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EDWARD F. FERRAND ASSOCIATES, INC.

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Edward F. Ferrand Ph.D. - President
37 Sherwood Drive
Huntington, NY 11743
(516) 367-3041

*Presidential Young
Investigators
Award
1990*

*President-elect
AACSB*

William G. Shenkir
Dean and William Stamps Farish
Professor of Free Enterprise

McINTIRE 
SCHOOL OF COMMERCE
UNIVERSITY OF VIRGINIA

Monroe Hall
Charlottesville, Virginia 22903
(804) 924-3176 FAX: (804) 924-7074

Document Originally
Attached to
Following Page

*Jacks
This is the
material I
sent Dr. Bostack.
Ed*

*Jacqueline Harrington
is the one putting the
meeting together -
remind you of anyone?
American Assembly of Collegiate
Schools of Business
605 Old Ballas Road
Suite 220
St Louis MO 63141-7077
314 872 8411*

Washington, DC Forum with the AACSB Board of Directors
November 28, 1990
1:00 - 9:00 P.M.

STRATEGIC ISSUES IN BUSINESS AND MANAGEMENT EDUCATION:
A DIALOGUE WITH FEDERAL POLICYMAKERS

Goals for the DC Forum:

To foster a dialogue between leading business school policymakers and senior-level federal policymakers in the executive and legislative branches on two strategic issues facing business and management education: globalization of markets and the management of technology.

Through this dialogue with federal policymakers, AACSB will:

- o describe the three strategic issues facing business and management education: globalization of markets, management of technology, and demographic changes; and
- o highlight how AACSB and individual business schools are acting on these priorities; and
- o identify current and future national issues and specific programs of chief concern to federal policymakers; and
- o identify the topics and issues which we have in common.

Through a discussion of these national priorities with federal policymakers, the Board of Directors will be able to synthesize some of the implications for federal support for business and management education as well as research and curriculum development initiatives. We will develop an understanding of the hurdles business schools face securing a more visible funding presence and the steps necessary to build "bridges" to agencies such as the National Science Foundation (NSF) and the Department of Commerce. Finally, these new priorities and implications will provide a backdrop for future discussions of the Governmental Relations Committee's multi-year plan for public policy activities, as well as our international and management of technology curriculum and research activities.

Objectives:

To host two sessions which provide the perspectives of various federal agencies and veteran congressional staffers of national priorities within the AACSB's themes:

- 1) The Globalization of Markets and the Economy: Government Responses
- 2) Management of Technology: The Current Debates on Technology Policy.

A third session will be designed to synthesize the various sessions and detail the implications for business and management education, and AACSB's role, in particular.

A Dialogue with Federal Policymakers
Page Two

An evening dinner speaker will be the "capstone" presentation, which will highlight broad economic or domestic trends that policymakers and the nation will face in the 90's. A leading Bush Administration official will provide a perspective for our Board of Directors, management staff and selected guests.

Process:

A moderator for each afternoon session will be chosen from the Board of Directors. He/She will introduce each of the panelists and pose several questions for the panelists to address within each session. Furthermore, the moderators will describe the role of the AACSB and how we can assist federal policymakers in their efforts. The moderators will also be asked to summarize the comments of the panelists and to elicit proposed follow-up by AACSB members and the panelists.

The third synthesizer will pull together the common, and sometimes disparate, remarks of the earlier panelists and Board members; thereby encouraging our group to draw conclusions from their comments, particularly the implications for business and management education. These findings will be shared with the Governmental Relations Committee (GRC) and aid the Board of Directors during its review of the GRC's multi-year plan for AACSB public policy activities later in the year.

The following advance readings will be provided to speakers:

- o a three to five page summary of AACSB's strategic plans, major themes, and current and proposed activities;
- o former AACSB President Robert Jaedicks's recent annual meeting speech;
- o biographical sketches for each of the Board members; and a
- o summary of the findings of the Graduate Management Admission Commission report, "Leadership for a Changing World: The Future Role of Graduate Management Education."

Board members will be provided the following advance readings as available:

- o Washington, DC Forum program;
- o a description of various agencies and programs with business school involvement within the panelists' purview;
- o a biographical sketch for each of the panelists;
- o a list of the dinner guests with their respective titles;
- o duplicates of all materials provided to the speakers; and
- o the President, moderators, and synthesizer will also receive sample remarks for easy use and reference.

A Dialogue with Federal Policymakers
Page Three

Dinner invitations will be sent to a selected group of twenty-five Washington, DC-based AACSB corporate member representatives, other corporate public affairs officers and senior-level congressional staff and federal agency executives. This smaller, select group will enable Board members to network more effectively.

Schedule and Potential Speakers:

A. The Globalization of Markets and the Economy: Government Responses

1:00 - 2:30 p.m.

Board Moderator: David Blake, Dean, Southern Methodist University

Panel of Speakers: William (Bill) Glade, Associate Director, U.S. Information Agency (U.S.I.A.); or
Curtis R. Jackson, Director, Office of Research and University Relations, Agency for International Development (A.I.D.)
Anne Chermack, Deputy Coordinator, President's Initiatives on Eastern Europe, U.S.I.A.
John Alexander, Director, Center for International Education, U.S. Department of Education
John Ritch, Deputy Staff Director, Senate Foreign Relations Committee

2:30 - 3:00 p.m. Coffee Break

B. Management of Technology: The Current Debates on Technology Policy

3:00 - 4:30 p.m.

Board Moderator: Lester Thurow, Dean, Sloan School of Management, Massachusetts Institute of Technology

Panel of Speakers: Deborah Wince-Smith, Assistant Secretary for Technology Policy, U.S. Department of Commerce; or
John Lyons, Director, National Institute for Standards and Technology;
Tip Parker, Senior Technology Economics Specialist, Office of Productivity and Innovation, U.S. Department of Commerce;
James Blackman, Deputy Director, Division of Economic and Social Science, National Science Foundation; or
Fred Betz, Program Director, Engineering Research Centers, National Science Foundation;
Harry Brodman, Chief Economist, Senate Governmental Affairs Committee, Staffer for Senator Glenn's Civilian DARPA bill

C. Synthesizing the Dialogue: Implications for Business and Management Education

4:30 - 5:30 p.m.

Synthesizer:

Robert Sandmeyer, Dean, College of Business
Administration, Oklahoma State University

5:30 - 6:15 p.m. Break

6:15 - 7:30 p.m. Dinner

7:30 - 9:00 p.m. DOMESTIC AND ECONOMIC POLICY ISSUES IN THE 1990's

Potential Speaker:

Roger Porter, Assistant to the President for
Economic and Domestic Policy; or
Charles Kolb, Deputy Assistant to the
President for Domestic Policy.

8-1-90

NATIONAL SCIENCE FOUNDATION
PRESIDENTIAL YOUNG INVESTIGATOR AWARDS PROGRAM

GUIDELINES FOR MATCHING FUNDS

BACKGROUND

National Science Foundation Presidential Young Investigator (PYI) Awards provide cooperative research support for the Nation's most outstanding and promising young science and engineering faculty in academia. With participation of the industrial sector, these awards are intended to improve the capability of academic institutions to respond to the demand for academic and industrial research.

Minimum PYI awards consist of \$25,000 of NSF base funding per year, to be used to support the research activities of the awardee. However, in accordance with the objective of developing improved links between the academic and industrial sectors, the Foundation will provide up to the \$37,500 of additional funds per year on a dollar-for-dollar basis to match contributions from eligible sources, resulting in possible total annual support of up to \$100,000.

The guidelines conveyed here should assist present and potential PYI's in determining the nature and acceptability of matching funds. Furthermore, university research administrators and NSF program officers should refer to the guidelines in responding to questions and concerns from researchers and donors. In instances of uncertainty, the NSF PYI Program Director should be consulted.

ELIGIBLE MATCHING SOURCES

Industry matching in fields of interest to the industry in central to NSF's dual program goals of leveraging Federal funds and fostering industry-university cooperation.

Eligible sources for matching include business and corporations, non-profit foundations, and educational and professional associations. Federal or other government support is not eligible for NSF matching, except for a few state and local agencies that are specifically chartered to promote science and technology development, such as the state agencies with specific responsibilities in promoting infrastructure development, e.g., highways, bridges, sanitation. To be eligible for matching support from NSF, funds must come from organizations that are not an associated element of the PYI's academic institution.

ELIGIBLE MATCHING FUNDS

The Foundation realizes that research support agreements exist in many different forms -- depending upon the size of award, the nature of the PYI's relationship to the donor organization, the donor's level of interest, etc. -- and, as such, does not prescribe the form of such agreements. Nevertheless, any agreements must have the following provisos: 1) the funding must provide support designated specifically and exclusively at the time of the donation for the research activity of one or more PYI's, and 2) scientific/technical and budgetary control of the research activities and funding must be vested in the PYI.

Matching funds may be in the form of cash or permanent research equipment.

Cash. In applying the foregoing provisions to cash donations, the operating principle is to encourage the raising of new money for the support of PYI's, money that would not be available to the university in the absence of PYI's. Thus, funds donated from eligible sources to the university for unrestricted purposes are not eligible for NSF matching, regardless of relabeling the purpose of the donation.

The above guidelines accommodate the situation where funds from one or more eligible sources are donated specifically for the PYI's, but where individual PYI's are not named at the time of the donation. In such cases, an appropriate officer of the university may determine the assignment of these funds to specific PYI's.

In view of the program objective of strengthening ties between universities and industry, the Foundation expects the ultimate association of funds from one or more donors with specific PYI's. Furthermore, the Foundation encourages the establishment of linkages that have the prospect of research initiation and cooperation between the PYI and the donor (s).

Equipment. Permanent equipment donated from eligible sources is eligible for NSF matching funds. The equipment, including computer hardware and software, must be of a type and quality, in the judgement of the NSF program officer, appropriate and necessary to carry out the PYI research program.

The donation of computer CPU time by an organization is not acceptable for NSF matching purposes. However, and NSF program officer may request special exception from the PYI Steering Committee when, in the judgement of the program officer, the computer is a specialized unit not available on campus and not readily accessible to the PYI, and the capabilities provided by the specialized computer are essential for the conduct of the PYI's research.

Donations of one-of-a-kind biological or isotope samples, and geological specimens, essential to the research activity, are eligible as matching items.

- a. Equipment sharing. Equipment donated from eligible sources to one or more PYI's, or to a PYI to be shared with others, is eligible for a prorata match. Large-scale multi-user equipment should be treated in a similar manner. The amount of NSF matching is based on the percentage of actual or estimated use by the PYI.
- b. Valuation of equipment. The basis of valuation of a piece of equipment is its fair market value. The fair market value of new donated equipment is its acquisition cost by the university. This ordinarily is the list price minus a) the usual and customary educational discount, or b) the special discount given to NSF grantees, whichever discount is greater. Used and/or surplus eligible equipment should be discounted further. Consideration should be given to the age of the equipment and its useful life. The Foundation may request documentation from PYI's academic institution that substantiated its assessment of the equipment's fair market value.
- c. Discounts. Eligible equipment purchased by the PYI at less than the fair market value is subject to an NSF match based upon the amount of the special discount. Standard educational or customary discounts are not subject to NSF matching; but any additional or unusual discount is.

In-kind Contributions. In-kind contributions from an organization in the form of services or staff support provided to the PYI, or access to a piece of equipment owed by the organization, or in any other forms are not acceptable for NSF matching purposes.

DOCUMENTATION

Documentation of cash or equipment donations, including equipment valuation, must be kept by the academic institution and submitted to the NSF upon request.

CARRY-OVER MATCHING

The maximum Foundation match for each year of PYI support is \$37,500. However, eligible sources may donate cash or equipment in excess of \$37,500 in any one year, and the excess donations can be carried over and used in subsequent years.

Only contributions obtained after submission of the PYI's nomination, except for the university-established PYI funds mentioned above under "cash", are eligible for NSF matching.

DEADLINE FOR REQUESTS FOR PYI BASE AND MATCHING FUNDS

PYI awards have two components: yearly NSF base amount (\$25,000) and a matching component (not to exceed \$37,500 per annum). Once notified of the award by NSF, the PYI has until June 1 of the same year to request the first-year base grant of \$25,000, and an additional year (until June 1 of the following year) to request the first-year matching funds.

To assist NSF program officers plan project outlays, and to reduce paperwork, PYI's are encouraged to submit only one yearly request (beyond the initial base award). The budget should include the base \$25,000 for the next year (except in the last or fifth year), plus any eligible matching funds to supplement the previous year's base award. The proposals should be submitted as soon as possible, but must be received not later than June 1 each year. To expedite each budget request, please use the REQUEST FOR NSF BASE AWARD AND/OR MATCHING FUNDS form. A facsimile is contained herein.

SUBMISSION OF ANNUAL PROGRESS REPORTS

A brief report providing a summary of research conducted during the year, and projecting forward a short research plan for the coming year, should accompany the budget each year. The progress report, not to exceed two pages, should attempt to connect the budget requests to the research activities.

SUBMISSION OF FINAL PROJECT REPORT

Within 90 days after the completion of the five-year cycle, plus any extension agreed upon with the cognizant NSF program officer, the PYI is required to submit a Final Project Report [NSF Form 98A] to the NSF program officer. The Report should contain the technical information needed by the Foundation for purposes of program management and informing the public about the results of the activities it supports.

THE PRESIDENTIAL YOUNG INVESTIGATOR AWARDS IS A FOUNDATION-WIDE, CROSS-DIRECTORATE PROGRAM COORDINATED BY THE DIRECTORATE FOR SCIENCE AND ENGINEERING EDUCATION. AWARDS ARE FUNDED AND ADMINISTERED BY THE RESPECTIVE RESEARCH DIRECTORATES.

NATIONAL SCIENCE FOUNDATION
PRESIDENTIAL YOUNG INVESTIGATOR AWARDS PROGRAM
REQUEST FOR BASE AND/OR MATCHING FUNDS

PYI NAME: _____ DATE of REQUEST _____

NSF AWARD # _____ YEAR OF PYI AWARD _____

DESCRIPTION OF REQUESTS

	YES (CHECK)	NO	YEAR OF REQUESTS (CIRCLE ONE FOR EACH)		AMOUNTS CASH	EQUIPMENT
NSF BASE	_____	_____	1 2 3 4 5	_____		
MATCHING	_____	_____	1 2 3 4 5	_____	_____	_____
DATE RESEARCH ACTIVITY INITIATED _____						

MATCHABLE SOURCES (LISTED INDIVIDUALLY)	ADDRESS	CODE*	CASH	EQUIPMENT
--	---------	-------	------	-----------

1.			_____	_____
2.			_____	_____
3.			_____	_____
4.			_____	_____

NOTES:

- The NSF base award is \$25,000; the maximum amount of matching funds is \$37,500 for each activity year.
- Research activity must start by October 1, of award year. The awardee must designate starting date for research activity.

SOURCE CODES*

NON-PROFIT	PROFIT
E21 Private Non-Profit (e.g. foundations)	F30 Large Corp. or Business
E22 State government	F31 Small Corp. or Business
E23 Local government	H50 US Citizen or Resident
	I64 Foreign Organization

MATCHING FUNDS FOR PYI PROGRAM

ELIGIBLE SOURCES

BUSINESSES
CORPORATIONS
NON-PROFIT FOUNDATIONS
STATE AND LOCAL AGENCIES CHARTERED TO PROMOTE SCIENCE AND TECHNOLOGY

NON-ELIGIBLE SOURCES

GOVERNMENTS
PYI'S INSTITUTION
ASSOCIATION ELEMENTS OF INSTITUTION

ELIGIBLE FUNDS

DONATION TO SPECIFIC PYI
DONATION TO DEDICATED PYI FUND FROM WHICH INSTITUTION MAKES
ASSOCIATION BETWEEN DONOR AND PYI

NON-ELIGIBLE FUNDS

UNRESTRICTED DONATIONS
DONATIONS TO PYI POOL WITH NO DIRECT ASSOCIATION BETWEEN DONORS
AND PYI
IN KIND CONTRIBUTIONS FOR SERVICES OR FOR USE OF INSTITUTION-
OWNED EQUIPMENT
CONTRIBUTIONS MADE BEFORE NOMINATION OF PYI

ELIGIBLE EQUIPMENT DONATIONS

PERMANENT EQUIPMENT NECESSARY FOR PYI'S RESEARCH
COMPUTER SOFTWARE NECESSARY FOR RESEARCH
ONE-OF-A-KIND BIOLOGICAL OR ISOTOPIC MATERIAL

NON-ELIGIBLE EQUIPMENT DONATIONS

COMPUTERS OR TIME ALREADY AVAILABLE TO PYI

NOTES

- Eligible equipment shared will be matched on percentage used.
- Equipment will be valued by list price minus customary discounts.
- Discounts in excess of customary will be matched.
- Documentation of matchable funds must be available on request.
- Excess over \$37,500 can be carried to succeeding year.
- Matching funds not available after 6/1 for previous year.

NATIONAL SCIENCE FOUNDATION
1800 G STREET, N.W.
WASHINGTON, D.C. 20550

July 31, 1990

To Nominators:

The forms printed back-to-back on pages vii and viii of the "Guidelines for Submission of Nominations" have to be mailed to different addresses. Do not use these. Instead, please use the one-sided, separate forms enclosed. The one headed "Executive Office of the President" should be sent to the address indicated on the form. The "Supplementary Nominee Information" form should be sent to NSF along with the other nomination material as per instructions.

A handwritten signature in dark ink, reading "Edward J. Ferrand". The signature is fluid and cursive, with the first name "Edward" being the most prominent part.

Edward Ferrand
Program Director
Presidential Young Investigator
Awards Program

**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506**

NOMINATION PACKET: PRESIDENTIAL YOUNG INVESTIGATOR

The following information will be used for the clearance required for Presidential Awards should you be selected for a Presidential Young Investigator Award. This information will be kept in the strictest confidence and available to those individuals directly involved in implementing the Award process for recipients.

FULL NAME: _____
(include full middle name and any former names used)

*SOCIAL SECURITY NO.: _____

DATE OF BIRTH: _____

PLACE OF BIRTH: _____

MARK ONE OF THE FOLLOWING:

_____ U.S. Citizen _____ Permanent Resident

If you are a permanent resident have you applied for U.S. citizenship? _____

CURRENT HOME ADDRESS AND TELEPHONE NUMBER:

On nomination for the Award, please send this form in the envelope provided directly to:

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
Attn: Presidential Young Investigator Awards
Suite 5013, NEOB
725 17th Street, N.W.
Washington, D.C. 20506

Your full name should be written on the outside of this envelope.

*Submission of social security number is voluntary and will not affect eligibility to be nominated.

SUPPLEMENTARY NOMINEE INFORMATION

Submit only ONE copy of this form. Attach it on top of the cover page of the copy that bears the original signatures. Leave the back of the page blank. *Do not include this form with any of the other copies, as this may compromise the confidentiality of the information.*

Please check the appropriate answers to each question for the nominee:

1. Is this person
Female ☐
Male ☐
2. Is this person a
U.S. Citizen ☐
Permanent Resident ☐
Other non-U.S. Citizen ☐
3. Which one of these categories best describes this person's ethnic/racial status? (If more than one category applies, use the category that most closely reflects the person's recognition in the community.)
American Indian or Alaskan Native ☐
Asian ☐
Black, not of Hispanic Origin ☐
Hispanic ☐
Pacific Islander ☐
White, not of Hispanic Origin ☐
4. Does this person have a disability* which limits a major life activity?
Yes ☐
No ☐

Check here if this person does not wish to provide some or all of the above information. ☐

Required: Check here if this person is currently serving (or has previously served) as PI, Co-PI or PD on any Federally funded project. ☐

AMERICAN INDIAN OR ALASKAN NATIVE: A person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

ASIAN: A person having origins in any of the original peoples of East Asia, Southeast Asia and the Indian subcontinent. This area includes, for example, China, India, Indonesia, Japan, Korea and Vietnam.

BLACK, NOT OF HISPANIC ORIGIN: A person having origins in any of the black racial groups of Africa.

HISPANIC: A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.

PACIFIC ISLANDER: A person having origins in any of the original peoples of Hawaii; the U.S. Pacific Territories of Guam, American Samoa, and the Northern Marianas; the U.S. Trust Territory of Palau; the islands of Micronesia and Melanesia; and the Philippines.

WHITE, NOT OF HISPANIC ORIGIN: A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

*Disabled: A person having a physical or mental impairment that substantially limits one or more major life activities; who has a record of such impairment; or who is regarded as having such impairment.

WHY THIS INFORMATION IS BEING REQUESTED:

The Federal Government has a continuing commitment to monitor the operation of its review and award processes to identify and address any inequities based on gender, race, ethnicity or disability of the nominee. To gather the information needed for this important task, you should submit a single copy of this form, however, submission of the requested information is not mandatory and is not a precondition of award. Any individual not wishing to provide the information should check the box provided for this purpose. (The exception is information about previous Federal support, the last question above.)

Information from this form will be retained by Federal agencies as an integral part of their Privacy Act Systems of Records in accordance with the Privacy Act of 1974. These are confidential files accessible only to appropriate Federal agency personnel and will be treated as confidential to the extent permitted by law. Data submitted will be used in accordance with criteria established by the respective Federal agency for awarding grants for research and education, and in response to Public Law 99-383 and 42 USC 1885c.

PRESIDENTIAL YOUNG INVESTIGATOR AWARDS 1991 PROGRAM

Guidelines for Submission of Nominations

DEADLINE: *OCTOBER 1, 1990*

DIRECTORATE FOR EDUCATION AND HUMAN RESOURCES
DIVISION OF RESEARCH CAREER DEVELOPMENT



NATIONAL SCIENCE FOUNDATION

PRESIDENTIAL YOUNG INVESTIGATOR AWARDS 1991 PROGRAM GUIDELINES

NOTE

IT IS IMPORTANT THAT THE NOMINATOR OR NOMINEE PERSONALLY ASCERTAIN THAT A COMPLETE PACKAGE HAS BEEN SENT WITH THE MANDATED POSTMARK DATE.

REFeree LETTERS ARE VERY IMPORTANT IN THE REVIEW OF THE PYI NOMINATIONS. A CANDIDATE WILL BE AT A DISTINCT DISADVANTAGE IF ALL THREE REFERENCES HAVE NOT BEEN RECEIVED BY REVIEW TIME, THEREFORE, THE NOMINEE SHOULD MAKE EVERY EFFORT TO REQUEST THE REFERENCES AS SOON AS POSSIBLE AND TO ENSURE THAT THEY ARE SENT BY THE DEADLINE. . . . THE NOMINATOR MUST PROVIDE EACH REFeree WITH AN NSF PROVIDED, SELF-ADDRESSED, STAMPED POSTCARD WHICH THE REFeree WILL INCLUDE IN THE RECOMMENDATION TRANSMITTAL TO NSF. NSF WILL MAIL THE POSTCARD BACK TO THE NOMINATOR UPON RECEIVING IT.

SUMMARY OF NOMINEE ELIGIBILITY

To be eligible for a Presidential Young Investigator award:

- 1) the nominee must be a U.S. citizen or permanent resident as of October 1, 1990;
- 2) the nominee must have a tenure-track or tenured faculty position at the nominating institution on or before October 1, 1991;
- 3) the nominee's first tenure-track position at *any* college or university must have begun after April 30, 1987, and the nominee must have a Ph.D. degree, or equivalent degree, awarded the nominee on or after Jan. 1, 1985 and;
- 4) the nominee must be conducting research in a field supported by NSF.

SUMMARY OF NOMINATION SUBMISSIONS

Nominations are accepted from any U.S. institution that awards a baccalaureate or higher degree in a field supported by NSF. Only the department chairperson or analogous official at the institution may submit a nomination.

An original plus four copies of the nomination forms provided in this Guideline together with one copy of the "Supplementary Nominee Information" form must be sent to NSF postmarked no later than October 1, 1990.

The Supplementary Nominee Information should be attached at the end of the signature copy of the Nomination Form.

In addition, letters of recommendation should be sent by the three referees listed on the Nomination Form directly to the NSF address below using the accompanying pre-addressed #10 envelopes.

ADDITIONAL MATERIAL OR LETTERS OF REFERENCE WILL NOT BE ACCEPTED.

The complete nomination and supporting materials should be submitted to NSF in the accompanying pre-addressed large envelope, or in the absence of one, sent in a regular envelope addressed to:

PRESIDENTIAL YOUNG INVESTIGATOR AWARDS
Room 630
National Science Foundation
1800 G Street, N.W.
Washington, D.C. 20550

*DO NOT USE A TYPING ELEMENT SMALLER THAN
12 CHARACTERS PER INCH*

The information required by the Executive Office of the President, Office of Science and Technology Policy should be sent directly to that office in the envelope provided.

NATIONAL SCIENCE FOUNDATION

Presidential Young Investigator Awards

Guidelines for Submission of Nominations

The National Science Foundation (NSF) announces the competition for Presidential Young Investigator (PYI) Awards to be made in late March, 1991.

The awards are established to achieve the following objectives:

- attracting and retaining outstanding young faculty in science and engineering;
- providing their research and teaching careers with a strong start and greater freedom to pursue their research interests;
- improving the research capabilities of academic institutions;
- fostering contact and cooperation between academia and industry.

Approximately 200 new Presidential Young Investigator Awards will be made in this competition. Awards will be made for up to five years based on the annual determination of satisfactory performance and subject to the availability of funds.

ELIGIBILITY

Any U.S. institution that awards a baccalaureate, master's or doctoral degree in a field supported by the Foundation is eligible to participate in this program. Only the department chairperson or analogous administrative official at the institution may nominate its faculty members for the awards.

Nominees must be U.S. citizens or permanent residents as of October 1, 1990. To be eligible, nominees must have a tenure-track or tenured faculty position at their nominating institution or receive an appointment to such a position to begin on or before October 1, 1991. Nominees must have begun their first tenure-track position at any college or university after April 30, 1987 and must have a Ph.D. degree, or equivalent, awarded or to be awarded on or after Jan. 1, 1985.

Since PYI awards must be used to fund research activities, which normally will involve undergraduate and graduate students from the nominating institution, PYI nominees must have a clearly demonstrated ability to conduct a research program. Awardees may conduct research in any branch of science or engineering normally supported by the NSF. Particular emphasis in the selection of awardees will be given to those fields where there are substantial needs for faculty development.

NSF normally will not support clinical research such as biomedical research with disease-related goals, including work on the etiology, diagnosis, or treatment of physical or mental disease, abnormality, or malfunction in human beings or animals. Animal models of such conditions, or the development or testing of drugs or other procedures for their treatment also generally are not eligible for support.

The PYI awards are intended to encourage the development of our future academic leaders, both in teaching and research.

Presidential Young Investigators are expected to carry a normal teaching load relative to non-PYI faculty at the nominating institution.

The PYI awards are tenable only in tenure-track or tenured positions at eligible institutions. Presidential Young Investigators who transfer to an ineligible institution at any time prior to or during the period of their grants must resign their awards.

SUPPORT AND COMMITMENTS

The Presidential Young Investigator Award will consist of an annual base grant of \$25,000 from NSF, to be used to support the research activities of the awardee. Furthermore, in accordance with the program goals of leveraging Federal funds and fostering industry-university cooperation, the Foundation will provide up to \$37,500 of additional funds per year on a dollar-for-dollar matching basis to contributions from industrial sources¹, resulting in total annual support of up to \$100,000.

Institutions also are expected to make a significant contribution to the support of the awardees by guaranteeing their full academic year salary, arranging for the outside matchable funds and providing them with the same financial assistance for the use of equipment and the costs of student help as is made available to other faculty. None of the funds, whether provided by the National Science Foundation or by outside supporters of the program as matchable funds may be used to underwrite academic-year salaries of the awardee, however, summer salary for awardees on academic year appointments may be funded for up to two-ninths of their regular academic-year salary. Up to ten percent of the funds provided by the Foundation may be used to defray administrative expenses in lieu of indirect costs.

APPLICATION PROCEDURES

Nominations from an institution must originate from department chairperson or analogous administrative official.

Each nomination submission must include:

- The Nomination Form provided herein. This form contains the Cover Sheet, Nominator's Narrative Statement, Nominee's Research and Teaching Qualifications, Nominee's Research Plan, Biographical Sketch, and Support and Commitments. (DO NOT INCLUDE COPIES OF THE PUBLICATIONS)
- The Supplementary Nominee Information Form provided on page viii.

¹NSF encourages cooperation between university and industry on research activities and, therefore, favors matching fund support from industry. Support from non-profit foundations and certain state and municipal agencies established to promote science and technology are also acceptable for matching fund purposes. Matching Fund Guidelines will be provided awardees.

- Recommendations from three referees who are familiar with the research and teaching interests and capability of the nominee. Referees must not be from the nominating institution. The referees are to return the Reference Forms directly to the NSF in the accompanying pre-addressed #10 envelopes and the self addressed postcard provided by the nominator.
- In addition, the form which is to be mailed directly to the Executive Office of the President.

Five (5) copies of the Nomination Form and one copy of the Supplementary Nominee Information Form must be submitted, postmarked no later than October 1, 1990.

Since review of PYI nominations take place shortly after the closing date for nominations, NSF cannot assure the inclusion in the review process of any reference letters which arrive at NSF after the deadline for nominations.

EVALUATION AND SELECTION

Selection will be based on an evaluation of the nominee's ability and potential, as a researcher and teacher, for contributing to the future vitality of the Nation's scientific and engineering effort. The evaluation criteria include:

- Nominee's competence in science or engineering—as evidenced by the nominee's most outstanding achievements to date, particularly as attested to by the quality of research and publications, teaching accomplishments, educational background, and the letters of recommendation.
- Nominee's potential for continued professional growth as a research scientist or engineer—as evidenced by the quality of the nominee's research plan, the currency and significance of the research in the expressed field, the appropriateness of the research to his/her academic setting and its probable impact upon the institution's research environment.
- Nominee's potential for significant development as a teacher and academic leader in the training of future scientists and/or engineers—as evidenced by the nominee's commitment to an academic career, the narrative statements describing the nominee's qualifications for this award with regard to

their bearing on the nominee's development as an academic leader and the nominee's potential impact on the institution in its teaching mission.

Other factors, such as national needs, infrastructure needs of the field, representation of women and minorities, geographical and institutional balance, will also be considered *after* the technical merits of the nominations have been ascertained.

The selection of individuals to receive Presidential Young Investigator Awards will be made by the National Science Foundation with the advice of panels of outstanding scientists and engineers.

After an awardee has been selected, the employing institution will be asked to prepare a first-year budget request in support of the awardee's research activities². The budget should show both the amount requested from the Foundation and the sources and amounts of industrial support. This information will be used in determining the amount of the award and other terms and conditions. Except as otherwise provided in this announcement, the terms and conditions, as well as the expected institution commitment, will be analogous to those stated in the publication, NSF 83-57 (Rev. 11/87)-Grants for Research and Education in Science and Engineering. Similar submissions will be required annually for each successive year of support under this program.

The FY 1991 PYI awardees will be announced in late March 1991 and have until May 31, 1991 to accept the offers from NSF. They will be expected to begin their research activities under this program by October 1, 1991, or sooner if they wish.

INQUIRIES

Inquiries regarding the awards may be addressed to the Presidential Young Investigator Awards, National Science Foundation, Room 630, Washington, D.C. 20550, or telephoned inquiries to (202) 357-9466.

²The NSF base grant request and matching funds request for each year may be submitted in two stages. Request for the first-year base grant should be made by May 31, 1991. However, the first-year matching funds request may be submitted any time but not later than June 1, 1992. Requests for matching funds may be made only once a year.

NATIONAL SCIENCE FOUNDATION FIELDS OF SPECIALIZATION

Nominations are assigned to NSF programs for review based on the areas of expertise represented. Indicate the Division and Program which, in your opinion, best fit your research activities. This information will be used to help in the initial distribution of the nominations, however, NSF will make the final assignment. If after you receive your acknowledgement card, you wish to discuss this assignment, please contact the assigned Program Director.

Descriptions of NSF programs can be found in the annual NSF *Guide to Programs* single copies of which can be obtained from Forms and Publications, National Science Foundation, Washington, D.C. 20550, (202) 357-7861.

Directorate for Biological, Behavioral, & Social Science: BBS

CODE

Division of Biotic Systems & Resources—

Ecology	08010201
Systematic Biology	08010202
Population Biology & Physiological Ecology	08010203
Ecosystems Studies	08010204
Biological Research Resources	08010205
Other Biotic Systems & Resources	08010000

Division of Behavioral & Neural Sciences—

Anthropology	08030501
Biological Basis of Behavior	08030502
Language, Cognition, & Social Behavior	08030503
Neuroscience	08030504
Other Behavioral & Neural Sciences	08030000

Division of Social & Economic Science—

Economics	08040101
Geography & Regional Science	08040102
Sociology	08040201
Measurement Methods & Data Improvement	08040202
Political Science	08040301
Law & Social Sciences	08040302
Decision Risk & Management Science	08040304
Other Social & Economic Science	08040000

Division of Cellular Biosciences—

Cell Biology	08060100
Developmental Biology	08060300
Physiological Processes	08060500
Cellular Biochemistry	08060600
Other Cellular Biosciences	08060000

Division of Molecular Biosciences—

Genetics	08070100
Biochemistry	08070300
Biophysics	08070400
Other Molecular Biosciences	08070000

Division of Instrumentation & Resources—

Technique Development	08080202
Database Software Development	08080205
Studies in Science, Technology, & Society	08080300
History & Philosophy of Science	08080301
Ethics & Values Studies	08080302
Other Instrumentation & Resources	08080000

Directorate for Computer & Information Science & Engineering: CSE

Division of Computer & Computation Research—

Computer & Computation Theory	05010100
Numeric & Symbolic Computation	05010200
Computer Systems Architecture	05010300
Software Systems	05010400
Software Engineering	05010500
Other Computer & Computation Research	05010000

Division of Information, Robotics, & Intelligent Systems—

Information Technology & Organizations	05020300
Knowledge & Database Systems Program	05020400
Robotics & Machine Intelligence	05020500
Interactive Systems	05020600
Other Information, Robotics, & Intelligent Systems	05020000

Division of Advanced Scientific Computing—

New Technologies	05030200
Other Advanced Scientific Computing	05030000

Division of Microelectronic Information Process Systems—

Design, Tools, & Test Program	05040100
Microelectronic Systems Architecture	05040200
Circuits & Signal Processing	05040300
Experimental Systems	05040400
Systems Prototyping & Fabrications	05040500
Other Microelectronic Information Process Systems	05040000

Division of Networking & Communications—

Networking Research	05050201
Communications Research	05050202

Directorate for Engineering: ENG

Division of Electrical & Communications Systems—

Engineering Systems	07010002
Emerging Technologies Initiation	07010003
Quantum Electronic, Waves, & Beams	07010005
Solid-State & Microstructure Engineering	07010006
Communications & Computational Systems	07010009
Other Electrical & Communications Systems	07010000

Division of Chemical & Thermal Systems—

Chemical Reaction Processes	07020003
Interfacial, Transport & Separation Processes	07020004
Fluid, Particulate & Hydraulic Systems	07020005
Thermal Systems	07020006
Other Chemical & Thermal Systems	07020000

Division of Mechanical & Structural Systems—

Solid & Geomechanics	07030001
Structures & Building Systems	07030002
Dynamic Systems & Control	07030005
Materials Engineering & Tribology	07030006
Other Mechanical & Structural Systems	07030000

Division of Design & Manufacturing Systems—

Design & Computer-Integrated Engineering	07060003
Manufacturing Processes & Equipment	07060004
Operations Research & Production Systems	07060005
Other Design and Manufacturing Systems	07060000

Division of Biological & Critical Systems—	07090100
Bioengineering & Environmental Systems	07090101
Bioengineering & Aiding the Disabled	07090102
Environmental & Ocean Systems	07090201
Earthquake Hazards Mitigation	07090204
Natural & Man-Made Hazards Mitigation	07090000
Other Biological & Critical Systems	

Directorate for Geosciences: GEO

Division of Atmospheric Sciences—

Lower Atmosphere Research:	06020102
Physical Meteorology	06020104
Atmospheric Chemistry	06020105
Mesoscale Dynamics Meteorology	06020106
Climate Dynamics	06020107
Large-Scale Dynamics Meteorology	06020100
Other Lower Atmosphere Research	

Upper Atmosphere Research:

Aeronomy	06020201
Magnetospheric Physics	06020202
Solar Terrestrial	06020203
Other Upper Atmosphere Research	06020200

Division of Earth Sciences—

Geology & Paleontology	06030101
Tectonics	06030103
Geophysics	06030105
Petrology & Geochemistry	06030107
Other Earth Sciences	06030000
Continental Dynamics	06030201
Instrumentation and Facilities	06030202

Division of Ocean Sciences—

Biological Oceanography	06040301
Chemical Oceanography	06040302
Physical Oceanography	06040303
Marine Geology & Geophysics	06040304
Other Ocean Science	06040000

Division of Polar Programs—

Glaciology	06050301
Polar Atmospheric Science	06050302
Polar Biology & Medicine	06050303
Polar Earth Sciences	06050304
Polar Meteorology	06050305
Polar Ocean Sciences	06050306
Other Polar	06050000

Directorate for Mathematical & Physical Sciences: MPS

Division of Physics—

Atomic, Molecular, & Optical Physics	03010100
Elementary Particles	03010200
Theoretical Physics	03010500
Nuclear Science	03010600
Gravitational Physics	03010700

Division of Astronomical Sciences—

Extragalactic Astronomy	03020201
Solar System Astronomy	03020202
Stars and Stellar Evolution	03020203

Galactic Astronomy	03020204
Astronomical Instrumentation & Development	03020205
Division of Mathematical Sciences—	
Applied Mathematics	03040101
Classical Analysis	03040102
Modern Analysis	03040103
Algebra and Number Theory	03040104
Topology and Foundations	03040105
Statistics & Probability	03040107
Geometric Analysis	03040108
Computational Mathematics	03040109
Special Projects	03040106
Division of Materials Research—	
Condensed Matter Physics	03070001
Metals, Ceramics and Electronic Materials	03070002
Solid-State Chemistry and Polymers	03070703
Materials Theory	03070004
Division of Chemistry—	
Organic Chemistry	03090003
Physical Chemistry	03090004
Inorganic, Bio-inorganic, & Organometallic	03090005
Analytical & Surface Chemistry	03090006
Directorate for Scientific, Technological, & International Affairs	
Division of Policy Research and Analysis	04010000
[S/E Training & personnel utilization; university system operations; relationship between S&T activities and regional economic development]	
Division of Science Resources Studies	04030000
[Development of input and output S&T indicators; development of comparative international indicators of S&T]	
Division of International Programs	04060000
[Policies and trends in major R&D countries; the effect of multinational/regional scientific groups in scientific development; relationships between scientific trends and economic development; assessments of international capabilities in important S&T fields]	
Division of Industrial Science & Technological Innovation	04070000
[Technology transfer; small business and regional economic development]	
Division of Research Initiative & Improvement	04080000
[Studies in the academic retention of underrepresented Groups in S&T]	

**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506**

NOMINATION PACKET: PRESIDENTIAL YOUNG INVESTIGATOR

The following information will be used for the clearance required for Presidential Awards should you be selected for a Presidential Young Investigator Award. This information will be kept in the strictest confidence and available to those individuals directly involved in implementing the Award process for recipients.

FULL NAME: _____
(include full middle name and any former names used)

*SOCIAL SECURITY NO.: _____

DATE OF BIRTH: _____

PLACE OF BIRTH: _____

MARK ONE OF THE FOLLOWING:

_____ U.S. Citizen _____ Permanent Resident

If you are a permanent resident have you applied for U.S. citizenship? _____

CURRENT HOME ADDRESS AND TELEPHONE NUMBER:

On nomination for the Award, please send this form in the envelope provided directly to:

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
Attn: Presidential Young Investigator Awards
Suite 5013, NEOB
725 17th Street, N.W.
Washington, D.C. 20506

Your full name should be written on the outside of this envelope.

*Submission of social security number is voluntary and will not affect eligibility to be nominated.

SUPPLEMENTARY NOMINEE INFORMATION

Submit only ONE copy of this form. Attach it on top of the cover page of the copy that bears the original signatures. Leave the back of the page blank. *Do not include this form with any of the other copies, as this may compromise the confidentiality of the information.*

Please check the appropriate answers to each question for the nominee:

1. Is this person

Female

☐

Male

☐

2. Is this person a

U.S. Citizen

☐

Permanent Resident

☐

Other non-U.S. Citizen

☐

3. Which one of these categories best describes this person's ethnic/racial status? (If more than one category applies, use the category that most closely reflects the person's recognition in the community.)

American Indian or

Alaskan Native

☐

Asian

☐

Black, not of Hispanic Origin

☐

Hispanic

☐

Pacific Islander

☐

White, not of Hispanic Origin

☐

4. Does this person have a disability* which limits a major life activity?

Yes

☐

No

☐

Check here if this person does not wish to provide some or all of the above information.

☐

Required: Check here if this person is currently serving (or has previously served) as PI, Co-PI or PD on any Federally funded project.

☐

AMERICAN INDIAN OR ALASKAN NATIVE: A person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

ASIAN: A person having origins in any of the original peoples of East Asia, Southeast Asia and the Indian subcontinent. This area includes, for example, China, India, Indonesia, Japan, Korea and Vietnam.

BLACK, NOT OF HISPANIC ORIGIN: A person having origins in any of the black racial groups of Africa.

HISPANIC: A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.

PACIFIC ISLANDER: A person having origins in any of the original peoples of Hawaii; the U.S. Pacific Territories of Guam, American Samoa, and the Northern Marianas; the U.S. Trust Territory of Palau; the islands of Micronesia and Melanesia; and the Philippines.

WHITE, NOT OF HISPANIC ORIGIN: A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

*Disabled: A person having a physical or mental impairment that substantially limits one or more major life activities; who has a record of such impairment; or who is regarded as having such impairment.

WHY THIS INFORMATION IS BEING REQUESTED:

The Federal Government has a continuing commitment to monitor the operation of its review and award processes to identify and address any inequities based on gender, race, ethnicity or disability of the nominee. To gather the information needed for this important task, you should submit a single copy of this form, however, submission of the requested information is not mandatory and is not a precondition of award. Any individual not wishing to provide the information should check the box provided for this purpose. (The exception is information about previous Federal support, the last question above.)

Information from this form will be retained by Federal agencies as an integral part of their Privacy Act Systems of Records in accordance with the Privacy Act of 1974. These are confidential files accessible only to appropriate Federal agency personnel and will be treated as confidential to the extent permitted by law. Data submitted will be used in accordance with criteria established by the respective Federal agency for awarding grants for research and education, and in response to Public Law 99-383 and 42 USC 1885c.

COVER SHEET PRESIDENTIAL YOUNG INVESTIGATOR AWARD

NOMINEE INFORMATION

- | | |
|--|---|
| 1. LAST NAME (INCLUDING SUFFIX) | 12. PHD DEGREE |
| 2. FIRST NAME MIDDLE INITIAL | 13. PHD DEGREE DATE |
| 3. SOC. SEC. NO. | 14. UNDERGRAD. INST. |
| 4. NOMINATING INSTITUTION | 15. BACCALAUREATE DEGREE |
| 5. NOMINATING DEPARTMENT | 16. BACCALAUREATE DEGREE DATE |
| 6. MAIL ADDRESS | 17. HIGH SCHOOL CITY, STATE, COUNTRY |
| | 18. DIRECTORATE* () DIVISION CODE* () |
| 7. TELEPHONE | 19. SHORT DESCRIPTION OF RESEARCH PLAN (50 WORDS) |
| 8. E-MAIL ADDRESS | |
| 9. CITIZEN ()
PERMANENT RESIDENT NOW () OR
EXPECTED BY 10/1/90 () | |
| 10. FIRST TENURE-TRACK DATE | |
| 11. PHD INSTITUTION | |

NOMINATOR INFORMATION

- | | |
|----------------------------------|--------------------|
| 20. LAST NAME (INCLUDING SUFFIX) | 24. MAIL ADDRESS |
| 21. FIRST NAME MIDDLE INITIAL | |
| 22. SOC. SEC. NO. | 25. TELEPHONE |
| 23. INSTITUTION CODE ! | 26. E-MAIL ADDRESS |

!SEE MAILING LABEL FOR INSTITUTION CODE

*SEE FIELDS OF SPECIALIZATION LIST FOR DIRECTORATE ABBREVIATIONS AND DIVISION CODE NUMBERS

Submission of social security numbers is voluntary, however, they are an integral part of the NSF information system and assist in the processing of information.

FOR NSF USE: POSTMARK DATE () PHD YEAR () CITIZENSHIP () TENURE-TRACK AFTER 4/1/87 () FIVE COPIES () ELIGIBLE:
YES () NO () REFERENCES 1 () 2 () 3 ()

NOMINATOR'S NARRATIVE STATEMENT

NOMINEE: _____ NOMINATING INSTITUTION: _____

This statement, to be prepared by the nominator with the assistance of individuals in the institution who are aware of the contributions to research and teaching made by the nominee. The statement, limited to the remainder of this page, should describe:

- Nominee's demonstrated ability and qualifications as a researcher and teacher.
 - Nominee's future potential as a researcher and teacher.
 - How the PYI award to this nominee would enhance the institution in its research and teaching mission.
-

NOMINEE'S RESEARCH AND TEACHING QUALIFICATIONS

Nominee: _____ Nominating Institution: _____

This page, to be prepared by the nominee, and limited to the remainder of this page, should provide:

- A summary of the nominee's research accomplishments, including prior, current and pending research grants with funding sources, amounts, and tangible outcomes.
 - A summary of the nominee's teaching accomplishments, including awards, prizes, and commendations.
 - How the PYI award would enhance the nominee's development as an academic leader.
-

NOMINEE'S RESEARCH PLAN

Nominee: _____ Nominating Institution: _____

Address: _____

Department: _____ Telephone: _____

Major Field of Research: _____

Ph.D. Institution: _____ Year of Ph.D.: _____

This statement, to be prepared by the nominee, should describe the nominee's research interests and research plan which the nominee proposes to implement during the period of the award. This information will be made available to potential industrial sponsors. The Foundation reserves the right to edit the material submitted for publication. Do not exceed space limitation.

PRESIDENTIAL YOUNG INVESTIGATOR AWARD BIOGRAPHICAL SKETCH OF NOMINEE

NAME	POSITION TITLE		
EDUCATION (Begin with High School and include Postdoctoral Training)			
INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	FIELD OF STUDY

RESEARCH AND PROFESSIONAL EXPERIENCE: Concluding with current position, list, in chronological order, the titles and complete references to all publications during the past three years and to representative earlier publications pertinent to this application. **DO NOT EXCEED THESE TWO PAGES.**

BIOGRAPHICAL SKETCH OF NOMINEE

SUPPORT AND COMMITMENTS

Nominee: _____ Nominating Institution: _____

ENDORSEMENT OF NOMINEE BY REFEREES

I have requested each of the following referees to complete the PYI Reference Form on my behalf:

Referee A: _____ Institution: _____

Referee B: _____ Institution: _____

Referee C: _____ Institution: _____

It is my intention to undertake or continue an academic career if I am a recipient of the Presidential Young Investigator Award.

Signature of Nominee

Date

NOMINATOR'S ENDORSEMENT

I attest that the information provided in the Nomination Form is true and accurate and that, if my nominee is selected for an award, I accept the responsibility to provide the nominee with proper institutional support to carry out the research work and to assist the nominee in developing industrial support for NSF matching funds.

Signature of Nominator

Date

AUTHORIZED INSTITUTION REPRESENTATIVE'S ENDORSEMENT

In making this nomination, the institution commits itself to the support of the nominee, if selected for an award, in accordance with the provisions of the Presidential Young Investigator Awards. The institution accepts the responsibility to assist the nominee in developing the industrial support required for NSF matching funds.

Signature of Authorized Institutional Representative

Date

Type Name, Title and Address of Authorized Institutional Representative

(This is one of the three references allowed the nominees for the PYI award. It plays an important role in the review and selection. The Foundation appreciates your efforts in providing useful information for this review in a timely fashion.

REFERENCE FORM FOR PRESIDENTIAL YOUNG INVESTIGATOR AWARD

Note to Nominator: Please complete items 1, 2, and 3 below before sending this Reference Form, along with a pre-addressed #10 NSF envelope and the postcard, to the referee.

Note to Referee: The nomination procedure requires this Reference Form be returned by you directly to NSF. Please use the pre-addressed #10 envelope sent to you by the nominee for this purpose. NSF will inform the nominee of receipt of this Reference Form via the self-addressed, stamped postcard provided you which you send with the Reference Form to NSF.

1. Nominee's Name _____ Institution _____

2. Nominator's Name _____ Institution _____

3. Referee's Name _____ Institution _____

4. How long have you known the nominee?

5. In what capacity?

6. Briefly describe the nominee's competence in science and engineering. Consider the most outstanding achievements of the nominee to date, particularly as attested to by the quality of research and publications, teaching accomplishments, and educational background. What has been the nominee's role in these advances?

7. Briefly describe the nominee's potential for continued professional growth as a research scientist or engineer.

Reference Form—Page 2

Nominee _____

8. Briefly describe the nominee's potential for significant development as a teacher and academic leader in the training of future scientists and engineers.

9. On the following scale of 1 to 5, please rank the nominee.

- 1—The most outstanding person at this career stage I have known in the past 5 years.
- 2—Among the top 10 young scientists or engineers I have known in the past 5 years.
- 3—Outstanding
- 4—Above average
- 5—Average or below

10. Other comments

Referee's Signature _____ Date _____

NSF cannot assure the inclusion in the review process of any reference letters which arrive at NSF after the deadline for nomination.

Please return this Reference Form by October 1, 1990 using the envelope provided for that purpose to:

Presidential Young Investigator Awards
Room 630
National Science Foundation
1800 G Street, N.W.
Washington, D.C. 20550

Important—Confidentiality: Before signing this report, you should check one of the two blocks at the right as applicable. If you wish to have your comments held in confidence so as not to reveal your identity as the author of these comments, you should check block A. If block A is checked, the Foundation will treat your comments as confidential, but warns that failure to check block A may result in a requirement to provide these comments to the nominee under the privacy Act of 1974.

- ☐ A. My preparation of this Reference Report is conditioned on the promise of the Foundation to hold my identity as the author of these comments in confidence.
- ☐ B. My preparation of this Reference Report is not conditioned on the promise of the Foundation to hold my comments in confidence.

(This is one of the three references allowed the nominees for the PYI award. It plays an important role in the review and selection. The Foundation appreciates your efforts in providing useful information for this review in a timely fashion.

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-
1. Nominee's Name _____ Institution _____
 2. Nominator's Name _____ Institution _____
 3. Referee's Name _____ Institution _____
 4. How long have you known the nominee?
 5. In what capacity?
 6. Briefly describe the nominee's competence in science and engineering. Consider the most outstanding achievements of the nominee to date, particularly as attested to by the quality of research and publications, teaching accomplishments, and educational background. What has been the nominee's role in these advances?

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Presidential Young Investigator Awards
Room 630
National Science Foundation
1800 G Street, N.W.
Washington, D.C. 20550

Important—Confidentiality: Before signing this report, you should check one of the two blocks at the right as applicable. If you wish to have your comments held in confidence so as not to reveal your identity as the author of these comments, you should check block A. If block A is checked, the Foundation will treat your comments as confidential, but warns that failure to check block A may result in a requirement to provide these comments to the nominee under the privacy Act of 1974.

- ☐ A. My preparation of this Reference Report is conditioned on the promise of the Foundation to hold my identity as the author of these comments in confidence.
- ☐ B. My preparation of this Reference Report is not conditioned on the promise of the Foundation to hold my comments in confidence.

(This is one of the three references allowed the nominees for the PYI award. It plays an important role in the review and selection. The Foundation appreciates your efforts in providing useful information for this review in a timely fashion.

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-
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 2. Nominator's Name _____ Institution _____
 3. Referee's Name _____ Institution _____
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- 3—Outstanding
- 4—Above average
- 5—Average or below

10. Other comments

Referee's Signature _____ Date _____

NSF cannot assure the inclusion in the review process of any reference letters which arrive at NSF after the deadline for nomination.

Please return this Reference Form by October 1, 1990 using the envelope provided for that purpose to:

Presidential Young Investigator Awards
Room 630
National Science Foundation
1800 G Street, N.W.
Washington, D.C. 20550

Important—Confidentiality: Before signing this report, you should check one of the two blocks at the right as applicable. If you wish to have your comments held in confidence so as not to reveal your identity as the author of these comments, you should check block A. If block A is checked, the Foundation will treat your comments as confidential, but warns that failure to check block A may result in a requirement to provide these comments to the nominee under the privacy Act of 1974.

- ☐ A. My preparation of this Reference Report is conditioned on the promise of the Foundation to hold my identity as the author of these comments in confidence.
- ☐ B. My preparation of this Reference Report is not conditioned on the promise of the Foundation to hold my comments in confidence.

The Foundation provides awards for research in the sciences and engineering. The awardee is wholly responsible for the conduct of such research and preparation of the results for publication. The Foundation, therefore, does not assume responsibility for such findings or their interpretation.

The Foundation welcomes proposals on behalf of all qualified scientists and engineers, and strongly encourages women, minorities, and persons with disabilities to compete fully in any of the research and research-related programs described in this document.

Facilitation Awards for Handicapped Scientists and Engineers (FAD) provides funding for special assistant or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on an NSF project. See the FAD program announcement, or contact the FAD Coordinator in the Directorate for Scientific, Technological, and International Affairs.

In accordance with Federal statutes and regulations and NSF policies, no person on ground of race, color, age, sex, national origin, or disability shall be excluded from participation in, denied the benefits of, or be subject to discrimination under any program or activity receiving financial assistance from the National Science Foundation.

The National Science Foundation has TDD (Telephonic Device for the Deaf) capability, which enables individuals with hearing impairment to communicate with the Division of Personnel Management about NSF programs, employment, or general information. This number is (202) 357-7492.

“Catalog of Federal Domestic Assistance Number 47.041, Engineering Grants; 47.049, Mathematical and Physical Sciences; 47.050, Geosciences; 47.051, Biological, Behavioral, and Social Sciences; 47.070, Computer and Information Science and Engineering.”

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on the application materials is solicited under the authority of the National Science Foundation Act of 1950, as amended. Public reporting burden for this collection of information is estimated to average 40 hours per response.

NATIONAL SCIENCE FOUNDATION
WASHINGTON, D.C. 20550

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE \$300

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NSF 90-68

ORGANIZATION		PROPOSAL NO.		DURATION (MONTHS)	
		Proposed	Granted		
PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR		AWARD NO.			
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates (List each separately with title; A.6. show number in brackets)		NSF FUNDED PERSON-MOS.	FUNDS REQUESTED BY PROPOSER *	eligible matchable funds	
1.		CAL.	ACAD	SUMR	
2.					
3.					
4.					
5. () OTHERS (LIST INDIVIDUALLY ON BUDGET EXPLANATION PAGE)					
6. () TOTAL SENIOR PERSONNEL (1-5)					
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)					
1. () POST DOCTORAL ASSOCIATES					
2. () OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)					
3. () GRADUATE STUDENTS					
4. () UNDERGRADUATE STUDENTS					
5. () SECRETARIAL/CLERICAL					
6. () OTHER					
TOTAL SALARIES AND WAGES (A+B)					
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)					
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A+B+C)					
D. PERMANENT EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$1,000:)					
TOTAL PERMANENT EQUIPMENT					
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS)					
2. FOREIGN					
F. PARTICIPANT SUPPORT COSTS					
1. STIPENDS \$					
2. TRAVEL					
3. SUBSISTENCE					
4. OTHER					
TOTAL PARTICIPANT COSTS					
G. OTHER DIRECT COSTS					
1. MATERIALS AND SUPPLIES					
2. PUBLICATION COSTS/PAGE CHARGES					
3. CONSULTANT SERVICES					
4. COMPUTER (ADPE) SERVICES					
5. SUBCONTRACTS					
6. OTHER					
TOTAL OTHER DIRECT COSTS					
H. TOTAL DIRECT COSTS (A THROUGH G)					
I. INDIRECT COSTS (SPECIFY)					
TOTAL INDIRECT COSTS Not to exceed 10% of NSF funds					
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)					
K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPM 252 AND 253)					
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)					
PI/PD TYPED NAME & SIGNATURE*		DATE	FOR NSF USE ONLY		
INST. REP. TYPED NAME & SIGNATURE*		DATE	INDIRECT COST RATE VERIFICATION		
			Date Checked	Date of Rate Sheet	Initials - DGC
					Progr

INSTRUCTIONS FOR USE OF SUMMARY PROPOSAL BUDGET (NSF FORM 1030)

1. General

- a. Each grant proposal, including requests for supplemental or incremental funding, must contain a Summary Proposal Budget in this format unless a pertinent program guideline specifically provides otherwise.
- b. Copies of NSF Form 1030 and instructions should be reproduced locally as NSF will not supply the form.
- c. A separate form should be completed for each year of support requested. An additional form showing the cumulative budget for the full term requested should be completed for proposals requesting more than one year's support. Identify each year's request (e.g., "First year _____," or "Cumulative Budget," etc.) in the margin at the top right of the form.
- d. Completion of this summary does not eliminate the need to fully document and justify the amounts requested in each category. Such documentation should be provided on additional page(s) immediately following the budget in the proposal and should be identified by line item. The documentation page(s) should be titled "Budget Explanation Page."
- e. If a revised budget is required by NSF, it must be signed and dated by the Authorized Organizational Representative and Principal Investigator and submitted in at least the original and two copies.

2. Budget Line Items

A full discussion of the budget and the allowability of selected items of cost is contained in *Grants for Research and Education in Science and Engineering, NSF Grant Policy Manual—GPM* (NSF 77-47 periodically revised), and other NSF program brochures and guidelines. Following is a brief outline of budget documentation requirements by line item. (NOTE: All documentation or justification required on the line items below should be provided on the Budget Explanation Page.)

A., B., and C. Salaries, Wages, and Fringe Benefits (GPM 511 and GPM 205.1). On the Budget Explanation Page, list individually all senior personnel who were grouped under A5, the requested person-months to be funded, and rates of pay.

D. Permanent Equipment (GPM 512 and 204.2). While items exceeding \$500 and 2 years' useful life are defined as permanent equipment, it is only necessary to list item and dollar amount for each item exceeding \$1,000. Fully justify.

E. Travel (GPM 514 and GPM 730). Address the type and extent of travel (including consultant travel) and its relation to the project. Itemize by destination and cost and justify travel outside the United States and its possessions, Puerto Rico, and Canada. Include dates of foreign visits or meetings. Fare allowances are limited to round-trip, jet-economy rates.

F. Participant Support Costs (GPM 518). Normally participant support may only be requested for grants supporting conferences, workshops or symposia. Consult *Grants for Research and Education in Science and Engineering* or specific program guidelines.

G. Other Direct Costs.

1. **Materials and Supplies** (GPM 513). Indicate types required and estimate costs.
2. **Publication Costs/Page Charges** (GPM 517). Estimate cost of preparing and publishing project results.
3. **Consultant Services** (GPM 516). Indicate name, daily compensation (limited to GS-18 daily rate), and estimated days of service, and justify.
4. **Computer Services** (GPM 515). Include justification based on established computer service rates at the proposing institution. Purchase of equipment is included under D.
5. **Subcontracts** (GPM 623 and Exh. V-1). Include a complete budget and justify details.
6. **Other**. Itemize and justify. Include computer equipment leasing.

I. Indirect Costs (GPM 530). Specify current rate(s) and base(s). Use current rate(s) negotiated with the cognizant Federal negotiating agency. See *GPM* for special policy regarding grants to individuals, travel grants, equipment grants, doctoral dissertation grants, and grants involving participant support costs (chap. V, *GPM*).

K. Residual Funds (GPM 253). For incremental funding requests on continuing grants, enter the amount estimated to be in excess of 10% at the planned amendment effective date. If less than 10%, indicate: "none." Residual funds should not be reflected in budget categories A-I. A justification for carryover of funds in excess of 10% is required.

L. Item L will be the same as Item J unless the Foundation disapproves the carryover of funds. If disapproved, Item L will equal J minus K.

APPLICANTS MUST NOT ALTER OR REARRANGE THE COST CATEGORIES AS THEY APPEAR ON THIS FORM, WHICH IS DESIGNED FOR COMPATIBILITY WITH DATA CAPTURE BY NSF'S MANAGEMENT INFORMATION SYSTEM. IMPROPER COMPLETION OF THIS FORM MAY RESULT IN RETURN OF PROPOSAL TO APPLICANT.

Referee's Name _____

National Science Foundation
1800 G Street, N.W.
Washington, D.C. 20550

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National Science Foundation
1800 G Street, N.W.
Washington, D.C. 20550

Official Business
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**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506**

April 16, 1990

MEMORANDUM FOR JAMES W. CICCONI

THROUGH: JUDITH L. BOSTOCK

**FROM: JACKELINE J. CLAWSON
SPECIAL PROJECTS OFFICER**

**SUBJECT: PROPOSED AWARDEES FOR THE NATIONAL
MEDAL OF SCIENCE, 1990**

- I. **ACTION-FORCING EVENT:** Annual awards of the National Medal of Science.
- II. **ANALYSIS:** Public Law 86-209, signed by President Eisenhower in 1959, authorizes the President to award annually a National Medal of Science to not more than 20 persons who deserve special recognition for outstanding contributions to knowledge in the physical, biological, mathematical, engineering, social, or behavioral sciences.

The award, the nation's highest honor for science, is viewed by the scientific community as a symbol of the nation's commitment to excellence in science and technology. The award recognizes the contributions of individual scientists to the strength and security of the nation and the well-being of our citizens.
- III. **ACTION REQUESTED:** Upon receipt of this list a security check was completed for all entries described in the accompanying document. Prior to review by Dr. Bromley, it is requested that White House comments/suggestions be provided regarding the awardees. Please hold all information in strictest confidence prior to Presidential approval and final notification.

Below are the committee's proposed 20 awardee names for the 1990 National Medal of Science for your review and comments. Attached are the citations for both the proposed awardees as well as possible alternates.

Baruj Benacerraf
Elkan R. Blout
Herbert W. Boyer
George F. Carrier
Allan M. Cormack
Mildred S. Dresselhaus
Karl Folkers
Nick Holonyak, Jr.
Leonid Hurwicz
Stephen C. Kleene

Daniel E. Koshland, Jr.
Edward B. Lewis
John McCarthy
Edwin M. McMillan
David G. Nathan
Robert V. Pound
Roger R. D. Revelle
John D. Roberts
Patrick Suppes
E. Donnall Thomas

cc: Dr. D. Allan Bromley

Attachment:

Citations of proposed awardees and alternates

**PROPOSED 1990 AWARDEES
NATIONAL MEDAL OF SCIENCE**

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01a. Citation	Citations and Summaries of Achievements for proposed National Medal of Science Awardees [personal information redacted] (30 pp.)	4/16/90	(b)(6)	

Collection:

Record Group: Bush Presidential Records
Office: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Administration Files
WHORM Cat.:
File Location: Administrative: Awards [1 of 4] [1989-90]

Date Closed:	3/4/2010	OA/ID Number:	62024-005
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]
(b)(6) Release would constitute a clearly unwarranted invasion of personal privacy [(b)(6) of the FOIA]
(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

**ALTERNATES FOR THE 1990
NATIONAL MEDAL OF SCIENCE**

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01b. Citation	Citations and Summaries of Achievements for proposed National Medal of Science Awardees Alternatives [personal information redacted] (9 pp.)	4/16/90	(b)(6)	

Collection:

Record Group: Bush Presidential Records
Office: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Administration Files
WHORM Cat.:
File Location: Administrative: Awards [1 of 4] [1989-90]

Date Closed:	3/4/2010	OA/ID Number:	62024-005
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.

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 (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

THE WHITE HOUSE
WASHINGTON

October 26, 1989

Dear Awardee:

On behalf of President Bush and the Office of Science and Technology Policy, let me express to you once more my congratulations and my thanks for your participation in this past week of activities marking your selection as a winner of a Presidential Award for Excellence in Science and Mathematics Teaching.

I hope that we have all made your visit to Washington an occasion to remember and that these ceremonies in your honor indicate to you our sincere effort to show you how we value your contributions to the youth -- and future -- of our Nation. You continue to have your work cut out for you. As a teacher myself, I know the truly remarkable effort that goes into each student, but, as I also know, the rewards that come from watching a student catch fire intellectually are exhilarating. You exemplify the standard of excellence of which the President spoke in his Rose Garden remarks.

We look to you to act as foci and role models from which true educational excellence will spread throughout the Nation.

You have our warmest thanks and best wishes; your students are indeed fortunate ones.

Sincerely yours,

D. Allan Bromley

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

*Mathematics
and Science
Teaching Awards
1989*

THE WHITE HOUSE
WASHINGTON

Office of Science and Technology Policy

For Immediate Release

October 24, 1989

The President honored 112 teachers selected for the 1989 Presidential Awards for Excellence in Science and Mathematics Teaching in a Rose Garden ceremony today. With the Vice President and Mrs. Bush in attendance the President paid tribute to the teachers of the Nation who invest their time in our future by providing outstanding guidance to the nation's young people.

... "You've taken on one of the nation's most vital, yet too often unappreciated tasks. Because you've committed yourselves to excellence on the front lines of American education, you represent our best hope for the future." ...

The awards, established by President Reagan in 1983, represent the Nation's highest honor for teachers of science and mathematics in grades 7-12. Nominations from students, colleagues, parents, supervisors, and others are sent to the State directors of the National Council of Teachers of Mathematics or the Council of State Science Supervisors for consideration. One science and one mathematics teacher from each of the 50 States, the District of Columbia, Puerto Rico, the Department of Defense Dependents Schools, and the following U.S. Territories as a group -- Guam, American Samoa, The Commonwealth of Northern Marianas, and the Virgin Islands, receive a certificate, a \$7,500 National Science Foundation grant to each recipient's school, and a week in Washington, D.C., to participate in seminars and ceremonies honoring them for their outstanding contributions to the education of our Nation's youth.

Nominees are judged on their excellence of teacher performance, their ability to improve their students' understanding of science or mathematics, on their continued interest and growth in their field of study, and on their involvement in professional areas of teaching. The nominees are asked to identify one critical problem related to teaching science and mathematics in their schools and to discuss ways the problem might be resolved. In addition, they are required to submit a plan for the use of the \$7,500 grant to their school.

Dr. D. Allan Bromley, Assistant to the President for Science and Technology, and Erich Bloch, Director, National Science Foundation, presented award certificates at the Renwick Gallery immediately following the Rose Garden ceremony.

#

**REMARKS AT THE PRESIDENTIAL AWARDS FOR
EXCELLENCE IN SCIENCE AND MATHEMATICS TEACHING**

**D. ALLAN BROMLEY
ASSISTANT TO THE PRESIDENT FOR SCIENCE AND TECHNOLOGY
EXECUTIVE OFFICE OF THE PRESIDENT**

**Washington, D.C.
October 24, 1989**

There are many special responsibilities of the President's Science Advisor, but none give me more pleasure than my responsibility to honor you and award to you, as outstanding teachers of mathematics and science in our secondary schools, this Presidential Award for excellence in your profession. Teaching is a noble profession. I chose it for myself. For many years I have been a teacher of physics at Yale University.

I commend you today for the wonderful work you do each and every day in your classrooms and although I have not 'walked in your moccasins' so to speak, I do recognize the magnitude of your tasks and the difficulties you encounter in doing such a magnificent job in teaching the youth of our nation.

In a very real sense, you represent the most important group of citizens in our Nation. To you we have entrusted our children -- and through them our future and you are increasingly an endangered species. These awards that we present you today are only a token of the enormous debt that all of us owe to you for your devotion, your caring, and your enormous contributions to this generation and those yet to come.

Many of you, throughout your careers, have recognized the necessity of having a population well trained in mathematics and science. Today, the rest of the nation is beginning to recognize what you already know --

- o a certain segment of our population must be trained well enough at the secondary level to complete post secondary education in the natural sciences and engineering,
- o another segment of our population must be well enough grounded in mathematics and science to become the expert technicians of tomorrow to meet the demands of our increasingly technological economy, and
- o all youngsters must be literate enough scientifically to participate intelligently in the democratic decision-making process. This is particularly true for the social and ethical issues created by the growing and widespread use of science and technology in our world today.

How can we as Americans, as citizens of Planet Earth, make good and wise decisions about our environment and the future of our society unless we understand the scientific principles that underpin each new situation that arises? Never before has scientific literacy of an entire population been so critical to the quality of our lives and perhaps, to our very survival.

At the very time science and mathematics achievement has become so crucial, our national achievement in mathematics and science has fallen. So also has the interest expressed by graduating high

school seniors in these subjects. Interest in mathematics has fallen by one quarter in the past seven years; that in computer science by two thirds in only the past four years. Such trends must be reversed. You and your fellow teachers are the most important factors in the revitalization of mathematics and science education, even though all of society - parents, boards of education, federal, state, and local governments... must participate in the restructuring of our schools for success. I applaud your efforts as outstanding teachers to strengthen mathematics and science education in the nation, and challenge you to continue those efforts.

You and your colleagues have finally alerted us, your government officials, to our problems in education. The President's Educational Summit conference last month with Governors of the 50 states came out of that recognition. At this Summit meeting -- only the third in this century called by the President to recognize a national crisis situation -- we came to an agreement that national goals for education -- not federal -- must be set. For mathematics and science, the goals will be fairly easily set. That is because the mathematics and science communities have already forged substantial consensus about what constitutes scientific literacy and what constitutes a framework for mathematics and science curricula:

- The National Council of Teachers of Mathematics has published a set of curricular standards for secondary school mathematics which have broad support among the educational and mathematics communities. These are national, not federal standards to guide local implementation of curricula reform. These standards will, no doubt, guide the development of the national goals that the Governors and the President hope to see set for mathematics.
- The American Association for the Advancement of Science has completed Phase I of Project 2061 - a project designed to bring to the scientific fields a coherent vision of what it actually means to be scientifically literate. Phase 2 of the project intends to design science curricula that will achieve that vision. The work of many school districts in Phase 2 will also, no doubt, influence the development of national goals for science education.

I had the pleasure of accompanying the President to the Education Summit and I came away from it very much heartened. I was particularly struck by the unanimity reached on all major points and by the innovative and creative program responses that have been put in place in State after State. It is our challenge at the federal level to catalyze and foster the spread of the very best of these programs nationwide.

I know that past recipients of these Presidential Awards are having a powerful influence on the revitalization of mathematics and science education; this simply emphasizes the value of recognizing and rewarding excellence in teaching. The outstanding teachers who meet here each year have found that discussions with their peers is so intellectually stimulating and professionally rewarding that they have formed organizations through which they can keep this new-found discourse alive.

The Council of Presidential Awardees in Mathematics, with a membership of 95% of all past awardees in mathematics -- a distinguished group that I hope all of you in mathematics will join -- meets annually to share their ideas and methods for excellence in teaching mathematics. Indeed, this group is also playing a major role in an NSF-funded project, Leading Mathematics Education in the 21st Century. Past recipients of this Award are now leaders, training other teachers to lead in the reform of mathematics education and to join in setting new national curricular standards.

There is a second group of past Award winners, that again I hope the scientists among you will choose to join: The Association of Presidential Awardees in Science Teaching. It organizes team workshops in local regions and states to provide other science teachers with opportunities to update their knowledge in their scientific disciplines and to improve their teaching skills. This group also maintains a directory of awardees with a description of their specialities so that school districts all over the country can tap the expertise of these master science teachers.

I encourage you to join your colleagues in both these efforts because in doing so you will be helping this nation meet a goal that is essential if we are to remain a free and prosperous society--the goal of providing our youth a world-class mathematics and science education -- one second to none.

Every student in American today needs, and deserves, a high quality education in science and mathematics, and I urge you to help see that our educational system meets that challenge. America asks you to use your outstanding teaching skills to meet the diverse needs of our diverse population. You are leaders and I challenge you to continue to exert that leadership. Work with other teachers, with school administrators, with employers, with publishers, with university faculty to develop a mix of science and mathematics education that will prepare our whole population to meet the technological challenges of the next century and, most important, work with parents so they remain actively involved in their children's educational experiences. Together, all of this is a tall order, but I know you are just the kind of people who can do it.

Both personally and on behalf of the Nation let me thank you for what you have done for us in the past and for what you are going to do for us in the future.

Let me conclude, then, by quoting two lines from Alexander Pope's Moral Essays because in these lines Pope managed to sum up a remarkable amount of wisdom concerning education:

"T'is Education forms the Common Mind,
Just as the twig is bent, the tree's inclined."

Education continues to form the common mind; and yours are the hands that bend the twig -- that set our youth on career paths that will enrich their lives and that of the Nation. This is a truly awesome responsibility but you have demonstrated -- each and every one of you -- that you are more than equal to this responsibility.

Yours is one of the most important tasks facing this nation today. But I have one more request to make of you. You must tell us, your government representatives, and the broader scientific and technical community how we can best help you. Although our youth, our future, and our nation, in a very real sense, are in your hands, we have all too frequently been of less help to you than we could or should have been. We have not provided you with the opportunities for professional contact with the wider community of scientists and mathematicians that we could or should. But we are learning, and together we can do great things; we can help our young people to dream and give them the tools and understanding to pursue their dreams. Teaching is a truly unique profession; where else would we find such opportunities to open the doors of Nature to young and inquiring minds.

On behalf of all of us, warmest congratulations and most sincere thanks.

**INTRODUCTION OF LEON LEDERMAN AT THE
PRESIDENTIAL AWARDS FOR
EXCELLENCE IN SCIENCE AND MATHEMATICS TEACHING**

**D. ALLAN BROMLEY
ASSISTANT TO THE PRESIDENT FOR SCIENCE AND TECHNOLOGY
EXECUTIVE OFFICE OF THE PRESIDENT**

**Washington, D.C.
October 24, 1989**

Ladies and Gentlemen,

Again, tonight, I am honored to be here to address you and introduce to you our guest speaker for this evening's dinner, Dr. Leon Lederman. My relationship with Leon goes back a long way . . . and . . . well before he received his richly deserved Nobel Prize in 1988. Leon and I have fought many of the same fights on the same -- and on opposite sides of scientific issues. And, need I add it is always a pleasure to have a worthy adversary or colleague when the issue is important!

Leon is an internationally known high energy physicist and Director Emeritus of the Fermi National Laboratory in Batavia, Illinois. He also holds a joint appointment at the University of Chicago as the Frank L. Sulzberger Professor in the Department of Physics and as a member of the Enrico Fermi Institute at the University. Leon received his education at the City College of New York and was awarded his Ph.D. in Physics from Columbia University in 1951. Only eight years later he then became a full Professor of Physics at Columbia. In 1979 he then became the Director of Fermilab and only stepped down from that post last year.

During his career he has been awarded many honors. To mention only a few: he was a Guggenheim Fellow, an NSF senior fellow, he is a member of the National Academy of Sciences, and

was a winner of the Wolf Prize in Physics as well as a distinguished awardee of the National Medal of Science.

He was awarded his Nobel Prize in 1988 for seminal work in experimental particle physics. Leon and his colleagues at Columbia devised an ingenious experiment that discovered the theoretically predicted 'second kind of neutrino' emitted in the decay of subatomic particles.

(The experiment had to be ingenious, you recall, since the neutrino is truly an elusive elementary particle. It has no electric charge and no detectable mass! Thus, it can penetrate billions of kilometers of dense matter without interaction.)

Ever since this pioneering discovery, neutrinos have been used as a kind of penetrating X-ray in the search for quarks -- which today are believed to make up the inner structure of nuclei. Certainly we can now say that, without an understanding of neutrinos, there would be no understanding of the patterns of elementary particles and no understanding of the way stars and galaxies evolve. It may even be that if neutrinos carry even a tiny mass, they account for 90 percent of the mass of the Universe (also called Dark Matter). The scientific research today in this area of physics is clearly on the 'cutting edge' of the field of high energy physics.

But Leon was not only invited to address you tonight because he is an outstanding scientist: for many years Leon directed and taught in a program he established for high school students in and around Fermilab. His 'Saturday Seminars for High School Students' is well known in the physics community and has galvanized many of these students to go on to scientific careers. He has a deep interest in this education and will, I think, share some of his experiences with you.

And his educational efforts are by no means limited to the country. He has been one of the leading figures in developing pioneering educational activities in Latin America and in fostering the kind of international exchanges that make education broader, deeper and more rewarding in all the areas involved. Leon is truly a teacher as well as a superb scientist. He is definitely one of you!

Without embarrassing you any further, Leon, let me relinquish the podium to you.

**REMARKS AT THE PRESIDENTIAL AWARDS FOR
EXCELLENCE IN SCIENCE AND MATHEMATICS TEACHING**

**D. ALLAN BROMLEY
ASSISTANT TO THE PRESIDENT FOR SCIENCE AND TECHNOLOGY
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- o another segment of our population must be well enough grounded in mathematics and science to become the expert technicians of tomorrow to meet the demands of our increasingly technological economy, and
- o all youngsters must be literate enough scientifically to participate intelligently in the democratic decision-making process. This is particularly true for the social and ethical issues created by the growing and widespread use of science and technology in our world today.

How can we as Americans, as citizens of Planet Earth, make good and wise decisions about our environment and the future of our society unless we understand the scientific principles that underpin each new situation that arises? Never before has scientific literacy of an entire population been so critical to the quality of our lives and perhaps, to our very survival.

At the very time science and mathematics achievement has become so crucial, our national achievement in mathematics and science has fallen. So also has the interest expressed by graduating high

school seniors in these subjects. Interest in mathematics has fallen by one quarter in the past seven years; that in computer science by two thirds in only the past four years. Such trends must be reversed. You and your fellow teachers are the most important factors in the revitalization of mathematics and science education, even though all of society - parents, boards of education, federal, state, and local governments... must participate in the restructuring of our schools for success. I applaud your efforts as outstanding teachers to strengthen mathematics and science education in the nation, and challenge you to continue those efforts.

You and your colleagues have finally alerted us, your government officials, to our problems in education. The President's Educational Summit conference last month with Governors of the 50 states came out of that recognition. At this Summit meeting -- only the third in this century called by the President to recognize a national crisis situation -- we came to an agreement that national goals for education -- not federal -- must be set. For mathematics and science, the goals will be fairly easily set. That is because the mathematics and science communities have already forged substantial consensus about what constitutes scientific literacy and what constitutes a framework for mathematics and science curricula:

- The National Council of Teachers of Mathematics has published a set of curricular standards for secondary school mathematics which have broad support among the educational and mathematics communities. These are national, not federal standards to guide local implementation of curricula reform. These standards will, no doubt, guide the development of the national goals that the Governors and the President hope to see set for mathematics.
- The American Association for the Advancement of Science has completed Phase I of Project 2061 - a project designed to bring to the scientific fields a coherent vision of what it actually means to be scientifically literate. Phase 2 of the project intends to design science curricula that will achieve that vision. The work of many school districts in Phase 2 will also, no doubt, influence the development of national goals for science education.

I had the pleasure of accompanying the President to the Education Summit and I came away from it very much heartened. I was particularly struck by the unanimity reached on all major points and by the innovative and creative program responses that have been put in place in State after State. It is our challenge at the federal level to catalyze and foster the spread of the very best of these programs nationwide.

I know that past recipients of these Presidential Awards are having a powerful influence on the revitalization of mathematics and science education; this simply emphasizes the value of recognizing and rewarding excellence in teaching. The outstanding teachers who meet here each year have found that discussions with their peers is so intellectually stimulating and professionally rewarding that they have formed organizations through which they can keep this new-found discourse alive.

The Council of Presidential Awardees in Mathematics, with a membership of 95% of all past awardees in mathematics -- a distinguished group that I hope all of you in mathematics will join -- meets annually to share their ideas and methods for excellence in teaching mathematics. Indeed, this group is also playing a major role in an NSF-funded project, Leading Mathematics Education in the 21st Century. Past recipients of this Award are now leaders, training other teachers to lead in the reform of mathematics education and to join in setting new national curricular standards.

There is a second group of past Award winners, that again I hope the scientists among you will choose to join: The Association of Presidential Awardees in Science Teaching. It organizes team workshops in local regions and states to provide other science teachers with opportunities to update their knowledge in their scientific disciplines and to improve their teaching skills. This group also maintains a directory of awardees with a description of their specialities so that school districts all over the country can tap the expertise of these master science teachers.

I encourage you to join your colleagues in both these efforts because in doing so you will be helping this nation meet a goal that is essential if we are to remain a free and prosperous society--the goal of providing our youth a world-class mathematics and science education -- one second to none.

Every student in American today needs, and deserves, a high quality education in science and mathematics, and I urge you to help see that our educational system meets that challenge. America asks you to use your outstanding teaching skills to meet the diverse needs of our diverse population. You are leaders and I challenge you to continue to exert that leadership. Work with other teachers, with school administrators, with employers, with publishers, with university faculty to develop a mix of science and mathematics education that will prepare our whole population to meet the technological challenges of the next century and, most important, work with parents so they remain actively involved in their children's educational experiences. Together, all of this is a tall order, but I know you are just the kind of people who can do it.

Both personally and on behalf of the Nation let me thank you for what you have done for us in the past and for what you are going to do for us in the future.

Let me conclude, then, by quoting two lines from Alexander Pope's Moral Essays because in these lines Pope managed to sum up a remarkable amount of wisdom concerning education:

"T'is Education forms the Common Mind,
Just as the twig is bent, the tree's inclined."

Education continues to form the common mind; and yours are the hands that bend the twig -- that set our youth on career paths that will enrich their lives and that of the Nation. This is a truly awesome responsibility but you have demonstrated -- each and every one of you -- that you are more than equal to this responsibility.

Yours is one of the most important tasks facing this nation today. But I have one more request to make of you. You must tell us, your government representatives, and the broader scientific and technical community how we can best help you. Although our youth, our future, and our nation, in a very real sense, are in your hands, we have all too frequently been of less help to you than we could or should have been. We have not provided you with the opportunities for professional contact with the wider community of scientists and mathematicians that we could or should. But we are learning, and together we can do great things; we can help our young people to dream and give them the tools and understanding to pursue their dreams. Teaching is a truly unique profession; where else would we find such opportunities to open the doors of Nature to young and inquiring minds.

On behalf of all of us, warmest congratulations and most sincere thanks.

REMARKS BY THE PRESIDENT
DURING PRESENTATION OF
EXCELLENCE IN SCIENCE AND MATH TEACHING AWARDS

The Rose Garden

10:02 A.M. EDT

THE PRESIDENT: Welcome to the White House on this glorious fall day. I'm sorry if I'm just a little bit late. I was sitting in there trying to solve a few quadratic equations. (Laughter.) Somewhat more difficult than balancing the budget, I might say. And then I thought it might be appropriate to have a moment of silence in memory of those substitute teachers back home. (Laughter.)

It really is a pleasure to have you all here. And to Erich Bloch, the Director of the National Science Foundation and to my colleague -- confidant, Dr. Bromley, our Science Advisor, and to the outstanding teachers we honor today. You've taken one of the nation's most vital, and yet too often unappreciated tasks. And because you've committed yourselves to excellence on the front lines of American education, you really do represent our best hope for the future.

So many Americans remember a special teacher who made a quiet but crucial difference in their lives. And it might have been the teacher who brought math to life or explaining ratios by using the gears of a bicycle. Or maybe it's a teacher who revealed the powerful drama in the life of a single cell or who sparked speculation about the expansion of the universe.

Of course, those of us who haven't been to school in a while get our scientific understanding from those Gary Larson cartoons. (Laughter.) Like the one where, after detailed calculations, Einstein discovers that time is actually money. (Laughter.)

Now, you've seen all the surveys about American students' poor performance in scientific knowledge, compared to their peers around the world. We've all seen them. We agonize over them. And it is a serious problem. But you are not just complaining about it. You're doing something about it. And you're showing that excellence is not just possible in American education; it ought to be the norm.

And you and the outstanding teachers across the country that you represent are creating centers of excellence in classrooms of every kind; setting standards for the rest of the country to follow and creating exceptional students.

This year a high school student from Denver named Steven Gubser won the 20th International Physics Olympiad in Warsaw. When the United States began competing in the tournament in 1986, some thought that our students wouldn't really have a chance against students from Europe and the Far East. But our teams have consistently distinguished themselves, capped by this gold medal performance. This is the standard of excellence that America's students and teachers should aspire to. And that more can attain. Our problem is not that we don't have American students excelling at science and math. We just don't see enough of them.

MORE

Of course, there were a few outstanding students in my time. I had a friend who was so smart once that he knew how to convert meters to gallons -- (laughter) -- in his head.

The work of outstanding teachers like yourselves has a profound impact. Not just on the students you teach, but on the nation as a whole. And the link between science and technology and our standard of living is stronger today than ever before. At a time when our international position in certain key industries is being challenged, we face impending shortages of qualified scientists and engineers. So your work is helping to meet a crucial need -- a national need.

Not every student will be a physics olympian or make a career as a scientist. But growing numbers will have jobs based on new technologies. Farm workers producing genetically-engineered crops; auto workers involved with robotics; cybernetic systems; electronic controls. Service people maintaining computers and telecommunication systems.

It'll be new skills and the ability to learn them quickly and adapt that will be crucial to their future. And America's future.

When I met with the nation's governors in Charlottesville last month at that educational summit, they told me, as the business community continues to tell me, that a clear consensus is emerging on the crucial need to improve math and science education in this country. And that's why we're establishing a National Science Scholars Program for top math and science students across the country. And for students of all abilities we're working to set national goals for math and science education.

We're going to be looking to you for advice and guidance on those goals, and the steps we can take together to attain them. I want to encourage you to work with this administration, and certainly with the governors in the 50 states to refine our approach to math and science education. All of you as teachers know the larger role that education plays in a free society.

Every student in America, even those who don't choose technical careers, will need enough scientific and mathematical understanding to make decisions about the technologies of the 21st century. You understand the importance of a literate and informed citizenry. And you're acting on that understanding. And for the sake of every student you teach every day.

You know, a few minutes ago I said that all of us -- just about all of us -- can think of special teachers -- teachers that touched our lives forever. But it's also true that the greatest minds in science and mathematics were inspired and directed by teachers of their own.

And that's worth remembering. What you're doing today has the potential to unleash the genius of an entire new generation. And for all that you've done and all that you will continue to do, we three here -- and I expect I speak for the two distinguished scientists that join us -- but I know I speak for Dan Quayle, our able Vice President, and Barbara, who is so committed to helping you all, especially in the field of literacy. For all you've done, we want to just thank you and congratulate you and urge you to keep it up. And may God bless this vital work that you do. Thank you so much for coming to the White House. (Applause.)

END

10:10 A.M. EDT

1989 Presidential Awards for Excellence in Science and Mathematics Teaching

List for Awards Ceremony

Larry DeVan Williams
Mathematics
Alabama

Robert Sol Davis
Science
Alabama

Beverly G. Van Camp...
Mathematics
Alaska

Louise E. Ashmun
Science
Alaska

John R. Lassen, Jr.
Mathematics
Arizona

John Michael Trimble
Science
Arizona

Ronald E. Townsend
Mathematics
Arkansas

Silas Irving Granderson
Science
Arkansas

Harold D. Taylor
Mathematics
California

Steven R. Keith
Science
California

Patrick Scott Mara
Mathematics
Colorado

Larry G. Friedrichs
Science
Colorado

Tara S. Rickart
Mathematics
Connecticut

Anthony J. Giancola
Science
Connecticut

Joan E. Reinthaler
Mathematics
District of Columbia

Yvonne A. Lewis
Science
District of Columbia..

Linda Marie Bolich
Mathematics
Department of Defense Dependents Schools

Mary F. Eplett
Mathematics
Department of Defense Dependents Schools

Sandy Sapatka
Science
Department of Defense Dependents Schools

Kenneth Duane VanLew
Science
Department of Defense Dependents Schools

Patricia L. Gysling
Mathematics
Delaware

Ellis E. Underkoffler
Science
Delaware

Charlene Moore Kincaid
Mathematics
Florida

Susan W. Zoltewicz
Science
Florida

Margaret Wingate Faircloth
Mathematics
Georgia

Michael H. Edmondson
Science
Georgia

Naomi J. Nishida
Mathematics
Hawaii

Karen M. Nishimoto
Science
Hawaii

Anne Marie Suk
Mathematics
Idaho

Marianne B. Anderson
Science
Idaho

Susan K. Eddins
Mathematics
Illinois

Ronnee E. Bernberg Yashon
Science
Illinois

Gary H. Emmert
Mathematics
Indiana

Joseph D. Ruhl
Science
Indiana

Earl Ockenga
Mathematics
Iowa

Floyd Frank Sturtevant
Science
Iowa

Beulah Ellington
Mathematics
Kansas

Richard Williamson
Science
Kansas

Amy Thompson Herman
Mathematics
Kentucky

John David Ledden
Science
Kentucky

Carolyn S. Sessions
Mathematics
Louisiana

Kathy L.M. Davis
Science
Louisiana

Raymond E. Fisher
Mathematics
Maine

Earl C. Coombs
Science
Maine

Patricia Robinson Baltzley
Mathematics
Maryland

William R. Krayner
Science
Maryland

Dwayne Cameron
Mathematics
Massachusetts

Ronald D. DeFronzo
Science
Massachusetts

Anita Johnston
Mathematics
Michigan

Stewart R. Schultz
Science
Michigan

Vicki Rae DeVoss
Mathematics
Minnesota

Marv Mikesh
Science
Minnesota

Claudia R. Carter
Mathematics
Mississippi

Michael Cain
Science
Mississippi

Myrna J. Main
Mathematics
Missouri

Greg Thurmon
Science
Missouri

Lawrence R. Kaber
Mathematics
Montana

Marilyn B. Alexander
Science
Montana

Leona J. Penner
Mathematics
Nebraska

Ed Brogie
Science
Nebraska

Sally J. Nelson
Mathematics
Nevada

James E. Blattman
Science
Nevada

Richard G. Brown
Mathematics
New Hampshire

Daniel J. Bisaccio
Science
New Hampshire

Nadia Makar
Mathematics
New Jersey

Judith A. Treharne
Science
New Jersey

Maximo Gurule
Mathematics
New Mexico

Victoria W. Sanchez
Science
New Mexico

Philip R. Reynolds
Mathematics
New York

Joanne K. Gallagher
Science
New York

Larry M. Thomason
Mathematics
North Carolina

Carolyn J. Morse
Science
North Carolina

Luann L. Stehr
Mathematics
North Dakota

Wade V. Forster
Science
North Dakota

Dianne Olix
Mathematics
Ohio

Judith L. Doyle
Science
Ohio

Susan Alyce Shumate
Mathematics
Oklahoma

Jeffrey L. Smith
Science
Oklahoma

Nancy Lee Anderson
Mathematics
Oregon

Patrick H. Canan
Science
Oregon

Elizabeth Everett Roseborough
Mathematics
Pennsylvania

Mickey Maholtz
Science
Pennsylvania

Carmen M. Perez Gonzalez
Mathematics
Puerto Rico

Wilma M. Giol Ruiz
Science
Puerto Rico

Mary D. Provost
Mathematics
Rhode Island

Carol-ann W. Tripp
Science
Rhode Island

Rebecca Smith Krueger
Mathematics
South Carolina

Joseph A. Stieve
Science
South Carolina

Helen Kephart
Mathematics
South Dakota

Ronald R. Fahy
Science
South Dakota

Deborah Davies
Mathematics
Tennessee

Donna Ann Berry
Science
Tennessee

Diann C. Resnick
Mathematics
Texas

Michael Wayne Hoke
Science ...
Texas

Floranna Stanislaus
Mathematics
U.S. Territories

Velma Venetta Tyson
Mathematics
U.S. Territories

Deodegaria D. Lacson
Science
U.S. Territories

Richard William Pease
Science
U.S. Territories

Pamela P. Giles
Mathematics
Utah

Michael B. Harris
Science
Utah

Susan Soltau
Mathematics
Vermont

Lloyd Paul Irish
Science
Vermont

Harrison W. Straley, IV
Mathematics
Virginia

James D. Sproull
Science
Virginia

Joyce B. Stevens
Mathematics
Washington

John E. Pauls
Science
Washington

Deborah A. Seldomridge
Mathematics
West Virginia

Joseph E. Griffith
Science
West Virginia

Jane Ann Howell
Mathematics
Wisconsin

Jay A. Zimmerman
Science
Wisconsin

Nancy Merrill
Mathematics
Wyoming

Linda L. Fleming
Science
Wyoming