Report of the Treasurer of the National Academy of Sciences for the Year Ended December 31, 2016

DETAILS

86 pages | 8.5 x 11 |
ISBN 978-0-309-46241-9 | DOI: 10.17226/24826

CONTRIBUTORS

National Academy of Sciences

REPORT OF THE TREASURER OF THE NATIONAL ACADEMY OF SCIENCES

For the Year
Ended December 31, 2016

Contents

Treasurer's Statement

To the Council of the National Academy of Sciences:

This *Report of the Treasurer of the National Academy of Sciences* presents the financial position and results of operations as well as a review of the endowment, trust, and other long-term investments portfolio activities of our Academy for the year ended December 31, 2016.

Overview

The income that supports the activities of the Academy comes from two major sources: program revenue received from government and other sponsors to pay for the large number of studies and other activities undertaken each year by the National Research Council (NRC), and a much smaller sum that we withdraw from our own endowment under the endowment spending policies adopted by the Council.

NRC program level has remained relatively flat over the last three years with a modest increase projected for 2017. The trend of the 2011-2015 decline in annual federal funding, which has been partially offset by an increase in non-federal funding, showed signs of stabilizing and in some program areas improving in 2016. Between 2011 and 2016, the share of program work sponsored by the federal government declined by 12% while work sponsored by non-federal sources increased by the same amount. It will be very important for the future of the institution to continue vigorous efforts to diversify its sources of income.

With respect to amounts withdrawn annually from our endowment, a number of restricted funds support specific programs and awards, while a much smaller number of funds provide for unrestricted support of our mission. In today's changing environment, unrestricted funds are particularly important, allowing NAS and NRC to respond quickly to unexpected events.

The Gulf Research Program started in 2013 and, over its mandated 30-year duration, will work to enhance oil system safety and the protection of human health and the environment in the Gulf of Mexico and other U.S. outer continental shelf areas by seeking to improve understanding of the region's interconnecting human, environmental, and energy systems and fostering application of these insights to benefit Gulf communities, ecosystems, and the Nation. As of February 2017, NAS has received $385 million of the total $500 million in payments to be received. The NAS Finance Committee oversees the investment of the funds (with some government-specified restrictions), while the NAS Council oversees the strategic direction of the program. Any investment earnings are required to be spent on furthering the program goals.

NAS Highlights

Endowment, Trust, and Other Long-term Investments Portfolio

As the Chairman of the Finance Committee, I am responsible, along with the other committee members, for the prudent management of the endowment and trust fund. The goal of the endowment is to provide stable support for the Academy's programs and activities over time. To achieve this goal, the Council, acting on the recommendation of the Finance Committee, has historically authorized spending from the portfolio at a rate designed to maintain the purchasing power of the endowment over time. The current spending rule caps annual spending at 5% of the trailing 12-quarter average market value of the portfolio. The Council limited spending to 4% from 2009 through 2013, increased spending to 4.25% in 2014, and increased it again to 4.50% from 2015 through 2017.

The market value of the portfolio increased net of withdrawals and new contributions from $419.9 million on January 1, 2016, to $442.7 million at December 31, 2016. The portfolio returned 8.7% for the year, which was 0.9% higher than the benchmark return of 7.8%. The NAS Endowment & Trust Pool outperformed its benchmark in part due to the strong performance of two of the largest U.S. equity holdings, Berkshire Hathaway and Renaissance Institutional Equities Fund, which outpaced the rising U.S. equity markets.

The market value of the portfolio as of December 31, 2016, was as follows:

	Amount (000's)	Percentage of Portfolio
Fixed-Income:		
U.S. fixed income/cash	$ 25,567	6%
Non-U.S. fixed income	16,965	4%
Equities:		
U.S. large equity	115,584	26%
U.S. small/mid equity	23,672	5%
Non-U.S. equity (developed)	53,787	12%
Non-U.S. equity (emerging)	47,984	11%
Real estate	15,267	3%
Multi-strategy and private equity funds	143,829	33%
Total	$ 442,655	100%

- See Schedule 2-A on page 24 for details of investments by asset class.
- Included in the $442.7 million total market value of the portfolio as of December 31, 2016, are $7.3 million for the Woods Hole Endowment Funds, $80.1 million for the National Academy of Medicine (NAM), and $12.1 million for The National Academies' Corporation (TNAC). TNAC, which is equally owned by the NAS and the National Academy of Engineering Fund (NAEF), owns and operates the Beckman Center (see note 15 to the financial statements on page 83).
- Withdrawals of $14.9 million were made to fund the President's Committee, NAS General Fund's activity, and NAS prizes and awards for the current period. Additional withdrawals of $3.1 million were made to fund Woods Hole, NAM, and TNAC activity.

The return percentages for the portfolio as of December 31, 2016, as compared to the blended market benchmark (i.e. return calculated using the policy guideline and market indices), were as follows:

Time Period	**NAS Portfolio Return**	**Benchmark Return**
Year ended 12/31/16	8.70%	7.80%
Five years ended 12/31/16	7.00%	7.80%
Ten years ended 12/31/16	3.60%	4.30%
7/1/89 – 12/31/16	7.90%	7.60%

It is of some interest to compare our endowment asset allocation and performance with that of similar organizations. A good way of doing this is to review the results of the study of college and university endowments by the National Association of College and University Business Officers (NACUBO) which found that as of June 30, 2016, public institutions and private colleges/universities had asset allocations to alternative strategies of 47% and 55%, respectively. Additionally, from the same study, the average 1, 5, and 10 year returns for endowments in the $101M - $500M range were -2.4%, 5.1%, and 4.8%, respectively. The 1, 5, and 10 year returns of our endowment as of June 30, 2016 were

3.6%, 3.8%, and 4.3%, respectively. As you know, some years are better than others and that is why it is good to focus on the long-term return, for which the NAS endowment is slightly under-performing its peers, an issue about which the Finance Committee is actively engaged.

For many years, the NAS endowment investment strategy has been based on a diversified mix of traditional equity securities and a significant portion of fixed income investments. This provided returns that supported annual draws of 5% while protecting the endowment's purchasing power. That strategy can no longer be relied on, as it fails to capture the complexity of today's financial markets. In order to improve returns, the Finance Committee believes that the investment strategy needs to move further away from traditional equity and fixed income investments and toward alternative investments such as multi-strategy and private equity funds. By wise selection of alternative investments and of managers, the Finance Committee can minimize volatility and achieve returns which are better than the public equity markets. The process of reallocating assets began in 2016 and will continue until alternative strategies comprise approximately 50% of the portfolio.

NAS General Funds

The NAS General Funds Budget, which provides unrestricted resources to support the activities of the Academy, receives its funding from the unrestricted portion of the NAS Endowment. As noted above, the Council has limited spending from the endowment in past years, including the unrestricted portion, approving a spending rate of 4.5% in 2016.

For 2016, funding for the General Funds Budget totaled $6.3 million and expenditures totaled $5.7 million, resulting in a surplus of approximately $623,000. Comparable figures for 2015 were $5.8 million in revenues, $5.2 million in expenditures, resulting in a surplus of approximately $600,000.

The 2016 NAS General Funds activity is summarized as follows (in thousands):

Revenues:	
Unrestricted Endowment	$ 4,956
Annual Giving from Members	525
Membership Dues	448
Annual Meeting	341
Total Revenue	$ 6,270

Expenses:	
Development Office	$ 1,588
Member Services:	
Annual Meeting	678
Other	232
Programs/Projects:	
Cultural Program of the NAS	350
Committee on International Security & Arms Control	224
The Value of Social Science Research	187
InterAcademy Council	137
Foreign Meetings & Other Expenses	577
President's Office	67
NAS Executive Office	804
NRC Operations	803
Total Expenses	$ 5,647
Surplus	$ 623

Any surplus in the General Funds Budget at the end of the year is added to the NAS Reserve; similarly, deficits are funded from the Reserve, which is invested in the NAS Endowment and Trust Pool. The NAS Reserve had a market value of $6.7 million on December 31, 2016, to which the 2016 surplus will be added. The NAS Council has approved a General Funds Budget of $6.1 million for 2017, which is based on a withdrawal rate of 4.50%.

Prizes and Awards

Several award funds have existed for more than 100 years, while others were established more recently. The Home Secretary oversees the nomination process that selects award recipients and recommends to the Council (subject to legal and financial review) changes in the award cycle, amounts of the honoraria, and any other administrative changes.

Journal Publications

Financial results of the *Proceedings of the National Academy of Sciences* are shown below for the years ended December 31, 2016 and 2015 (in thousands):

	2016	2015
Revenues:		
Subscriptions	$ 5,623	$ 6,119
Author Charges	6,245	6,448
Other	269	-
Total	$ 12,137	$ 12,567
Expenses:		
Publishing	$ 5,878	$ 5,827
Other	6,237	5,682
Total	$ 12,115	$ 11,509
Net	$ 22	$ 1,058

Facilities

NAS owns the following facilities:

- Keck Center of the National Academies at 500 Fifth St., NW in Washington, D.C.
- National Academy of Sciences Building at 2101 Constitution Ave., NW in Washington, D.C.
- J. Erik Jonsson Center of the National Academies at 314 Quisset Dr. in Woods Hole, Massachusetts.
- Arnold and Mabel Beckman Center at 100 Academy in Irvine, California (jointly owned with NAEF through TNAC).

NAS leases a facility at 8619 Westwood Center Drive in Vienna, Virginia for the National Academies Data Center.

Development Office Programs

The generous support of members, friends, and philanthropic organizations helps the Academies address emerging, cutting-edge issues, launch new programs and policy studies, and undertake new initiatives that are at the core of the organization's mission. Gifts and grants were received for both unrestricted and restricted purposes to fund numerous projects and activities. The selected gifts described below highlight the scope of the philanthropic support received during 2016:

- The NAS established the Ralph J. and Carol M. Cicerone Endowment for NAS Missions. The Simons Foundation has made a generous $10 million challenge gift towards this fund to match all gifts, three year pledges made by 2018, and selected planned gifts. A total of $7.85 million in cash gifts and eligible pledge commitments have been secured towards this challenge gift.

- The Kavli Foundation pledged $10.5 million to establish the Fred Kavli Endowment Fund to benefit the NAS and serve its mission.

- The NAS annual fund received gifts from members and friends totaling over $436,000. The NAS membership participation rate for all giving was 22%. It is vitally important that we increase our giving rate to support the mission of our Academy. The willingness of large donors to give is often conditioned on evidence that our members support the mission of the Academy. If you are not a regular donor, I strongly urge you to become one, even if your annual gift is small.

- The NAM saw a 16% increase in the funds raised through its annual fund, bringing in $485,577 from members and friends of the NAM. An additional $48,160 was received in support of the Harvey V. Fineberg Impact Fund. The NAM participation rate for all giving was 27%.

- The Committee on Human Rights received more than $220,000 from members across the three Academies.

- Members and staff, both current and retired, made planned gift commitments to the NAS and NAM of over $1,051,000, including future support for the Committee on Human Rights and the Transportation Research Board. Donors took advantage of the IRA charitable rollover making gifts in excess of $111,000.

- The Foundation for Food and Agriculture Research together with the Bill and Melinda Gates Foundation provided support to endow the NAS Prize in Food and Agriculture Science. The $3,000,000 endowment will allow the NAS to recognize and promote excellence in research in the agricultural sciences. Additionally, the donors made an expendable gift of $125,000 for the 2017 inaugural prize.

- The Science and Entertainment Exchange, a program that connects entertainment industry professionals with top scientists and engineers to bring more realistic and positive portrayals of scientists and engineers to film and television received $625,000 from Google, Inc., the Tides Foundation upon the recommendation of the Google K-12 Education Outreach Fund, and the Downey Unified School District to provide a mentorship program for students.

- The National Academy of Medicine received $685,000 to support Vital Directions in Health and Health Care, a project to provide advice to the new U.S. presidential administration and other policy leaders about next steps in health care reform. Funds were received from the California Endowment, Commonwealth Fund, John A. Hartford Foundation, Robert Wood Johnson Foundation, Josiah Macy, Jr. Foundation, and the Gordon and Betty Moore Foundation.

- $9,400,000 was received from the Ford Foundation to continue to support the Ford Fellows Program, a postdoctoral fellowship program that the Academies has operated since 1979 with the aim of increasing the diversity of America's college and university faculty and enriching the educational experience.

- $5,000,000 was received from the Robert Wood Johnson Foundation to launch a grant-making program by the Academies' Gulf Research Program to develop the capacity of communities to better anticipate, plan for, and manage negative impacts of environmental change and disruptions that affect the Gulf of Mexico region.

- Grants totaling $1,400,000 were received from The Susan Thompson Buffett Foundation, William and Flora Hewlett Foundation, JPB Foundation, David and Lucile Packard Foundation, and Tara Health to support a study on the current state of the science related to the provision of safe, high quality abortion services in the United States.

- Grants of $400,000 were received from the Carnegie Corporation of New York and $137,500 from the William and Flora Hewlett Foundation to help support the Future of Voting, a study that will examine the current state of technologies, standards, and resources and offer recommendations that provide a vision of voting that is easier, accessible, reliable, and verifiable.

- $500,000 was received from the Blue Shield of California Foundation, the Bill and Melinda Gates Foundation, and the Melville Charitable Trust, to help conduct a study that will examine the extent to which housing programs and other interventions have reduced homelessness and improved health outcomes and affected health care costs in people experiencing homelessness.

- The study, Financing Early Care and Education with a Highly Qualified Workforce, received philanthropic support of $300,000 from the W.K. Kellogg Foundation, $150,000 from the Foundation for Child Development, $150,000 from the Bill and Melinda Gates Foundation, and $150,000 from the Heising-Simons Foundation.

Private gifts and grants are important sources of revenue in assisting the Academies' in fulfilling its mission. We are deeply grateful for the philanthropic support received from our many friends of the Academies and members.

NRC Highlights

Revenues

The two main sources of revenue for the NRC are the U.S. government and private/nonfederal entities. Total program revenues for 2016 were $289.2 million, an increase of 4.2% from 2015 actual revenues of $277.5 million.

U.S. Government Contracts and Grants

NRC activities, conducted in response to requests from a broad range of U.S. government agencies, are funded through cost-reimbursable non-fee contracts and grants.

The total amount reimbursed by the U.S. government agencies in the year ended December 31, 2016, was $216.6 million (see following chart and the Statements of Activities on page 54) and in the year ended December 31, 2015, was $206.6 million.

U.S. Government Revenues by Agency ($ in thousands)	
Agency for International Development	$ 15,006
Department of Agriculture	2,871
Department of Commerce	7,648
Department of Defense:	
Defense Threat Reduction Agency	730
Department of the Air Force	9,170
Department of the Army	9,197
Department of Defense	1,166
Department of the Navy	12,565
Department of Education	1,038
Department of Energy	9,330

U.S. Government Revenues by Agency ($ in thousands)	*(continued)*
Department of Health and Human Services	21,262
Department of Homeland Security	2,492
Department of Housing and Urban Development	12
Department of the Interior	1,413
Department of Justice	838
Department of Labor	161
Department of State	2,966
Department of Transportation	78,000
Department of Treasury	21
Department of Veterans Affairs	3,421
Environmental Protection Agency	5,733
Executive Office of the President	234
Federal Reserve System	51
Government Accountability Office	876
General Services Administration	45
Marine Mammal Commission	1
National Aeronautics and Space Administration	8,014
National Endowment for the Humanities	3
National Geospatial-Intelligence Agency	269
National Science Foundation	14,849
National Security Agency	56
National Transportation Safety Board	19
Nuclear Regulatory Commission	114
Office of the Director of National Intelligence	2,009
Social Security Administration	2,044
U.S. Arctic Research Commission	67
Adjustment to Indirect Cost Receivable & Other	2,947
Total U.S. Government Agencies	**$216,638**

Private/Nonfederal Contracts and Grants

Private sponsors provided for new initiatives and co-sponsored government projects by funding awards in the amount of $72.6 million in 2016, compared with $70.9 million in 2015. The private and nonfederal revenues were comprised of contracts and grants ($52.6 million) and other contributions ($20.0 million). (See Statements of Activities on page 54.)

Expenses

Almost all government and private contracts and grants are cost-reimbursable agreements. Therefore, even if the revenues and expenses are not equal in any one given year, the revenues and expenses will be the same over the life of the award.

As in many universities and nonprofit institutions, indirect cost expenditures provide necessary support services and should be kept in reasonable proportion to program expenditures. Historically, NRC management has successfully maintained a relatively constant relationship between program and support costs, i.e., the growth rate of indirect costs has been approximately equal to the growth rate of direct costs. In 2016, total indirect expenses were $77.2 million compared to an approved budget of $78.9 million. For 2017, the indirect budget is set at $79.4 million to align with an increased program level and provide funding for needed upgrades in technology.

Related Entities

Many financial transactions take place between the member organizations of the National Academies. The NRC serves as the clearinghouse for these transactions. However, it is important to note that only the financial activity and results of the NAS, NAE, NAM, and NRC are included in these financial statements. The financial activity and results of the National Academy of Engineering Fund (NAEF) and The National Academies' Corporation (TNAC) are audited and reported separately. Financial information for the NAEF is available on request from the NAE Finance Office; information for TNAC is available from the NAS Controller's Office.

Overall Financial Condition

The main reason for the increase in net assets during 2016 is the increase in market value of the investment portfolio.

	2016	2015
Total Revenues	$ 373.9	$ 310.7
Total Expenses	328.0	318.9
	$ 45.9	$ (8.2)

Net assets, or assets minus liabilities, can be a measurement of a not-for-profit organization's ability to reinvest net income toward its mission while also maintaining reserves and helping protect against inflation. The NAS 2016 results of operations are further described in the financial statements starting on page 53.

Conclusion

I would like to thank the members of the Council, the Committee on Budget and Internal Affairs, the Finance Committee, and the NRC leadership for their continued support. Also, special thanks are extended to the Office of the Chief Financial Officer, led by Mary "Didi" Salmon, our CFO, for help in managing the Endowment and Trust Pool, providing steady oversight of the Academy's various budgets, and paying careful attention to the Academy's financial systems, records and reports.

William H. Press
Treasurer

I. Investments

SCHEDULE 1

Endowment, Trust, and Other Long–term Investments Pool
Description of Funds for the Year Ended December 31, 2016

	Capital Contribution (Column 1 of Schedule 1–A)

I. Funds that Support the NAS

A. General Fund — *The following funds provide unrestricted resources to support the activities of the National Academy of Sciences.*

Agassiz Fund — A bequest of Alexander Agassiz, a member of the Academy.	$	50,000
Carnegie Fund — The balance of the original contribution of $5,000,000 from the Carnegie Corporation of New York, for the purposes of the National Academy of Sciences/National Research Council. $1,725,000 was used to cover the cost of the 1924 Academy building and the acquisition of other property.		3,275,000
Commonwealth Fund — A grant of the Commonwealth Fund for the capital endowment of the Academy.		500,000
Carl Eckart Fund * — A bequest of Carl Eckart for the general purposes of the Academy.		1,246,366
Ford Foundation Fund — A grant of the Ford Foundation for the capital endowment of the Academy.		5,000,000
Henrietta and Alexander Hollaender Fund * — A bequest of Dr. Alexander and Mrs. Henrietta Hollaender.		500,000
Grayce B. Kerr Fund — A grant from Grayce B. Kerr for the general purposes of the Academy.		250,000
Nealley Fund — A bequest of George True Nealley for the general purposes of the Academy.		19,556
Simon Ramo Fund — A contribution from Simon Ramo for the general purposes of the Academy.		14,000
Rockefeller Foundation Fund * — A grant of the Rockefeller Foundation to the National Academy of Sciences for the general purposes of the Academy.		1,000,000
Dorothea and Herbert Simon Fund — A contribution from Dorothea and Herbert Simon for the general purposes of the Academy.		898,752
Sloan Foundation Fund * — A grant of the Alfred P. Sloan Foundation for the general purposes of the Academy.		1,000,000
Amy Prudden Turner Fund * — A bequest of Amy Prudden Turner for the general purposes of the Academy to serve as a memorial to her husband Scott and herself.		29,662
Anonymous Endowment Fund — A contribution for the general purposes of the Academy from a donor who wishes to remain anonymous.		7,146,660
General Endowment Fund * — A bequest of David Lloyd Fillman and others for the general purposes of the Academy. By action of the Council, the proceeds from the sale of the International Critical Tables were transferred into this fund during fiscal year 1976, and proceeds from the sale of the Audubon Folios were transferred in fiscal year 1981.		4,244,079
Members Endowment Fund — Contributions from Academy members to be used for the general purposes of the Academy.		3,337,184
Subtotal — General Fund	$	28,511,259

B. Woods Hole — *The following funds support the operation and maintenance of the J. Eric Jonsson Woods Hole Center in Woods Hole, Massachusetts. The Center is operated as an extension of conference facilities in Washington, D.C. and Irvine, California for meetings of the NAS, NAE, NAM, and NRC.*

Peter C. Cornell Trust Fund * — A contribution from the Peter C. Cornell Trust to memorialize Detlev W. Bronk, former president of the Academy, for his contributions to science and the nation and to recognize the leadership and notable accomplishments of John S. Coleman as a member of the Academy's staff.	$	100,000
J. Erik Jonsson Woods Hole Fund — A contribution for the Woods Hole Study Center of the NAS in honor of J. Erik Jonsson from a donor who wishes to remain anonymous.		2,002,500
Richard King Mellon Foundation Fund — A grant from the Richard King Mellon Foundation for maintenance of the building and grounds at the Woods Hole Study Center.		50,000

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 1

Endowment, Trust, and Other Long–term Investments Pool Description of Funds for the Year Ended December 31, 2016

		Capital Contribution (Column 1 of Schedule 1–A)
Penzance Foundation Fund — A grant for the J. Erik Jonsson Woods Hole Study Center for support of the property's Clark Carriage House.		502,500
Woods Hole Endowment — Contributions from the Brown Foundation and various individuals for maintenance of the Woods Hole Study Center.		971,400
Woods Hole Fund — Contributions from various individuals for maintenance of the Woods Hole Study Center.		12,874
Subtotal — Woods Hole	$	3,639,274

C. Presidents' Committee Funds — *Each of the following funds supports programmatic efforts in areas related to the purpose specified by the fund's donor(s) awarded by a committee consisting of the NAS, NAE, and NAM Presidents.*

Basic Science Fund - Earth Sciences — Contribution from an anonymous donor to match a contribution from the Palisades Geophysical Institution of New York to establish the Maurice Ewing and Planetary Sciences Fund of the National Academy of Sciences.	$	503,231
Biology and Biotechnology Fund — Contributions from various individuals to be used for studies and other activities that address emerging research and policy issues affecting biology and biotechnology, especially cross–disciplinary aspects and those involving the interface of science, technology, and commerce and used for dissemination and outreach efforts that seek to inform policymakers about the findings of the results.		420,232
Thomas Lincoln Casey Fund — A bequest of Thomas L. Casey as a memorial to his father, Thomas Lincoln Casey, to be used in the advancement of engineering in all its applications.		258,081
The Coca–Cola Foundation Fund — A grant of the Coca-Cola Foundation to be used for initiatives in precollege science and mathematics education.		50,000
Arthur L. Day Fund — A bequest of Arthur L. Day, a member of the Academy, for the purpose of advancing studies of the physics of the earth.		5,047,846
Cecil and Ida Green Fund — A contribution from Cecil and Ida Green to be used to support activities dedicated to improving the quality of life of our people.		467,256
W. K. Kellogg Foundation Fund — A grant of the W. K. Kellogg Foundation for an endowment in the areas of education, health, and agriculture, the income from which is used to fund studies and other activities within these program areas such as enhancing the quality of U.S. education, assuring access to quality health care, assessing the role of biotechnology in the future of agriculture, and similar issues as they arise.		20,000,000
Kobelt Fund * — A bequest of Nina I. Kobelt to be used for research scholarships for worthy students.		296,593
Andrew W. Mellon Foundation Fund — A grant from the Andrew W. Mellon Foundation to endow a program of Academy-initiated studies.		1,000,000
George and Cynthia Mitchell Endowment for Sustainability Sciences — A contribution from the George and Cynthia Mitchell Foundation to guide academic, government and other institutions in the development of sustainability science and to encourage the world's business community to apply knowledge from this new field in business practices.		20,000,000
George and Cynthia Mitchell Matching Endowment * — Contributions from public and private sources to be used to support the same purposes as the George and Cynthia Mitchell Endowment for sustainability sciences and to raise funds to be eligible for a matching contribution from George and Cynthia Mitchell.		114,750
Frank Press Fund for Dissemination and Outreach — Contributions from members of the Presidents' Circle of the NAS, NAE, and the NAM to support dissemination and outreach activities.		1,167,255

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 1

Endowment, Trust, and Other Long–term Investments Pool Description of Funds for the Year Ended December 31, 2016	**Capital Contribution (Column 1 of Schedule 1–A)**
Scientists and Engineers for the Future Fund — Contribution from an individual who wishes to remain anonymous. The income from this fund is used to support educational projects focused on maintaining the health of American science and technology by ensuring an adequate supply of well-prepared American scientists and engineers for the future.	1,000,000
Subtotal — Presidents' Committee Funds	$ 50,325,244
D. Program Specific Funds *— Each of the following funds supports a specific programmatic purpose as designated by the donor(s).*	
Arnold and Mabel Beckman Fund of the National Academies of Sciences and Engineering * — A fully expendable fund designated for support of programs at the Beckman Center. The fund was established to receive contributions of unexpended income from The National Academies Corporation (TNAC) operations endowment as well as earnings from the TNAC program endowment.	$ 13,495,811
Seymour Benzer Lecture Series — Contribution from Sydney Brenner to establish a free lecture series to increase public understanding of science, engineering, technology and health.	120,000
Billings Fund — A bequest of Mary Ann Palmer Draper (Mrs. Henry Draper) to support publication of the *Proceedings of the National Academy of Sciences* or for other purposes to be determined by the Academy.	50,102
Blakeslee Fund — A bequest of Albert Francis Blakeslee, the income from which is to be used in support of genetics research.	886,902
Henry G. Booker Fellowship Fund — Contributions from various individuals to provide a travel grant to one young American radio scientist to attend each International Union of Radio Science Assembly as a Henry G. Booker Fellow.	20,826
Ralph J. and Carol M. Cicerone Endowment for NAS Missions — Contributions from NAS president Ralph Cicerone and his wife Carol and others -- including a matching gift from the Simons Foundation -- to support the NAS in its missions: to validate scientific excellence; to enhance the vitality of the scientific enterprise; to guide public policy with science; and to communicate the nature, values, and judgments of science to government and the public.	2,534,680
Cultural Programs of the National Academy of Sciences Fund — Contributions from various sources for sponsoring free cultural programs for local residents and for providing a platform for dialogue and engagement at the intersection of science, culture and art.	83,734
Henry and Bryna David Endowment — A bequest of Henry and Bryna David to support the communication of insights and discoveries from the social and behavioral sciences to policy makers and other decision makers to promote informed public policy and staff development.	850,000
Food and Nutrition Board Fund — Two grants from the Kaiser Family Foundation for core activities of the Food and Nutrition Board.	525,350
Food and Nutrition Board Corporations Fund — Contributions from Monsanto Company and Nestle, USA, Inc., to provide support for Food and Nutrition Board activities.	125,000
Food and Nutrition Board Members Fund — Contributions from members to be used for general purposes of the Food and Nutrition Board.	8,200
Global Commons Project Fund — A contribution by George Mitchell to support issues of sustainable development.	39,058
Frederic L. Hoch Fund — A bequest of Frederic L. Hoch to provide grants to women studying in the sciences.	50,000
Marian Koshland Science Museum Fund * — Contributions from Dr. Daniel E. Koshland, Jr. and the Koshland Foundation to fund the operation and activities of the museum for the purpose of extending the resources of the National Academies and increasing public understanding of the nature and value of science.	22,793,243

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 1

Endowment, Trust, and Other Long–term Investments Pool Description of Funds for the Year Ended December 31, 2016

	Capital Contribution (Column 1 of Schedule 1–A)
Bruce Alberts Fund of the Marian Koshland Science Museum * — Contributions from Dr. Daniel E. Koshland, Jr. and the Koshland Foundation to support the traveling costs of the museum's exhibits, to fund new exhibits to replace traveling exhibits, and to extend the museum's outreach to school districts.	5,134,871
Christine Mirzayan Fellowship Fund — A contribution from the Kate Mahaffey Memorial Scholarship Fund of the Westmoreland Congregational United Church of Christ to support a program designed to engage graduate students in various fields in the analysis and creation of science and technology policy.	5,760
NAS Members Endowment(s) — NAS members' contributions that have been designated for special purposes, such as the Board on Chemical Sciences Fund and the Section 14 Chemistry Discretionary Fund.	58,941
National Science Resources Center (NSRC) Fund * — Royalty revenues from elementary and middle school science kits developed by the NSRC to provide core support of NSRC programs to enhance and improve the learning and teaching of science in domestic and international schools.	4,986,473
New Canaan Library Fund — Contribution from the Board of the New Canaan Library to permanently maintain a current National Academies book collection at the library in honor of Dr. H.R. Shepherd.	4,000
Kumar and Shela Patel Endowment for US–India Dialogs — Contributions from Kumar and Shela Patel to support US-India scientific and technical communication and dialog.	614,500
Arthur M. Sackler Colloquia of the National Academy of Sciences Fund — A contribution from Mrs. Arthur M. Sackler to endow a series of scientific symposia that promotes interaction among world–class researchers in rapidly advancing scientific fields.	4,375,000
The Raymond and Beverly Sackler USA–UK Scientific Forum Endowment — A contribution from the Raymond and Beverly Sackler Foundation to endow a bilateral scientific forum to forge a partnership between the scientific leadership of the United Kingdom and the United States through conferences and meetings on topics of immediate and future scientific concern.	2,025,108
Raymond and Beverly Sackler Science Fund — A contribution, given in honor of Ralph J. Cicerone, from Raymond and Beverly Sackler to provide support for studies and projects in the areas of basic biology and of biomedical science – including the convergence of biology, physics, mathematics, and engineering sciences – in addressing problems in biomedical science and human health.	2,000,000
U.S. National Committee for the International Astronomical Union (USNC/IAU) Fund * — Contributions from USNC/IAU to support participation by U.S. astronomers in the activities of the International Astronomical Union Triennial General Assemblies.	100,000
Subtotal – Program Specific Funds	$ 60,887,559

E. Prizes and Awards — *The following funds support prizes or awards presented in various scientific fields as designated by the donor(s).*

American Psychological Association (APA) Science Directorate Fund — A contribution from the APA to conduct activities that will help inform the public of the knowledge base, value, and importance of behavioral science research.	$ 30,000
Henryk Arctowski Fund — A bequest of Jane Arctowski in memory of her husband Henryk Arctowski, for the promotion and study of solar activity changes of short or long duration and their effects upon the ionosphere and terrestrial atmosphere.	95,736
Richard C. Atkinson Fund — A contribution of Richard C. Atkinson to establish the National Academy of Sciences Prize in Psychological and Cognitive Sciences to be awarded for significant advances in the psychological and cognitive sciences with important implications for formal and systematic theory in these fields.	3,151,478

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 1

Endowment, Trust, and Other Long–term Investments Pool Description of Funds for the Year Ended December 31, 2016

	Capital Contribution (Column 1 of Schedule 1–A)
Bache Fund — A bequest of Alexander Dallas Bache to aid research in the physical and natural sciences.	60,000
Edward and Marianne Blaauw Fund — A bequest of Marianne Blaauw to support research in the field of ophthalmology.	71,299
John J. Carty Fund — A contribution of the American Telephone and Telegraph Company in recognition of John J. Carty for a gold medal and award for noteworthy and distinguished accomplishments in any field of science.	25,000
Comstock Fund — A contribution of Cyrus B. Comstock for a prize for notable investigations in electricity, magnetism, or radiant energy.	10,400
Draper Fund — A contribution of Mrs. Henry Draper in memory of her husband, a former member of the Academy, to found the Henry Draper Medal to be awarded for notable investigations in astronomical physics; the balance of income is applied to aid research in this science.	6,000
Elliot Fund — A contribution of Margaret Henderson Elliot for the most meritorious work on zoology and paleontology published in each year.	8,000
Estes Award in Social and Behavioral Sciences — A contribution from William K. and Katherine W. Estes to be used initially for an award relating to contributions to the prevention of nuclear war. After several awards are given for this purpose, the remaining money will be set aside for use by the Division of Behavioral and Social Sciences and Education.	79,849
Food and Agriculture Research Fund — Contributions from the Foundation for Food and Agriculture Research and The Bill & Melinda Gates Foundation to provide support for the National Academy of Sciences Prize in Food and Agriculture Sciences which is to be awarded to an individual researcher at a U.S. institution who has made an extraordinary contribution to understanding the fundamental biology of an agriculturally important species and/or has had a major impact on agriculture.	3,000,000
Gibbs Brothers Fund — A contribution from William Francis Gibbs and Frederic H. Gibbs for outstanding contributions in the field of naval architecture and marine engineering.	24,000
Gibbs Fund — A contribution from Wolcott Gibbs and increased by a bequest of Morris Loeb for the promotion of research in chemistry.	5,274
Ralph E. Gomory Award for the Application of Science — A grant from the International Business Machines Corporation for an award to be given in honor of Ralph Gomory.	179,046
Gould Fund — A contribution and a bequest of Alice Bache Gould in memory of her father for the promotion of research in astronomy, increased by a bequest of Elizabeth Chandler Hockley.	50,000
Michael and Sheila Held Prize in Mathematical Programming — A bequest of Michael and Sheila Held for achievement in mathematical programming.	3,975,226
Joseph Henry Fund — Contributions by Fairman Rogers, Joseph Patterson, George W. Childs, and others in honor of Joseph Henry to assist meritorious investigators of original research.	39,740
Alexander Hollaender Award in Biophysics — A bequest of Alexander Hollaender for a prize to an outstanding biophysicist.	100,000
Hunsaker Fund — A contribution of Mr. and Mrs. J. C. Hunsaker to found an Academy award in the field of aeronautical engineering.	24,750
Franklin Livingston Hunt Fund — A bequest of Franklin Livingston Hunt to aid research in physics, chemistry, and preventive medicine.	10,465
Kovalenko Fund — A contribution of Michael S. Kovalenko, in memory of his wife, to found the Jessie Stevenson Kovalenko Gold Medal for meritorious research in medical sciences.	108,193
Marsh Fund — A bequest of Othniel Charles Marsh to promote original research in the natural sciences.	10,000
George P. Merrill Fund — A contribution of Mrs. George P. Merrill for studies of meteors, meteorites, and space.	10,000
Stanley Miller Award * — A bequest of Stanley L. Miller for work or contributions to early earth studies.	204,554
Monsanto Award in Molecular Biology — A grant from the Monsanto Company for contributions in the field of molecular biology.	421,374

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 1

Endowment, Trust, and Other Long–term Investments Pool Description of Funds for the Year Ended December 31, 2016

	Capital Contribution (Column 1 of Schedule 1–A)
Murray Fund — A contribution of Sir John Murray in honor of Alexander Agassiz for original contributions to the science of oceanography.	6,000
National Academy of Sciences Award in Chemical Sciences — A contribution of The Merck Company Foundation for distinction in research and broad fundamental impact in pure chemistry.	478,278
National Academy of Sciences Award for Chemistry in Service to Society — A contribution of the E. I. DuPont de Nemours & Company for contributions to chemistry, whether in fundamental science or its applications, that clearly satisfy a societal need.	181,838
National Academy of Sciences Award in Mathematics — A contribution of the American Mathematical Society for achievements in mathematics.	53,597
National Academy of Sciences Award in Neuroscience — A contribution of the Fidia Research Foundation for achievements in neuroscience.	140,206
National Academy of Sciences Fund for Sciences and Technology in International Affairs — Contributions from Cecil and Ida Green, J. Erik Jonsson, and Jerome B. Wiesner and others in honor of Walter A. Rosenblith.	49,119
Pradel Fund — A bequest of Jules Pradel to be applied to work on the human central nervous system and allied subjects.	16,392
H. P. Robertson Lectureship Fund — Contributions by friends of H. P. Robertson for the Robertson Memorial Lecture of the National Academy of Sciences.	20,325
Raymond and Beverly Sackler Convergence Research Prize Fund — A contribution from Dr. Raymond R. Sackler and Beverly Sackler to establish a Prize to recognize significant advances by a group or individual in convergence research in two or more among the disciplines of mathematics, physics, chemistry, biomedicine, biology, astronomy, earth sciences, engineering and computational science.	10,000,000
John P. Schaefer Fund — A contribution from the Research Corporation for Science Advancement to create the National Academy of Sciences Award for Scientific Discovery, in honor of John P. Schaefer for basic research.	1,500,000
Helen P. Smith Fund — A bequest of Helen P. Smith in memory of her husband, Gilbert Morgan Smith for published research in marine and freshwater algae.	67,107
Mrs. J. Lawrence Smith Fund — A contribution of Mrs. J. Lawrence Smith in memory of her husband for important investigations of meteoric bodies and to assist, by grants of money, research concerning such objects.	8,000
Thompson Fund — A contribution of Mary Clark Thompson for important services to geology and paleontology.	10,000
Troland Fund — A bequest of Leonard T. Troland for the advancement of scientific knowledge in the field of psychophysics.	505,359
Selman A. Waksman Award Fund — A contribution from the Waksman Foundation for Microbiology to establish an award to be given biennially to an individual responsible for significant advances in the field of microbiology.	390,000
Walcott Fund — A contribution of Mary Vaux Walcott in honor of her husband for Cambrian or pre-Cambrian life and its history.	5,000
G. K. Warren Fund — A contribution of Emily B. Warren in memory of her father for achievements in any field of science.	15,000
Watson Fund — A bequest of James Craig Watson for the promotion of astronomical sciences and grants in aid of research.	25,000
Subtotal — Prizes and Awards	$ 25,171,605

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 1

Endowment, Trust, and Other Long–term Investments Pool
Description of Funds for the Year Ended December 31, 2016

	Capital Contribution (Column 1 of Schedule 1–A)
F. Reserve Funds — *The following funds are invested in the long-term investment pool to provide for future unanticipated funding needs.*	
National Academy of Sciences Reserve Fund * — Accumulated surplus from NAS General Fund operating budget.	$ 7,816,013
Proceedings of the National Academy of Sciences (PNAS) Fund *	1,000,000
Transportation Research Board (TRB) Reserve Fund * — Income in excess of expenditures for TRB core support activities in a fiscal year.	1,500,000
Subtotal — Reserve Funds	$ 10,316,013
Subtotal — Funds that Support the NAS	$ 178,850,954
II. Funds that Support the NAM	
A. General Funds — *The following funds provide unrestricted resources to support the activities of the National Academy of Medicine.*	
H. Fineberg and M. Wilson Fund — A contribution by Harvey V. Fineberg and Mary E. Wilson to be used at the discretion of the president of the National Academy of Medicine to increase the impact of its activities and of the joint program with the National Academy of Sciences and National Academy of Engineering.	$ 121,500
General Endowment Fund — Contributions from various sources, including members of the National Academy of Medicine, for capital endowment of the National Academy of Medicine.	1,158,739
Robert Wood Johnson Foundation Fund — A grant from the Robert Wood Johnson Foundation for core support of the National Academy of Medicine.	5,000,000
Henry J. Kaiser Family Foundation Fund — A contribution of the Henry J. Kaiser Family Foundation for core activities of the National Academy of Medicine.	488,485
National Academy of Medicine Kellogg Fund * — A grant from the Kellogg Foundation for the general purposes of the National Academy of Medicine.	282,500
National Academy of Medicine Members' Dues *	197,500
John D. and Catherine T. MacArthur Foundation Fund — A grant to the endowment of the National Academy of Medicine, the income from which is restricted to the general purposes of the Academy.	5,000,000
Pharmaceutical Discretionary Fund * — A grant from the W. K. Kellogg Foundation to further the National Academy of Medicine's long-range program development.	480,000
Pharmaceutical Endowment Fund — Contributions of $250,000 from Glaxo, Inc., and $10,000 from Eli Lilly Company for the general purposes of the National Academy of Medicine.	259,448
Miscellaneous Private Sector Fund — Contributions from Kaiser Permanente for core support of the National Academy of Medicine.	26,346
Subtotal — General Funds	$ 13,014,518
B. Program Specific Funds — *Each of the following funds supports a specific programmatic purpose as designated by the donor(s).*	
American Board of Emergency Medicine (ABEM) Fellowship Fund — A contribution from the American Board of Emergency Medicine for early career health science scholars in the field of emergency medicine to participate in the NAM study process as part of NAM's Anniversary Fellows program.	$ 750,000

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 1

Endowment, Trust, and Other Long–term Investments Pool
Description of Funds for the Year Ended December 31, 2016

	Capital Contribution (Column 1 of Schedule 1–A)
Distinguished Scholar Fund — Contributions from NAM members for one or more persons of senior caliber to spend a period of time at the NAM in scholarly pursuits related to key program initiatives.	16,550
Norman F. Gant, M.D. and American Board of Obstetrics and Gynecology Fellowship Fund — A contribution from the American Board of Obstetrics and Gynecology for an early career health scientist in the field of obstetrics and gynecology, as part of NAM's Anniversary Fellows program.	650,500
Greenwall Fellowship in Bioethics — A contribution from the Greenwall Foundation to support a two-year fellowship at the National Academy of Medicine for an early career scholar in the field of bioethics.	750,000
David and Beatrix Hamburg Endowment Fund — Contributions from individuals for communication and dissemination programs, collaborations among key public health stakeholders, and forward-looking studies.	1,012,775
Howard Hughes Medical Institute Fund — A contribution from the Howard Hughes Medical Institute for a program of studies to foster the translation of science into advances in health.	5,000,000
Robert Wood Johnson Foundation Culture of Health Program * — A grant from the Robert Wood Johnson Foundation to support programs and activities in the National Academy of Medicine related to the Culture of Health.	5,000,000
Kellogg Health of the Public Fund — A contribution from the W.M. Kellogg Foundation to advance the National Academy of Medicine's capacity to contribute to the improvement of the health of America's communities.	5,000,000
Kellogg Health of the Public Fund Matching Contributions — Contributions in response to the W.M. Kellogg Foundation's challenge grant to support communication and outreach activities.	2,572,544
Omenn Fellowship Fund — A contribution from Gilbert S. Omenn and Martha Darling for early career health science scholars in the fields of biomedical science and population health to participate in the NAM study process as part of NAM's Anniversary Fellows program.	752,805
Osteopathic Medicine Fellow Fund — Contributions from the American Osteopathic Association, the American Association of Colleges of Osteopathic Medicine, and the American Osteopathic Foundation for early career health science scholars in the field of osteopathic medicine to participate in the NAM study process as part of NAM's Anniversary Fellows program.	750,000
Pharmacy Fellowship Fund — Contributions from the American Association of Colleges of Pharmacy and the American College of Clinical Pharmacy for early career health science scholars from the pharmaceutical and clinical sciences to participate in the NAM study process as part of NAM's Anniversary Fellows program.	750,000
James C. Puffer / ABFM Fund — A contribution from the American Board of Family Medicine for early career health science scholars in the field of family medicine to participate in the NAM study process as part of the NAM's Anniversary Fellows program.	750,000
Richard and Hinda Rosenthal Lecture Series — A contribution from the Richard and Hinda Rosenthal Foundation for a lecture series to bring greater attention to some of the critical health policy issues facing the country.	1,000,000
Leonard D. Schaeffer Fund — A contribution from Leonard D. Schaeffer to establish an endowed position in the Executive Office of the National Academy of Medicine.	2,020,684
Women's Health Issues Fund — A contribution from Syntex (U.S.A.), Inc., to be used for purposes related to women's health issues.	20,000
Subtotal — Program Specific Funds	$ 26,795,858

C. *Prizes and Awards* — *The following funds support prizes or awards presented in various fields as designated by the donor(s).*

Gustav O. Lienhard Award — A grant from the Robert Wood Johnson Foundation for an outstanding contribution to the advancement of health care.	$ 1,200,000

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 1

Endowment, Trust, and Other Long–term Investments Pool
Description of Funds for the Year Ended December 31, 2016

	Capital Contribution (Column 1 of Schedule 1–A)	
Sandra H. Matthews Cecil Award * — For a current or former administrative support staff member who has made a significant and sustained contribution to developing and maintaining efficient, effective, and service oriented support for the membership or program activities.		153,175
Rhoda and Bernard G. Sarnat International Prize in Mental Health — A grant from Rhoda and Bernard G. Sarnat for distinguished accomplishments in the field of mental health.		1,009,179
Subtotal — Prizes and Awards	$	2,362,354
D. Reserve Funds — *The following funds are invested in the long-term investment pool to provide for future unanticipated funding needs.*		
NAM Reserve Fund * — Unexpended balance of endowment earnings based on NAM Council spending plan.	$	500,000
Subtotal — Reserve Funds	$	500,000
Subtotal — Funds that Support the NAM	$	42,672,730
Subtotal — NAS and NAM Funds	$	221,523,684

III. FUNDS HELD ON BEHALF OF OTHERS

A. The National Academies' Corporation (TNAC)

Operations Endowment — An endowment from the Arnold and Mabel Beckman Foundation to TNAC to support operations of the Beckman Center in Irvine, California. The endowment is held on behalf of TNAC and invested by the NAS.	$	8,000,000
Program Endowment — An endowment from the Arnold and Mabel Beckman Foundation to TNAC to support NRC program activities conducted in whole or in part at the Beckman Center. The endowment is held on behalf of TNAC and invested by the NAS.		1,939,644
Subtotal — The National Academies' Corporation	$	9,939,644
TOTAL	$	231,463,328

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 1-A

Endowment, Trust, and Other Long-term Investments Pool
Financial Detail of Funds for the Year Ended December 31, 2016

(Dollars in thousands)

	Capital Contributions as of Dec. 31, 2016	Market Value at Dec. 31, 2015	2016 Contributions	2016 Investment Income	2016 Expenditures & Transfers	Market Value at Dec. 31, 2016
I. Funds that Support the NAS						
A. General Fund						
Agassiz Fund	$ 50	$ 520	$ -	$ 42	$ (25)	$ 537
Carnegie Fund	3,275	35,984	-	2,906	(1,729)	37,161
Commonwealth Fund	500	2,336	-	189	(112)	2,413
Carl Eckart Fund *	1,246	2,378	-	192	(114)	2,456
Ford Foundation Fund	5,000	22,968	-	1,855	(1,103)	23,720
Henrietta and Alexander Hollaender Fund *	500	1,026	-	83	(47)	1,062
Grayce B. Kerr Fund	250	513	-	44	(25)	532
Nealley Fund	20	207	-	17	(10)	214
Simon Ramo Fund	14	34	-	3	(2)	35
Rockefeller Foundation Fund *	1,000	4,658	-	376	(224)	4,810
Dorothea and Herbert Simon Fund	899	1,365	-	110	(65)	1,410
Sloan Foundation Fund *	1,000	4,642	-	375	(223)	4,794
Amy Prudden Turner Fund *	30	118	-	9	(6)	121
Anonymous Endowment Fund	7,147	14,923	-	1,205	(717)	15,411
General Endowment Fund *	4,244	9,539	100	768	(449)	9,958
General Endowment Fund	454	530	-	43	(25)	548
Members Endowment Fund	2,882	5,228	11	422	(251)	5,410
	$ 28,511	$ 106,969	$ 111	$ 8,639	$ (5,127)	$ 110,592
B. Woods Hole						
Peter C. Cornell Trust Fund *	$ 100	$ 246	$ -	$ 20	$ (12)	$ 254
J. Erik Jonsson Woods Hole Fund	2,003	4,258	-	344	(205)	4,397
Richard King Mellon Foundation Fund	50	180	-	15	(9)	186
Penzance Foundation Fund	502	1,070	-	86	(51)	1,105
Woods Hole Endowment Fund	971	1,231	-	99	(59)	1,271
Woods Hole Fund	13	37	-	3	(1)	39
	$ 3,639	$ 7,022	$ -	$ 567	$ (337)	$ 7,252
C. Presidents' Committee Funds						
Basic Science Fund - Earth Sciences	$ 503	$ 1,401	$ -	$ 107	$ (214)	$ 1,294
Biology and Biotechnology Fund	420	852	-	71	(3)	920
Thomas Lincoln Casey Fund	258	5,973	-	475	(259)	6,189
The Coca-Cola Foundation Fund	50	70	-	6	-	76
Arthur L. Day Fund	5,048	18,841	-	1,521	(726)	19,636
Cecil and Ida Green Fund	467	1,599	-	128	(91)	1,636
W. K. Kellogg Foundation Fund	20,000	43,138	-	3,439	(1,974)	44,603
Kobelt Fund *	297	1,909	-	155	(116)	1,948
Andrew W. Mellon Foundation Fund	1,000	1,648	-	130	(174)	1,604
George and Cynthia Mitchell Endowment for Sustainability Sciences	20,000	26,443	-	2,141	(1,030)	27,554
George and Cynthia Mitchell Matching Endowment *	115	177	-	14	(76)	115
Frank Press Fund for Dissemination and Outreach	1,167	2,191	-	179	(76)	2,294
Scientists and Engineers for the Future Fund	1,000	1,660	-	133	(28)	1,765
	$ 50,325	$ 105,902	$ -	$ 8,499	$ (4,767)	$ 109,634

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 1-A

Endowment, Trust, and Other Long-term Investments Pool
Financial Detail of Funds for the Year Ended December 31, 2016

(Dollars in thousands)

	Capital Contributions as of Dec. 31, 2016	Market Value at Dec. 31, 2015	2016 Contributions	2016 Investment Income	2016 Expenditures & Transfers	Market Value at Dec. 31, 2016
D. Program Specific Funds						
Arnold and Mabel Beckman Fund						
of the NAS and NAE *	$ 13,496	$ 784	$ -	$ 56	$ (840)	$ -
Seymour Benzer Lecture Series	120	153	-	12	(1)	164
Billings Fund	50	1,166	-	97	(2)	1,261
Blakeslee Fund	887	2,351	-	190	(12)	2,529
Henry G. Booker Fellowship Fund	21	72	-	6	-	78
Ralph J. and Carol M. Cicerone Endowment for NAS Missions	2,535	99	2,435	38	-	2,572
Communications Initiative Fund *	-	3,317	-	268	(159)	3,426
Cultural Programs of the NAS Fund	84	89	21	9	(1)	118
Henry and Bryna David Endowment	850	1,398	-	115	(31)	1,482
Food and Nutrition Board Fund	525	1,937	-	161	(2)	2,096
Food and Nutrition Board Corporations Fund	125	565	-	47	(1)	611
Food and Nutrition Board Members Fund	8	34	1	3	-	38
Global Commons Project Fund	39	212	-	17	-	229
Frederic L. Hoch Fund	50	59	-	5	-	64
Marian Koshland Science Museum Fund *	22,793	18,414	-	1,467	(1,115)	18,766
Bruce Alberts Fund of the Marian						
Koshland Science Museum *	5,135	7,659	-	631	(222)	8,068
Christine Mirzayan Fellowship Fund	6	8	-	1	-	9
NAS Members Endowment(s)	59	364	-	31	-	395
National Science Resources Center Fund *	4,986	5,969	-	477	(274)	6,172
New Canaan Library Fund	4	14	-	1	-	15
Kumar and Shela Patel Endowment						
for US-India Dialogs	615	829	2	67	(41)	857
Arthur M. Sackler Colloquia of the NAS Fund	4,375	5,808	-	457	(308)	5,957
The Raymond and Beverly Sackler USA-UK						
Scientific Forum Endowment	2,025	2,225	-	172	(252)	2,145
Raymond and Beverly Sackler Science Fund	2,000	2,587	-	214	(4)	2,797
U.S. National Committee for the International				-	-	
Astronomical Union (USNC/IAU) Fund *	100	196	-	16	-	212
	$ 60,888	$ 56,309	$ 2,459	$ 4,558	$ (3,265)	$ 60,061
E. Prizes and Awards						
American Psychological Association (APA)						
Science Directorate Fund	$ 30	$ 83	$ -	$ 6	$ (2)	$ 87
Henryk Arctowski Fund	96	3,928	-	326	(16)	4,238
Richard C. Atkinson Fund	3,152	3,663	-	292	(228)	3,727
Bache Fund	60	383	-	31	(31)	383
Blaauw Fund	71	837	-	67	(71)	833
John J. Carty Fund	25	788	-	64	(43)	809
Comstock Fund	10	945	-	79	(3)	1,021
Draper Fund	6	379	-	31	(1)	409
Elliot Fund	8	189	-	16	(1)	204
Estes Award in Social and						
Behavioral Sciences	80	234	-	19	-	253
Food and Agriculture Research Fund	3,000	-	3,000	144	-	3,144
Gibbs Brothers Fund	24	254	-	21	(13)	262
Gibbs Fund	5	156	-	14	(13)	157
Ralph E. Gomory Award for						
the Application of Science	179	574	-	47	(2)	619
Gould Fund	50	691	-	57	(59)	689
Michael and Sheila Held Prize						
in Mathematical Programming	3,975	3,928	-	326	(1)	4,253
Joseph Henry Fund	40	449	-	37	(38)	448

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 1-A

Endowment, Trust, and Other Long-term Investments Pool
Financial Detail of Funds for the Year Ended December 31, 2016

(Dollars in thousands)

	Capital Contributions as of Dec. 31, 2016	Market Value at Dec. 31, 2015	2016 Contributions	2016 Investment Income	2016 Expenditures & Transfers	Market Value at Dec. 31, 2016
Alexander Hollaender Award in Biophysics	$ 100	$ 341	$ -	$ 27	$ (29)	$ 339
Hunsaker Fund	25	462	-	32	(3)	491
Franklin Livingston Hunt Fund	10	305	-	25	-	330
Kovalenko Fund	108	1,768	5	143	(89)	1,827
Marsh Fund	10	197	-	16	(17)	196
George P. Merrill Fund	10	645	-	53	(55)	643
Stanley Miller Award *	205	255	-	19	(17)	257
Monsanto Award in Molecular Biology	421	1,135	-	92	(37)	1,190
Murray Fund	6	169	-	13	-	182
NAS Award in Chemical Sciences	478	605	-	47	(13)	639
NAS Award for Chemistry in Service to Society	182	358	-	30	(4)	384
NAS Award in Mathematics	54	63	-	5	(4)	64
NAS Award in Neuroscience	140	560		45	(33)	572
NAS Fund for Sciences and Technology in International Affairs	49	295	-	25	(10)	310
Pradel Fund	16	1,944	-	157	(63)	2,038
H. P. Robertson Lectureship Fund	20	379	-	32	(1)	410
Raymond and Beverly Sackler Convergence Research Prize Fund	10,000	9,420	-	767	(417)	9,770
John P. Schaefer Fund	1,500	1,544	-	128	(4)	1,668
Helen P. Smith Fund	67	692	-	57	(1)	748
Mrs. J. Lawrence Smith Fund	8	766	-	63	(2)	827
Thompson Fund	10	236	-	19	(1)	254
Troland Fund	506	4,704	-	380	(176)	4,908
Selman A. Waksman Award Fund	390	388	-	81	(1)	468
Walcott Fund	5	72	-	6	-	78
G. K. Warren Fund	15	203	-	17	-	220
Watson Fund	25	1,593	-	127	(84)	1,636
	$ 25,171	$ 46,580	$ 3,005	$ 3,983	$ (1,583)	$ 51,985
F. Reserve Funds						
National Academy of Sciences Reserve Fund *	$ 7,816	$ 5,234	$ 1,160	$ 449	$ (175)	$ 6,668
Proceedings of the National Academy of Sciences (PNAS) Fund *	1,000	1,432	-	118	(8)	1,542
Transportation Research Board (TRB) Reserve Fund *	1,500	2,912	-	241	(5)	3,148
Due to (from) National Academy of Sciences *	-	(25)	(312)	(147)	93	(391)
	$ 10,316	$ 9,553	$ 848	$ 661	$ (95)	$ 10,967
Subtotal — Funds that Support the NAS	**$ 178,850**	**$ 332,335**	**$ 6,423**	**$ 26,907**	**$ (15,174)**	**$ 350,491**
II. Funds that Support the NAM						
A. General Funds						
H. Fineberg and M. Wilson Fund	$ 122	$ 97	$ 25	$ 10	$ -	$ 132
General Endowment Fund	1,158	1,877	21	156	(95)	1,959
Robert Wood Johnson Foundation Fund	5,000	10,889	-	891	(549)	11,231
Henry J. Kaiser Family Foundation Fund	488	850	-	69	(43)	876
NAM Kellogg Fund *	283	599	-	50	(31)	618
NAM Members' Dues *	198	416	-	33	(20)	429
John D. and Catherine T. MacArthur Foundation Fund	5,000	10,769	-	865	(543)	11,091
Pharmaceutical Discretionary Fund *	480	1,068	-	87	(53)	1,102
Pharmaceutical Endowment Fund	259	515	-	43	(26)	532
Miscellaneous Private Sector Fund	26	60	-	5	(3)	62
	$ 13,014	$ 27,140	$ 46	$ 2,209	$ (1,363)	$ 28,032

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 1-A

Endowment, Trust, and Other Long-term Investments Pool
Financial Detail of Funds for the Year Ended December 31, 2016

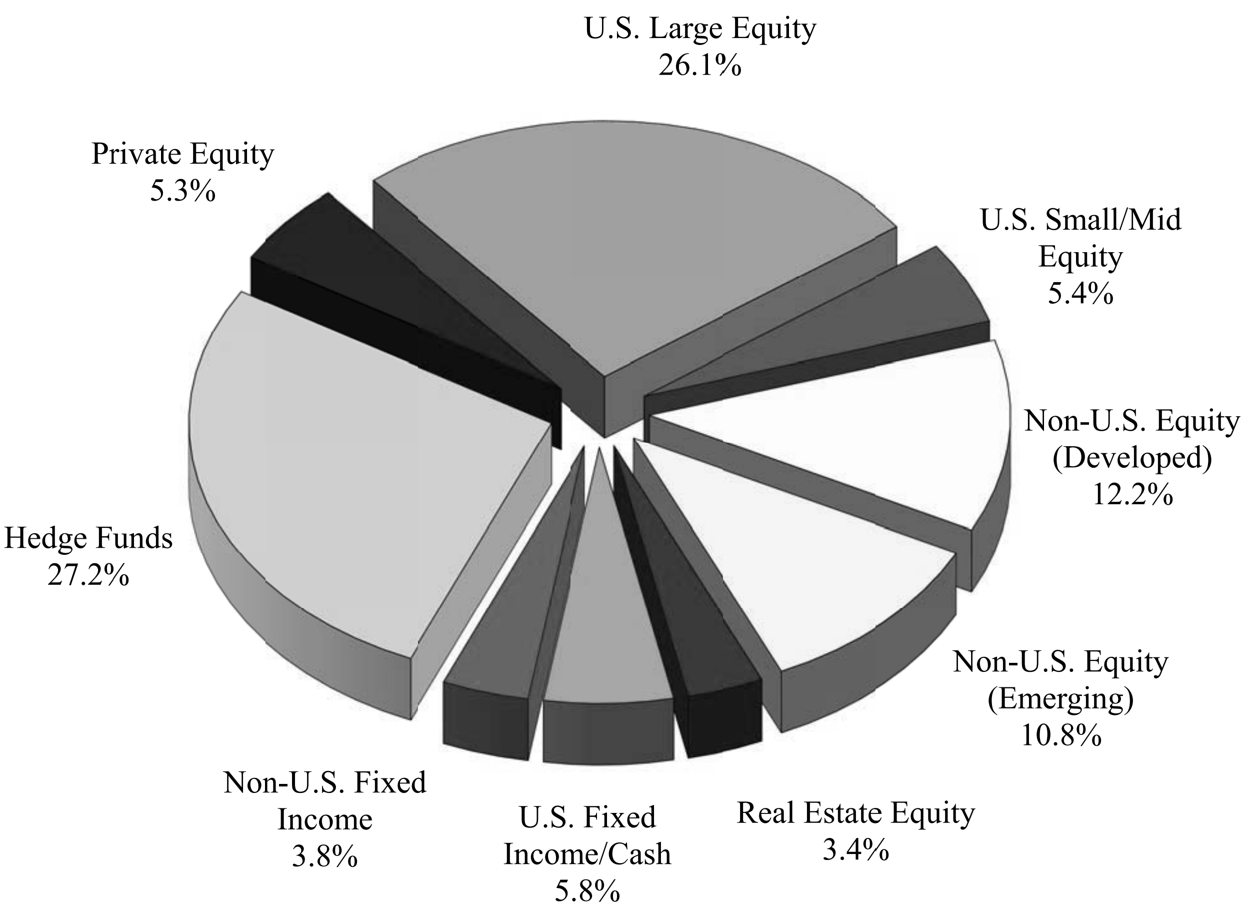
(Dollars in thousands)

	Capital Contributions as of Dec. 31, 2016	Market Value at Dec. 31, 2015	2016 Contributions	2016 Investment Income	2016 Expenditures & Transfers	Market Value at Dec. 31, 2016
B. Program Specific Funds						
American Board of Emergency Medicine (ABEM) Fellowship Fund	750	748	-	59	(8)	799
Distinguished Scholar Fund	17	89	-	7	-	96
Norman F. Gant, M.D. and American Board of Obstetrics and Gynecology Fellowship Fund	650	914	-	74	(29)	959
Greenwall Fellowship in Bioethics	750	693	-	59	24	776
David and Beatrix Hamburg Endowment Fund	1,013	1,645	-	137	(3)	1,779
Howard Hughes Medical Institute Fund	5,000	15,306	-	1,166	(895)	15,577
Robert Woods Johnson Culture of Health Program *	5,000	4,768	-	397	-	5,165
Kellogg Health of the Public Fund	5,000	6,776	-	564	(42)	7,298
Kellogg Health of the Public Fund Matching Contributions	2,573	3,876	-	336	(6)	4,206
Omenn Fellowship Fund	753	870	-	72	(21)	921
Osteopathic Medicine Fellow Fund	750	509	250	43	(28)	774
Pharmacy Fellowship Fund	750	835	-	67	(44)	858
James C. Puffer / ABFM Fund	750	956	-	76	(117)	915
Richard and Hinda Rosenthal Lecture Series	1,000	1,527	-	119	(74)	1,572
Leonard D. Schaeffer Fund	2,021	2,350	-	195	(4)	2,541
Women's Health Issues Fund	20	102	-	8	-	110
	26,797	41,964	250	3,379	(1,247)	44,346
C. Prizes and Awards						
Gustav O. Lienhard Award	1,200	4,331	-	356	(76)	4,611
Sandra H. Matthews Cecil Award *	153	177	-	14	(5)	186
Rhoda and Bernard G. Sarnat International Prize in Mental Health	1,009	1,607	-	132	(48)	1,691
	2,362	6,115	-	502	(129)	6,488
D. Reserve Funds						
NAM Reserve Fund *	500	1,148	-	93	(2)	1,239
Subtotal — Funds that Support the NAM	**42,673**	**76,367**	**296**	**6,183**	**(2,741)**	**80,105**
Subtotal — NAS and NAM Funds	**221,523**	**408,702**	**6,719**	**33,090**	**(17,915)**	**430,596**
III. Funds Held on Behalf of Others						
A. The National Academies' Corporation						
Operations Endowment	8,000	8,542	-	663	(402)	8,803
Program Endowment	1,940	2,078	-	166	(101)	2,143
Building Maintenance Reserve *	-	559	-	98	456	1,113
	9,940	11,179	-	927	(47)	12,059
TOTAL	**231,463**	**419,881**	**6,719**	**34,017**	**(17,962)**	**442,655**

* Denotes funds for which the contribution was not permanently restricted by the donor

SCHEDULE 2

Endowment, Trust, and Other Long-term Investments Pool
Asset Allocation as of December 31, 2016



SCHEDULE 2-A

Endowment, Trust, and Other Long-term Investments Pool
Change in Valuation and Market Value Summary

Change in Valuation from 12/31/15 to 12/31/16

(Dollars in Thousands)

Market Value at 12/31/15	**$**	**419,881**
Realized Capital Gain		5,570
Unrealized Capital Loss		15,799
Reinvested Income		12,648
Contributions		6,719
Expenditures and Transfers		(17,962)
Market Value at 12/31/16	**$**	**442,655**

Holdings and Market Value Summary as of 12/31/16

(Dollars in Thousands)

U.S. Large Equity		
Berkshire Hathaway A	$	34,665
Berkshire Hathaway B		74
Vanguard Institutional Index		13,376
Vanguard Precious Metals & Mining		3,616
Vanguard S&P 500 ETF		10,069
Renaissance Inst'l Equities (long-short)		31,105
Maverick Fund Ltd. (long-short)		22,679
Subtotal	**$**	**115,584**
U.S. Small/Mid Equity		
Vanguard Extended Market Index	$	12,660
Vanguard Small Cap Index		11,012
Subtotal	**$**	**23,672**
Non-U.S. Equity (Developed)		
Driehaus International Discovery	$	12,305
Templeton Institutional		9,715
Vanguard Pacific Stock Index		7,182
Vanguard International Growth		11,294
Vanguard International Value		9,998
Matthews Asia Dividend Fund		3,293
Subtotal	**$**	**53,787**
Non-U.S. Equity (Emerging)		
Emerging Markets Growth Fund	$	18,236
Templeton Emerging Market		9,916
Wisdomtree Emerging Markets		8,882
Driehaus Emerging Markets Growth		10,950
Subtotal	**$**	**47,984**
Real Estate Equity		
iShares Dow Jones RE Index	$	8,065
Third Avenue RE Fund		7,202
Subtotal	**$**	**15,267**
U.S. Fixed Income/Cash		
PIMCO Funds Total Return	$	15,766
Tactician Windward		5,921
Cash Equivalents		3,880
Subtotal	**$**	**25,567**
Non-U.S. Fixed Income		
PIMCO Foreign Bond	$	9,182
PIMCO Developing		5,097
PIMCO Emerging Bond		2,686
Subtotal	**$**	**16,965**
Hedge Funds		
Makena Capital Associates	$	42,800
Renaissance Inst'l Diversified		23,450
Bowery Opportunity Fund		9,432
Davidson Kempner		11,718
Highbridge Tactical		4,279
JPS Credit Opportunities		3,897
CFM Stratus		5,021
Two Sigma Risk Premia Fund		10,000
Two Sigma Absolute Return Fund		10,000
Subtotal	**$**	**120,597**
Private Equity	**$**	**23,232**
GRAND TOTAL	**$**	**442,655**

II. Private Contributions

DONOR RECOGNITION

We gratefully acknowledge the support of private contributors to the National Academy of Sciences and the National Academy of Medicine. The philanthropy of our members and friends enhances our impact as advisors to the nation.

Lifetime Giving Societies

Einstein Society

In recognition of members and friends who have made significant lifetime contributions to the National Academy of Sciences, the National Academy of Engineering, or the National Academy of Medicine as of December 31, 2016.

$10 million or more

Arnold and Mabel **Beckman***
Bernard M. Gordon
Fred Kavli*
Daniel E. Koshland, Jr.*
George P. Mitchell*
Raymond and Beverly Sackler
James H. and Marilyn **Simons**

$5 million to $10 million

Donald L. Bren
William R. and Rosemary B. **Hewlett***
Peter O'Donnell, Jr.
Dame Jillian Sackler

$1 million to $5 million

Bruce and Betty **Alberts**
Richard and Rita **Atkinson**
Norman R. Augustine
Craig and Barbara Barrett
Jordan* and Rhoda Baruch
Stephen D. Bechtel, Jr.
Harry E. Bovay, Jr.*
Harvey V. Fineberg and Mary E. Wilson
Penny and Bill George, George Family Foundation
Cecil H. Green*
Michael and Sheila Held*
Ming and Eva Hsieh
Irwin and Joan Jacobs
Kenneth A. Jonsson*
Tillie K. Lubin*
John F. McDonnell
The Ambrose Monell Foundation
Gordon and Betty Moore
Philip and Sima **Needleman**
Robert* and Mayari Pritzker
Richard L. and Hinda G. Rosenthal*
Jack W. and Valerie Rowe
Fritz J. and Dolores H. Russ Prize Fund of the Russ College of Engineering and Technology at Ohio University
Bernard* and Rhoda Sarnat
Leonard D. Schaeffer
Sara Lee and Axel Schupf

$500,000 to $1 million

Rose-Marie and Jack R.* Anderson
John and Elizabeth Armstrong
Kenneth E. Behring
Gordon Bell
Elkan R.* and Gail F. **Blout**
Carson Family Charitable Trust
Charina Endowment Fund
Ralph J.* and Carol M. **Cicerone**
James McConnell Clark
Henry David*
Richard Evans*
Eugene Garfield Foundation
Theodore Geballe
William T.* and Catherine Morrison **Golden**
Alexander Hollaender*
Thomas V. Jones*
Cindy and Jeong Kim
Ralph and Claire Landau*
Asta and William W. Lang*
Ruben F.* and Donna Mettler
Dane* and Mary Louise Miller
Oliver E. and Gerda K. **Nelson***
Gilbert S. Omenn and Martha A. Darling
Shela and **Kumar Patel**
William J. Rutter
Herbert A. and Dorothea P. **Simon***
Raymond S. Stata
Roy and Diana **Vagelos**
Andrew and Erna* **Viterbi**
Alan M. Voorhees*
Anonymous (1)

Names in bold print are NAS members.
*Deceased

$250,000 to $500,000

The Agouron Institute
W. O. Baker*
Warren L. Batts
Clarence S. Coe*
Jerome H.* and Barbara N. Grossman
William R. Jackson*
Robert L. and Anne K. James
Mary and Howard* Kehrl
Robin K. and Rose M. McGuire
Janet and Richard M.* Morrow
Ralph S. O'Connor
Kenneth H. Olsen*
Ann and Michael Ramage
Simon Ramo*
Anne and Walt Robb
Stephen* and Anne Ryan
Henry and Susan Samueli
H. E. Simmons*
Judy Swanson
Ted Turner
Leslie L. Vadasz
Martha Vaughan
Charles M.* and Rebecca M. Vest

$100,000 to $250,000

Holt Ashley*
Francisco J. and Hana **Ayala**
William F. Ballhaus, Sr.*
Thomas D.* and Janice H. Barrow
H. H. and Eleanor F. **Barschall***
Daniel and Frances Berg
Elwyn and Jennifer **Berlekamp**
Diane and Norman Bernstein
Bharati and Murty Bhavaraju
Erich Bloch*
Barry W. Boehm
Paul F. Boulos
David G. Bradley
Lewis M. Branscomb
Sydney Brenner
George* and Virginia Bugliarello
Malin Burnham
Ursula Burns and Lloyd Bean
John and Assia Cioffi
Paul Citron and Margaret Carlson Citron
A. James Clark*
G. Wayne Clough
W. Dale and Jeanne C. Compton*
John D. Corbett*
Ross and Stephanie Corotis
Lance and Susan Davis
Roman W. DeSanctis
Robert and Florence Deutsch
Nicholas M. Donofrio
Paul M. Doty*
Charles W. Duncan, Jr.
Ruth and Victor Dzau
George and Maggie Eads
Robert and Cornelia Eaton
James O. Ellis, Jr. and Elisabeth Paté-Cornell
Dotty and Gordon England
Emanuel and Peggy **Epstein**
Olivia and Peter Farrell
Michiko So* and Lawrence Finegold
Tobie and Daniel J.* Fink
George and Ann Fisher
Robert C.* and Marilyn G. Forney
Harold K.* and Betty Forsen
William L. and Mary Kay Friend
Christopher Galvin
William H. and **Melinda F. Gates III**
Nan and Chuck Geschke
Jack and Linda Gill
Martin E. and Lucinda Glicksman
George and Christine **Gloeckler**
Christa and Detlef Gloge
Avram Goldstein*
Robert W. Gore
Paul and Judy Gray
Corbin Gwaltney
John O. Hallquist
Margaret A. Hamburg and Peter F. Brown
William M. Haney III
George and Daphne Hatsopoulos
John L. Hennessy
Jane Hirsh
Chad and Ann Holliday
Michael W. Hunkapiller
M. Blakeman Ingle
Richard B. Johnston, Jr.
Anita K. Jones
Trevor O. Jones
Thomas Kailath
Yuet Wai and Alvera **Kan**
Leon K. and Olga Kirchmayer*
Frederick A. Klingenstein
William I. Koch
Gail F. Koshland
Jill Howell Kramer
Kent Kresa
John W. Landis*
Janet and Barry Lang
Ming-wai Lau
Gerald and Doris Laubach
David M.* and Natalie Lederman
Bonnie Berger and **Frank Thomson Leighton**
Frances and George Ligler
Whitney and Betty MacMillan
Asad M., Gowhartaj, and Jamal Madni
Davis L. Masten and Christopher Ireland
Roger L. McCarthy
William W. McGuire
Burt and Deedee McMurtry
G. William* and Ariadna Miller
Ronald D. Miller
Stanley L. Miller*
Sanjit K. and Nandita Mitra
Joe and Glenna Moore
David* and Lindsay Morgenthaler
Clayton Daniel and Patricia L. Mote
Ellen and Philip Neches
Susan and Franklin M. Orr, Jr.
David Packard*
Charles and Doris Pankow*
Larry* and Carol Papay
Jack S. Parker*
Edward E. Penhoet
Allen E.* and Marilynn **Puckett**
Richard F. and Terri W. Rashid
Alexander Rich*
Ronald L. Rivest
Matthew L. Rogers and Swati Mylavarapu
Henry M. Rowan*
Joseph E. and Anne P. Rowe*
Jonathan J. Rubinstein
Maxine L. Savitz
Walter Schlup*
Wendy and Eric Schmidt
David E. Shaw
Richard P. Simmons
Robert F. and Lee S. Sproull
Georges C. St. Laurent, Jr.
Arnold and Constance Stancell
Edward C. Stone
John and Janet Swanson
Charlotte and Morris Tanenbaum
Peter and Vivian Teets

Names in bold print are NAS members.
*Deceased

James M. Tien and Ellen S. Weston
Gary and Diane Tooker
James J. Truchard
John C. Wall
Robert and Joan Wertheim
Robert M.* and Mavis E. White
John C. Whitehead*
Jean D. Wilson
Wm. A. Wulf
Ken Xie
Tachi and Leslie Yamada
Adrian Zaccaria
Alejandro Zaffaroni*
Janet and Jerry Zucker
Anonymous (2)

Elkan Blout Society of the National Academy of Sciences

Members of the NAS who have contributed $20,000 to $100,000

$75,000 to $100,000

William J. Baumol
Rosie and **Stirling A.* Colgate**
Johanna M.H. Levelt Sengers
Jeremiah P. Ostriker
Arthur D. Riggs
Rudi* and Sonja **Schmid**
F. William Studier

$50,000 to $75,000

Jacqueline K. Barton and **Peter B. Dervan**
Daniel Branton
Ellis and Bettsy **Cowling**
Robert E. Kahn
A. Dale Kaiser
Frank Press
Adam G. Riess
Brian P. Schmidt
Maxine F. Singer
Lubert and Andrea **Stryer**
Robert Tjian
Torsten N. Wiesel
Anonymous (1)

$20,000 to $50,000

Andreas and Juana **Acrivos**
Robert McC. Adams
Clarence R. Allen
Edward M. Arnett
Kamla* and **Bishnu S. Atal**
John D. Baldeschwieler
Terry and **Roger N. Beachy**
Paul Berg
Kenneth I. Berns
R. Stephen and Carla F. **Berry**
R. Byron Bird
Floyd E. Bloom
Felix Boehm
John and Sharon **Brauman**
Donald D. Brown
Harold Brown
Peggy and **Thomas Caskey**
Purnell W. Choppin
Steven Chu
Michael and Adriana **Clegg**
Barry and Bobbi **Coller**
R. James and Beverly **Cook**
Roberto* and Linda A. **Cozzarelli**
Pedro M. Cuatrecasas
Roy Curtiss III
Igor B. Dawid
Pablo G. Debenedetti
Mildred S. Dresselhaus*
G. David Forney, Jr.
Hans and Verena **Frauenfelder**
Carl Frieden
Richard L. and Lois E. **Garwin**
David V. Goeddel
Ronald L. Graham
Shirley and **Harry Gray**
Jeffrey C. Hall
John G. Hildebrand and Gail D. Burd
Joseph F. Hoffman
Sarah and Dan **Hrdy**
Evelyn L. Hu and David R. Clarke
Tony Hunter
Anthony A. James and Cynthia K. French
Richard V. Kadison
Kathryn S. and **Peter S. Kim**
Tadamitsu Kishimoto
Linda and **Stephen C. Kowalczykowski**
James S. and Elinor G. A. **Langer**
Richard and Madeleine **Lenski**
Sharon R. Long
Jane Lubchenco and Bruce Menge
R. Duncan* and Carolyn Scheer **Luce**
Douglas S. Massey and **Susan Fiske**
Fred and Tibby **McLafferty**
Jane Menken
Mortimer Mishkin
James K. and Holly T. **Mitchell**
Nancy A. Moran and Howard Ochman
Arno G. Motulsky
Cherry A. Murray
Neekeyfar Foundation
Norman F. Ness
Claire L. Parkinson
Roy Radner and Charlotte Kuh
Peter H. Raven
Eugene* and Ruth **Roberts**
John D. Roberts*
Randy Schekman
Phillip A. Sharp
Eric M. Shooter
Kerry Sieh
Robert L. Sinsheimer
Joan A. and **Thomas A. Steitz**
George F. Vande Woude
Peter K. Vogt
Patricia Bray-Ward and **David C. Ward**
Irving L. Weissman
Susan R. Wessler
Carl E. Wieman
Owen N. Witte
Tilahun D. Yilma

Names in bold print are NAS members.
*Deceased

Friends of the National Academy of Sciences

Friends of the NAS who have contributed $20,000 to $100,000

$75,000 to $100,000

Donald and Joan Beall
Fletcher* and Peg Byrom
Wiley N. Caldwell
Richard J. Mahoney
Robert W. and Maura Morey, Jr.
H. R.(Shep)* and Carol Ruth Shephard
Thomas and Marilyn Sutton

$50,000 to $75,000

Berkley Bedell
Louis W. Cabot
Nancy E. Conrad
Richard N. Foster
Raymond E. Galvin
Robert H. Malott
Donald* and Miriam Miller
Molex Incorporated
Neil R. Rolde
Mary and Harvey* Sadow
Jack W. Schuler
Share Fund
Deborah Szekely
Ronald A. Williams
Margaret Scarbrough Wilson

$20,000 to $50,000

Sunanda Basu
Tanya S. Beder
Bennett Family Foundation
Gail and Roberto Canizares
Howard E. Cox, Jr.
Charles R. Denham
Meredith L. Dreiss
John Everets, Jr.
Robert Glushko and Pamela Samuelson
Mark Green and Kathryn Kert Green
Benjamin W. Heineman
Thomas A. Mann
Christopher P. Michel
Kamal K. Midha
Patricia S. Nettleship
Guy W. Nichols
Lucio A. Noto
William J. Raduchel
John S. Reed
Collin W.* and Ann Scarborough
Susan E. Siegel and Robert A. Reed
Dorothy L. Simpson
Jeff Tarr, Sr.
Jay Scott Walker
Bob and Judy Waterman
Susan E. Whitehead
Robert E. Wycoff
Jim and Carole Young
Peter Zandan
James and Linda Ziglar
Anonymous (3)

NAM Society of the National Academy of Medicine

Members and friends of the NAM who have contributed $20,000 to $100,000

$75,000 to $100,000

John K. Castle
Michael and Pat McGinnis
Rudi* and Sonja **Schmid**

$50,000 to $75,000

John R. Ball
Jacqueline K. Barton and **Peter B. Dervan**
Stuart Bondurant and Susan Ehringhaus
William H. Danforth
Delbert A. and Beverly C. Fisher
Woodrow A. Myers, Jr.
Maxine F. Singer
Harold C. and Carol H. Sox
Samuel O. Thier
Robert E. Tranquada
Gail L. Warden
Torsten N. Wiesel
Anonymous (2)

$20,000 to $50,000

Francois M. Abboud
Nancy Adler and Arnold Milstein
Dyanne D. Affonso
Jack D. Barchas
Paul Berg
Kenneth I. Berns
Maureen Bisognano
Floyd E. Bloom
Enriqueta C. Bond
Roger J. Bulger
Peggy and **Thomas Caskey**
Christine Cassel and Michael McCally
David R. and Jacklyn A. Challoner
Purnell W. Choppin
Ellen Wright Clayton and Jay Clayton
Fred E. Cohen and Carolyn B. Klebanoff
Mary Sue Coleman
Barry and Bobbi **Coller**
Colleen Conway-Welch
Pedro M. Cuatrecasas
Jane and Worth B.* Daniels, Jr.
Julie H. and Robert J. Desnick
Richard L. and Lois E. **Garwin**
James R. Gavin III
Tony Gotto
Bradford H. Gray
Jane E. Henney and Robert Graham
Martha N. Hill
William N. Hubbard, Jr.
Tony Hunter
Nancy S. and Thomas S. Inui
The Henry J. Kaiser Family Foundation
Kathryn S. and **Peter S. Kim**
Tadamitsu Kishimoto

Names in bold print are NAS members.
*Deceased

Cato and Cynthia Laurencin
Patricia and George Lundberg
Christy and John Mack
Marie McCormick and Robert Blendon
Bruce McEwen and Karen Bulloch McEwen
Jane Menken
Mortimer Mishkin
Arno G. Motulsky
Van and Barbara Mow
Robert M. and Marilyn R. Nerem
June E. Osborn
Herbert Pardes
William C. Richardson
Marco A. Royo
Charles A. Sanders
Randy Schekman
Donna E. Shalala
Larry J. Shapiro
Phillip A. Sharp
Kenneth I. Shine
Eric M. Shooter
Robert L. Sinsheimer
William N. Spellacy*
Joan A. and **Thomas A. Steitz**
Rosemary A. Stevens
Jeff Tarr, Sr.
Walter and Marti Unger
Peter K. Vogt
Irving L. Weissman
Nancy S. Wexler
C. Kern Wildenthal
Owen N. Witte
Mary Woolley
Warren and Nikki Zapol
Elias A. Zerhouni
Michael Zubkoff
Anonymous (1)

Heritage Society

In recognition of members and friends who have included the National Academy of Sciences, the National Academy of Engineering, or the National Academy of Medicine in their estate plans or who have made some other type of planned gift to the Academies.

Andreas and Juana **Acrivos**
Gene M. and Marian Amdahl
Betsy Ancker-Johnson
John C. Angus
John and Elizabeth Armstrong
Norman R. Augustine
Jack D. Barchas
Harrison H. and Catherine C. Barrett
Stanley Baum
Clyde J. Behney
Elisabeth Belmont
Daniel and Frances Berg
Paul Berg
Elkan R.* and Gail F. **Blout**
Enriqueta C. Bond
Daniel Branton
Robert and Lillian Brent
Corale L. Brierley
James A. Brierley
Lenore and Rob Briskman
Kristine L. Bueche
Dorit Carmelli
Peggy and **Thomas Caskey**
A. Ray Chamberlain
Linda and **Frank Chisari**
Rita K. Chow
John A. Clements
D. Walter Cohen
Morrel H. Cohen
Stanley N. Cohen
Colleen Conway-Welch
Ross and Stephanie Corotis
Ellis and Bettsy **Cowling**
Molly Joel Coye
Barbara J. Culliton
Malcolm R. Currie
David and Susan Daniel
Peter N. Devreotes
Mildred S. Dresselhaus*
Gerard W. Elverum
Dotty and Gordon England
Emanuel and Peggy **Epstein**
Tobie and Daniel J.* Fink
Robert C. and Marilyn G. Forney
William L. and Mary Kay Friend
Arthur and Helen Geoffrion
Paul H. Gilbert
Martin E. and Lucinda Glicksman
George and Christine **Gloeckler**
Christa and Detlef Gloge
Joseph W. Goodman
Chushiro* and Yoshiko **Hayashi**
John G. Hildebrand and Gail D. Burd
Nancy S. and Thomas S. Inui
Richard B. Johnston, Jr.
Anita K. Jones
Jerome Kagan
Diana S. and Michael D. King
Norma M. Lang
Asta and William W. Lang*
Daniel P. Loucks
R. Duncan* and Carolyn Scheer **Luce**
Thomas and Caroline Maddock
Artur Mager
Pat and Jim McLaughlin
Jane Menken
Arno G. Motulsky
Van and Barbara Mow
Guido Munch
Mary O. Mundinger
Philip and Sima **Needleman**
Norman F. Ness
Ronald and Joan Nordgren
Gilbert S. Omenn and Martha A. Darling
William and Constance Opie*
Bradford W. and Virginia W. Parkinson
Zack T. Pate
Neil and Barbara Pedersen
Frank Press
Simon Ramo*
James J. Reisa, Jr.
Emanuel P. Rivers
Richard J. and Bonnie B. Robbins
Eugene* and Ruth **Roberts**
James F. Roth
Esther and Lewis Rowland
Sheila A. Ryan
Paul R. Schimmel
Stuart F. Schlossman
Rudi* and Sonja **Schmid**
Kenneth I. Shine
Robert L. Sinsheimer
Arnold and Constance Stancell
H. Eugene Stanley
Rosemary A. Stevens
John and Janet Swanson
John A. Swets*
Esther Sans Takeuchi
Paul and Pamela **Talalay**
Walter J. Unger
John C. Wall
Patricia Bray-Ward and **David C. Ward**
Robert and Joan Wertheim
Maw-Kuen Wu
Wm. A. Wulf
Tilahun D. Yilma
Michael Zubkoff
Anonymous (1)

Names in bold print are NAS members.
*Deceased

Loyalty Society

In recognition of members and friends who have made gifts to the National Academy of Sciences, the National Academy of Engineering, or the National Academy of Medicine for at least 20 years.

Herbert L. Abrams*
H. Norman Abramson
Andreas and Juana **Acrivos**
Bruce and Betty **Alberts**
Clarence R. Allen
Barbara W. Alpert
Marilynn and Charles A.* Amann
Wyatt W. Anderson
John C. Angus
Frank F. Aplan
Edward M. Arnett
Daniel L. Azarnoff
Donald W. Bahr
Jack D. Barchas
Jeremiah A. Barondess
Stephen D. Bechtel, Jr.
John C. Beck*
Richard E. Behrman
Gordon Bell
Leslie Z. Benet
Paul Berg
Kenneth I. Berns
Diane and Norman Bernstein
Stuart Bondurant and Susan Ehringhaus
Kathleen and H. Kent Bowen
Lewis M. Branscomb
John and Sharon **Brauman**
W. F. Brinkman
Alan C. Brown
Donald D. Brown
Harold Brown
Kristine L. Bueche
Jack E. Buffington
George* and Virginia Bugliarello
William B. Carey
David R. and Jacklyn A. Challoner
Purnell W. Choppin
James McConnell Clark
John L. Cleasby
John A. Clements
Linda Hawes Clever
Michael D. Coe
Richard A. Conway
Max D. Cooper
Roberto* and Linda A. **Cozzarelli**
Pedro M. Cuatrecasas
Lawrence B. Curtis
William H. Danforth
Igor B. Dawid
Mary and Raymond Decker
Roman W. DeSanctis
Nicholas M. Donofrio
Irwin Dorros
W. G. Ernst
Harold J. Fallon
Gary Felsenfeld
Harvey V. Fineberg and Mary E. Wilson
Tobie and Daniel J.* Fink
Samuel C. Florman
G. David Forney, Jr.
Robert C.* and Marilyn G. Forney
Harold K.* and Betty Forsen
T. Kenneth Fowler
Hans and Verena **Frauenfelder**
Carl Frieden
Theodore V. Galambos
Joseph G. Gall
Ronald L. Geer
Peter Geiduschek
David V. Goeddel
Joseph W. Goodman
Richard M. Goody
Paul E. Gray
Shirley and **Harry Gray**
Robert B. Griffiths
Michael Grossman
Adam Heller
Jane E. Henney and Robert Graham
Ernest M. Henley
David and Susan Hodges
Edward E. Hood, Jr.
Joseph F. Hoffman
William N. Hubbard, Jr.
J. David Jackson*
Andre T. Jagendorf
Robert L. and Anne K. James
Anita K. Jones
Richard V. Kadison
Samuel L. Katz and Catherine M. Wilfert
Seymour J. Klebanoff*
Max A. Kohler
James S. and Elinor G. A. **Langer**
Louis J. and M. Yvonne DeWolf Lanzerotti
Lynn M. Larsen
Gerald and Doris Laubach
Judith R. Lave
Cynthia and Robert Lawrence
Johanna M.H. Levelt Sengers
Robert G. Loewy
R. Duncan* and Carolyn Scheer **Luce**
Thomas and Caroline Maddock
Anthony P. Mahowald
Vincent T. Marchesi
Hans Mark
James F. Mathis
Robert D. Maurer
Charles A. McCallum
Christopher F. McKee
Mortimer Mishkin
Peter B. Moore
Joel Moses
Arno G. Motulsky
John H. Moxley III
Elaine and Gerald* Nadler
Jaya and Venky Narayanamurti
Philip and Sima **Needleman**
Robert M. and Marilyn R. Nerem
Elena and Stuart Nightingale
Ronald and Joan Nordgren
Peter O'Donnell, Jr.
Gilbert S. Omenn and Martha A. Darling
Gordon H. Orians
George W. Parshall
Thomas K. Perkins
Gordon H. Pettengill
Frank Press
Donald E. Procknow*
Simon Ramo*
Janet and **Lester* Reed**
Jerome G. Rivard
Maxine Savitz
Gerold L. Schiebler
Richard M. Schoen
William R. Schowalter
F. Stan Settles
Maxine F. Singer
Raymond S. Stata
Joan A. and **Thomas A. Steitz**
Rosemary A. Stevens
Lubert and Andrea **Stryer**
F. William Studier
Paul and Pamela **Talalay**
Charlotte and Morris Tanenbaum
Samuel O. Thier
Anita and **George Thompson**
George H. Trilling
Roxanne and **Karl K.* Turekian**
Martha Vaughan
Raymond Viskanta
Andrew and Erna* **Viterbi**
Peter K. Vogt
Irv Waaland
George D. Watkins
Julia and Johannes Weertman
Robert J. Weimer
Herbert Weissbach
Jasper A. Welch, Jr.
Robert M.* and Mavis E. White
Evelyn M. Witkin
Gerald N. Wogan
Wm. A. Wulf
Anonymous (1)

Names in bold print are NAS members.
*Deceased

NAS Building Seat Naming Campaign

Members and friends of the NAS were offered the opportunity to "take their seat in history" by making a $5,000 donation to the NAS in order to have their name, or that of a designee, placed on the arm of a seat in the restored Fred Kavli Auditorium. The following donors have participated in the campaign to date. The listing does not reflect unfulfilled pledges.

Andreas and Juana **Acrivos**
Shizuo Akira
Bruce and Betty **Alberts**
Kamla* and **Bishnu S. Atal**
Francisco J. and Hana **Ayala**
William A. Bardeen
Jacqueline K. Barton and **Peter B. Dervan**
Roger N. Beachy
Peter and Sandra **Beak**
May R. Berenbaum
Robert and Wendy **Bergman**
Elwyn and Jennifer **Berlekamp**
Kenneth I. Berns
Elkan R.* and Gail F. **Blout**
Felix Boehm
Gary G. Borisy
Lewis M. Branscomb
John and Sharon **Brauman**
Axel T. Brunger
Philip H. Bucksbaum
Anthony Cerami
Vicki L. Chandler
Yuan Chang and **Patrick S. Moore**
Malcolm H. Chisholm
Ralph J. and Carol M. **Cicerone**
Michael and Adriana **Clegg**
D. Walter Cohen
Stanley N. Cohen
Jack H. and **Rita R. Colwell**
R. James Cook
Linda S. Cordell*
Robert J. Cousins
Ellis and Bettsy **Cowling**
Roy Curtiss III
Elsebet Lund and **James Dahlberg**
Roy H. Doi
Mostafa A. El-Sayed
Mary K. Estes
Nina V. Fedoroff
Harvey V. Fineberg and Mary E. Wilson
Libo Fineberg
Delbert A. and Beverly C. Fisher
Perry A. Frey
Kenneth R. Fulton
Fred H. Gage
Elisabeth Gantt
Michael S. Gazzaniga
F. W. Gehring*
Sibyl Golden and **William T. Golden***
Laura Green
Diane E. Griffin
Samuel Gubins
Donald A. Gurnett
Stanley R. Hart
Robert M. Hauser
John G. Hildebrand and Gail D. Burd
David M. Hillis
Joseph F. Hoffman
Sarah and Dan **Hrdy**
Jisoon Ihm
Harvey A. Itano Family
Anthony A. James
John and Kyri **Joannopoulos**
V. Craig Jordan
Thomas Kailath
David M. Karl
Charles F. Kennel
Rosalind and **Sung-Hou Kim**
Mary-Clair King
Tadamitsu Kishimoto
Stephen C. Kowalczykowski
John E. Kutzbach
Arthur H. Lachenbruch
Ho-Wang Lee
Richard E. Lenski
Robert L. Letsinger
Harris A. Lewin
Gene E. and Phyllis C. **Likens**
Sharon R. Long
Ruth W. Lubic
Akinlawon Mabogunje
J. Ross and Margaret **Macdonald**
Douglas S. Massey and **Susan Fiske**
Olive J. McCloskey
Christopher F. McKee
Fred and Tibby **McLafferty**
Sabeeha S. Merchant
C. Bradley Moore
Gordon and Betty Moore Foundation
Cherry A. Murray
Philip and Sima **Needleman**
Oliver E. Nelson*
Jerry E. Nelson
Norman F. Ness
Maria Iandolo New
Sergei P. Novikov
Neil D. Opdyke
Jeremiah P. Ostriker
Charles and Patricia **Parmenter**
Michael E. Phelps
Ron and Judy **Phillips**
E. Ward Plummer
Frank Press
William Press
Louis J. Ptacek
Allen E. and Marilynn **Puckett**
Natasha V. Raikhel
Simon Ramo
Adam Reiss
Lynn M. Riddiford and James W. Truman
John D. Roberts
Peggy and **Hamish Robertson**
Gene E. and Julia **Robinson**
William J. Rutter
Linda J. Saif
Myriam P. Sarachik
Barbara Schaal and Joe Leverich
Randy Schekman
Brian Schmidt
Vern L. Schramm
Nevin S. Scrimshaw*
Donald C. Shapero
Phillip A. Sharp
Hee-Sup Shin
Gerard I. Shulman
Robert L. Sinsheimer
Gabor A. and Judith K. **Somorjai**
Charles S. Spencer
Peter J. and Christine S. **Stang**
H. Eugene Stanley
David K. Stevenson
Karen B. Strier
James M. Tiedje
Michael S. Turner
Cumrun Vafa
Thomas E. Wellems and Marilyn I. Powell
Roy and Diana **Vagelos**
Andrew and Erna* **Viterbi**
Susan R. Wessler
Huanming Yang and Ren Liu
Tilahun D. Yilma
Jozef J. Zwislocki
Anonymous (1)

Names in bold print are NAS members.
*Deceased

Annual Giving Societies

In recognition of members and friends who supported the NAS or NAM in 2016. We acknowledge those contributions made as personal gifts or as gifts facilitated by the donor through a donor advised fund, matching gift program, or family foundation. This listing reflects gifts received in 2016.

Catalyst Society

$100,000 or more

Bruce and Betty **Alberts**
Richard and Rita **Atkinson**
Elwyn and Jennifer **Berlekamp**
Ralph J.* and Carol M. **Cicerone**
John L. Hennessy
Philip and Sima **Needleman**
James H. and Marilyn **Simons**

$50,000 to $100,000

Jacqueline K. Barton and **Peter B. Dervan**
Ruth and Victor Dzau
Jack W. and Valerie Rowe
Martha Vaughan
Joon Yun
Anonymous (1)

Rosette Society

$25,000 to $50,000

George and Christine **Gloeckler**
Johanna M.H. Levelt Sengers
Ronald D. Miller
Mortimer Mishkin
John D. Roberts*
William J. Rutter
Leonard D. Schaeffer
Thomas and Marilyn Sutton
Anonymous (2)

Challenge Society

$10,000 to $25,000

Francisco J. and Hana **Ayala**
Donald and Joan Beall
Tanya S. Beder
Stuart Bondurant and Susan Ehringhaus
Steven Chu
Rosie and **Stirling* Colgate**
Julie H. and Robert J. Desnick
Emanuel and Peggy **Epstein**
Richard N. Foster
Delbert A. and Beverly C. Fisher
Martha P. and Mark C. Fishman
Jeffrey and Claire Fluhr
Satendra (Dan) M. Gupta
Benjamin W. Heineman
Catherine Adams Hutt and Peter Barton Hutt
Kathryn S. and Peter S. **Kim**
Jill Howell Kramer
Richard and Madeleine **Lenski**
John F. McDonnell
Christopher McFadden
Ajay Royan
Dame Jillian Sackler
Share Fund
Kevan M. Shokat
Kerry Sieh
Harold C. and Carol H. Sox
Edward C. Stone
Judy Swanson
Walter and Marti Unger
Jay Scott Walker
Carl E. Wieman
Ronald A. Williams
Jean D. Wilson
Joshua Wolfe
Peter Zandan
James and Linda Ziglar

Charter Society

$1,000 to $10,000

Francois M. Abboud
Quarraisha Abdool Karim
Salim S. Abdool-Karim
Andreas and Juana **Acrivos**
Dyanne D. Affonso
Bobby R. Alford
Clarence R. Allen
Susan G. Amara
Zhisheng An
Edward Anders
Norman B. Anderson
Porter W. Anderson, Jr.
Nancy C. Andrews
Luc Anselin and Emily Talen
Edward M. Arnett
Arthur K. Asbury
Barbara F. Atkinson
John P. Atkinson
Norman R. Augustine
K. Frank Austen
John D. Baldeschwieler
John R. Ball
Jack D. Barchas
Jeremiah A. Barondess
Angela Barron McBride
William G. Barsan
Paul B. Barton, Jr.
William J. Baumol
Gordon Baym and Cathrine Blom
Terry and **Roger N. Beachy**
Jack Beauchamp
Robert Beauchamp
Arthur L. Beaudet
Gordon Bell
J. Claude Bennett
May R. Berenbaum
Paul Berg
Robert G. and Wendy S. **Bergman**
Bobbie A. Berkowitz
Kenneth I. Berns
R. Stephen and Carla F. **Berry**
Dennis M. Bier
Eula Bingham
Lutz Birnbaumer
Maureen Bisognano
Rena Bizios
Felix Boehm
Enriqueta C. Bond

Names in bold print are NAS members.
*Deceased

P. Borst
John S. Boyer
Lewis M. Branscomb
John and Sharon **Brauman**
Claire D. Brindis
W. F. Brinkman
Donald D. Brown
Harold Brown
Robert Bryant and Reymundo Garcia
Stephen L. Buchwald
Robert L. Byer
John and Denise Carethers
John R. Carlson
John E. Carlstrom
Charles C.J. Carpenter
Benjamin S. Carson, Sr.
Mark L. Carter
Christine Cassel and Michael McCally
Thure Cerling and Mahala Kephart
Benjamin S. Carson, Sr.
David R. and Jacklyn A. Challoner
Vicki L. Chandler
E. Antonio Chiocca
Purnell W. Choppin
Maarten J. Chrispeels
Benjamin K. Chu
Ellen Wright Clayton and Jay Clayton
Michael and Adriana **Clegg**
Melanie H. Cobb
D. Walter Cohen
Fred E. Cohen and Carolyn B. Klebanoff
Morrel H. Cohen
Barry and Bobbi **Coller**
R. James Cook
Weston Cookler
Ellis and Bettsy **Cowling**
Nicholas R.* and Linda A. **Cozzarelli**
F. Fleming Crim
James H. Curry
Roy Curtiss III
William H. Danforth
Bruce B. Darling
James E. Darnell, Jr.
Igor B. Dawid
Carl de Boor
Catherine D. DeAngelis
Haile T. Debas
Pablo G. Debenedetti
Tom and Bettie Deen
Hans G. Dehmelt*
Eula Bingham
Susan Dentzer
Donald J. DePaolo
Tejal A. Desai
Roman W. DeSanctis
William H. Dietz
Vishva M. Dixit
Jack and Claudia **Dixon**
Sue K. Donaldson
R. Gordon Douglas, Jr.
Jeffrey A. Drebin
Greg J. Duncan
David L. Eaton
James S. Economou
Alain C. Enthoven
John W. Erdman, Jr.
Diana L. Farmer
Gary Felsenfeld
Lennard A. Fisk
G. David Forney, Jr.
Hans and Verena **Frauenfelder**
Carl Frieden
Jeffrey M. Friedman
Victor R. Fuchs
Margaret T. Fuller
Kenneth R. Fulton
Inez Y. Fung
Steven G. Gabbe
Fred H. Gage
Joseph G. Gall
Norman F. Gant
Patricia A. Ganz
Margaret Gatz
James R. Gavin III
Helene D. Gayle
Michael S. Gazzaniga
Neil Gehrels*
E. Peter Geiduschek
Melissa L. Gilliam
Lewis R. Goldfrank
Allen M. Goldman
John B. Goodenough
Richard M. Goody
Jeffrey Gore
Robert Graham
Ronald L. Graham
Bradford H. Gray
Shirley and **Harry Gray**
Diane E. Griffin
John T. Groves
Samuel Gubins
David S. Guzick
Ashley T. Haase
Susan Hanson
Michael R. Harrison
Stanley R. Hart
Susan Hassmiller
Marshall D. Hatch
Robert M. Hauser
Jerris R. Hedges
Jane E. Henney
John G. Hildebrand and Gail D. Burd
Martha N. Hill
Jim and Cindy Hinchman
H. Robert Horvitz
Sarah and Dan **Hrdy**
Hedvig Hricak
Evelyn L. Hu and David R. Clarke
Betsy L. Humphreys
Helen M. Hunt
Tony Hunter
Steven E. Hyman
Richard and Fleur **Hynes**
Andre T. Jagendorf*
Anthony A. James and Cynthia K. French
Robert L. and Anne K. James
Mae C. Jemison
Michael M.E. Johns
Jiri Jonas
Richard V. Kadison
David M. Karl
Beth Y. Karlan
Michael B. Kastan
James and Diana **Kennett**
Gurdev S. Khush
Mary-Claire King
Kenneth W. Kizer
Keith P. Klugman
David Korn
Douglas E. Koshland
Linda and **Stephen C. Kowalczykowski**
Edward A. and Kathryn F. **Kravitz**
Shiriki K. Kumanyika
James S. and Elinor G. A. **Langer**
Antonio Lanzavecchia
Steven M. and Elaine L. Larson
Cato and Cynthia Laurencin
Cynthia and Robert Lawrence
Joel L. Lebowitz
Albert Lee
Brendan and Maria Lee
Anthony Leggett
I. Robert Lehman
Alan I. Leshner
Maureen Lichtveld
Gene E. Likens
Sharon R. Long
George and Freia **Lorimer**
Jane Lubchenco and Bruce Menge
Ruth Watson Lubic
R. Duncan* and Carolyn Scheer **Luce**
Patricia and George Lundberg
Akinlawon Mabogunje
Adel A. Mahmoud
Donald C. Malins
Alexander R. Margulis
James S. and Judith M. Marks
Douglas S. Massey and **Susan Fiske**
Donald R. Mattison
Donald S. McClure
Marie McCormick and Robert Blendon
Bruce McEwen and Karen Bulloch McEwen
Margaret J. McFall-Ngai
Michael and Pat McGinnis
William W. McGuire
Christopher F. McKee
Fred and Tibby **McLafferty**
Marcia K. McNutt
Sabeeha Sabanali Merchant
Edward W. Merrill
Elliot Meyerowitz and Joan Kobori
Joan W. Miller
Chad A. Mirkin

Names in bold print are NAS members.
*Deceased

James K. and Holly T. **Mitchell**
Emilio M. Moran
Nancy A. Moran and Howard Ochman
M. Granger Morgan
Audrey Mosley
Margaret M. Murnane and Henry C. Kapteyn
Cherry A. Murray
Vasant Narasimhan
Robert M. and Marilyn R. Nerem
John E. Niederhuber
William D. Nix
Ryoji Noyori
Peter O'Donnell, Jr.
Paul A. Offit
Gilbert S. Omenn and Martha A. Darling
Gordon H. Orians
Jeremiah P. Ostriker
Joanne and **Larry Overman**
Stephen W. Pacala
Peter Palese
Herbert Pardes
Claire L. Parkinson
Shela and **Kumar Patel**
Edward E. Penhoet
Jonathan B. Perlin
Helen and David Piwnica-Worms
Thomas D. Pollard
William H. Press
Roy Radner and Charlotte Kuh
Alexander S. Raikhel
Natasha Raikhel
Simon Ramo*
Mark A. Ratner
E. Albert Reece
Charles M. Rice III
William C. Richardson
Robert Ricklefs
Lynn M. Riddiford
Wayne J. Riley
Emanuel P. Rivers
Ronald L. Rivest
James M. Roberts
R.G. Hamish Robertson
Judith Rodin
Roberta L. Rudnick
Erkki Ruoslahti
David D. Sabatini
Marla E. Salmon
Maxine L. Savitz
Randy Schekman
Paul R. Schimmel
Fred B. Schneider and Mimi Bussan
Vern L. Schramm
Sara Lee and Axel Schupf
Matthew P. Scott
Donna E. Shalala
Iris R. Shannon
Larry J. Shapiro
Charles J. Sherr
Kenneth I. Shine
Henry R. Shinefield
Eric M. Shooter
Stephen M. Shortell
Ira Shoulson
Joe Leigh Simpson
Maxine F. Singer
Jeanne C. Sinkford
Robert L. Sinsheimer
Jeannette E. South-Paul
Georges C. St. Laurent, Jr.
Joan A. Steitz
Thomas A. Steitz
Judith S. Stern
Rosemary A. Stevens
David K. Stevenson
Lubert and Andrea **Stryer**
F. William Studier
Deborah Szekely
Masatoshi Takeichi
Samuel O. Thier
Anita and **George Thompson**
Jeremy W. Thorner
James M. Tiedje
Maury Tigner
Alar Toomre
Susan Trumbore
Reed V. Tuckson
B. L. Turner II
Roy and Diana **Vagelos**
Harold E. Varmus
Peter K. Vogt
Peter and Josephine **von Hippel**
David B. Wake
Xiaodong Wang
Gail L. Warden
James N. Weinstein
Myron and Linda Weisfeldt
Myrna M. Weissman
James A. Wells and Carol Windsor
Susan R. Wessler
Nancy S. Wexler
Ellen D. Williams
Elizabeth S. Wing
Owen N. Witte
Mary Woolley
James O. Woolliscroft
E M Wright
Yu Xie
Tachi and Leslie Yamada
Ryuzo Yanagimachi
Tilahun D. Yilma
Bin Yu and Kening Shen
Elias A. Zerhouni
Mary Lou and Mark D. **Zoback**
Huda Y. Zoghbi
George D. Zuidema

Other Individual Donors

Evan D. Abel
John Abowd
Stephen L. Adler
Anna Agbe-Davies
Gustavo D. Aguirre
Linda H. Aiken
Margarita Alegria
Paula G. Allen-Meares
Richard B. Alley
David B. Allison
Myron Allukian, Jr.
Maureen Allwood
Maria J. Alonso
Robert J. Alpern
Barbara W. Alpert
Lawrence K. Altman
Richard Altman
Jeanne Altmann
Masayuki Amaga
Cissy and John Anderson
Kenneth C. Anderson
Wyatt W. Anderson
Marsha Anderson-Bomar
Steven Andreadis
Lawrence J. Appel
Frances H. Arnold
Kenneth J. Arrow*
Michael Artin
Ann M. Arvin
David A. Asch
Karen H. Ashe
Arthur Ashkin
Tom P. Aufderheide
Dennis A. Ausiello
Christopher P. Austin
Joan K. Austin
Daniel L. Azarnoff
Howard L. Bailit
Ruzena K. Bajcsy
Linda Baker
Suzanne Bakken
Steven A. Balbus
Robert W. Balluffi
James M. Bardeen
William A. Bardeen
C. Wayne Bardin
Grigory I. Barenblatt
O'Neill Barrett, Jr.
Bonnie Bartel
Brenda L. Bass
Hyman Bass
Katherine C. Bassard
Eugene A. Bauer
Bruce J. Baum
Ronald Bayer
Zdenek P. Bazant
Cynthia M. Beall
Margaret Bearn
James Becker
Clyde J. Behney
Richard E. Behrman
Leslie Z. Benet
Charles L. Bennett
Michael V. L. Bennett
Yvonne Bennett
Jeffrey L. Bennetzen
John A. Benson, Jr.
Amy Berg
Marsha J. Berger
Nancy Berliner
Stephanie S. Bernardi
Joseph A. Berry

Names in bold print are NAS members.
*Deceased

David M. Betson
Utpal Bhattacharya
Peter J. Bickel
Sue Biggins
Andrew B. Bindman
Diane F. Birt
J. Michael Bishop
Kim Bishop
Mina J. Bissell
Richard E. Bissell
Robert E. Black
Randolph Blake
Helen M. Blau
Bruce R. Blazar
Dan G. Blazer
R. Don Blim
Floyd E. Bloom
Clara D. Bloomfield
Thomas F. Boat
Michael L. Boninger
Paul Bonin-Rodriquez
J. T. Bonner
John M. Bonner
Richard J. Bonnie
Jo Ivey Boufford
William H. Bowen*
L. Thompson Bowles
W. Thomas Boyce
Roscoe O.* and Bennett **Brady**
Allan M. Brandt
Susan L. Brantley
Rachel and Henry Brem
Malcolm K. Brenner
William B. Bridges
Winslow R. Briggs
Ralph L. Brinster
Emery N. Brown
James A. Brown
Richard Brownback
J. Robert Buchanan
Rebecca H. Buckley
Joseph A. Buckwalter
Kathleen Coen Buckwalter
Serdar E. Bulun
Peter M. Bungay
Mary B. Bunge
John Bunnell
Benjamin S. Bunney
Douglas W. Burbank
Ann W. Burgess
Diane Burko and Richard Ryan
Linda Burnes Bolton
Cynthia J. Burrows
Joseph D. Buxbaum
Anne Cahn
Eugenio Calabi
Michael L. Callaham
Jacquelyn C. Campbell
Federico Capasso
Roberto Car
William B. Carey
Robert L. Carneiro
Donald L. D. Caspar
A. Welford Castleman, Jr.*
Webster and Jill **Cavenee**
Sylvia T. Ceyer
Elliot L. Chaikof
Aravinda Chakravarti
Setsuko K. Chambers
Yuan Chang
Robbin N. Chapman
R. Alta Charo
Lincoln C. Chen
Zhu Chen
Michael E. Chernew
Herman Chernoff
Andrea L. Cheville
Shu Chien
Lynda Chin
Sallie W. Chisholm
Rita K. Chow
Francisco G. Cigarroa
George Ciscle
George W. Clark
William A. V. Clark
Sarah Cleaveland
John A. Clements
Linda Hawes Clever
Thomas W. Cline
Jewel Plummer Cobb*
Michael D. Coe
Jordan J. Cohen
Marshall H. Cohen
Seth Cohen
Sheldon Cohen
Anne L. Coleman
Mary Sue Coleman
Monica A. Coleman
R. John Collier
Rita D. Colon-Urban
Jack H. and **Rita R. Colwell**
Jack M. Colwill
Phillip Combest
Eric E. Conn
John F. Conrad
Patricia A. Conrad
Joel D. Cooper
Leon N. Cooper
Max D. Cooper
Lawrence Corey
Arthur Coury
Maryruth M. Cox
Gary Cox
Peter Cresswell
Paul J. Crutzen
Douglas Cunningham
Robert F. Curl, Jr.
Jason G. Cyster
Martin Czigler and Doris Mah
Josep Dalmau
Brent and Sharon **Dalrymple**
Ingrid Daubechies
Seth J. Daugherty
Ezra C. Davidson, Jr.
Nancy E. Davidson
Joseph M. Davie
Julian Davies
Francisco de la Cruz
Lisa DeAngelis
Marta Decatrel
Alan H. DeCherney
Linda DeGutis
Johann Deisenhofer
Carlos M. del Rio
John and Barbara DeLancey
Patrick H. DeLeon
Pierre Deligne
Joel A. DeLisa
David L. DeMets
Ruth Denault
David L. Denlinger
Phyllis A. Dennery
Ronald A. DePinho
Stanley Deser
Joseph M. DeSimone
Linda DeStefano
Don E. Detmer
Thomas F. Deuel
Angela Diaz
Luis A. Diaz
Nancy Wilson Dickey
Francois N. Diederich
Richard DiMarchi
Salvatore DiMauro
Andrew D. Dixon
Kenneth A. Dodge
Barbara A. Dosher
Patricia M. Dove
Mortimer L. Downey
Daniel B. Drachman
Robert D. Drennan
Vladimir Drinfeld
Leon and Lucy Dubinsky
Steve Duh
Ronald S. Duman
Edward Dunlea
Mitzi L. Duxbury
Jeffrey Dwoskin
Johanna T. Dwyer
James L. Dye
Felton Earls and Maya Carlson
Timothy Eberlein
Richard L. Ehman
Michael Ehst
James Eisenach
David and Lucy T. **Eisenberg**
Mickey and Jeanne Eisenberg
Richard Eisenberg
Robert and Ingrid **Eisenman**
Teo En Ming
John J. Eppig
W. G. Ernst
Carroll L. Estes
E. Harvey Estes, Jr.
Caswell A. Evans, Jr.
John H. Exton
Ruth R. Faden
Claire M. Fagin
Stanley Fahn
Paul G. Falkowski
Harold J. Fallon
Kevin Fang
Robert M. Fano*
Peggie Fariss
John W. Farquhar
Anthony S. Fauci
Douglas T. Fearon
Ronald S. Fecso
Elsa and **George Feher**
Marcus W. Feldman
Stephanie L. Ferguson
Harvey Fernbach
Donna M. Ferriero
Sima Ficks
Christopher Field and Nona Chiariello
Stanley Fields
Alexei V. Filippenko
Genia Finch
Barbara J. Finlayson-Pitts
Michael E. Fisher
Kent V. Flannery
Lee A. Fleisher

Names in bold print are NAS members.
*Deceased

Loretta C. Ford
Stephen P. Fortmann
Henry W. Foster, Jr.
James G. Fox
Eduardo Fradkin
Pamela J. Fraker
Joachim Frank
Janet Franklin
Mark Franzen
Wendy L. Freedman
Julie A. Freischlag
Linda P. Fried
Philip Friedel
George C. Frison
Fred Fry
Dennis G. Fryback
Terry T. Fulmer
Douglas J. Futuyma
Dev and Mahi Gadre
Mitchell H. Gail
Mary K. Gaillard
E. John Gallagher
Stephen J. Galli
Vanessa Northington Gamble
Theodore G. Ganiats
Elisabeth Gantt
Lois B. Gehring
Wilson and Gail **Geisler**
Martin Gellert
Robert J. Genco
Naomi Lynn Gerber
Ronald N. Germain
John P. Geyman
Andrea M. Ghez
Irma Gigli
Sally Gilbert
Jack and Linda Gill
Sid Gilman
Alex Ginno
David Ginsburg
Linda C. Giudice
Christopher and Renee Glass
Gary A. Glatzmaier
Seymour and Brenda Glick
Alfred L. Goldberg
Janice F. Goldblum
Cheryl Goldsleger
Bernard D. Goldstein
Jerry Gollub and Diane Nissen
Francisco Gonzalez-Scarano
Enoch Gordis
Emil C. Gotschlich
Frederic L. Gould
Roy W. Gould
Patricia A. Grady
James Scott Graham
Joe W. Gray
Margie and Larry A. Green
Laura H. Greene
Leslie Greengard
Deborah and John S. Greenspan
M.R.C. Greenwood
Robert B. Griffiths
Robert C. Griggs
Paul F. Griner
Carol A. Gross
Marilyn and Norman Grossblatt
Michael Grossman
Martin Gruebele
Eric Gruver
Fernando A. Guerra
Walter Guralnick
Alan H. Guth
Friederike Haass
Willy Haeberli and Gabriele Haberland
Edward H. Haertel
Victoria G. Hale
Jerome W. Hall
Ryan Halprin
Charles B. Hammond
Paula T. Hammond
Philip C. Hanawalt
Amir and Margit Hanna
Stephen W. Hargarten
Charlene A. Harrington
Judith C. Harrington
Al Harris
James B. Hartle
Dennis and Lorraine **Hartmann**
Leland H. Hartwell
Maxine Hayes
William R. Hazzard
David J. Heeger
Doris Held
Richard M. Held*
Donald R. Helinski
Jessica Hendrickson
Sean Hennessy
Frances Henry
Carol P. Herbert
Arthur L. Herbst
Dudley R. Herschbach
Jo Ann Hersh
Howard H. Hiatt
Kathleen Hines
Alan G. Hinnebusch
Kurt and Rochelle Hirschhorn
John P. Hirth
Helen H. Hobbs
David Hoffman
Paul F. Hoffman
Tomas Hokfelt
Frank Hole
King K. Holmes
Alison Drucker and Tom Holzman
Daniel Horner
Susan Band Horwitz
Kendall N. Houk
James S. House
Roger Howe
William N. Hubbard, Jr.
Thomas J. R. Hughes
Barbara S. Hulka
Charles Hull
Frances Huxley
Louis Ignarro
Donald E. Ingber
Thomas S. Inui
Julie Ische
Kimishige Ishizaka
Kurt J. Isselbacher
Brian Jack
Richard J. Jackson
William R. Jacobs Jr.
Christine Jacobs-Wagner
Arthur M. Jaffe
Elaine Sarkin Jaffe
Brent C. James
Jodie L. Janowiak
Maria Jasin
Raymond Jeanloz
Marjorie K. Jeffcoat
Renee R. Jenkins
Frances E. Jensen
Dilip V. Jeste
Julie A. Johnson
Timothy Johnson
Peter A. Jones
Thomas H. Jordan
Timothy S. Jost
Jean Jouzel
Alexandra L. Joyner
Michael M. Kaback
Bart Kahr
Linda Kalat
Roger D. Kamm
Arthur Karlin
Morris J. Karnovsky
Martin Karplus
Nancy Kass
Jerome P. Kassirer
Daniel Kastner
Michael Katz and Robin J. Roy
Samuel L. Katz and Catherine M. Wilfert
Lydia Kavraki
Ken Keegstra
Robert P. Kelch
K. I. Kellermann
Charles F. Kennel
Elliott D. Kieff
Laura L. Kiessling
Jamie M. Killorin
Lonnie J. King
Patricia A. King
Toichiro Kinoshita
Darrell G. Kirch
Elizabeth Kitchens
Margaret G. Kivelson
Claude B. Klee
Charles R. Kleeman
Miles V. Klein
Catherine L. Kling
Andrew H. Knoll
Joanne Knopoff
Lesley C. Knowles
Eric I. and Phyllis F. Knudsen
Don and Jill **Knuth**
Mary Anne Koda-Kimble
Peter O. Kohler
Mara Kohn
Richard D. Kolodner
Hans Kornberg
Conrad P. Kottak
Stephen G. and Sara Dunham Kraskin
Richard D. Krugman
Casimir A. Kulikowski
John Kuperhand
Nathan Kuppermann
Ann Kurth
John E. Kutzbach
William Labov
Michael D. Lairmore
Robert A. Lamb
Leslie B. Lamport
Arthur Landy
Neal F. Lane

Names in bold print are NAS members.
*Deceased

Norma M. Lang
Charles H. Langmuir
Christian P. Larsen
John LaRue
Joyce C. Lashof
Judith R. Lave
David M. Lawrence
Wendy and Ted Lawrence
Stephen Layton
Quynh-Thu T. X. Le
Marvin & Annette Lee Foundation
Irene and Kit Lee
Susan E. Leeman
Michael L. LeFevre
Estella B. Leopold
Willem J. M. Levelt
Howard Leventhal
Simon and Carole **Levin**
Aaron Levine
Myron M. Levine
Jianan Li
T. Jake Liang
Albert Libchaber
Richard S. Lindzen
Marigold Linton
Marilynn A. Liotta
Nathan and Barbara **Liskov**
George Lister
Iris F. Litt
Charles J. Lockwood
Irving M. London
J. Sam. Lott
Guillermina Lozano
Tom C. Lubensky
Stephen Ludwig
Arthur Lupia
Joe Lutkenhaus
Ann C. Macaulay
J. Ross Macdonald
Peter and Marlene MacLeish
George A. Macones
Anthony P. Mahowald
Juan Maldacena
Thomas E. Mallouk
Gerald L. Mandell
Audrey F. Manley
Erika C. Manning
M. Brian Maple
Vincent T. Marchesi
Joyce Marcus
Rudolph A. Marcus
Eve E. Marder
Hans Mark
James D. Marks
Paul A. Marks
Michael Marletta and Margaret Gutowski
Robert R. Marshak
George M. Martin
Joseph B. Martin
Kelsey C. Martin
Chelsea Martinez
Manuel Martinez-Maldonado
Ida M. Martinson
Egon and Irene Marx
Eric S. Maskin
Goran and Susan Matijasevic
Pamela A. Matson
Rowena and Larry **Matthews**
Sandra H. Matthews
Jonna Mazet
Elizabeth R. McAnarney
Charles A. McCallum
J. Andrew McCammon
Kathryn McCance
Pender M. McCarter
Laurie K. McCauley
Bob and Mary McCleary
Mark B. McClellan
James L. McClelland
Margaret A. McCoy
Hugh O. McDevitt
Lorraine M. McDonnell
Dusa McDuff
James L. McGaugh
Elizabeth A. McGlynn
James C. McWilliams
Anna T. Meadows
Jean-Pierre Medevielle
Afaf I. Meleis
Bernadette Mazurek
David J. Meltzer
David O. Meltzer
Jane Menken
Henry Metzger
Barbara J. Meyer
Emmanuel Mignot and Servane Briand
Antonios G. Mikos
Ricardo Miledi
Paul R. Milgrom
Janice M. Miller
Kyoko Miller
John W. Milnor
Lloyd B. Minor
Beverly S. Mitchell
Richard T. Miyamoto
Kiyoshi Mizuuchi
William E. Moerner
H. Keith Moffatt
Thomas W. Moloney
Mary Beth Moore
Patrick S. Moore
Peter B. Moore
James M. Moran
Jonathan D. Moreno
James A. Morone
Richard Morris
Joanne Morse
Ellen S. Mosley-Thompson
Arno G. Motulsky
John H. Moxley III
Louis J. Muglia
Fitzhugh Mullan
Alicia H. Munnell
Michael Murphy and Karen Gundersen
Susan A. Murphy
Milap C. Nahata
Carl F. Nathan
Jack Needleman
Shawn Neil
Eric J. Nestler
Liz and Ben **Neufeld**
Jo-Ann Neuhaus
Duncan B. Neuhauser
Robert and Kathleen Neumar
Daniel M. Neumark
Norman and Georgine **Neureiter**
Maria Iandolo New
Elissa L. Newport
Michelle R. Neyman
Jennifer R. Niebyl
Eva Nogales
Lyle Norton
Robert L. Nussbaum
Charles P. O'Brien
Piermaria J. Oddone
David Odell
Seiji Ogawa
Jenny Oh
Jacob A. Okada
Peter L. Olson
Suzanne Oparil
Walter A. Orenstein
Harry T. Orr
Sten Orrenius
Douglas D. Osheroff
Joseph S. Pagano
Lyman A. Page
Guy H. Palmer
Robert B. Palmer
Morton B. Panish
Mary-Lou Pardue
Eugene N. Parker
George W. Parshall
Narendra Parson
Ira H. Pastan
Robert and Carol Peck
Neil and Barbara Pedersen
Joseph Pedlosky
Sir John B. Pendry
Nicholas A. Peppas
Denis J. Pereira Gray
Edward B. Perrin
James M. Perrin
Thomas Perry
Christine Petit
Carey Petrie
Gordon H. Pettengill
Martin A. Philbert
Robert and Katherine Phillips
Theodore L. Phillips
William D. Phillips
Marina Picciotto
Daniel S. Pine
Vivian W. Pinn
Philip A. Pizzo
Jeffrey L. Platt
Richard Plowman
Stephen Polasky
Milan Popelka
John Edward Porter
Alejandro Portes
Jerome B. Posner
Kathleen M. Potempa
James M. Poterba
Deborah E. Powell
Ronald F. Probstein
Jennifer M. Puck
William Purcell
Alana Quinn
Thomas C. Quinn
Mitchell T. Rabkin
Martin Raff
Veerabhadran Ramanathan
Amelie G. Ramirez
John G. Ramsay
Marilyn J. Rantz
Terry Reagan
Uwe E. Reinhardt
Robert D. Reischauer
Kenneth A. Ribet
Charles C. Richardson

Names in bold print are NAS members.
*Deceased

Barbara K. Rimer
Neil J. Risch
Jim E. Riviere
C. Ruth and **Eugene* Roberts**
Morton S. Roberts
Gene Robinson
George Robinson
Steve Rogers
Jacqueline Rojas
Barbara A. Romanowicz
Michael Rosbash
Saul A. Rosenberg
Sandra Rosenbloom
A. Catherine Ross
Paul Ross
Cornelius Rosse
Michael G. Rossmann
James Roth
Lucia B. Rothman-Denes
Rodney Rothstein
Angel Rubio
Benjamin Rusek
Liane B. Russell
Judith Sachwald
Yoel Sadovsky
Margarita Salas Falgueras
Ismail A. Sallam
Didi Salmon
Jane E. Salmon
David Saltzberg
Nicholas P. Samios
Chitra Sampath
Leland Sandler
David T. Sandwell
Myriam P. Sarachik
Michael Sardo
Jose Sarukhan
David Satcher
Rawle Sawh
Peter T. Scardino
Barbara Schaal and Joe Leverich
Jose A. Scheinkman
Joseph E. Scherger
Gerold L. Schiebler
Romuald Schild
Sonja Schmid
Barbara Schneider
Suzanne B. Schneider
Richard M. Schoen
William R. Schowalter
Fritz H. Schroder
Julian I. Schroeder
Steven A. Schroeder
Gerald Schubert
Josephine Schuda
Tom Schulman
Paul Schulze-Lefert
Gertrud M. Schupbach
Mark A. Schuster
Alan L. Schwartz
John H. Schwarz
Debra A. Schwinn
Dieter Seebach
Paul Segall
George E. Seidel, Jr.
Larry and Linda Seidman
John H. Seinfeld
Donald W. Seldin
Jaime Sepulveda
Martin J. Sepulveda
Michael N. Shadlen
Donald C. Shapero
Carla J. Shatz
Peter M. Shearer
Zhi-Xun Shen
Ben A. Shneiderman
Melvyn Shochet
Edward H. Shortliffe
Paul A. Sieving
Samuel C. Silverstein
Beth A. Simmons
Iakov G. Sinai
Varanesh Singh
Jonathan S. Skinner
Robert E. Skinner, Jr.
David J. Skorton
William S. Sly
James P. Smith
Lloyd H. Smith, Jr.
Richard A. Smith
Richard J. Smith
Stephen Smith
V. Kerry Smith
Edward I. Solomon
Pamela S. Soltis
Hugo F. Sonnenschein
Elizabeth and Robert Soppelsa
Gabriela Soto Laveaga
Patricia G. Spear
Frank E. Speizer
Charles S. Spencer
David Spiegel
Nicholas C. Spitzer
Allan C. Spradling
Deepak Srivastava
Joseph W. St. Geme III
Douglas O. Staiger
John R. Stanley
Harold Stark
William and Janet Stead
Donald M. Steinwachs
Andy Stergachis
David J. Stevenson
Bruce W. Stillman
Mary Stockton
Gilbert Stork
Joan E. Strassmann
Robert Straus
Brian and Deborah Stutz
Moira Sucharov
Norman Sutin
Peer Swan
Lynn R. Sykes
Gregory H. Symmes
Joseph S. Takahashi
JD Talasek
Mercedes Talley
Chorh-Chuan Tan
Paul C. Tang
Terence C. Tao
John T. Tate
Saul A. Teukolsky
Athanasios Theologis
Elizabeth A. Thompson
Lonnie G. Thompson
Gerald E. Thomson
David J. Thouless
Bruce Thuman
William M. Tierney
Alvin V. Tollestrup
Alan Tomkins
Eric J. Topol
Judith V. Torney-Purta
Robert E. Tranquada
George H. Trilling
Marianne Tropp and Chris Loughner
Roxanne Turekian
Maria Tutica
J. Anthony Tyson
David Ucko
Sandy and Myron Uman
Emil R. Unanue
William Underwood
Seiya Uyeda
James L. Van Etten
K. E. van Holde
Sten H. Vermund
Alison Vickers
Barbara Vickrey
Patricio F. Vicuna
Peter Vitousek
Dan-Virgil Voiculescu
Leslie B. Vosshall
Edward H. Wagner
Gerhard Wagner
Thomas H. Wakeman
Edward E. Wallach
Christopher T. Walsh
Jill Walsh
Diane W. Wara
Kenneth E. Warner
Judith Wasserheit
Robert H. Wasserman
Michael S. Waterman
George D. Watkins
Kenneth M. Watson
Patty Jo Watson
Connie M. Weaver
Sheldon Weinbaum
Elizabeth E. Weiner
Maxine Weinstein
Arthur Weiss
Herbert Weissbach
Ralph Weissleder
Thomas E. Wellems and Marilyn I. Powell
Joan Wennstrom Bennett
Zena Werb
John B. West
Carolyn L. Westhoff
Raymond P. White, Jr.
Stanley White
Kenneth B. Wiberg
Sarah Widner-Hess
Jeanine P. Wiener-Kronish
Eric F. Wieschaus
Pauline W. Wiessner
Richard S. Wilbur
James T. Willerson
Charles B. Wilson
Jewell D. Wilson
Linda S. and Paul A. Wilson
Roger W. Wilson
Fred Winston
Dyann F. Wirth
Phyllis M. Wise
Evelyn M. Witkin
Richard and Joan **Witter**
Richard V. Wolfenden
William B. Wood
George M. Woodwell
Peter E. Wright

Names in bold print are NAS members.
*Deceased

Su-Syin Wu
Eli Yablonovitch
Vivian W. W. Yam
Akiko Yamagami
Keith R. Yamamoto
Hajime Yamashita
Douglas E. Yen
Jasmin A. Young
Laurence R. Young
John Yules
Rafia Zafar
Patricia C. Zambryski
Maria E. Zavala
Kathryn C. Zoon
Anonymous (6)

Tributes

In Honor of Ralph Cicerone
Michael Turner

In Honor of David Discher
Dennis E. Discher

In Honor of Jonathan Felbschuh
Roxanne Fischer

In Honor of Harvey Fineberg
J. Sanford and Susan Schwartz, Susan C. Scrimshaw

In Honor of Elena Fuentes-Afflick
Ora H. Pescovitz

In Honor of Beatrix Hamburg and Clyde Behney
Elena and Stuart Nightingale

In Honor of Robert Hauser
Eva L. Baker, Jere R. Behrman, Michael J. Feuer, Adam Gamoran, Myron P. Gutmann, John C. Mather, Sara S McLanahan, Kristin Moore, Richard H. Moss, Mary Ellen O'Connell, Timothy M. Smeeding, Barbara Boyle Torrey, Linda J. Waite, Robert B. Wallace

In Honor of William Holzemer
Diana J. Wilkie

In Honor of Richard Johnston
Godfrey P. Oakley

In Honor of Michael Katz and Robert Brent
Frank A. Chervenak

In Honor of Michael Katz
Bruce C. Vladeck

In Honor of C. Levings
Carl J. Braun, Robert B. Goldberg, Major M. Goodman, Todd R. Kaenhammer, Kenneth Korth, Brian A. Larkins, Scott Nichols, Anne M. Schuster, Ronald R. Sederoff, Dilip Shah, James N. Siedow, Paul H. Sisco

In Honor of David Odell
Connor Alexander

In Honor of Julius Richmond
Graham A. Colditz

In Honor of Judith Shamir
Elena Fuentes-Afflick, Sharon K. Inouye

In Honor of Charles Steidel
Gayle Chamberlin-Hoyt

In Memory of Reyes Alvarez Jimenez
Paula A. Braveman

In Memory of Leo Bustad
Roger O. McClellan

In Memory of John Butler
Graham A. Colditz

In Memory of Ralph Cicerone
Andrew and Erna* Viterbi

In Memory of Greta Duschinsky
Marlene and Georges Belfort

In Memory of Aaron Gellman
Richard and Debra Golaszewski

In Memory of David Greer
Vincent Mor

In Memory of Melvin Grumbach
Robert L. Black

In Memory of Luther Higginbotham
Eve Higginbotham and Frank Williams

In Memory of Melissa Hochschild
Jennifer L. Hochschild

In Memory of John Hogness
Walter and Marti Unger

In Memory of James Hughes
James M. Hughes

In Memory of Mitsuo Inouye
Sharon K. Inouye

Names in bold print are NAS members.
*Deceased

In Memory of Henry Krystal
John H. Krystal

In Memory of Joyce Lorand
Laszlo Lorand

In Memory of Theresa Manson
JoAnn E. Manson

In Memory of Robert Sherman Masters
Bettie Sue S. Masters

In Memory of Walsh McDermott
Eric J. Cassell

In Memory of Leonie Morrison
John Morrison

In Memory of William Paul
Marilyn Paul

In Memory of George Pimentel
C. Bradley Moore

In Memory of Janet Rowley
Olufunmilayo F. Olopade

In Memory of Eleanor Rubinow
David R. Rubinow

In Memory of Geoffrey Shellam
Barry and Adrienne Marshall

In Memory of Herbert Simon
Katherine Simon Frank

In Memory of William Spellacy
Lynn M. Larsen

In Memory of Eliot Stellar
Barbara C. Hansen

In Memory of Joseph Struhl
Kevin Struhl

The Presidents' Circle

The Presidents' Circle is an advisory and philanthropic support group of the Academies. Gifts from members of the Presidents' Circle help promote awareness of science, engineering, and medicine in our society and a better understanding of the work of the Academies.

MEMBERS
Norman R. Augustine
Donald R. Beall
Tanya S. Beder
Daniel A. Bennett
Nancy E. Conrad
Juan Enriquez
Richard P. Fishman
Richard N. Foster
Dan Gupta
Benjamin W. Heineman, Jr.
Jane Hirsh
Sharon Hrynkow
Irwin M. Jacobs
William I. Koch
Jill H. Kramer
Kent Kresa
Whitney MacMillan
Stephanie Marshall
John F. McDonnell
Christopher D. McFadden
Lee McIntire
Sarah Scott Mitchell
Darla Mueller
Frank Press
John W. Rowe
Ajay Royan
Jillian Sackler
Susan E. Siegel
Thomas C. Sutton
Judy Swanson
Jay S. Walker
Kelly Wanser
Ronald A. Williams
Joshua Wolfe
Peter Zandan
James W. Ziglar

EMERITUS MEMBERS
Drew E. Altman
Ernest A. Bates
Berkley Bedell
Diane Bernstein
Malin Burnham
Louis W. Cabot
M. Blouke Carus
James McConnell Clark
Howard E. Cox
Charles W. Duncan, Jr.
George C. Eads
Raymond E. Galvin
Jack M. Gill
Samuel F. Heffner, Jr.
Charles O. Holliday, Jr.
M. Blakeman Ingle
Christopher Ireland
Robert L. James
Scott A. Jones
Gerald D. Laubach
Richard J. Mahoney
Robert H. Malott
Davis Masten
Burton J. McMurtry
Charles H. McTier
Kamal K. Midha
Joe F. Moore
Robert W. Morey, Jr.
Patricia S. Nettleship
Peter O'Donnell, Jr.
Neil R. Rolde
Axel Schupf
Sara L. Schupf
Georges C. St. Laurent, Jr.
Deborah Szekely
Ronald H. Waterman
Margaret S. Wilson
Carole S. Young
James F. Young

Names in bold print are NAS members.
*Deceased

Foundations, Corporations, and Other Organizations
Cumulative Giving through December 31, 2016

In 1919, Carnegie Corporation of New York provided a vital gift to construct the National Academy of Sciences Building and to establish an endowment for the Academy and the National Research Council. Since that time, the following foundations and corporations have supported our work on behalf of the nation with gifts or grants of $1 million or more.

$25 million or more

Carnegie Corporation of New York
The Ford Foundation
The Bill & Melinda Gates Foundation
The Robert Wood Johnson Foundation
The Kavli Foundation
W.M. Keck Foundation
W.K. Kellogg Foundation
The Koshland Foundation

$10 million to $25 million

Arnold and Mabel Beckman Foundation
The Charles Stark Draper Laboratory
The William and Flora Hewlett Foundation
Howard Hughes Medical Institute
The John D. and Catherine T. MacArthur Foundation
The Andrew W. Mellon Foundation
The Cynthia and George Mitchell Foundation
Raymond & Beverly Sackler Foundation
Simons Foundation
Alfred P. Sloan Foundation

$5 million to $10 million

Michael and Susan Dell Foundation
The Grainger Foundation
The Irvine Company
Kaiser Permanente
Merck & Company, Inc.
Gordon and Betty Moore Foundation
The Pew Charitable Trusts
The Rockefeller Foundation

$1 million to $5 million

Aetna Foundation
American Board of Family Medicine
American Cancer Society, Inc.
American Legacy Foundation
American Public Transportation Association
America's Health Insurance Plans Foundation
Amgen, Inc.
Laura and John Arnold Foundation
Association of American Railroads
AstraZeneca Pharmaceuticals LP
AT&T Corporation
Atkinson Family Foundation
The Atlantic Philanthropies (USA)
Craig & Barbara Barrett Foundation
Battelle
S.D. Bechtel, Jr. Foundation
Blue Shield of California Foundation
The Boeing Charitable Trust
The Boeing Company
Breast Cancer Research Foundation
Bristol-Myers Squibb Company
Burroughs Wellcome Fund
The California Endowment
California HealthCare Foundation
Margaret A. Cargill Foundation
CDC Foundation
Chevron Corporation
Chrysler Group LLC
The Commonwealth Fund
The Dow Chemical Company
E.I. du Pont de Nemours & Company
Eastman Kodak Company
The Ellison Medical Foundation
ExxonMobil Corporation
ExxonMobil Foundation
Ford Motor Company
Foundation for Child Development
Foundation for Food and Agriculture Research
General Electric Company
General Motors Company
GlaxoSmithKline
Google Inc.
William T. Grant Foundation
Great Lakes Protection Fund

The Greenwall Foundation
The John A. Hartford Foundation
Leona M. and Harry B. Helmsley Foundation
Hewlett-Packard Company
Hsieh Family Foundation
Intel Company
International Business Machines Corporation
Johnson & Johnson
The JPB Foundation
JSM Charitable Trust
Ewing Marion Kauffman Foundation
The Susan G. Komen Breast Cancer Foundation
Daniel E. Koshland, Jr. Family Fund
The Kresge Foundation
Eli Lilly and Company
Lockheed Martin Corporation
Richard Lounsbery Foundation
Lumina Foundation for Education
Josiah Macy, Jr. Foundation
Merck Company Foundation
Microsoft Corporation
The Ambrose Monell Foundation
Monsanto Company
National Multiple Sclerosis Society
Northrop Grumman Corporation
Northrop Grumman Foundation
Novartis Pharmaceuticals Corporation
Nuclear Threat Initiative
O'Donnell Foundation
The David and Lucile Packard Foundation
Peter G. Peterson Foundation
Pfizer, Inc.
Robert Pritzker Family Foundation
Research Corporation for Science Advancement
Rockefeller Brothers Fund
Richard & Hinda Rosenthal Foundation
Sanofi-Aventis
Shell Oil Company
The Spencer Foundation
The Starr Foundation
The Wellcome Trust
Robert W. Woodruff Foundation
Xerox Corporation

2016 Gifts and Grants

We gratefully acknowledge the following foundations, corporations, and other organizations that provided funding in 2016 to support the work of the National Academies of Sciences, Engineering, and Medicine.

$1,000,000 or more

Carnegie Corporation of New York
The Ford Foundation
Foundation for Food and Agriculture Research
The Bill & Melinda Gates Foundation
The Kavli Foundation
The Kresge Foundation
The Gordon and Betty Moore Foundation
The Robert Wood Johnson Foundation
The Simons Foundation

$500,000 to $1,000,000

American Cancer Society, Inc.
Atkinson Family Foundation
Susan Thompson Buffett Foundation
Greater Saint Louis Community Foundation
The JPB Foundation
Kaiser Permanente
W. K. Kellogg Foundation
The Andrew W. Mellon Foundation
Alfred P. Sloan Foundation

$100,000 to $500,000

100Kin10 Fellowship
AbbVie
Academy of Nutrition and Dietetics
Accreditation Council for Graduate Medical Education
Aetna Foundation
Aetna, Inc.
American Association for the Study of Liver Disease
American Association of Retired Persons
American Petroleum Institute
American Public Transportation Association
Laura and John Arnold Foundation
Association of American Medical Colleges
AstraZeneca Pharmaceuticals LP

Autism Speaks, Inc.
Dr. Semi J. and Ruth Begun Foundation
Bernard Van Leer Foundation
Blue Shield of California Foundation
Bristol-Myers Squibb Company
Buffett Early Childhood Institute
The California Endowment
CDC Foundation, Inc.
The Commonwealth Fund
Community Initiatives
Conrad N. Hilton Foundation
Courtesy Associates
The Nathan Cummings Foundation
D. E. Shaw Research, LLC
Downey Unified School District
Early Milestones Colorado
Eli Lilly and Company
Elsevier Science
Epic
Foundation for Child Development
General Electric Company
George Family Foundation
GlaxoSmithKline
Google, Inc.
Grant Thornton LLP
Gulf of Mexico Research Initiative
The John A. Hartford Foundation, Inc.
Heising-Simons Foundation
The William and Flora Hewlett Foundation
Howard Hughes Medical Institute
Johnson & Johnson
Koninklijke Philips Electronics N.V.
The Albert and Mary Lasker Foundation
The Henry Luce Foundation
The John D. and Catherine T. MacArthur Foundation
The McKnight Foundation
Medtronic, Inc.
The Melville Charitable Trust
Merck & Company, Inc.
Microsoft Corporation
National Governors Association
National Math and Science Initiative, Inc.
New York State Health Foundation
Novartis Pharmaceuticals Corporation
The David and Lucile Packard Foundation
Pfizer, Inc.
Qatar Foundation
The Rockefeller Foundation
Sanofi Pasteur
Sanofi-Aventis
Skoll Global Threats Fund
State of Washington
Takeda Pharmaceuticals
Tara Health Foundation
Tides Foundation
United Healthcare
Wake Forest Baptist Medical Center
The Wellcome Trust

$50,000 to $100,000

Alliance for Early Success
American Academy of Family Physicians
American Association of Colleges of Osteopathic Medicine
American Board of Family Medicine
American Dental Association
American Geological Institute
American Hospital Association
Amgen, Inc.
Association of Organ Procurement Organizations
ASTS Foundation II
Baxalta
Biogen, Inc.
Burroughs Wellcome Fund
California Health Care Foundation
CEO Roundtable on Cancer, Inc.
Corixa Corporation
Dartmouth-Hitchcock Health
The Dow Chemical Company
Doris Duke Charitable Foundation
Eisai Inc
Eucalyptus Associates, Inc.
ExxonMobil Corporation
Fidelity Charitable Gift Fund
GeneDx
Grove Foundation
HCA Inc.
Healthy Weight Commitment Foundation
Leona M. and Harry B. Helmsley Charitable Trust
Helsinn Healthcare
Humana, Inc.
LeadingAge, Inc.
Lockheed Martin Corporation
Richard Lounsbery Foundation
Mars Incorporated
Merck Company Foundation
Methodist Healthcare Ministries
National Board of Medical Examiners

Nemours Foundation
Nestle USA, Inc.
North Shore LIJ Health System
Novo Nordisk Diabetes Innovation Award Program
Ocean Spray Cranberries, Inc.
Palo Alto Institute
Premier Healthcare Alliance
Fannie E. Rippel Foundation
The Rowe Family Foundation
Shell Oil Company
UnitedHealth Group, Inc.
University of Michigan
Vanguard Charitable Endowment Program
Verizon Communications
Verizon Foundation

$25,000 to $50,000

Abbott Laboratories
ABIM Foundation
Adidas America Inc.
Alzheimer's Association
American Association for Cancer Research
American Association of Colleges of Nursing
American Board of Medical Specialties (ABMS)
American Board of Pediatrics Foundation
American College of Physicians
American College of Surgeons
American Optometric Association
American Psychiatric Association
American Psychological Association
American Society of Hematology
American Society of Transplantation
Anthem Blue Cross Blue Shield
Association of State and Territorial Health Officials
The AYCO Charitable Foundation
Becton Dickinson and Company
Blue Cross Blue Shield of Massachusetts
Blue Cross Blue Shield of North Carolina Foundation
Brewster Foundation
CAMBIA Health Solutions
Cargill, Inc.
The Chobani Foundation
Clean Caribbean Corporation
The Coca-Cola Company
The Colorado Trust
ConAgra, Inc.
Dignity Health
Excellus Health Plan
Foundation Fighting Blindness
General Mills, Inc.
Greater Rochester Health Foundation
Health Literacy Missouri
Health Partners
Infectious Diseases Society of America
International Society for Stem Cell Research
Jonas Center for Nursing and Veterans Healthcare
Josiah Macy, Jr. Foundation
W.M. Keck Foundation
Milbank Memorial Fund
Monsanto Company
Mott's LLP (Dr. Pepper Group Company)
National Academy of Sciences
National Association of County and City Health Officials
National Comprehensive Cancer Network, Inc.
NESTEC, SA
Northrop Grumman Corporation
Oncology Nursing Society
PATH
PepsiCo, Inc.
The Pew Charitable Trusts
Pharmaceutical Research and Manufacturers of America
The Procter & Gamble Company
Providence Health & Services
The Rutter Foundation
SAGE Publications
Samueli Foundation
Samueli Institute for Information Biology
The Shaw Family Endowment Fund – Anonymous Donor
The Spencer Foundation
The U.S. Charitable Gift Trust
United Therapeutics Corporation
University of California, Davis
University of Colorado
University of Kentucky
University of Pennsylvania
University of Southern California
The UPS Foundation
The World Bank
YMCA of the USA

$10,000 to $25,000

23 and Me, Inc.
Academic Consortium for Complementary and Alternative Health Care
Accreditation Council for Continuing Medical Education
Agilent Technologies
Alliance for Continuing Education in the Health Professions
ALS Association
Altarum
American Academy of Neurology
American Academy of Nursing
American Academy of Pediatrics
American Board of Internal Medicine
American College of Emergency Physicians
American College of Radiology
American Council of Academic Physical Therapy Inc.
American Dental Education Association
American Educational Research Association
American Institute for Cancer Research, Inc.
American Medical Association
American Occupational Therapy Association, Inc.
American Osteopathic Association
American Physical Therapy Association
American Society for Microbiology
American Society for Nutrition
American Society of Anesthesiologists
American Society of Clinical Oncology
American Society of Gene & Cell Therapy
American Speech-Language Hearing Association
AMG Charitable Gift Foundation
Arizona State University
Asmund Laerdal Foundation
Association for Computing Machinery, Inc.
Association of American Cancer Institutes
Association of American Veterinary Medical Colleges
Association of Schools and Colleges of Optometry
Association of Schools of Public Health
Auburn University
Austin Community Foundation
Battelle Pacific Northwest National Laboratory
Bayer Corporation
The Beall Family Foundation
Bipartisan Policy Center
BlueCross and BlueShield Association
The Boeing Company
Boston Scientific Corporation
Brain Canada Foundation
CADCA
California Institute of Technology
Marguerite Casey Foundation
Catholic Health Association of the United States
Catholic Health Initiatives
Clinical Child Psychology
Comcast Corporation
Commission of Accreditation of Athletic Training Education
The Community Foundation National Capital Region Share Fund
Compassion & Choices
The Council of Medical Specialty Societies
Council of State and Territorial Epidemiologists, Inc.
Council on Social Work Education
CTA Foundation
Dewberry
DuPont Nutrition & Health - Danisco Cultures Plant
Dynetics, Inc.
Edelman
Education Development Center, Inc.
Federation of American Hospitals
Michael J. Fox Foundation for Parkinson's Disease
GE Healthcare
Genentech, Inc.
The George Washington University
Georgia Institute of Technology
Gift of Life Donor Program
The Greenwall Foundation
Health Literacy Partners LLC
Healthcare Ready
High Scope
Houston Jewish Community Foundation
ImpactAssets
Institute for Healthcare Advancement
Intel Corporation
Iowa State University
Juno Therapeutics, Inc.
Kraft Foods, Inc.
Land O'Lakes
LIVESTRONG Foundation
Lumina Foundation for Education
Lundbeck Research USA, Inc.
Massachusetts Institute of Technology
MEDNAX Services, Inc.
Michigan State University
National Academies of Practice

National Association of Chain Drug Stores Foundation
National Association of Social Workers
National Board for Certified Counselors, Inc.
National Council of State Boards of Nursing
National League for Nursing, Inc.
National Multiple Sclerosis Society
National Organization for Associate Degree Nursing
New England Organ Bank
Northeastern University
One Mind for Research
OneLegacy Foundation
PennAg Industries Association
Physician Assistant Education Association
Physio-Control
Pioneer Hi-Bred International, Inc.
Qualcomm, Inc.
Raytheon Company
Reebok International Ltd.
Dame Jillian & Dr. Arthur M. Sackler Foundation
Sadra Medical Inc.
Schwab Charitable Fund
Vesto M. Slipher Charitable Trust
Society for Neuroscience
Society for Research in Child Development
Society for Simulation in Healthcare
Stanford University
Texas A&M University
Texas Biomedical Research Institute
Toronto General
Transplantation Society
Trauma Center Association of America, Inc.
Tufts University
The University of Arizona
University of California, Berkeley
University of Florida
University of Maryland
University of Notre Dame
University of Pittsburgh
The University of Tennessee, Knoxville
The University of Texas at Austin
The University of Texas MD Anderson Cancer Center
The University of Texas, Rio Grande Valley
University of Washington
UT-Battelle
Walker Innovation Inc.
Washington State University
Yale University

$1,000 to $10,000

Academia Sinica
Akron Biotechnology, LLC
Alliance For a Healthier Generation, Inc.
Alliance For Home Health Quality and Innovation
Alliance For Regenerative Medicine
American Academy of Hospice and Palliative Medicine
The American Board of Obstetrics and Gynecology
American Century Investments Foundation
American College of Medical Genetics
American College of Nurse-Midwives
American College of Obstetricians & Gynecologists
American College of Sports Medicine
American Dairy Science Association
American Diabetes Association
American Geriatrics Society
American Heart Association
American Mathematical Association of Two-Year Colleges
American Red Cross
American Society of Agricultural and Biological Engineers
American Statistical Association
The American Veterinary Medical Association
APA Divisions
Association of Mathematics Teacher Educators
Association of Professional Chaplains
Association of Public Health Laboratories
Association of Rehabilitation Nurses
AT&T Corporation
Bank of America Charitable Gift Fund
Baumol Family Foundation
Bell Family Foundation
Branscomb Family Foundation
Brinkman Family Foundation
The Harold & Colene Brown Family Foundation
Cancer Support Community
Center for Advance Palliative Care Mt. Sinai School of Med
Centre for Commercialization of Regenerative Medicine
Child Care Aware of America
Christopher & Dana Reeve Foundation
Cognitive Neuroscience Institute
Cohen Veterans Bioscience
Combined Federal Campaign (CFC)

Conference Board of the Mathematical Science
Dalian University of Technology
Det Norske Videnskapa-Akademi
Deutsche Akademie
RG & AM Douglas Foundation
Emergency Nurses Association
Foundation for the National Institutes of Health
Friends of Cancer Research
G&W Laboratories
Gatsby Charitable Foundation
Gerontological Society of America
Greater Kansas City Community Foundation
Healthcare Chaplaincy
Human Factors and Ergonomics Society
Icahn School of Medicine at Mount Sinai
International Business Machines Corporation
International Diabetes Federation
Int'l Society for Cardiovascular Translational Research
Jewish Community Foundation San Diego
Low Income Investment Fund
Massachusetts General Hospital
Mathematical Association of America
Merrill Lynch & Company, Inc.
Miami Foundation
The Milken Family Foundation
Morgan Stanley Smith Barney Global Impact Funding Trust, Inc
National Council of Supervisors of Math
National Hospice and Palliative Care Organization
National Kidney Foundation, Inc.
New England Journal of Medicine
New York Stem Cell Foundation
NIST
The Obesity Society
OptiRTC, Inc.
Orbital ATK, Inc.
Orcas Island Community Foundation
Partnership for a Healthier America
PHI
The Royal Society
Science Unbound Foundation, Inc.
The Seattle Foundation
Singapore Health Services
Social Work Hospice and Palliative Care Network
Society of Academic Emergency Medicine
Society of Pediatric Psychology
Sudden Cardiac Arrest Foundation
Synergy Enterprises Inc.
Szekely Family Foundation
TIAA-CREF
Triangle Community Foundation, Inc.
United Nations Foundation
University Industry Demonstration Partnership, Inc. (UIDP)
University of Alabama
University of California, Irvine
University of Delaware
University of Maryland Faculty Physicians, Inc.
The University of Texas at San Antonio
Worcester Polytechnic Institute
Zerhouni Family Charitable Foundation, Inc.

We have made every effort to list donors accurately and according to their wishes. If we have made an error, please accept our apologies and contact the Office of Development at 202.334.2431 so that we may correct our records.

III. Financial Condition

NATIONAL ACADEMY OF SCIENCES

Auditing Committee

June 7, 2017

Dr. Marcia McNutt
President
National Academy of Sciences

Dear Dr. McNutt:

In accordance with paragraph 11 of section II of the Bylaws of the National Academy of Sciences, the firm of Grant Thornton LLP was retained by the Auditing Committee on behalf of the Council to conduct an audit of the accounts of the Treasurer for the year ended December 31, 2016, and to report to the Auditing Committee.

The independent accountants have completed their audit and submitted their report. In accordance with paragraph 13 of section II of the Bylaws, the Auditing Committee has reviewed the report and recommends to the Council that it be accepted and that the opinion of the independent accountants be published with the report of the Treasurer.

Respectfully submitted,

Auditing Committee

Claude R. Canizares, Chair
Susan Gottesman
Ronald L. Graham
Brian W. Matthews
Jeremiah P. Ostriker

GrantThornton

Grant Thornton LLP
1250 Connecticut Ave NW, Suite 400
Washington, DC 20036-3531

T 202.296.7800
F 202.833.9165
GrantThornton.com
linkd.in/GrantThorntonUS
twitter.com/GrantThorntonUS

REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

To the Auditing Committee of
National Academy of Sciences

We have audited the accompanying financial statements of the National Academy of Sciences ("NAS"), which comprise the statement of financial position as of December 31, 2016, and the related statements of activities and cash flows for the year then ended, and the related notes to the financial statements.

Management's responsibility for the financial statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to NAS' preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of NAS' internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the National Academy of Sciences as of December 31, 2016, and the changes in its net assets and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other matter

The financial statements of the National Academy of Sciences as of and for the year ended December 31, 2015 were audited by other auditors. Those auditors expressed an unmodified opinion on those 2015 financial statements in their report dated May 27, 2016.

Grant Thornton LLP

Washington, DC
June 7, 2017

NATIONAL ACADEMY OF SCIENCES

Statements of Financial Position

As of December 31, 2016 and 2015
(in thousands)

	2016	2015
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 4,033	$ 3,274
Contracts receivable, net (Notes 2 and 12)	66,982	83,919
Contributions and other receivables, net (Notes 2 and 6)	169,585	154,107
Other current assets (Note 15)	12,024	8,548
Total current assets	252,624	249,848
Other assets (Notes 2, 13, 14, and 15)	5,255	5,216
Investments (Notes 3 and 4)	759,888	596,483
Contributions receivable, net (Notes 2 and 6)	131,393	268,889
Property and equipment, net (Note 5)	162,632	167,188
Einstein Memorial	1,723	1,723
Total assets	$ 1,313,515	$ 1,289,347
LIABILITIES AND NET ASSETS		
CURRENT LIABILITIES		
Accounts payable and accrued expenses	$ 31,868	$ 36,809
Deferred revenue (Note 7)	38,982	37,296
Lines of credit (Note 8)	5,543	13,669
Other current liabilities (Notes 2 and 13)	5,490	5,380
Total current liabilities	81,883	93,154
Bonds payable, net (Note 13)	158,089	162,000
Funds held on behalf of others (Notes 3 and 4)	12,059	11,179
Accrued employee benefits (Note 14)	2,634	8,876
Other long-term liabilities (Notes 2 and 13)	9,383	10,574
Total liabilities	264,048	285,783
Commitments and contingencies (Notes 3, 12, 13, 14, 16, and 17)		
NET ASSETS		
Unrestricted	104,174	101,981
Temporarily restricted (Note 9)	782,378	754,958
Permanently restricted (Note 10)	162,915	146,625
Total net assets	1,049,467	1,003,564
Total liabilities and net assets	$ 1,313,515	$ 1,289,347

The accompanying notes are an integral part of these financial statements.

NATIONAL ACADEMY OF SCIENCES

Statements of Activities

Years ended December 31, 2016 and 2015
(in thousands)

	2016				2015			
	Unrestricted	Temporarily Restricted	Permanently Restricted	Total	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
REVENUES, GAINS, AND OTHER SUPPORT								
Government contracts and grants (Note 12)	$ 216,638	$ -	$ -	$ 216,638	$ 206,648	$ -	$ -	$ 206,648
Private contracts and grants	15,228	37,404	-	52,632	12,842	37,124	-	49,966
Gulf Research Program	-	6,122	-	6,122	-	9,222	-	9,222
Other contributions	3,104	544	16,290	19,938	3,921	5,350	11,616	20,887
Fees and publications	15,212	-	-	15,212	15,984	-	-	15,984
Investment income (loss) (Note 3)	7,182	40,443	-	47,625	(2,028)	(4,070)	-	(6,098)
Other income (Note 13)	15,717	-	-	15,717	14,098	-	-	14,098
Net assets released from restriction (Note 9)	57,093	(57,093)	-	-	58,854	(58,854)	-	-
Total revenues, gains, and other support	330,174	27,420	16,290	373,884	310,319	(11,228)	11,616	310,707
EXPENSES (Notes 13 and 14)								
Programs (Note 11)	266,514	-	-	266,514	266,044	-	-	266,044
Management and general	57,003	-	-	57,003	48,994	-	-	48,994
Fundraising	3,231	-	-	3,231	2,826	-	-	2,826
Total expenses	326,748	-	-	326,748	317,864	-	-	317,864
Postretirement changes other than net periodic benefit cost (Note 14)	1,233	-	-	1,233	989	-	-	989
Change in net assets	2,193	27,420	16,290	45,903	(8,534)	(11,228)	11,616	(8,146)
Net assets at beginning of year	101,981	754,958	146,625	1,003,564	110,515	766,186	135,009	1,011,710
Net assets at end of year	$ 104,174	$ 782,378	$ 162,915	$ 1,049,467	$ 101,981	$ 754,958	$ 146,625	$ 1,003,564

The accompanying notes are an integral part of these financial statements.

NATIONAL ACADEMY OF SCIENCES
Statements of Cash Flows
For the years ended December 31, 2016 and 2015
(in thousands)

	2016	2015
CASH FLOWS FROM OPERATING ACTIVITIES		
Change in net assets	$ 45,903	$ (8,146)
Adjustments to reconcile change in net assets to net cash provided by operating activities		
Depreciation and amortization	7,836	8,243
Loss on disposal of property and equipment	-	16
Bad debt expense	4,932	(79)
Net (gain) loss on investments	(37,033)	16,239
Net (gain) loss on investments held on behalf of others	(775)	311
Change in value of interest rate swap	(1,342)	(534)
Change in value of split-interest agreements	51	(69)
Contributions restricted for endowment	(5,648)	(14,677)
(Increase) decrease in assets		
Other receivables	121,775	54,074
Contracts receivable	12,248	(5,873)
Other current assets	(3,476)	(1,550)
Other assets	(107)	2,833
Increase (decrease) in liabilities:		
Accounts payable and accrued expenses	(4,941)	(992)
Deferred revenue	1,686	(683)
Other current liabilities	(54)	(330)
Funds held on behalf of others	880	(403)
Other long-term liabilities	307	(27)
Accrued employee benefits	(6,242)	669
Net cash provided by operating activities	136,000	49,022
CASH FLOWS FROM INVESTING ACTIVITIES		
Additions to property and equipment	(3,346)	(1,899)
Sales or maturities of investments	460,124	279,358
Purchases of investments	(585,721)	(350,328)
Net cash used in investing activities	(128,943)	(72,869)
CASH FLOWS FROM FINANCING ACTIVITIES		
Contributions restricted for endowment	5,648	14,677
Proceeds from lines of credit	43,166	163,028
Payments on lines of credit	(51,292)	(156,420)
Payments on bond principal	(3,820)	(3,645)
Net cash (used in) provided by financing activities	(6,298)	17,640
Net increase (decrease) in cash and cash equivalents	759	(6,207)
Cash and cash equivalents, beginning of year	3,274	9,481
Cash and cash equivalents, end of year	$ 4,033	$ 3,274
Supplemental disclosure of cash flow information:		
Interest paid	$ 5,559	$ 5,686

The accompanying notes are an integral part of these financial statements.

NATIONAL ACADEMY OF SCIENCES
Notes to the Financial Statements
December 31, 2016 and 2015

1. ORGANIZATION

National Academy of Sciences

The National Academy of Sciences ("NAS") was formed under a charter that was passed as an Act of Incorporation by the United States Congress and signed into law on March 3, 1863. NAS operates as a private cooperative society of distinguished scholars engaged in scientific or engineering research, dedicated to the furtherance of science and its use for the general welfare.

National Research Council

Most of the activities undertaken by NAS are carried out through the divisions and boards of the National Research Council ("NRC"). The NRC draws on a wide cross section of the nation's leading scientists and engineers for advisory services to government agencies and Congress. To respond effectively to both the disciplinary concerns of the research community and the complex interdisciplinary problems facing American society, NRC performs its studies and workshops through the following major divisions:

- Behavioral and Social Sciences and Education
- Earth and Life Studies
- Engineering and Physical Sciences
- Gulf Research Program
- Health and Medicine
- Policy and Global Affairs
- Transportation Research Board

NRC activities are under the control of the NAS governance structure and, therefore, are included in the NAS financial statements.

National Academy of Medicine

The Institute of Medicine ("IOM"), which was established in 1970, has been reconstituted as the National Academy of Medicine ("NAM") effective June 1, 2015. NAM is a separate membership organization within NAS, and issues position statements on policy issues related to health and medicine, cooperates with the major scientific and professional societies in the field, identifies qualified individuals to serve on study groups in other organizational units, and disseminates information to the public and the relevant professions. The financial activities and results of NAM are included in the NAS financial statements.

National Academy of Engineering

The National Academy of Engineering ("NAE") was established in 1964 under the charter of NAS as a related parallel organization, autonomous in its governance, administration, and the selection of its members. NAE shares with NAS the responsibility for advising the federal government on scientific issues. The NAE conducts independent program activities and activities through the NRC. The results of both of these activities are included in the NAS financial statements.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting

Net assets, revenues, gains, and losses are classified based on the existence or absence of donor-imposed restrictions. Accordingly, the net assets of NAS are classified and reported as follows:

Permanently restricted - Net assets subject to donor-imposed stipulations that they be maintained in perpetuity by NAS. Generally, the donors of these assets permit NAS to use all or part of the income earned on related investments for general or specific purposes.

Temporarily restricted - Net assets subject to donor-imposed stipulations that may or will be met either by actions of NAS and/or the passage of time. When a donor restriction expires, temporarily restricted net assets are reclassified to unrestricted net assets.

Unrestricted - Net assets arising from exchange transactions and contributions not subject to donor-imposed stipulations.

Cash Equivalents

NAS reports liquid, temporary investments purchased with original maturities of three months or less as cash equivalents.

Investments

Investments are stated at fair value. Changes in the fair value of investments are reported within investment income (loss) in the accompanying statements of activities.

Purchases and sales of securities are reflected on a trade-date basis. Gains and losses on sales of securities are based on average cost and are recorded in the accompanying statements of activities in the period in which the securities are sold. Dividends are accrued based on the ex-dividend date. Interest is recognized as earned.

Contributions

Contributions, including unconditional promises to give, are recognized as revenues in the period received. Conditional promises to give are not recognized until all conditions are substantially met.

Revenues from non-federal grants qualifying as contributions are recorded by NAS upon notification of the grant award. Such grants are classified as temporarily restricted net assets when use of the grant funds is limited to specific areas of study or is designated for use in future periods.

Gifts of land, buildings, or equipment are reported as unrestricted net assets unless explicit donor stipulations specify how the donated assets must be used. Temporary restrictions on gifts that must be used to acquire or construct long-lived assets are released in the period in which the assets are acquired or placed in service.

Allowances are recorded for estimated uncollectible contributions based upon management's judgment and analysis of the creditworthiness of the donor, past collection experience, and other relevant factors. Contributions to be received after one year are discounted at an appropriate rate commensurate with risks involved. Amortization of the discount is recorded as additional revenue and is used in accordance with donor-imposed restrictions, if any, on the contributions.

Gulf Research Program revenue relates to two agreements between NAS and BP Exploration and Production, Inc. (BP) and Transocean Deepwater Inc. (Transocean), respectively. As a result of separate plea agreements between those corporations and the federal government related to the 2010 Deepwater Horizon disaster, NAS was asked to establish a program focused on human health and environmental protection in the Gulf of Mexico. BP will pay $350.0 million over five years, and Transocean will pay $150.0 million over four years, to fund this 30-year,

$500.0 million program. The present value of these payments in 2013 was $471.4 million, which was recognized as revenue in that year. The present value of the balance of these payments is $262.3 million and $396.2 million as of December 31, 2016 and 2015, respectively. The unpaid balance due for each agreement is reflected in contributions and other receivables, net (current) and contributions receivable, net (long-term) in the accompanying statements of financial position.

Contracts and Grants

The majority of NAS activities are performed under cost-reimbursable contracts and grants with the U.S. government. For the years ended December 31, 2016 and 2015, the Department of Transportation provided 36% and 40%, respectively, of NAS' government contract and grant revenues.

NAS records federal contracts and grants as exchange transactions, recognizing revenue as recoverable costs are incurred. Revenues from non-federal contracts and grants classified as exchange transactions are also recognized as recoverable costs are incurred.

Contracts receivable consisted of $19.1 million of billed receivables, $44.6 million of unbilled receivables, and $3.3 million of indirect costs under-recovered on federal contracts and grants as of December 31, 2016. Contracts receivable consisted of $29.2 million of billed receivables, $52.9 million of unbilled receivables, and $1.8 million of indirect costs under-recovered on federal contracts and grants as of December 31, 2015.

Allowances are recorded for estimated uncollectible contracts and grants based upon management's judgment and analysis of the creditworthiness of the sponsoring organization, past collection experience, and other relevant factors. As of December 31, 2016 and 2015, NAS has an allowance for estimated uncollectible contracts and grants of $4.7 million and $2.0 million, respectively, which is reported net of contracts receivable in the accompanying statements of financial position.

Property and Equipment

Depreciation of NAS' buildings and equipment is computed on a straight-line basis using the following lives:

Asset Class	Depreciable Lives
Buildings	40 years
Building improvements	Lesser of the remaining life of the building or improvement
Leasehold improvements	Lesser of the remaining life of the lease or improvement
Furniture and equipment	4 to 10 years
Capitalized software	3 to 10 years

The Einstein Memorial sculpture is valued at cost and is not depreciated. Work in progress is not depreciated until the related assets are placed in service. Capitalized software is amortized over its depreciable life when it is ready for its intended use and placed in service.

Split-Interest Agreements

Charitable gift annuity agreements are classified as other assets and other long-term liabilities in the accompanying statements of financial position. Periodically, NAS pays a fixed amount of the assets to the beneficiary designated by the donor. Upon termination of an annuity, the remainder interest in the assets is available for use by NAS as restricted or unrestricted assets in accordance with the donor's designation. At December 31, 2016 and 2015, NAS had charitable gift annuity assets of $2.7 million. NAS has recorded a liability of $1.8 million at December 31, 2016 and 2015 representing the present value of estimated future cash payments to annuitants based on the annuitants' life expectancies.

Deferred Revenue

For both federal and non-federal grants and contracts that are determined to be exchange transactions, revenue is recognized as the related costs are incurred. Funds received in advance of being earned for these grants are recorded as deferred revenue in the accompanying statements of financial position.

Income Taxes

NAS is exempt from federal income taxes under Section 501(c)(3) of the Internal Revenue Code, except for unrelated business income. NAS recognizes the effect of income tax positions only if those positions are more likely than not of being sustained upon examination. NAS does not believe its financial statements include any uncertain tax positions.

Risks and Uncertainties

NAS invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market, and credit risks. Due to the level of risk associated with investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported.

Recently Adopted Accounting Pronouncements

In January 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-01, *Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities* (ASU 2016-01). The amendments within ASU 2016-01 eliminate the requirement to disclose the fair value of financial instruments measured at amortized cost for entities that are not public business entities. ASU 2016-01 is effective for fiscal years beginning after December 15, 2018 for entities that are not public business entities and early adoption is permitted. NAS has elected to early adopt this accounting pronouncement for the year ended December 31, 2016. Therefore, the fair value of the NAS bonds payable as of December 31, 2016 and 2015 has not been disclosed.

In April 2015, the FASB issued ASU 2015-03, *Interest - Imputation of Interest* (ASU 2015-03), to simplify the presentation of debt issuance costs related to a recognized debt liability. Under these new requirements, previously capitalized debt issuance costs will be presented as a direct reduction from the carrying value of the respective debt liability, consistent with debt discounts. The guidance requires retrospective application and is effective for fiscal years beginning after December 15, 2015. During fiscal 2016, NAS adopted ASU 2015-03, and accordingly, reclassified its unamortized deferred financing costs totaling $2.3 million and $2.4 million as of December 31, 2016 and 2015, respectively, as a reduction of its bonds payable in the accompanying statements of financial position. The disclosures in note 13 are presented accordingly.

In May 2015, the FASB issued ASU 2015-07, *Disclosures for Investments in Certain Entities that Calculate Net Asset Value per Share (or its Equivalent)* (ASU 2015-07). ASU 2015-07 removes the requirement to categorize, within the fair value hierarchy, investments for which fair values are estimated using the net asset value practical expedient provided by Accounting Standards Codification ("ASC") 820, *Fair Value Measurement* (ASC 820). Disclosures about investments in certain entities that calculate net assets value per share are limited under ASU 2015-07 to those investments for which the entity has elected to estimate the fair value using the net asset value practical expedient. ASU 2015-07 is effective for entities (other than public business entities) for fiscal years beginning after December 15, 2015, with retrospective application to all periods presented. Early application is permitted. NAS elected to adopt ASU 2015-07 in fiscal 2015. The disclosures in note 4 are presented accordingly.

Use of Estimates

The preparation of these financial statements in conformity with U.S. generally accepted accounting principles requires management to make certain estimates and assumptions. These estimates and assumptions may affect the reported amounts of assets and liabilities and disclosures in the financial statements. Actual results could differ from those estimates.

Reclassifications

Certain amounts from the prior year have been reclassified to conform to the current year presentation. Except for the effects of the adoption of ASU 2015-03, there were no changes to total assets, liabilities, net assets, revenues, expenses or changes in net assets as previously reported in the fiscal 2015 financial statements.

3. INVESTMENTS

Investments, which are reported at fair value, consist of the following as of December 31, 2016 and 2015 (in thousands):

	2016	2015
Investments:		
Program pool investments		
Cash equivalents	$ 2,917	$ 2,642
Bonds and notes	43,770	43,582
Equity	11,414	10,628
	58,101	56,852
Gulf Research Program investments		
Cash equivalents	560	140
Bonds and notes	110,698	41,312
Equity	111,554	41,575
	222,812	83,027
Investment pool, including endowment assets		
Cash equivalents	4,288	7,531
Bonds and notes	38,244	38,092
Equity	256,294	286,076
Hedge funds	120,597	65,972
Private equity	23,232	22,210
	442,655	419,881
Other investments		
Cash equivalents	854	1,258
Bonds and notes	19,432	20,681
Equity	16,034	14,784
	36,320	36,723
Total investments	$ 759,888	$ 596,483

The National Academies' Corporation (TNAC, see Note 15), a related entity, invests certain of its assets in the NAS investment pool. TNAC investments participate in the investment pool proportionally with all other funds in this pool.

The NAS obligation to TNAC for these funds held in trust, which totaled approximately $12.1 million and $11.2 million as of December 31, 2016 and 2015, respectively, is reported as funds held on behalf of others in the accompanying statements of financial position. The funds held on behalf of others liability equals the investments held in NAS' investment pool on behalf of TNAC.

Investment income (loss) is reported net of investment expenses of approximately $806,000 and $1,026,000 for the years ended December 31, 2016 and 2015, respectively, and is comprised of the following (in thousands):

	2016	2015
Interest and dividends, net	$ 10,592	$ 10,141
Net gain (loss) on investments	37,033	(16,239)
Total investment income (loss)	$ 47,625	$ (6,098)

4. FAIR VALUE MEASUREMENTS

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. ASC 820 establishes a fair value hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs that may be used to measure fair value:

Level 1- Quoted prices in active markets for identical assets or liabilities.

Level 2 - Observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 - Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The following discussion describes the valuation methodologies used for financial assets measured at fair value. The techniques utilized in estimating the fair values are affected by the assumptions used, including discount rates and estimates of the amount and timing of future cash flows. Care should be exercised in deriving conclusions about NAS' business, its value or financial position based on the fair value information of financial assets presented.

Fair value estimates are made at a specific point in time, based on available market information and judgments about the financial asset, including estimates of timing, amount of expected future cash flows, and the credit standing of the issuer. In some cases, the fair value estimates cannot be substantiated by comparison to independent markets. In addition, the disclosed fair value may not be realized in the immediate settlement of the financial asset. Furthermore, the disclosed fair values do not reflect any premium or discount that could result from offering for sale at one time an entire holding of a particular financial asset. Potential taxes and other expenses that would be incurred in an actual sale or settlement are not reflected in amounts disclosed.

The following methods, assumptions, and inputs were used to estimate the fair value of each class of financial instruments:

The carrying value of cash equivalents such as money market funds approximates the fair value because of the short maturity of these investments. These amounts are included in Level 1 of the fair value hierarchy.

NAS' fixed maturity investments (bonds and notes) include U.S. Treasury securities, mortgage-backed securities, corporate bonds, and mutual funds that invest in these types of securities. Other than U.S. Treasury securities and mutual funds, these investments generally do not trade on a daily basis. The fair value estimates of such debt securities are based on prices provided by NAS' investment managers and custodian bank. Both the investment managers and the custodian bank use a variety of pricing sources to determine market valuations. Each designate specific pricing services or indexes for each sector of the market based upon the provider's expertise. NAS' debt securities portfolio is highly liquid, which allows for a high percentage of the portfolio to be priced through pricing services. Accordingly, the estimates of fair value for such debt securities are included in Level 2 of the fair value hierarchy. The estimated values of U.S. Treasury securities and debt mutual funds are based on actively traded market prices and are, accordingly, included in the bonds and notes amount in Level 1 of the fair value hierarchy.

Fair values of exchange-traded equity securities and mutual funds that invest in equity securities have been determined by NAS from observable market quotations on major trade exchanges. Accordingly, such equity securities are disclosed in Level 1 of the fair value hierarchy.

The reported fair value of alternative investments, including private equity securities and hedge funds is based on the alternative investment fund managers' net asset value ("NAV"). Private equity investments is comprised of limited partnership interests. Valuations provided by alternative investment fund managers include estimates, appraisals, assumptions, and methods that are reviewed by management. When necessary, NAS adjusts NAV for contributions and distributions subsequent to the latest NAV valuation date when calculating fair value. NAS analyzes the NAVs provided by alternative investment fund managers on a regular basis considering relevant economic and market conditions, applicable benchmarks and its understanding of the nature and related risks of the investments. These investments are not leveled in the fair value hierarchy.

NAS' policy is to recognize transfers between levels of the fair value hierarchy as of the end of the reporting period in which the event or change in circumstances occurred. There were no transfers among levels during 2016 and 2015.

The following table presents NAS' fair value hierarchy for those assets measured at fair value on a recurring basis at December 31, 2016 (in thousands):

	Total Fair Value	Fair Value Measurements Using		Investments Measured at Net Asset Value
		Level 1	Level 2	
Financial assets:				
Investments:				
Cash equivalents	$ 8,619	$ 8,619	$ -	$ -
Bonds and notes				
U.S. treasuries/government bonds	68,718	68,718	-	-
Mortgage-backed securities	102,122	74,373	27,749	-
Corporate bonds	23,747	16,920	6,827	-
Non-U.S. fixed income	17,557	16,965	592	-
Equity				
U.S. large equity	153,688	153,688	-	-
U.S. small/mid equity	63,691	63,691	-	-
Non-U.S. equity (developed)	59,941	59,941	-	-
Non-U.S. equity (emerging)	48,605	48,605	-	-
Real estate	15,587	15,587	-	-
Long/short equity hedge funds	53,784	-	-	53,784
Hedge fund investments	120,597	-	-	120,597
Private equity funds	23,232	-	-	23,232
Total investments	759,888	527,107	35,168	197,613
Charitable gift annuity assets	2,729	2,204	525	-
Deferred compensation assets	855	855	-	-
Total financial assets	$ 763,472	$ 530,166	$ 35,693	$ 197,613

The following table presents NAS' fair value hierarchy for those assets measured at fair value on a recurring basis at December 31, 2015 (in thousands):

	Total Fair Value	Fair Value Measurements Using: Level 1	Fair Value Measurements Using: Level 2	Investments Measured at Net Asset Value
Financial assets:				
Investments:				
Cash equivalents	$ 11,571	$ 11,571	$ -	$ -
Bonds and notes				
U.S. treasuries/government bonds	33,040	33,040	-	-
Mortgage-backed securities	67,175	38,860	28,315	-
Corporate bonds	26,066	16,489	9,577	-
Non-U.S. fixed income	17,386	16,447	939	-
Equity				
U.S. large equity	84,529	84,529	-	-
U.S. small/mid equity	67,861	67,861	-	-
Non-U.S. equity (developed)	68,125	68,125	-	-
Non-U.S. equity (emerging)	43,659	43,659	-	-
Real estate	15,100	15,100	-	-
Long/short equity hedge funds	73,789	-	-	73,789
Hedge fund investments	65,972	-	-	65,972
Private equity funds	22,210	-	-	22,210
Total investments	596,483	395,681	38,831	161,971
Charitable gift annuity assets	2,694	2,107	587	-
Deferred compensation assets	833	833	-	-
Total financial assets	$ 600,010	$ 398,621	$ 39,418	$ 161,971

The following table presents the nature and risk of assets with fair values estimated using NAV held at December 31, 2016 and 2015 (in thousands):

	As of December 31, 2016		Fair Value		
	Fair Value	Unfunded Commitments	As of December 31, 2015	Redemption Frequency	Redemption Notice Period
Long/short equity funds - U.S. large equity [a]	$ 53,784	N/A	$ 63,022	Quarterly/ Annually	45 days/ 365 days
Long/short equity funds - Non-U.S. large equity (developed) [b]	-	N/A	10,767	Monthly	45 days
Hedge fund - multistrategies/ multivehicle [c]	120,597	N/A	65,972	Quarterly/ Annually	45 days/ 365 days
Private equity - Asia [d]	19,672	3,293	20,085	N/A	N/A
Private equity - Global [e]	3,181	13,170	1,837	N/A	N/A
Private equity - Domestic [f]	379	4,948	288	N/A	N/A
Total	$ 197,613	$ 21,411	$ 161,971		

(a) This category relates to long-short equity hedge funds comprised of equity investments in U.S. large cap. Each of these funds buys investments long and sells short with the ability to use leverage. These funds can also invest in derivative instruments such as forward, futures, and option contracts.

(b) This category relates to a long-short equity hedge fund comprised of equity investments in Non-U.S. developed countries. This fund buys investments long and sells short with the ability to use leverage. This fund can also invest in derivative instruments such as forward, futures, and option contracts.

(c) This class includes investments in multistrategy, multivehicle hedge funds with the objective of maximizing long term, risk-adjusted returns, and capital appreciation by investing in securities, investment funds, discretionary accounts, and investment partnerships across a broad range of marketable and alternative asset classes. Asset classes include domestic and international marketable equity securities, hedged equity, real estate, natural resource, fixed income, and private equity and absolute return strategies, primarily focused in the United States. At December 31, 2016, $20 million of assets in this category was held by two funds as cash pending investment on January 1, 2017.

(d) This class includes several private equity funds that invest in equity, debt, or debt-oriented instruments, primarily in privately held companies, which own or contractually control operating entities located in the People's Republic of China and India. Investments held in India primarily include equity securities of "early to early growth stage" companies in multiple sectors, except real estate. These investments can never be redeemed with the funds. Instead, the nature of the investments in this class is that distributions are received through liquidation of the underlying assets of the funds. It is estimated that the underlying assets of the funds will be liquidated over 1 to 9 years.

(e) This class includes several global private equity funds with diverse portfolios consisting primarily of venture capital funds, leveraged buyout funds, midstage growth capital funds, assets of healthcare companies, and international private equity funds. These investments are focused on several industries including, but not limited to, insurance, services, and consumer-related industries. These investments can never be redeemed with the funds. Instead, the nature of the investments in this class is that distributions are received through liquidation of the underlying assets of the funds. It is estimated that the underlying assets of the funds will be liquidated over 1 to 9 years.

(f) This class includes several domestic private equity funds, which invest in domestic equity securities, warrants, or other securities that are generally not actively traded at the time of investment. These investments are focused on several industries including, but not limited to, insurance, financial services, consumer-related, and communications. These investments can never be redeemed with the funds. Instead, the nature of the investments in this class is that distributions are received through liquidation of the underlying assets of the funds. It is estimated that the underlying assets of the funds will be liquidated over 1 to 10 years.

5. PROPERTY AND EQUIPMENT, NET

Property and equipment as of December 31, 2016 and 2015, is comprised of the following (in thousands):

	2016	2015
Land	$ 29,689	$ 29,689
Furniture and equipment	31,283	30,137
Buildings and improvements	177,930	177,882
Capitalized software	18,160	17,983
Work in progress	451	78
Leasehold improvements	4,073	4,073
	261,586	259,842
Less: accumulated depreciation and amortization	(98,954)	(92,654)
Total property and equipment, net	$ 162,632	$ 167,188

Depreciation and amortization expense was approximately $7.9 million and $8.3 million for the years ended December 31, 2016 and 2015, respectively.

6. CONTRIBUTIONS RECEIVABLE, NET

Contributions not yet collected are included in contributions and other receivables, net (current) and contributions receivable, net (long-term) in the accompanying statements of financial position, and mature as follows (in thousands):

Less than one year	$ 168,651
One to five years	133,621
Thereafter	1,800
	304,072
Less:	
Discount at rates from 0.73% to 3.35% to estimated net present value	(4,028)
Allowance for uncollectible contributions	(975)
	299,069
Less: current portion	(167,676)
Total contributions receivable, net, long-term	$ 131,393

As of December 31, 2016 and 2015, 88% and 95%, respectively, of contributions receivable were due from two corporations. NAS does not believe there is any significant risk associated with collection of these receivables.

At December 31, 2015, the discount on contributions receivable was approximately $9,837,000 at rates ranging from 0.73% to 6.75% and the allowance for uncollectible contributions was approximately $704,000.

During the year ended December 31, 2016, NAS entered into an agreement with a donor to give up to $10 million. The gift is conditioned on receipt of matching gifts for one of NAS' endowment funds. NAS has recorded revenue totaling approximately $1.7 million for the year ended December 31, 2016, the extent to which the conditions on the pledge have been met.

7. DEFERRED REVENUE

Deferred revenue consisted of the following as of December 31, 2016 and 2015 (in thousands):

	2016	2015
Advances from private grants and contract sponsors	$ 19,923	$ 19,401
Advances from U.S. government sponsors	9,933	11,406
Publication subscriptions and other	7,470	6,489
Conditional contribution	1,656	-
Total deferred revenue	$ 38,982	$ 37,296

8. LINES OF CREDIT

Until September 2016, NAS was party to a $45 million line of credit from Wells Fargo, which bore interest at LIBOR plus 0.55% (1.31% and 0.97% as of December 31, 2016 and 2015, respectively). In September 2016, NAS renewed its line of credit with Wells Fargo for $45 million from October 1, 2016 through January 31, 2017, for $25 million from February 1, 2017 through August 31, 2017, and for $45 million from September 1, 2017 through September 30, 2017. The renewed line of credit bears interest at LIBOR plus 0.55% and expires on September 30, 2017. NAS is also party to a $15 million line of credit from TD Bank, which bears interest at LIBOR plus 0.55% (1.17% and 0.79% as of December 31, 2016 and 2015, respectively) and expires on August 31, 2017. NAS has pledged and granted to each bank a security interest in NAS' gross revenues.

Interest expense related to the lines of credit for the years ended December 31, 2016 and 2015 totaled approximately $107,000 and $190,000, respectively.

9. TEMPORARILY RESTRICTED NET ASSETS

Temporarily restricted net assets were available for the following purposes as of December 31, 2016 and 2015 (in thousands):

	2016	2015
Gulf Research Program	$ 485,449	$ 480,571
Other sponsored research and advisory programs	182,057	165,120
General endowment	80,401	77,672
Prizes and awards	31,012	28,358
Woods Hole facility	3,459	3,237
Total temporarily restricted net assets	$ 782,378	$ 754,958

Temporarily restricted net assets were released from restriction for the following purposes during the years ended December 31, 2016 and 2015 (in thousands):

	2016	2015
Purpose-restricted releases		
Gulf Research Program	$ 12,544	$ 8,557
Other sponsored research and advisory programs	37,332	43,194
Prizes and awards	1,556	1,948
Woods Hole facility	326	312
Time-restricted releases		
General endowment	5,335	4,843
Total temporarily restricted net assets released from restriction	$ 57,093	$ 58,854

10. ENDOWMENT

Permanently Restricted Net Assets

The income generated by permanently restricted net assets is available to support donor-specified programs and general operations. As of December 31, 2016 and 2015, NAS held the following permanently restricted net assets, classified by the purpose for which the income is to be used (in thousands):

	2016	2015
Sponsored research and advisory programs	$ 89,626	$ 86,427
General endowment	42,574	32,487
Prizes and awards	27,176	24,172
Woods Hole facility	3,539	3,539
Total permanently restricted net assets	162,915	146,625
Less: permanently restricted pledges receivable	(13,564)	(3,033)
Permanently restricted endowment assets	$ 149,351	$ 143,592

Endowment Assets

The NAS endowment consists of 127 individual funds established to support general operations, sponsored research and advisory programs, prizes and awards, and the operations of the Woods Hole facility. The endowment solely comprises donor-restricted endowment funds. The investments of the endowment are included in the NAS investment pool, as described in Note 3.

Interpretation of Relevant Law

NAS has interpreted the District of Columbia "Uniform Prudent Management of Institutional Funds Act of 2007" (the "Act") as requiring NAS, absent explicit donor stipulations to the contrary, to act in good faith and with the care that an ordinarily prudent person in a like position would exercise under similar circumstances in making determinations to appropriate for expenditure or accumulate endowment funds, taking into account both its obligation to preserve the value of the endowment and its obligation to use the endowment to achieve the purposes for which it was donated. NAS classifies as permanently restricted net assets (a) the original value of gifts donated to its permanent endowment, (b) the original value of subsequent gifts to its permanent endowment, and (c) accumulations to its permanent endowment required by the applicable donor gift instrument. The remaining portion of donor-restricted endowment funds that are not classified as permanently restricted are classified as temporarily restricted net assets until those amounts are appropriated for expenditure by NAS. In making a determination to appropriate or accumulate, NAS adheres to the standard of prudence prescribed by the Act and considers the following factors:

(1) The duration and preservation of the endowment fund;
(2) The purposes of the institution and the endowment fund;
(3) General economic conditions;
(4) The possible effect of inflation or deflation;
(5) The expected total return from income and the appreciation of investments;
(6) Other resources of the institution; and
(7) The investment policy of the institution.

Return Objectives and Strategies

NAS has adopted an investment and spending policy for endowment assets that is designed to provide a predictable stream of funding to programs supported by its endowment while seeking to protect the real purchasing power of the assets from inflation. Accordingly, NAS has adopted guidelines, which feature a material commitment to equity and equity-like investments.

The endowment fund asset allocation guidelines are as follows:

Asset Category	Guideline Percentage
U.S. large equity	19 %
U.S. small/mid cap equity	9
Non-U.S. equity (developed)	20
Non-U.S. equity (emerging)	15
Real estate	3
Total equity	66
U.S. fixed income/cash	9
Non-U.S. fixed income	5
Total fixed	14
Multistrategy and private equity funds	20
Total	100 %

NAS has adopted a spending policy that limits the annual spending to 5% of the three-year average fair value of the participating funds in the endowment portfolio. This is consistent with NAS' objective to maintain the purchasing power of the endowment assets held in perpetuity as well as to provide additional real growth through new gifts and investment return.

Changes in endowment assets for the fiscal year ended December 31, 2016 are as follows (in thousands):

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Endowment assets, beginning of year	$ (921)	$ 191,716	$ 143,592	$ 334,387
Investment return				
Interest and dividends, net	-	4,443	-	4,443
Net gain on investments	692	22,046	-	22,738
Total investment return	692	26,489	-	27,181
Contributions	-	-	5,759	5,759
Amounts appropriated for expenditure	-	(13,743)	-	(13,743)
Endowment assets, end of year	$ (229)	$ 204,462	$ 149,351	$ 353,584

Changes in endowment assets for the fiscal year ended December 31, 2015 are as follows (in thousands):

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Endowment assets, beginning of year	$ -	$ 205,320	$ 128,889	$ 334,209
Investment (loss) return				
Interest and dividends, net	-	5,568	-	5,568
Net loss on investments	(921)	(8,395)	-	(9,316)
Total investment (loss) return	(921)	(2,827)	-	(3,748)
Contributions	-	5,076	14,703	19,779
Amounts appropriated for expenditure	-	(15,853)	-	(15,853)
Endowment assets, end of year	$ (921)	$ 191,716	$ 143,592	$ 334,387

Funds with Deficiencies

From time to time, the fair value of assets associated with individual donor-restricted endowment funds may fall below the original value of the gift donated to the permanent endowment. Deficiencies of this nature are reported as unrestricted net assets. At December 31, 2016, there was one endowment fund with a fair value below the original value of the gift. At December 31, 2015, there were eight endowment funds with a fair value below the original value of the gift. These deficiencies were primarily a result of unfavorable market fluctuations that occurred shortly after the investment of new permanently restricted contributions. Subsequent gains that restore the fair value of the assets of the endowment fund to the required level are classified as an increase in unrestricted net assets.

11. PROGRAM EXPENSES

Program expenses for the years ended December 31, 2016 and 2015 are summarized as follows (in thousands):

	2016	2015
Transportation Research Board	$ 80,986	$ 86,619
Policy and Global Affairs	68,460	66,408
Health and Medicine	25,456	31,414
Earth and Life Studies	17,524	17,775
Engineering and Physical Sciences	16,217	15,079
Behavioral and Social Sciences and Education	14,042	12,053
Proceedings of the National Academy of Sciences	12,115	11,509
Gulf Research Program	11,662	7,537
National Academy of Sciences	8,701	8,112
National Academy of Medicine	3,919	2,298
National Academy Press	3,308	2,753
National Academy of Engineering	2,973	3,439
Koshland Science Museum	1,151	1,048
Total program expenses	$ 266,514	$ 266,044

12. RECOVERY OF INDIRECT COSTS

NAS receives indirect cost recovery on its federal contracts and grants. An overhead assessment is applied to direct salaries, accrued leave, fringe benefits, and services provided by outside contractors (e.g., temporary personnel agencies, consultants) on NAS property. A general and administrative assessment (G&A) is applied to direct costs and overhead less subcontract costs and stipends. Therefore, both the overhead and G&A rates are applied to projects incurring direct salaries and other direct costs such as travel. If a program does not require direct salaries, such as a travel grant program, a subcontract/flow-through administration rate is applied. Certain off-site work (not performed on NAS property) is assessed reduced overhead rates.

NAS bills for indirect cost recovery throughout the year based on negotiated rates. At the end of each year, NAS compares actual expenses incurred in each of its cost pools to the amounts recovered based on its billing rates. The difference is recorded as its indirect cost carryforward. If NAS over recovers on its indirect costs during the year, a liability is recorded. If NAS under recovers, a receivable is recorded.

NAS has a cumulative net under recovery of approximately \$3.3 million and \$1.8 million as of December 31, 2016 and 2015, respectively. The under recovery is included in the contracts receivable, net balance in the accompanying statements of financial position.

13. BUILDING PROJECT AND FINANCING

Building Project Revenue Bonds

In January 1999, the District of Columbia issued Series 1999A, Series 1999B, and Series 1999C tax-exempt revenue bonds on behalf of NAS. Proceeds from the sale of the revenue bonds financed the cost of the acquisition of 44,250 square feet of land and related construction of an office building, as well as paid certain costs of issuing the bonds. This building consolidates most of NAS' program activities into one location.

In June 2008, the District of Columbia issued Series 2008A tax-exempt revenue bonds in the amount of $66,325,000 on behalf of NAS. The proceeds were used to refund the Series 1999B and Series 1999C revenue bonds, as well as pay certain costs of issuing the bonds.

In April 2009, the District of Columbia issued Series 2009A tax-exempt revenue bonds in the amount of $57,500,000 on behalf of NAS. The proceeds were used to refund the Series 1999A revenue bonds, as well as pay certain costs of issuing the bonds.

In May 2010, the District of Columbia issued Series 2010A tax-exempt revenue bonds in the amount of $59,550,000 on behalf of NAS. These bonds were sold to finance the cost to restore the NAS headquarters building on Constitution Avenue in Washington, DC and pay for certain costs of issuance. The restoration was completed in 2012.

In December 2012, NAS remarketed the Series 2008A and 2009A bonds as direct bank purchases. The Series 2008A bonds were purchased by Wells Fargo Municipal Capital Strategies LLC; the Series 2009A bonds were purchased by TD Bank, N.A. Both agreements stipulate mandatory repurchase in December 2020 at which point NAS could renew the direct purchase agreements, remarket the bonds, or repurchase the bonds.

NAS is obligated under the revenue bonds as follows (in thousands):

	2016	2015
Series 2008A revenue bonds, term, at flexible rates (1.3% in 2016 and 1.1% in 2015) maturing at various dates from January 1, 2016 through 2039	$ 61,000	$ 62,430
Series 2009A revenue bonds, term, at flexible rates (0.9% in 2016 and 0.7% in 2015) maturing at various dates from January 1, 2016 through 2028	47,945	49,065
Series 2010A revenue bonds, serial, with interest rates ranging from 3.0% to 5.0%, maturing at various dates from April 1, 2016 through 2030	24,620	25,890
Series 2010A revenue bonds, term:		
Interest rate 5%, maturing April 1, 2035	13,205	13,205
Interest rate 5%, maturing April 1, 2040	16,960	16,960
Total bonds, at face value	163,730	167,550
Plus unamortized premium	575	641
Less debt issuance costs	(2,305)	(2,446)
Total bonds payable	162,000	165,745
Less current portion (included in other current liabilities)	(3,911)	(3,745)
Bonds payable, long-term	$ 158,089	$ 162,000

The serial and term bonds represent unsecured general obligations of NAS.

Interest on the 2008A and 2009A bonds is payable monthly. Interest on the 2010A bonds is payable semiannually every April 1 and October 1.

The term bonds maturing on April 1, 2035, and April 1, 2040, are subject to mandatory redemption by operation of sinking fund installments. Installment payments for the term bond maturing April 1, 2035, begin on April 1, 2031, and range from $2.4 to $2.9 million per year through the maturity date. Installment payments for the term bond maturing April 1, 2040, begin on April 1, 2036, and range from $3.1 to $3.8 million per year through the maturity date.

Scheduled maturities and sinking fund requirements are as follows (in thousands):

Years ending December 31:	
2017	$ 4,005
2018	4,195
2019	4,390
2020	4,605
2021	6,220
Thereafter	140,315
	$ 163,730

Interest expense on the bonds payable for 2016 and 2015 totaled $3.7 million and $3.5 million, respectively.

Interest Rate Swaps

In October 1999, NAS entered into a swap agreement, with an effective date of February 1, 2000, relating to the $66 million face amount of its Series 1999A revenue bonds. The agreement provides for NAS to receive 4.97% in interest on a notional amount of $65 million and to pay interest at a floating rate option based on the weekly interest rate resets of tax-exempt variable-rate issues per the Securities Industry and Financial Markets Association ("SIFMA") Municipal Swap Index. NAS amended the agreement for the 2005–2020 period by agreeing to give up the benefit of any 30-day period during which the SIFMA index remains below 2.25% for the entire 30 days. Each time this occurs, the rate on the swap portfolio reverts to the fixed rate noted above for that month only.

NAS entered into this fixed-to-variable swap agreement to manage its exposure to interest rate changes. The fixed-rate debt obligations exposed NAS to variability in the cost recovery stream due to changes in interest rates. NAS recovers the costs of borrowing through a capital investment incentive rate that is set by the U.S. government and is tied to a variable index. If interest rates increase, the capital investment incentive recovery increases.

Conversely, if interest rates decrease, the capital investment incentive recovery decreases. Therefore, NAS entered into a derivative instrument that ties the fixed-rate debt to a variable index to manage fluctuations in cash flows resulting from interest rate risk. By using derivative financial instruments to hedge exposures to changes in interest rates, NAS exposes itself to credit risk and market risk. Credit risk is the failure of the counterparty to perform under the terms of the derivative contract. When the fair value of a derivative contract is positive, the counterparty owes NAS, which creates credit risk for NAS. When the fair value of a derivative contract is negative, NAS owes the counterparty, and therefore, it does not possess credit risk. NAS minimizes the credit risk in derivative instruments by entering into transactions with high-quality counterparties.

In May 2009, NAS entered into an additional swap agreement as a result of a counterparty exercising a swaption related to the Series 1999A Revenue Bonds. The variable-to-fixed swap requires NAS to pay 5.00% on a notional amount of $55 million and to receive a floating rate equal to 67% of one-month LIBOR plus 0.41%.

NAS entered into this variable-to-fixed swap agreement in order to preserve the synthetic variable rate achieved through the 1999 swap agreement once the fixed-rate Series 1999A bonds were refunded with the variable-rate Series 2009A bonds.

With regard to the fixed-to-variable interest rate swap, NAS recorded a loss on the change in the fair value of its swap agreement of $18,000 and a gain of $211,000, for the years ended December 31, 2016 and 2015, respectively, which is included in other income in the accompanying statements of activities. The fair value of the interest rate swap was recorded as an asset of $143,000 and $161,000 as of December 31, 2016 and 2015, respectively, and is included in other assets in the accompanying statements of financial position.

Pertaining to the swaption and resultant variable-to-fixed interest rate swap, NAS recorded a gain on the change in the fair value of approximately $1.5 million and $0.9 million for the years ended December 31, 2016 and 2015, respectively, which is included in other income in the statements of activities. The fair value of the swap is recorded as a liability of approximately $7.5 million and $9.0 million as of December 31, 2016 and 2015, respectively, and is included in other current liabilities and other long-term liabilities in the accompanying statements of financial position.

The fair value of the swaps are determined using pricing models based on observable market data such as prices of instruments with similar maturities and characteristics, interest rate yield curves, and measures of interest rate volatility. The value was determined after considering the potential impact of collateralization and netting agreements, adjusted to reflect nonperformance risk of both the counterparty and NAS. Accordingly, the interest rate swaps are included in Level 2.

14. EMPLOYEE BENEFITS

Retirement Plans

NAS has a noncontributory defined-contribution retirement plan covering substantially all of its employees (based on certain benefit eligibility requirements). The funding vehicles under the plan consist of group investments issued by Teachers Insurance and Annuity Association ("TIAA") and College Retirement Equities Fund ("CREF"), (known collectively as TIAA-CREF), as well as mutual funds issued by TIAA-CREF, Vanguard Fiduciary Trust Company, and other third parties. Participants in this plan vest immediately. NAS has received a favorable determination letter from the IRS on the qualification of this plan under Section 401(a) of the Internal Revenue Code.

In addition, NAS has a voluntary employee contribution retirement plan that is funded solely by employee contributions made on a pretax salary-reduction basis under Section 403(b) of the Internal Revenue Code. The funding vehicles under the plan consist of group investments issued by TIAA and CREF, as well as mutual funds issued by TIAA-CREF, Vanguard Fiduciary Trust Company, and other third parties.

Pension expense for the years ended December 31, 2016 and 2015, amounted to approximately $12.2 million and $11.7 million, respectively. NAS policy is to fund pension benefits as they are earned. NAS normal retirement age is 62, but there is no mandatory age for retirement.

Deferred Compensation

NAS holds investments as part of a frozen deferred compensation arrangement for certain employees. The fair value of these investments totaled approximately $855,000 and $833,000 as of December 31, 2016 and 2015, respectively, which is reported within other assets in the accompanying statements of financial position. The related obligation is included in accrued employee benefits in the accompanying statements of financial position. Deferred compensation investments are held in debt and equity mutual funds along with some U.S. Treasury securities, all of which are valued using Level 1 inputs. The deferred compensation obligation to employees is equal to the fair value of the investments held.

Postretirement and Postemployment Benefits

NAS provides certain health and life insurance benefits for employees retired due to length of service. All benefit-eligible employees may become eligible for service retiree benefits if they reach age 60 while working for NAS and complete five years of service in a benefit-eligible status for medical and 10 years of service for life insurance benefits. In addition, certain health and life insurance benefits are provided for employees retired due to disability. A benefit-eligible employee may become eligible for disabled retiree benefits if deemed totally disabled under NAS' long-term disability insurance or if they are eligible for disability benefits from the Social Security Administration. Life insurance benefits are provided based on coverage at date of disability and health insurance may be continued if the disabled retiree had participated in an NAS health insurance plan for five years at the date of disability. Insurance companies whose premiums are determined on an experience-rated basis provide life and health insurance benefits for retirees. Medicare supplement insurance is not experience rated. The retiree welfare benefit plan is contributory for health insurance purposes for employees who retired on or after January 1, 1992. Participant contributions for health insurance are based on a percentage of the monthly premium paid by NAS (from 25% to 100%). The participant contribution is also based on their date of retirement, length of service, and choice of health insurance carrier.

NAS has elected to recognize the initial postretirement benefit obligation over a period of 20 years. The accrued postretirement benefit obligation is reported in accrued employee benefits in the accompanying statements of financial position.

Postretirement changes other than net periodic benefit cost are as follows (in thousands):

	2016	2015
Net actuarial loss	$ 1,917	$ 1,583
Recognized net actuarial loss	(733)	(643)
Recognized prior service credit	49	49
Total	$ 1,233	$ 989

Items not yet recognized as a component of net periodic benefit cost at December 31, 2016 and 2015 are as follows (in thousands):

	2016	2015
Net actuarial loss	$ 12,152	$ 10,968
Prior service credit	(245)	(294)
Total	$ 11,907	$ 10,674

The estimated amounts, measured at year-end, that are expected to be recognized in the net periodic benefit cost over the next fiscal year for the postretirement benefit plan are as follows (in thousands):

	2016	2015
Prior service credit	$ (49)	$ (49)
Recognized actuarial loss	840	733
Total	$ 791	$ 684

The following table presents the changes in benefit obligations, changes in plan assets, funded status, and the components of net periodic benefit cost for the years ended December 31, 2016 and 2015 (in thousands):

	2016	2015
Change in benefit obligation:		
Benefit obligation, beginning of year	$ 36,381	$ 35,950
Service cost	1,254	1,297
Interest cost	1,524	1,417
Plan participants' contributions	102	108
Actuarial loss (gain)	788	(1,450)
Benefits provided	(808)	(941)
Benefit obligation, end of year	39,241	36,381
Change in plan assets:		
Fair value of plan assets, beginning of year	28,339	28,952
Actual return (loss) on plan assets	997	(861)
Employer contributions	8,921	1,137
Benefits paid	(795)	(889)
Fair value of plan assets, end of year	37,462	28,339
Funded status (underfunded)	$ (1,779)	$ (8,042)

	2016	2015
Components of net periodic benefit cost:		
Service cost	$ 1,254	$ 1,297
Interest cost	1,524	1,417
Expected return on plan assets	(2,125)	(2,171)
Recognized prior service credit	(49)	(49)
Recognized actuarial loss	733	643
Net periodic benefit cost	$ 1,337	$ 1,137

The assumptions used to determine net periodic benefit cost for the years ended December 31, 2016 and 2015 are as follows:

	2016	2015
Discount rate	4.25 %	4.00 %
Expected long-term return on plan assets	7.50 %	7.50 %
Rate of increase in healthcare costs:		
Under age 65	7.75 %	8.00 %
Over age 65	6.25 %	6.50 %

The assumptions used to calculate the accumulated postretirement benefit obligation for the years ended December 31, 2016 and 2015 are as follows:

	2016	2015
Discount rate	4.00 %	4.25 %
Rate of increase in healthcare costs for next year:		
Under age 65	6.41 %	7.75 %
Over age 65	5.65 %	6.25 %

The trend rate for growth in healthcare costs was assumed to decline gradually beginning in 2017 to 4.5% in the year 2038 for under age 65 and for over age 65 for the year ended December 31, 2016. The trend rate for growth in healthcare costs was assumed to decline gradually beginning in 2016 to 4.5% in the year 2029 for under age 65 and to 4.5% in the year 2023 for over age 65 for the year ended December 31, 2015.

The healthcare cost trend rate assumption has a significant impact on the postretirement benefit costs and obligations. The effect of a 1% increase in the assumed healthcare cost trend rate would have resulted in the following effects (in thousands):

	2016	2015
Postretirement benefit obligation	$ 5,963	$ 5,546
Benefit expense	551	535

The effect of a 1% decrease in the assumed healthcare cost trend rate would have resulted in the following effects (in thousands):

	2016	2015
Postretirement benefit obligation	$ (4,759)	$ (4,426)
Benefit expense	(423)	(412)

NAS postretirement benefit plan asset allocations at December 31, 2016 and 2015, by asset class are as follows:

	2016	2015
Cash	2 %	3 %
Bonds and notes	47	43
Equity	51	54
	100 %	100 %

The investment objective of the Plan is to produce a rate of return over the long term that will provide for fund growth, protect against the effect of inflation, and provide for some stability in different market environments. The fund is diversified between fixed income and equity investments. With this diversification and investment in broader market funds, there is reasonable assurance that no single security or class of securities will have a disproportionate impact on the Plan assets. The Plan assets are invested with a long-term growth strategy, with a 70% equity guideline.

The overall long-term rate of return was developed by estimating the long-term real rate of return for the Plan's asset mix, while taking into account the effects of inflation. This estimate was developed by evaluating the history and similar asset allocation of the NAS Endowment.

The following table presents the fair value hierarchy for the postretirement benefit plan assets at December 31, 2016 (in thousands):

		Fair Value Measurements Using	
	Fair Value	**Level 1**	**Level 2**
Financial assets:			
Retiree Welfare Benefit Plan investments:			
Cash equivalents	$ 928	$ 928	$ -
Bonds and notes			
U.S. treasuries/government bonds	3,631	3,631	-
Mortgage-backed securities	4,010	-	4,010
Corporate bonds	7,967	7,553	414
Non-U.S. fixed income	1,885	1,885	-
Equity			
U.S. large equity	9,105	9,105	-
U.S. small/mid equity	4,394	4,394	-
Non-U.S. equity (developed)	5,234	5,234	-
Non-U.S. equity (emerging)	308	308	-
Total investments	$ 37,462	$ 33,038	$ 4,424

The following table presents the fair value hierarchy for the postretirement benefit plan assets at December 31, 2015 (in thousands):

		Fair Value Measurements Using	
	Fair Value	**Level 1**	**Level 2**
Financial assets:			
Retiree Welfare Benefit Plan investments:			
Cash equivalents	$ 884	$ 884	$ -
Bonds and notes			
U.S. treasuries/government bonds	1,907	1,907	-
Mortgage-backed securities	2,086	-	2,086
Corporate bonds	6,866	5,712	1,154
Non-U.S. fixed income	1,436	1,436	-
Equity			
U.S. large equity	5,534	5,534	-
U.S. small/mid equity	6,349	6,349	-
Non-U.S. equity (developed)	3,002	3,002	-
Non-U.S. equity (emerging)	275	275	-
Total investments	$ 28,339	$ 25,099	$ 3,240

The methods and assumptions used to estimate the fair value of each class of financial instrument are further discussed in Note 4.

NAS expects to contribute to the Plan the actuarially determined net periodic cost for 2017, which is approximately $1.3 million.

The following benefit payments, which reflect future services, are expected to be paid in future years as noted, as of December 31, 2016 (in thousands):

2017	$	1,285
2018		1,425
2019		1,524
2020		1,644
2021		1,767
2022-2027		10,440
	$	18,085

The measurement date of the plan assets and benefit obligations for 2016 and 2015 is December 31, 2016 and 2015, respectively.

15. RELATED-PARTY TRANSACTIONS

National Academy of Engineering Fund

The National Academy of Engineering Fund ("NAEF") is a separately incorporated tax-exempt organization established by NAE to raise funds to support its goals. The financial activities and results of NAEF are not included in the NAS financial statements.

NAS performs certain activities in connection with fund-raising by NAEF. NAS collected a total of $4.3 million and $3.2 million in 2016 and 2015, respectively, on behalf of NAEF. NAS disbursed $4.3 million and $3.4 million to NAEF from these collected amounts in 2016 and 2015, respectively. Amounts collected but not yet remitted to NAEF are included in other current liabilities in the statements of financial position.

The National Academies' Corporation

The National Academies' Corporation ("TNAC") was separately incorporated in 1986 as a tax-exempt corporation for the purpose of constructing and maintaining a study and conference facility. This facility, the Arnold and Mabel Beckman Center, located in Irvine, California, operates to expand and support the general activities of NAS, NRC, NAM, and NAE. The financial position and results of TNAC are not consolidated in the NAS financial statements. NAS manages the operations of the Beckman Center.

Employees

The NAS Council has authorized an agreement providing a noninterest-bearing, collateralized advance to an employee in connection with the purchase of the employee's residence. The agreement between the parties was executed in April 2013. The agreement will terminate upon the first to occur of the date the individual ceases to occupy the property as principal residence, sale of the property, or the end of the individual's employment with NAS. The estimated present value of the receivable totaled $1.5 million at December 31, 2016 and 2015, respectively, and is included in other assets in the accompanying statements of financial position.

An agreement authorized by the NAS Council in May 2005 to provide a noninterest-bearing, collateralized advance to an employee in connection with the purchase of that employee's residence terminated during 2016.

The estimated present value of that receivable was $2.3 million at December 31, 2015 and was included in other current assets in the statement of financial position.

16. COMMITMENTS AND CONTINGENCIES

Leases

NAS is committed to one noncancelable operating lease for space. Future minimum rental payments due under the noncancelable operating lease are as follows (in thousands):

Years ending December 31,		
2017	$	589
2018		607
2019		625
2020		644
2021		663
Thereafter		3,046
	$	6,174

Rental expense totaled approximately $563,000 and $403,000 for the years ended December 31, 2016 and 2015, respectively.

Contingencies

NAS receives a portion of its revenues directly or indirectly from federal government grants and contracts, all of which are subject to audit by the Defense Contract Audit Agency, which has completed its examinations through December 31, 2010. A contingency exists relating to unexamined periods and final settlements of examined periods to refund any amounts received in excess of allowable costs. Management is of the opinion that no material liability will result from such audits.

17. SUBSEQUENT EVENTS

Effective May 1, 2017, NAS refinanced the Series 2008A and Series 2009A revenue bonds. The bonds remain direct bank purchases with Wells Fargo Municipal Capital Strategies LLC and TD Bank, N.A., respectively. Both agreements include an extension of the mandatory repurchase date from December 2020 to May 2027.

NAS has evaluated subsequent events from the statement of financial position date through June 7, 2017, the date at which the financial statements were issued, and determined that there are no other items to disclose.

OFFICERS

Marcia McNutt, President
Diane E. Griffin, Vice President
Susan Wessler, Home Secretary
John Hildebrand, Foreign Secretary
William H. Press, Treasurer

FINANCE COMMITTEE

William H. Press, Chair
Elwyn R. Berlekamp
Maureen Cropper
David Donoho
Robert Engle
Ronald L. Graham
Marcia McNutt
Jose A. Scheinkman
James H. Simons
William W. Stead

BUDGET AND INTERNAL AFFAIRS COMMITTEE

William H. Press, Chair
Sylvia T. Ceyer
Fred H. Gage
Diane E. Griffin
Peter S. Kim
Margaret M. Murnane
Randy W. Schekman

AUDITING COMMITTEE

Claude R. Canizares, Chair
Susan Gottesman
Ronald L. Graham
Brian W. Matthews
Jeremiah P. Ostriker

FINANCIAL MANAGEMENT STAFF

Didi Salmon, Chief Financial Officer
Laura Douglas, Controller