
NASA Johnson Space Center

David M. Walker
Astronaut (Crew member STS 51-A)

Paul J. Weitz
NASA Johnson Space Center

Previous Recipients

Commander Dale A. Gardner
National Aeronautics and Space Administration
and Jeremiah O. Salvatore
Hughes Aircraft Company (1985)
Jenny M. Howard, Tommy C. Lacefield
and Brian D. Perry
NASA Johnson Space Flight Center (1986)
Challenger Center for Space Science
Education (1987)
No Award (1988)
Keith D. Coates
NASA Marshall Space Flight Center
John C. Fairey
NASA Kennedy Space Center
Jack Knight
NASA Johnson Space Center
Bernard J. Rosenbaum
NASA Johnson Space Center
John W. Thomas
NASA Marshall Space Flight Center
Louis J. Ullian
Air Force Eastern Space and Missile Center (1989)

Engineer Award

Established in 1959 to provide annually for the recognition of a space engineer who has made the outstanding personal contribution to the national space program in the field of engineering or engineering management.

1990 Recipient

Colonel Lester L. Lyles
United States Air Force

Citation

For his individual leadership in helping the nation return to space following the Space Shuttle Challenger accident, playing a key role in the revitalization and acquisition of the launch vehicle program that will form the backbone of our unmanned launch capability and ensure U.S. access well into the next decade.

Award Committee

Norman L. Baker, Chairman
Phillips Publishing, Inc.

Aaron Cohen
NASA Johnson Space Center

LGEN Donald L. Cromer
United States Air Force

T.J. Lee
NASA Marshall Space Flight Center

Henry O. Pohl
NASA Johnson Space Center

GEN Bernard P. Randolph
United States Air Force

Previous Recipients

Robert F. Hoelker (1959)
Richard C. Canright (1960)
William J. O'Sullivan (1961)
William G. Stroud (1962)
Jack Norval James (1963)
Harold A. Rosen and
Donald D. Williams (1964)
Harris M. Schurmeier (1965)
Charles W. Mathews (1966)
Robert J. Helberg (1967)
Howard H. Hoglund (1968)
LGEN Samuel C. Phillips, USAF (1969)
George M. Low (1970)
Rocco A. Petrone (1971)
Dan Schneiderman (1972)
Wilfred E. Scull (1973)
William C. Schneider (1974)
John M. Thole (1975)
Bruce T. Lundin (1976)
James S. Martin, Jr. (1977)
MGEN John W. Hepfer, USAF (1978)
Charles F. Hall (1979)
William R. Schindler (1980)
John R. Casani, Raymond L. Heacock,
and Harris M. Schurmeier (1981)
Dr. Christopher C. Kraft, and
George W. Jeffs (1982)
Dr. Maxime Faget (1983)
MGEN Bernard P. Randolph (1984)
BGEN Donald J. Kutyna (1985)
James E. Kingsbury (1986)
COL Ellison Onizuka (1987)
James B. Odom (1988)
Henry O. Pohl (1989)

Science Award

This award was established in 1986 by the Executive Committee of the National Space Club in recognition of the role that scientists and scientific investigations in space have played in advancing the goals of the United States space program. The award may be presented annually in recognition of the individual or group of specifically named individuals whose efforts have resulted in a significant contribution to space sciences programs of the United States.

1990 Co-recipient

Dr. Herbert Friedman
Naval Research Laboratory

Citation

In recognition of his many contributions to seminal research in space science, particularly in the fields of X-ray astronomy and solar-terrestrial physics, and of his national and international leadership particularly through the conception and planning of the International Geosphere Biosphere Program and the activities of COSPAR as an international forum for scientific communication.

1990 Co-recipient

Dr. Edward C. Stone
California Institute of Technology

Citation

In recognition of his significant contributions to the space sciences through the conception, implementation and analysis of data from scientific investigations conducted in the space environment; and by his leadership of the Voyager science team as Project Scientist and his eloquence as a spokesman for that team to the media and the public at large.

Award Committee

Joseph K. Alexander, Chairman
National Aeronautics and Space Administration

Dr. Martin Harwit
*National Air and Space Museum
Smithsonian Institution*

Dr. James Head
Brown University

Louis J. Lanzerotti
AT&T Bell Laboratories

Previous Recipient

Professor Thomas M. Donahue (1989)

Aerospace Award

The recipient of the award is selected annually by the National Space Club from the aerospace industry, the selected firm having been responsible during the preceding year for an outstanding contribution to the missile, aircraft, and space fields. The award is a memorial to the late Nelson P. (Pete) Jackson, one of the founders and past president of the National Space Club.

1990 Recipient

NASA/Jet Propulsion Laboratory
Government-Industry Voyager Telemetry
Array Team

Citation

For the successful arraying of the NASA Goldstone Deep Space Network antennas and the NSF National Radio Astronomy Observatory Very Large Array to enhance Voyager's data return from Neptune.

Award Committee

Charles J. Tringali, Non-Voting Chairman
Lockheed Missiles & Space Company

LGEN James A. Abrahamson
United States Air Force (Retired)

Michael Collins
Aerospace Consultant

Craig Covault
Aviation Week & Space Technology

Hugh Downs
National Space Society

The Honorable Robert A. Frosch
General Motors Research Labs

The Honorable Frank E. Moss
Moss & Wilkins

The Honorable Harrison H. Schmitt
Aerospace Consultant

Previous Recipients

The United States Air Force and the
Discoverer Satellite Industrial Team:
Bell Aerospace Company, Douglas
Aircraft Company, General Electric
Company (1960)

Lockheed Aircraft Corporation and
Rocketdyne Division of North
American Aviation (1961)

Astro-Electronics Division, Radio
Corporation of America (1962)

American Telephone & Telegraph
Company (1963)

General Dynamics Astronautics Division
and McDonnell Aircraft Corporation (1964)

United Aircraft Corporation (1965)

The NASA-Air Force-Industry Team (1966)

The Boeing Company (1967)

Hughes Aircraft Company (1968)

North American Rockwell (1969)

The Grumman Corporation (1970)

NASA-NOAA Space Technology Team (1971)

The Boeing Company (1972)

General Electric Company (1973)

The Pioneer 10 Team: TRW Systems and
the NASA Ames Research Center (1974)

NASA-Fairchild Industries ATS-6 Team (1975)

The Delta Launch Vehicle Team of NASA
and McDonnell Douglas Astronautics
Company (1976)

Martin Marietta Corporation (1977)

The TRW Defense and Space
Systems Group (1978)

The Pioneer Venus Team: Hughes
Aircraft Company and the NASA
Ames Research Center (1979)

The Jet Propulsion Laboratory-
Industry Team (1980)

The NASA-Industry Centaur Team:
Convair Division of General
Dynamics Corporation, Honeywell, Inc.,
NASA Lewis Research Center,
Pratt and Whitney Aircraft Group,
United Technologies Corporation,
Teledyne Systems Company (1981)

The Industrial Team led by Rockwell
International Corporation under
NASA direction (1982)

The McDonnell Douglas
Astronautics Company (1983)

The IRAS Industry Team (1984)

Martin Marietta Corporation (1985)

The NASA Johnson Space Center-
Hughes LEASAT Salvage Team (1986)

Jet Propulsion Laboratory and the
Voyager Industry Project Team (1987)
NASA/NOAA Ozone Research
Program (1988)

The McDonnell Douglas Astronautics
Company-DOD-NASA-Johns
Hopkins Applied Physics Laboratory
Delta 181 Mission Project Team (1989)

The Dr. Robert H. Goddard

Memorial Trophy

The recipient of this award is selected annually for great achievement in advancing space flight programs contributing to United States leadership in astronautics. The trophy, premier award of the National Space Club, was established in 1958 and is presented each year at the Goddard Memorial Dinner. The permanent trophy is a half-life-size bust of Dr. Goddard, sculpted in bronze and mounted on a marble base.

1990 Recipient

Dr. Lew Allen, Jr.
Jet Propulsion Laboratory
California Institute of
Technology

Award Committee

The Board of Governors of the
National Space Club
(voting by secret ballot)

Previous Recipients

Wernher von Braun (1958)
S.K. Hoffman (1959)
Karel J. Bossard (1960)
Lockheed Missiles and Space Company (1961)
Robert R. Gilruth (1962)
Lt. Col. John H. Glenn, Jr. USMC (1963)
Hugh L. Dryden (1964)
William H. Pickering (1965)
The Honorable Lyndon B. Johnson (1966)
The Honorable George P. Miller (1967)
The Honorable Robert C. Seamans, Jr. (1968)
Apollo 8 Astronauts (1969)
Apollo 11 Astronauts (1970)
The Honorable James E. Webb (1971)
The Honorable Clinton P. Anderson (1972)
The Honorable George M. Low (1973)
The Honorable Olin E. Teague (1974)
The Skylab Astronauts (1975)
The Honorable Frank E. Moss (1976)
Viking Project Team (1977)
Dr. Charles Stark Draper (1978)
Dr. Christopher C. Kraft, Jr. (1979)
The NASA/JPL Voyager Project Team (1980)
The NASA/JPL Voyager Project Team (1981)
The Crew for STS 1 and 2 (1982)
John F. Yardley (1983)
The Honorable Don Fuqua (1984)
The Honorable Ronald W. Reagan (1985)
Lt. Gen. James A. Abrahamson, USAF (1986)
The Honorable Edward C. Aldridge, Jr. (1987)
The Honorable James M. Beggs (1988)
The Shuttle Return-to-Flight Team (1989)

Citation

For distinguished and significant contributions to the nation's advancement in space, earlier by service with the Air Force and the strategic defense of the country, and currently by leadership with NASA in the assurance of United States preeminence in planetary exploration.

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History of the Club

The National Space Club, founded as the National Rocket Club on October 4, 1957, is a nontechnical organization composed of representatives of industry, government, educational institutions, and the press, which seeks to promote United States leadership in the field of astronautics.

The objectives of the club are to foster policies and programs necessary to establish and maintain United States space leadership and to stimulate the advancement and application of space flight and related technologies for the benefit of all mankind and, when necessary, the defense of the United States against aggression.

It founded, and sponsors annually, the Goddard Memorial Dinner honoring the memory of the leading American space pioneer, who was not appreciated in his own day. At the annual dinner, which is the premier space event of the nation's capital, recognition is accorded persons and institutions for contributions to space science and technology during the previous year. Monthly luncheons featuring speakers from government, industry, and other space-related activities have been held since the club's formation.

One of the greatest needs of today is a fuller appreciation by all segments of our nation of the impact of the space age upon all mankind. The club seeks to bring together persons from government, Congress, industry, press, educational institutions, and others to exchange current nonclassified information on the subject and through them relay it to the public at large. The club cooperates with and helps stimulate other organizations and individuals to advance U.S. rocketry and astronautics; concerns itself with the broad historical, educational, and business aspects of the missile and space fields; and leaves technical aspects to the province of the professional technical societies.

