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# AMERICAN MATHEMATICAL SOCIETY EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES MEETING MAY 19-20, 2017 

## MINUTES

A joint meeting of the Executive Committee of the Council (EC) and the Board of Trustees (BT) was held Friday and Saturday, May 19-20, 2017, at the Graduate Ann Arbor Hotel in Ann Arbor, Michigan.

The following members of the EC were present: Alejandro Adem, Robert L. Bryant, Kenneth A. Ribet, Carla D. Savage, Jennifer Taback, and Ravi Vakil. Jesús A. De Loera was present via web conference for portions of the meeting. Alejandro Adem left the meeting at 11:00 AM on May 20. It is noted for the record that a quorum (four members) was present.

The following members of the BT were present: Ralph L. Cohen, Jane M. Hawkins, Bryna Kra, Robert K. Lazarsfeld, Zbigniew H. Nitecki, Kenneth A. Ribet, and Joseph H. Silverman. Karen Vogtmann was present via web conference for portions of the meeting. It is noted for the record that a quorum (six members) was present.

Also present were the following AMS staff members: Thomas J. Blythe (Chief Information Officer), Edward G. Dunne (Executive Editor, Mathematical Reviews), Sergei Gelfand (Publisher), Helen G. Grundman (Director of Education and Diversity), Robert M. Harington (Associate Executive Director, Publishing), Ellen H. Heiser (Director of Administration for the Executive Director Division [and recording secretary for this meeting]), Robin Marek (Director of Development), Emily D. Riley (Chief Financial Officer and Associate Executive Director for Finance and Administration), Catherine A. Roberts (Executive Director), Karen Saxe (Associate Executive Director, Washington Office), and T. Christine Stevens (Associate Executive Director, Meetings and Professional Services). Karen I. Mollohan (Special Projects Manager) was present on May 19.

Anne Stone (branding consultant from TBI Communications) was present from 3:004:30 PM on May 19.

President Kenneth Ribet presided over the EC and ECBT portions of the meeting (items beginning with 0,1 , or 2 ). Board Chair Robert Lazarsfeld presided over the BT portion of the meeting (items beginning with 3 ).

Items in these minutes occur in numerical order, which is not necessarily the order in which they were discussed at the meeting.

## 0 CALL TO ORDER AND ANNOUNCEMENTS

### 0.1 Opening of the Meeting and Introductions.

President Ribet called the meeting to order and had participants introduce themselves.

### 0.2 Housekeeping Matters.

Executive Director Roberts mentioned some details about the schedule and arrangements for the events that took place during this meeting.

## 1) EXECUTIVE COMMITTEE

INFORMATION ITEMS

### 11.1 Colloquium Lecturer.

The Executive Committee (EC) supported the recommendation of the Colloquium Lecturer Committee to invite Avi Widgerson (Institute for Advanced Study) to deliver the Colloquium Lectures at the 2018 Annual Meeting in San Diego. Widgerson has accepted the invitation.

## 1 I. 2 Gibbs Lecturer.

The EC supported the Gibbs Lecturer Committee in its selection of Cynthia Dwork (Harvard University) to deliver the Gibbs Lecture at the 2018 Annual Meeting. Dwork has accepted the invitation.

### 11.3 Secretariat Business by Mail. Att. \#1.

Minutes of Secretariat business by mail during the months November 2016 - May 2017 are attached (\#1).

## 2 EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES ACTION/DISCUSSION ITEMS

### 2.1 Report on Committee on Meetings and Conferences (COMC). Att. \#4.

The ECBT received the attached report on the March 18, 2017 COMC meeting (Att. \#4), which was presented by Associate Executive Director Stevens. Monica Nevins, University of Ottawa, is the 2017 COMC Chair. The next COMC meeting is March 24, 2018 in Providence.

### 2.2 Report on Committee on the Profession (CoProf).

The ECBT was informed that CoProf held its last meeting on September 17-18, 2016; a report on that meeting is included in the November 2016 ECBT minutes, and the Committee's 2016 Annual Report has been filed with the Council. Fadil Santosa of the University of Minnesota is the 2017 CoProf Chair. For its annual review this year, CoProf chose to study the Committee on Human Rights of Mathematicians. The next CoProf meeting is October 14-15, 2017 in Chicago.

### 2.3 Report on Committee on Science Policy (CSP). Att. \#3.

The ECBT received the attached report on the April 4-5, 2017 CSP meeting (Att. \#3), which was presented by Associate Executive Director Saxe. Scott Wolpert, University of Maryland, is the 2017 CSP Chair. The next CSP meeting is April 10-11, 2018 in Washington, DC.

### 2.4 Report on Committee on Education (COE).

The ECBT was informed that Doug Mupasiri, University of Northern Iowa, is the 2017 COE Chair. The next COE meeting is October 26-28, 2017 in Washington, DC. COE was involved in the following activities at the 2017 Joint Mathematics Meetings in Atlanta:

- A joint panel discussion with SIAM entitled "Broadening Research Experiences for Doctoral Students in the Mathematical Sciences." Suzanne Weekes (WPI) moderated the panel, which included Richard Laugesen (University of Illinois at Urbana-Champaign); Stephen Pankavich (Colorado School of Mines); Dan Spirn (Institute of Mathematics and its Applications); and John Zweck (University of TexasDallas). This panel focused on the fact that a substantial portion of doctoral recipients are taking positions outside of academia and discussed efforts to improve the training of mathematical sciences doctoral students by involving them in research activities outside of their main dissertation research in order to better them for a broader range of careers.
- Co-sponsored a panel with the MAA and SIAM entitled "Multiple Paths to Mathematics Careers in Business, Industry and Government (BIG)." The panel was moderated by Rachel Levy (Harvey Mudd College) and included Carla CotwrightWilliams (U.S. Social Security Administration); Frank Cullen (Blackstone \& Cullen, Inc.); Mary Morley (State of New Jersey); Dan Sanders (Columbia University); and Prasad Tetali (Georgia Tech). The panel discussion centered on career opportunities in BIG and how mathematics PhD programs do not include preparation for BIG career options as part of the standard curriculum. Multiple career paths to BIG were discussed.

An ad hoc Committee to Review the Committee on Education has been appointed by the President to review the COE charge, the structure of its meetings, and the designation of a staff liaison. The ad hoc Committee's report is due to the Long Range Planning Committee in November 2017.

### 2.5 Report on Committee on Publications (CPub).

It was reported that CPub last met in Providence, RI on September 16-17, 2016; reports on this meeting were provided at the November 2016 ECBT and January 2017 Council meetings. The following CPub items were approved by the January 2017 Council:

- Updates to the charges of the Mathematics of Computation Editorial Committee, Notices Editorial Board and Transactions and Memoirs Editorial Committee
- Guidelines for the Submission, Refereeing and Publication of Computer-Assisted Proofs (jointly prepared by CPub and the Committee on the Profession)
- Procedures for the Submission, Evaluation and Approval of Proposals to Publish New AMS Journals

CPub's 2016 Annual Report and the 2017 Committee roster are available on the CPub web page: www.ams.org/ams/cpub-home.html.

Ilya Kapovich, University of Illinois at Urbana-Champaign, is the 2017 CPub Chair. An evaluation of the AMS Member Journals (Abstracts, Bulletin and Notices) is being conducted by CPub and will be presented at its next meeting on October 13-14, 2017 in Chicago.

### 2.6 Report on Mathematical Reviews Editorial Committee (MREC).

The ECBT was informed that the MREC met on October 10, 2016 at the Mathematical Reviews office in Ann Arbor. Reports on this meeting were provided at the November 2016 ECBT and the January 2017 Council meetings. Andreas J Frommer, Bergische University Wuppertal, serves as the 2017 MREC Chair. The next MREC meeting is October 9, 2017 in Ann Arbor.

### 2.7 Washington Office Report. Att. \#2.

The ECBT received the attached report (\#2) on the activities of the Washington Office, which was presented by Associate Executive Director Saxe.

### 2.8 Report on Education and Diversity Department. Att. \#35.

As part of its strategic plan, the AMS established an Education and Diversity Department in the Division of Meetings and Professional Services. In June 2016 Helen Grundman began full-
time work as Director of Education and Diversity. The ECBT received the attached report (\#35) on the new Department's activities thus far, its plans for the future, and its connections to the governance structure. The report was presented jointly by Associate Executive Director Stevens and Director of Education and Diversity Grundman.

### 2.9 Report on Long Range Planning Committee (LRPC).

The ECBT was informed that the LRPC met on May 19, 2017 and received updates on the following matters:

1. Exploring alternatives to address issues facing the MR facility. A discussion will take place at the present ECBT meeting to advise staff which alternatives should be explored in depth, for discussion (and possible decision) at the November 2017 ECBT meeting.
2. Interim report on the activities of the ad hoc Committee to Review the Committee on Education (final report is due to the November 2017 LRPC).

### 2.10 Report from the President.

President Ribet reported as follows:

- It has been a great pleasure serving as President so far; he has learned a tremendous amount about the AMS and the mathematical community during his first few months in office.
- He has traveled quite a bit and was most recently in Washington, DC on three separate occasions for meetings of the AMS Committee on Science Policy, the Joint Policy Board for Mathematics, and the Conference Board of the Mathematical Sciences. These groups are involved in a wide range of issues, and he is very impressed by how much energy goes into improving and reviving the mathematical community by people who are very committed to it.
- He realized that, as President, he is the "face" of the AMS and has been approached by many people asking what the AMS's stance is on various issues. This has caused a reexamination of the current protocol for the AMS to issue an official statement, which is considered by some to be unwieldy.
- He urged members of the ECBT to consider making an appointment to visit with their US Congressional Representative in their home district (as opposed to their office in Washington, DC). The Representative is much more likely to have time to meet personally at their home district office.


### 2.112018 Journal Pages and Prices.

The ECBT approved the following numbers of pages and prices for 2018 journal subscriptions:

|  | 2018 pages | 2018 list prices |
| :---: | :---: | :---: |
| Abstracts of Papers Presented to the AMS* | 1,100* | \$ 195 |
| Bulletin of the AMS | 768 | \$ 621 |
| Conformal Geometry and Dynamics | 300 | \$ 0 |
| Journal of the AMS | 1,200 | \$ 425 |
| MR Products Data Access Fee MathSciNet | not applicable not applicable | $\begin{aligned} & \$ 10,873 \\ & \$ 2,800 \\ & \hline \end{aligned}$ |
| Mathematics of Computation | 3,000 | \$ 779 |
| Memoirs of the AMS | 4,600 | \$ 999 |
| Notices of the AMS | 1,550 | \$ 662 |
| Proceedings of the AMS | 5,240 | \$ 1,667 |
| Proceedings of the AMS, Series B | 600 | \$ 0 |
| Representation Theory | 500 | \$ 0 |
| St. Petersburg Mathematical Journal* | 1,000* | \$ 2,554 |
| Sugaku Expositions | 240 | \$ 285 |
| Theory of Probability and Mathematical Statistics* | 400* | \$ 976 |
| Transactions of the AMS | 8,880 | \$ 2,737 |
| Transactions of the AMS, Series B | 600 | \$ 0 |
| Transactions of the Moscow Mathematical Society* | 300* | \$ 691 |
| *the numbers of pages for these journals are not completely within the staff's control, so they are currently the staff's best estimates and will be included in the 2018 budget. |  |  |

## $2.12 \quad 2018$ Institutional Member Dues.

The ECBT approved an average increase of $3 \%$ for institutional member dues for 2018.

### 2.13 Registration Fees for JMM 2018 in San Diego.

The ECBT reviewed the current budget summary for the January 2018 Joint Mathematics Meetings (JMM) in San Diego, California, including the exhibits budget and estimates of the net income for the meeting resulting from various levels of registration fees. It
was noted that JMM registration fees are set by the AMS-MAA Joint Meetings Committee (JMC).

The ECBT voted to advise the JMC that the member preregistration fee should be increased by no more than $4 \%$ for 2018. [It is noted for the record that the JMC set the member pre-registration fee at $\$ 329$, which is a $4 \%$ increase.]

### 2.14 Stipend and Expense Allowance for Centennial Fellowship.

The ECBT approved awarding one Centennial Fellowship for 2018-2019 in the amount of $\$ 93,000$, with an expense allowance of $\$ 9,300$.

### 2.15 Approval of Proposals Submitted to Funding Agencies and Foundations. Att. \#8.

The ECBT received the attached report (\#8) on the current status of existing proposals and plans for the next six months. The planning, preparation, and submission of the following proposals was approved:

- A Program to Increase Diversity in Graduate Mathematics Programs (joint proposal with the American Physical Society and other professional organizations, to be submitted to the National Science Foundation INCLUDES Alliance program; the AMS portion of the proposal is likely to be about $\$ 2.5$ million over a five-year period).
- Travel Support for U.S. Participants in ICM 2018 in Rio de Janeiro (to be submitted to the Infrastructure Program in the NSF Division of Mathematical Sciences; a request in the range $\$ 300,000$ to $\$ 350,000$ is likely).
- A workshop to develop strategies that facilitate mathematics graduate students' awareness of and preparation for potential careers in business, government, and industry (probably to be submitted to the Enriched Doctoral Training Program in the NSF Division of Mathematical Sciences; a request up to $\$ 115,000$ is likely).


## $2.16 \quad 2018$ ABC and ECBT Meetings.

The ECBT approved the following dates and sites for 2018 ABC and ECBT meetings. It was noted that the members of the ABC in 2018 will be: Hawkins, Nitecki, Ribet, Savage, and Silverman.

| ABC | April 6, 2018 (Friday) | WebEx Conference |
| :--- | :--- | :--- |
| ECBT | May 11-12, 2018 (Friday-Saturday) | Providence, RI |
| ABC | October 5, 2018 (Friday) | WebEx Conference |
| ECBT | November 16-17, 2018 (Friday-Saturday) | Providence, RI |

## 2C EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES CONSENT ITEMS

## 2C. 1 Minutes of the November 2016 ECBT Meeting.

The ECBT approved the minutes of the meeting of the Executive Committee and Board of Trustees held November 18-19, 2016, in Providence, RI, which had been distributed separately. These minutes include:

- ECBT open minutes prepared by the Secretary of the Society www.ams.org/about-us/governance/board/ecbt-minutes-1116.pdf
- ECBT executive session minutes prepared by the Secretary of the Society


## 21 EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES INFORMATION ITEMS

## 2I. 1 State of the AMS. Att. \#19.

The Executive Director's annual report to the spring Council is attached (\#19). A polished version of this report will be published in the September 2017 issue of the Notices.

### 21.2 Notices Chief Editor Search Committee. Att. \#27.

The term of the Notices Chief Editor, Frank Morgan, ends December 31, 2018. The Chief Editor is appointed by the Council, acting on a recommendation from a Search Committee consisting of the Executive Director (Chair), the Secretary, the President, and two elected members of the Council appointed by the President. The two members of the Council appointed by President Ribet are David Jerison and Mary Pugh.

The Search Committee is advertising the position in the Notices (starting in May 2017) and elsewhere (see Att. \#27). The next Chief Editor's three-year term will commence with the January 2019 issue, so some editorial work will begin in early 2018.

Suggestions of candidates are welcome and may be sent to exdir@ams.org. The deadline for nominations/applications is September 15, 2017.

### 21.3 Report on New Membership Department. Att. \#26.

A Director of Membership, Megan Turcotte, began work on January 30, 2017. There is now a separate Membership Department; the Membership and Programs Department has
been renamed the Professional Programs Department. A report on current and planned activities of the new Membership Department is attached (\#26).

### 21.4 Report on New Student Chapters. Att. \#22.

Att. \#22 includes a list of the eight new student chapters that were approved by the Secretariat since the November 2016 ECBT meeting. A current list of all student chapters is available here: www.ams.org/programs/studentchapters.

### 21.5 Report on Awards from the Epsilon Fund for the Young Scholars Programs. Att. \#23.

In 1999, the Epsilon Fund was created by the Society to provide support for the Young Scholars Program. The Program awards grants, which support student scholarships and program operating costs, to selected summer programs for mathematically talented high school students. Funds for these grants come from both the Epsilon Fund (which is a donorrestricted endowment fund) and the Young Scholars Fund (which is a board-designated fund).

Applications are reviewed by the Young Scholars Awards Committee, which in 2017 was comprised of Erika T. Camacho, Aaron Hill (Chair), Joel Spencer, and Katherine F. Stevenson. The 16 programs that they recommended funding in 2017 are listed in Att. \#23, along with a program that, because of a scheduling problem, deferred its 2016 award to 2017.

### 21.6 2017-2018 AMS Centennial Fellowship.

Upon recommendation of the AMS Centennial Fellowship Committee, Shuichiro Takeda (University of Missouri at Columbia) was offered the 2017--2018 Centennial Fellowship. Takeda accepted the award. The amount of the Fellowship for 2017--2018 will be $\$ 91,000$, with an additional expense allowance of $\$ 9,100$.

### 21.7 Changes in Registration Fees for Conferences, Employment Center, or Short Course. Att. \#25.

The Executive Director is authorized to make changes in these registration fees and then inform the ECBT. Att. \#25 reports the changes in fees for conferences, Short Courses, Employment Information in the Mathematical Sciences (EIMS), the Employment Center, MathJobs.org, and MathPrograms.org that have been made since the November 2016 ECBT meeting.

### 21.8 Report on AAAS Meeting. Att. \#20.

The AMS provides up to $\$ 12,000$ annually for travel support of mathematics speakers at the annual meeting of the American Association for the Advancement of Science (AAAS). The

Secretary of Section A (Mathematics) of AAAS decides how much support is provided to each speaker, and the reimbursement is then provided directly to the speaker by the AMS. A report on the AMS-supported activities at the 2017 AAAS meeting is attached (\#20).

### 21.9 AMS Presence at the SACNAS Annual Meeting. Att. \#24.

The AMS provides $\$ 5,000$ toward support of the mathematics program at the annual national meeting of the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS). Education and Diversity Director Helen G. Grundman and Public Awareness Officer Annette Emerson represented the AMS at the most recent meeting on October 13-15, 2016, in Long Beach, California. A report on mathematically-related activities at the SACNAS meeting is attached (\#24).

SACNAS has shown itself to be highly effective at nurturing talented undergraduates from within their target communities to successful completion of graduate degrees in science and mathematics. AMS's continuing support for and presence at the SACNAS national meetings has enabled it to build strong ties within this community of scholars committed to excellence.

### 21.10 Report on Use of Donations Collected for FIMU. Att. \#21.

Information is provided annually about the use of funds donated through the AMS to the Friends of the International Mathematical Union (FIMU). These donations are made by AMS members when they renew their AMS membership. The funds are used by FIMU to foster mathematics research and scholarship in developing countries.

The table below summarizes the 2014, 2015, and 2016 receipts:

| Year | Fund | Amount |
| :--- | :--- | :--- |
| 2014 | IMU Developing Country Fund | US\$10,515 |
| 2015 | IMU Developing Country Fund | US\$ 9,858 |
| 2016 | IMU Developing Country Fund | US\$10,218 |

IMU support for developing countries is managed by the IMU Commission for Developing Countries (CDC). The most recent published annual report of CDC activities covers 2015; see Att. \#21.

### 21.11 AAAS-AMS Mass Media Fellowship.

The Mass Media Fellowship program is organized by the American Association for the Advancement of Science (AAAS) and is intended to strengthen the connections between science and the media, to improve public understanding of science, and to sharpen the ability of the fellows to communicate complex scientific issues to non-specialists. It is a ten-week
summer program that places graduate and post-graduate level science, engineering and mathematics students at media organizations nationwide.

The AMS will sponsor a Mass Media Fellow again in 2017. Benjamin Thompson has been selected for this fellowship. Ben is a PhD student at Boston University studying Algebraic Geometry and will spend his fellowship this summer working for Voice of America in Washington DC.

### 21.12 Congressional Fellow. SAXE.

The AMS, in conjunction with the American Association for the Advancement of Science (AAAS), will again sponsor a Congressional Fellow from September 2017 through August 2018. The Fellow will spend a year working on the staff of a Member of Congress or a congressional committee, working as a special legislative assistant in legislative and policy areas requiring scientific and technical input. The fellowship is designed to provide a unique public policy learning experience, to demonstrate the value of science-government interaction, and to bring a technical background and external perspective to the decision-making process in the Congress.

The current AMS Congressional Fellow, Catherine Paolucci, is working in the office of Senator Al Franken (MN) through August 2017.

Applications for 2017-18 have been reviewed, an offer has been made. When the offer is accepted, an announcement will be made on the AMS website and in the Notices. [It is noted for the record that the Fellowship was awarded to Margaret D. Callahan, currently a visiting Assistant Professor at Emory University.]

## 3 BOARD OF TRUSTEES <br> ACTION/DISCUSSION ITEMS

### 3.1 Financial Review.

### 3.1.1 Discussion of Fiscal Reports.

The BT received and discussed various fiscal reports. The focus was on the actual results for the year just ended (2016). It was noted that the practice of providing and reviewing the draft revenue budget for next year at this time was discussed at the April 2017 Agenda and Budget Committee (ABC) meeting. It was pointed out that it takes a great deal of staff time to prepare the draft revenue budget, yet it is not used by the $B T$ to make any decisions at this time of year. Therefore, the ABC decided to discontinue this practice.

### 3.1.2 Capital Expenditures - 2016 and 2017 Capital Purchase Plans.

The BT reviewed capital purchases made in 2016 and planned for 2017.

### 3.1.3 Capital Expenditures - Approval of Specific Purchases.

Capital expenditures of $\$ 100,000$ or more require BT approval. No such requests were made at this meeting.

### 3.2 Spendable Income, Operations Support Fund and other Related Items. Att. \#28. <br> RILEY.

The Society uses its long-term investments for several purposes, and for that reason it divides its investments into various funds. The following five standing items deal with those funds - additions, transfers and spending. The description of the way in which the AMS uses its long-term investment portfolio is summarized in the diagram in Att. \#28.

### 3.2.1 Addition to Operations Support Fund (OSF).

At its November 2016 meeting, the Board approved the staff recommendation that the amount owed to operations ${ }^{1}$ from the long-term investment portfolio at December 31, 2016 would remain there and be added to the Operations Support Fund (OSF) unless there were not enough unrestricted, undesignated net assets to set aside for this purpose. Any amounts greater than the balance of the undesignated, unrestricted net asset balance at year-end would be transferred from the long-term portfolio to operations. The amount owed to operations at December 31, 2016 was $\$ 2,396,573.44$, but the unrestricted, undesignated net assets were $\$ 449,077$ short of that total amount owed to operations. Therefore, the CFO will transfer $\$ 449,077$ from the long-term portfolio to operations. The rest of these funds in the amount of $\$ 1,947,496$ were transferred to the OSF.

At December 31, 2016, the Society's current assets totaled \$20,352,559 and its current liabilities totaled approximately $\$ 17,085,471$ resulting in a current ratio ${ }^{2}$ of 1.19 to 1 . In the past, the Society has targeted a ratio of 1 to 1 for current assets to current liabilities. The current ratio is about the same as 2015.

Each year, the operating portfolio, current ratio, and other factors are evaluated to determine if additions can be made to the OSF. The last addition was $\$ 2,000,000$, approved to

[^0]be added to the OSF at the May 2011 ECBT meeting. There is not additional cash from operations available to invest in the long-term portfolio at this time.

### 3.2.2 Rebalancing of Economic Stabilization and Operations Support Funds.

Under the policy adopted by the May 2006 Board of Trustees, at the end of each fiscal year the allocated values of the Economic Stabilization Fund (ESF) and the Operations Support Fund (OSF) are rebalanced such that the ESF always equals the target balance.

The amount and direction of the rebalancing required at each year end is principally dependent upon the return on the long-term investment portfolio in any year. This return was approximately $10 \%$ for 2016. At year end, $\$ 2,980,046$ of investment returns from the ESF were transferred to the OSF, because the returns on funds invested in the ESF resulted in the balance of the ESF being greater than the required balance. Another $\$ 5,998,113$ in investment funds were transferred from the ESF to the OSF, because in 2016 the BT changed the funding formula for the ESF to require $50 \%$ of one year's operating expenses rather than $75 \%$.

### 3.2.3 Allocation of Operations Support Fund (OSF) Spendable Income.

The May 2001 Board of Trustees approved the following (from Item 2E. 5 of those minutes):

Income from reserves should be allocated to each year's budget to service and outreach programs of the Society (without specifying exactly which programs). The total amount should be approved by the May ECBT, when revenue projections for the following year are made.

The spendable income from the OSF for 2017 and 2018, determined according to the guidelines approved by the BT is $\$ 2,831,000$ and $\$ 3,230,000$, respectively. The 2017 amount has been previously approved at the $4 \%$ spending rate.

The BT approved Chief Financial Officer Riley's recommendation that the $\$ 3,230,000$ be designated as OSF spendable income for 2018 at the spending rate of $4 \%$.

### 3.2.4 Appropriation of Spendable Income from Unrestricted Endowment. Att. \#29.

The May 2001 Board of Trustees approved the following (from Item 2E. 5 of those minutes):

Each year, the budgeting process will include recommendations for allocating spendable income from the Unrestricted Income Endowment for specific projects. The allocated income will be treated as revenue for
operations, offsetting (part of) the expenses. These recommendations will be brought to the Board for approval at its November meeting in the normal budgeting process. The goal will not be to use all the income from such funds each year, but rather to use some of the income every year for the support of mathematical research and scholarship. Using such income should be a regular part of our operations rather than an exceptional situation.

The November 2016 BT had requested that staff provide an entire list of projects that are considered eligible to receive an allocation of spendable income from the unrestricted income endowment. The BT received the attached summary list of eligible projects from the past five years (Att. \#29).

It was noted that the 2018 revenue budget will include the full amount of 2018 spendable income from unrestricted true endowment funds under the assumption that appropriate projects will be designated to receive the income at the November 2017 BT meeting. The amounts budgeted for 2017 and 2018 are $\$ 284,374$ and $\$ 298,830$, respectively.

### 3.2.5 Report on Changes in Appropriated Spendable Income and Use of EISF Funds.

The Executive Director has the authority to transfer spendable income that will not be used on an approved project to another approved project, in case additional support is needed. The Board approved the designation of $\$ 10,000$ to the following projects: Mathematical Research Communities (MRC) for follow-up collaborations by participants, and partial support to MRC participants from abroad. As the funding was not needed to support the MRC collaborations and participants from abroad, the Executive Director approved the use of these funds for honoraria paid to mathematicians who organize the MRC mathematical sessions.

The May 2016 BT approved the dissolution of the Endowment Income Stabilization Fund (EISF), and the balance of the fund (approximately $\$ 512,000$ ) was transferred to the long-term portfolio.

### 3.3 Report on Expenditures from Board-designated Fund for Strategic Plan Implementation.

It was reported that, in 2016, expenditures were made from the Fund for Strategic Plan Implementation to support the following temporary positions:

- A bibliographic specialist at Mathematical Reviews who worked on a project to load old bibliographic data (pre-1985) into the database update
- A member of the Executive Director's administrative staff who is assisting with the tracking of strategic planning projects (only a small number of hours were funded in order to increase the hours of this position to a full-time level at year-end).

The total amount used during 2016 was less than $\$ 40,000$. There were plans to use the funds for an information technology position at Mathematical Reviews, but the position has not been filled. In addition, funds were set aside for a branding consultant, but that project was not done until the first quarter of 2017.

### 3.4 Audit Committee Report. Att. \#39.

Audit Committee Chair Jane Hawkins reported that the Committee met on May 19, 2017 with representatives from the auditing firm of Mayer Hoffman McCann P.C. to hear a report on the recently-completed audit and to review the draft audited financial statements for the years ended December 31, 2016 and 2015 (these documents had been provided separately prior to the meeting to all members of the BT). Several other BT and staff members attended the meeting, and the Audit Committee also met with the auditors without staff present.

The BT approved the Audit Committee's recommendation to accept the draft audited financial statements for the years ended December 31, 2016 and 2015 and to delegate to management final resolution of minor edits and issuance of the final statements. The final statements are attached (\#39).

### 3.5 Investment Committee Report. Att. \#30.

The BT received the following report on the April 19, 2017 Investment Committee meeting:

- The endowment spending rate was reviewed and no change in the current spending rate of $4 \%$ is recommended at this time.
- The accumulated earnings in the Unrestricted-Income Endowment were \$6,627,565 on a corpus of $\$ 1,578,101$ at December 31, 2016. The Committee recommended to the $B T$ that $\$ 1,500,000$ of those earnings be released immediately to be used as per BT approval. See Att. \#30 for background information on this recommendation.
- The data points used as the base for calculating the actual spendable income for the true endowment funds were changed to reflect current best practice; in the future the four most current years' endowment fund balances will be used.

The BT approved the Investment Committee's recommendation that $\$ 1,500,000$ be immediately released from the earnings in the Unrestricted-Income Endowment Fund to be used as per BT approval.

### 3.6 Proposal to Limit the Journal Archive Fund Balance. Att. \#31.

In May 1995, the BT decided to set aside 1\% of AMS journal revenues each year in a Journal Archive Fund. The Fund is intended to be used primarily to pay for expenses related to the archiving and future conversion of the electronic files of AMS publications. The BT felt at that time that the Society would periodically need to convert the electronic files to some other format to ensure their continued accessibility.

The balance of the Journal Archive Fund has grown to about $\$ 1.85$ million. Further information on the Fund is attached (\#31). It is not known how much it would cost to convert the current journal archives from their current electronic format to some unknown format in the future. However, based on the fact that converting book and journal files into PDF formats over the years has cost hundreds of thousands of dollars, staff suggested $\$ 1.85$ million is excessive.

Therefore, Chief Financial Officer Riley recommended that the Society discontinue the practice of adding $1 \%$ of journal revenues to the Journal Archive Fund annually, that the balance of the fund be capped at $\$ 1,000,000$, and that the excess funds over the cap be added to the Operations Support Fund (OSF). The BT approved these recommendations.

### 3.7 Broaden the Purpose of the Young Scholars Fund.

The Young Scholars Fund, a Board-designated fund, was established within the Boarddesignated quasi-endowments in 2000. The funds were designated for the Young Scholars program, which provides funding for summer mathematics programs for high school students. Currently, the Young Scholars Fund generates more funding than is being used in the Young Scholars program. This is mainly due to the success of the Epsilon Fund. If the purpose of the Young Scholars Fund were broadened to include funding of any mathematics program for high school students, excess funds could be used to fund other programs such as Mathemati-con, a new program implemented at the 2017 Joint Mathematics Meetings.

The BT approved Chief Financial Officer Riley's recommendation that the purpose of the Young Scholars Fund, a quasi-endowment fund, be broadened to include funding of any mathematics program for high school students.

### 3.8 Cash Management and the Operating Portfolio. Att. \#32.

The BT received the attached report (\#32) summarizing the Society's cash management policies and short-term investment performance during 2016.

The BT approved Chief Financial Officer Riley's recommendation that a checking with interest bank account be added to the authorized investment vehicles for the operating portfolio, with the current Board limits being 50\% of the portfolio.

### 3.9 Annual Reports on Divisions.

This item was misplaced on the agenda for this meeting; because the reports contain proprietary information, the item should have been in the executive session agenda. The item has therefore been moved to the executive session minutes of this meeting.

### 3.10 Meeting of the Mathematical Reviews Corporation.

In 1983, when the building that currently houses Mathematical Reviews was purchased, a Michigan non-profit corporation was formed in order to obtain exemption from local property taxes in Ann Arbor and from sales and use taxes in Michigan. In order to maintain these exemptions, the corporation ("Mathematical Reviews") must be maintained by holding an annual meeting at which the Officers and Directors of the corporation are elected.

The AMS Board of Trustees meeting was therefore temporarily adjourned, and the AMS Trustees convened as the Board of Directors of the Mathematical Reviews Corporation. Karen Vogtmann, President of the Corporation, was in the chair.

The Board of Directors of the Mathematical Reviews Corporation elected the following officers:

President of the Corporation: Robert Lazarsfeld
Treasurer of the Corporation:
Secretary of the Corporation:
Directors of the Corporation:

Jane M. Hawkins
Zbigniew Nitecki
Ralph L. Cohen
Bryna Kra
Kenneth A. Ribet
Joseph H. Silverman
Karen Vogtmann

The meeting of the Board of Directors of the Mathematical Reviews Corporation then adjourned and the meeting of the AMS Board of Trustees reconvened.

## 3C BOARD OF TRUSTEES <br> CONSENT ITEMS

## 3C. $1 \quad 2018$ Individual Member Dues.

The BT ratified the January 2017 Council's decision that there be a $\$ 4$ increase in the dues rate for Regular members whose annual professional income is $\$ 85,000$ or more; this puts this rate at \$196 for 2018.

## 3C. 2 Change in Asset Allocation Rebalancing Strategy.

At its November 18, 2016 meeting, the Investment Committee completed an in-depth review of asset allocation. This is done at five-year intervals. The Committee decided not to recommend changes to the asset allocation policy and the real return objective.

Due to a potential for overweighting foreign equities in the portfolio, the Investment Committee recommended, and the BT approved, the following changes, shown in red, in the asset allocation rebalancing strategy of the AMS for the long-term portfolio, which appears in a footnote in the Investment Committee charge:

## Rebalancing Strategy

The following is the rebalancing strategy of the AMS for the long-term portfolio:

- Frequency of rebalancing: Compliance with the portfolio's asset policy should be monitored monthly.
o Ordinarily, the Investment Committee shall determine necessary rebalancing actions at its regularly scheduled meetings and take appropriate actions (such actions could be a recommendation to the Board of Trustees, instructions to staff regarding internal portfolio transfers to execute, or a combination of both).
- Threshold: The portfolio should be rebalanced when total equities or fixed income falls outside of its allocation policy.
- Rebalancing target: The Investment Committee's rebalancing guidelines should be:
o Total equities should be rebalanced to the midpoint of its allocation range (75\% based on current policy).
0 - Foreign equities should be rebalanced to $5 \%$ below its maximum.
o Foreign equities should be rebalanced to the midpoint of its allocation range (Up to $25 \%$ of equities based on current policy)
o Fixed income should be rebalanced to the midpoint of its allocation range (20\% based on current policy).
0 - Alternative investment should be rebalanced to $5 \%$ below its maximum.
o Alternative investment should be rebalanced to the midpoint of its allocation range (5\% based on current policy)
- When new funds are added to the long-term portfolio, they should ordinarily be invested to bring the allocation closer to the rebalancing targets.
- The rebalancing strategy should be reviewed at the same five-year interval as the asset allocation policy.


## 3C. 3 Change in Citizens Bank Account Type. Att. \#34.

The BT approved the Chief Financial Officer's recommendation that the AMS's noninterest bearing checking account with Citizens Bank be closed, and that a new Checking with Interest account with Citizens Bank be opened. The signers on the new account will be the same as the old account:

Jane M. Hawkins, Treasurer
Catherine A. Roberts, Executive Director
Emily D. Riley, Chief Financial Office
Thomas J. Blythe, Chief Information Officer
T. Christine Stevens, Associate Executive Director

Robert M. Harington, Associate Executive Director
All necessary documents to open the new account are attached (\#34).

## 3C. 4 Guidelines for Appeals for Discounted Subscriptions.

The BT approved the following guidelines, which the staff follows when considering appeals for discounted subscriptions to AMS publications.

- Minimum price for MR Data Access Fee (DAF) of $\$ 200$ applicable to institutions in countries found in the two poorest World Bank country listing. Staff can provide this level of discount even if the country does not have a national DAF.
- The discounted price for MR DAF for domestic institutions would not be lower than the greater of $40 \%$ of a list price DAF or $40 \%$ of the institution's mathematical sciences serials budget, not to exceed regular list price for a DAF.
- The discounted price for MR DAF for non-domestic institutions not included in the first category above would not be lower than $40 \%$ of a DAF. To the extent possible, information about serials budgets would also be collected, and, if desired, staff would provide information on publishing activity at the institution.
- Allowable prices for MathSciNet (MSN) can be no less than the lowest published price.
- For other AMS journals, the lowest allowable price would be marginal cost, applicable to the most desperate cases.
- Participation is restricted to academic institutions.


## 3C. 5 Resolutions for Retirees.

The BT approved the following proclamations for employees who retired recently:

Be it resolved that the Trustees accept the retirement of Kyle Antonevich with deep appreciation for her faithful service over a period of 43 years. The Board expresses its profound gratitude for this long record of faithful service. It is through the dedication and service of its employees that the Society is able to effectively serve its members and the greater mathematical community. The Trustees offer Kyle their special thanks and heartfelt good wishes for a happy and well-deserved retirement.

Be it resolved that the Trustees accept the retirement of Mary Medeiros with deep appreciation for her faithful service over a period of 32 years. The Board expresses its profound gratitude for this long record of faithful service. It is through the dedication and service of its employees that the Society is able to effectively serve its members and the greater mathematical community. The Trustees offer Mary their special thanks and heartfelt good wishes for a happy and well-deserved retirement.

## 3I BOARD OF TRUSTEES INFORMATION ITEMS

### 31.1 Change in Fringe Benefits.

The November 1996 BT authorized the Executive Director to approve changes in benefit plans for employees (except for those changes which would significantly enhance or degrade the Society's financial health or relations with its employees) and asked that these changes be reported to the $B T$.

The Executive Director has made the following changes in the dental and health benefits for the plan year effective 3/1/2017:

- AMS will self-insure dental benefits. Dental benefits are capped at an annual maximum and, with access to detailed claims data, actuarial estimates reliably indicate a 4\% reduction in AMS costs for the upcoming year, with no increase in employee contributions.
- Health insurance will continue to be offered through Blue Cross Blue Shield of RI with two plans available to staff in all locations: a high deductible HealthMate Coast-to-Coast plan with a Section 105 Health Reimbursement Arrangement (HRA) and a new high deductible plan, BlueSolutions with a Health Savings Account (HSA) option. Although AMS will not pay HRA costs for those enrolled in the BlueSolutions
plan, because the BlueSolutions plan has a $\$ 1,500 / \$ 3,000$ deductible paid by the employee, AMS will contribute more toward the premium to offset a portion of the deductible. Overall, it is anticipated that the increased AMS contribution will be cost neutral compared to only offering the HealthMate Coast-to-Coast plan with HRA. Offering an HSA plan will provide AMS with an opportunity to compare costs and evaluate how HSA plans might be utilized in future years.

Respectfully submitted,
Care 0. daxige
Carla D. Savage, Secretary Raleigh, North Carolina June 30, 2017

## SECRETARIAT BUSINESS BY MAIL MINUTES <br> November 1, 2016 <br> (from the Ballot dated October 1, 2016)

Votes were cast by Georgia Benkart, Brian Boe, Michel Lapidus, Carla Savage, and Steven Weintraub. The following actions were taken:

1. Approved electing to membership the individuals named on the list dated September 20, 2016.
2. Approved the petition for a student chapter at Tulane University, New Orleans, LA, from the ballot dated October 1, 2016.
3. Approved the petition for a student chapter at Duke University, Durham, NC, from the ballot dated October 1, 2016.
4. Approved the petition for a student chapter at the University of Illinois at Chicago, Chicago, IL, from the ballot dated October 1, 2016.
5. Approved the proposal to hold the 2018 Fall Western Sectional meeting on October 27--28, 2018 at San Francisco State University, San Francisco, CA.
6. Approved the Minutes of the Secretariat Business by Mail, from the ballot dated September 1, 2016.

Carla D. Savage

# SECRETARIAT <br> BUSINESS BY MAIL MINUTES <br> December 1, 2016 <br> (from the Ballot dated November 1, 2016) 

Votes were cast by Georgia Benkart, Brian Boe, Michel Lapidus, Carla Savage, and Steven Weintraub. The following actions were taken:

1. Approve electing to membership the individuals named on the list dated October 20, 2016.
2. Approve the proposal to hold the 2018 Fall Southeastern Sectional meeting on October 6-7, 2018 at the University of Arkansas, Fayetteville, AR.
3. Approve the proposal to hold the 2018 Fall Central Sectional meeting on October 20-21, 2018 at the University of Michigan, Ann Arbor, MI.
4. Approve the student chapter petition from the University of Louisiana at Lafayette, Lafayette, LA.
5. Approve the Minutes of the Secretariat Business by Mail from the ballot dated October 1, 2016.

Carla D. Savage

# SECRETARIAT <br> BUSINESS BY MAIL MINUTES <br> January 1, 2017 <br> (from the Ballot dated December 1, 2016) 

Votes were cast by Georgia Benkart, Brian Boe, Michel Lapidus, Carla Savage, and Steven Weintraub. The following actions were taken:

1. Approve electing to membership the individuals named on the list dated November 20, 2016.
2. Approve the student chapter petition from Adelphi University, Garden City, NY.
3. Approve the student chapter petition from the University of Rochester, Rochester, NY.
4. Approve the Minutes of the Secretariat Business by Mail from the ballot dated November 1, 2016.

Carla D. Savage

# SECRETARIAT <br> BUSINESS BY MAIL MINUTES <br> February 1, 2017 <br> (from the Ballot dated January 1, 2017) 

Votes were cast by Georgia Benkart, Brian Boe, Michel Lapidus, Carla Savage, and Steven Weintraub. The following actions were taken:

1. Approved electing to membership the individuals named on the list dated December 20, 2016.
2. Approved the student chapter petition from Florida Atlantic University, Boca Raton, FL.
3. Approved the Minutes of the Secretariat Business by Mail from the ballot dated December 1, 2016.

Carla D. Savage

## SECRETARIAT <br> BUSINESS BY MAIL MINUTES <br> March 1, 2017 (from the Ballot dated February 1, 2017)

Votes were cast by Georgia Benkart, Brian Boe, Michel Lapidus, Carla Savage, and Steven Weintraub. The following actions were taken:

1. Approved electing to membership the individuals named on the list dated January 20, 2017.
2. Approved the proposal to host the Spring 2019 SE Sectional Meeting at Auburn University, Auburn, AL from March 15-17, 2019.
3. Approved the Minutes of the Secretariat Business by Mail from the ballot dated January 9, 2017.

Carla D. Savage

## SECRETARIAT <br> BUSINESS BY MAIL MINUTES <br> April 1, 2017

(from the Ballot dated March 1, 2017)
Votes were cast by Georgia Benkart, Brian Boe, Michel Lapidus, Carla Savage, and Steven Weintraub. The following actions were taken:

1. Approve electing to membership the individuals named on the list dated February 20, 2017.
2. Approve the student chapter petition from Colorado State University, Fort Collins, CO.
3. Approve the Minutes of the Secretariat Business by Mail from the ballot dated February 1, 2017.

Carla D. Savage

# SECRETARIAT <br> BUSINESS BY MAIL MINUTES <br> May 1, 2017 <br> (from the Ballot dated April 3, 2017) 

Votes were cast by Georgia Benkart, Brian Boe, Michel Lapidus, Carla Savage, and Steven Weintraub. The following actions were taken:

1. Approved electing to membership the individuals named on the list dated March 20, 2017.
2. Approved the proposal for the Joint International Meeting with the Vietnamese Mathematical Society to be held Monday June 10 - Thursday June 13, 2019 at Quy Nhon University, Quy Nhon City, Vietnam.
3. Formally approved the date changes to the Central-Western 2019 Spring meeting at the University of Hawaii at Manoa, Honolulu, HI. The meeting was originally scheduled for March 29-31, 2019 and was changed to March 22-24, 2019 at the January Secretariat meeting.
4. Approved the Minutes of the Secretariat Business by Mail from the ballot dated March 1, 2017.

Carla D. Savage

## Washington Office Report

April 20, 2017
This report covers the period beginning January 1, 2017, when Karen Saxe began as Director of the Washington Office.

## Federal Budget

During inauguration years, we expect the budget process to be slower than during noninauguration years, and this year is no exception. The federal government is running on a Continuing Budget Resolution (CR) (H.R. 2028). This bill provides continuing appropriations for most federal agencies through April 28, 2017; it prevents a partial government shutdown that would otherwise occur, because eleven of the twelve FY2017 regular appropriations bills that fund the federal government have not yet been enacted. This CR provides for the continuation of appropriations at the levels of, and under the terms and conditions of, the FY 2016 appropriations Acts.

Of the twelve annual regular appropriations bills, Congress has passed one - the defense spending bill. Congress is currently working on the remaining eleven bills; if these are not passed by April 28, another CR must be passed to avoid government shutdown. The Appropriations Subcommittee with jurisdiction over National Science Foundation (NSF) appropriations is the Commerce, Justice, Science, and Related Agencies (CJS, House and Senate). Both passed their respective bills last year, but the two are at odds and will have to be reconciled. See the Washington Office Report October 2016 for more details on these bills.

The top line funding levels from the President's Budget for FY 2018 were released on March 16 in the so-called "skinny budget" titled "America First: A Budget Blueprint to Make America Great Again." While this document represents the Administration's priorities and serves as a starting point for the appropriations process, it is Congress that passes the budget. The President's full budget is expected in early May. It is not clear what will happen, but the image that emerges is that this blueprint seeks to substantially scale back federal investments in science and technology research and development. The figure on the next page shows these cuts.

*Includes renewables and efficiency, nuclear, fossil, grid research. ${ }^{* *}$ Flat-funded in FY18 request.
NOTE: FY 2016 is used as a baseline given lack of final FY 2017 appropriations.
Based on initial AAAS assessment of the FY 2018 budget summary and past agency budget data. March 16, 2017 | AAAS

The President's blueprint does not include funding information for NSF. The AMS - together with 285 other organizations - sent a letter to House and Senate leadership and Appropriation Committee and Subcommittee chairs in both chambers requesting NSF be funded at $\$ 8$ billion for FY 2018. This amount represents a 4\% increase, adjusted for inflation, over FY 2016 enacted levels. The House Committee on Science, Space and Technology (this is the committee that oversees the NSF) plans to direct 70 percent of the research funding allocated to the NSF to four directorates at the NSF - Mathematical and Physical Sciences; Computer and Information Science and Engineering; Biological Sciences; and Engineering. We are urging Congress not to fund the agency by directorate, but rather to continue funding NSF research and related activities overall and allowing the agency to decide how resources are allocated.

For a broader view of how this annual process usually unfolds, the Washington Office blog gives a primer on the annual federal budget process.

## Other Legislative Priorities

## Education

The report language of the House and Senate CJS appropriations bills (discussed above) indicates the interest policymakers have in science, technology, engineering, and mathematics (STEM) education and in the STEM workforce. The NSF Education and Human Resources Directorate (EHR) appropriation supports a comprehensive set of programs across all levels of

STEM education. Undergraduate activities support curriculum, laboratory, and instructional improvement; expand the STEM talent pool; attract STEM participants to teaching; and augment advanced technological education at 2-year colleges. Both CJS committees urge NSF to work on broadening the participation of underrepresented populations in STEM education programs, and, ultimately, the STEM workforce. The House Committee encourages the Advanced Informal STEM learning program and sees this program as a way to increase minority interest in STEM disciplines by providing out of classroom educational experiences that are aligned with college and career readiness standards.

The last law that President Obama signed before leaving office was the American Innovation and Competitiveness Act (AICA) (S. 3084). It is the first reauthorization of the America COMPETES Act since 2010. This new law includes directives to improve education in STEM fields (see Title III). This law also includes language to improve the NSF grant-making process (Title I). In general terms, this law authorizes the activities, but not the spending, of the NSF (and also NIST, the Office of Science and Technology Policy, and other federal interagency science programs).

Since taking office, President Trump has signed Inspiring the Next Space Pioneers, Innovators, Researchers, and Explorers (INSPIRE) Women Act (H.R.321) to encourage women and girls to study science, technology, engineering, and mathematics (STEM).

Trump administration proposals and already accomplished actions that cause concern to many in higher education are deep cuts to the Department of Education including to Pell grants, the lifting of regulations regarding for-profit institutions, and the revocation of federal guidance that barred student debt collectors from charging high fees on past-due loans. Finally, there are many questions surrounding the appointment of Jerry Falwell Jr. to lead a Presidential Task Force on higher education.

## Open Access

The America COMPETES Reauthorization Act of 2010 (Public Law 111-358, COMPETES = Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science), contained legislation that requires federal agencies with an annual extramural research expenditure of over $\$ 100,000,000$ to provide free public access to peer-reviewed journal articles based on this support. Federal agencies have begun introducing their open access implementation plans. The Office of Science and Technology Policy (OSTP) published a 2013 directive memo regarding open access and set a post-publication embargo period that begins at twelve months and has the possibility of being changed by agencies based on what is shown to be best for a particular field.

The Department of Energy (DOE) announced in August 2014 its plan, PAGES (Public Access Gateway for Energy and Science), and that it will be collaborating with the Clearinghouse for
the Open Research of the United States (CHORUS) to provide free access to journal articles based on DOE support. The NSF uses the CHORUS service. AMS is a member of CHORUS.

Even though most agencies have responded to Public Law 111-358 and the OSTP memo, legislation regarding open access to articles based on federally supported research is still being introduced. During the $114^{\text {th }}$ Congress, the AMS as part of the Government Affairs Task Force (GATF), worked with staff of the Senate Committee on Homeland Security and Government Affairs (HSGA) concerning legislation (S. 779) on open access. This legislation was introduced by Senator John Cornyn (TX) in March 2016.

As mentioned above, a major development of 2016 was the reauthorization of the COMPETES Act. We will continue to work with GATF as new legislation in this area is introduced. Robert Harington, AMS Associate Executive Director and Head of the Publishing Division, is also now participating in the GATF conversations.

## Immigration

Since President Trump has taken office, there has been increasing concern regarding the continuing ability for mathematicians, and others, to engage in "unfettered contact with colleagues from all over the world." The AMS Board of Trustees issued a statement opposing the January 27 Executive Order on Immigration. We continue to monitor the Administration's actions affecting travel and immigration, and its effects on the mathematics, scientific and higher education communities.

## Other Legislation and Government Activities

The House introduced a resolution "Supporting the goals and ideals of Mathematics and Statistics Awareness Month" (H.Res.264) on April 6. This was written by Karen Saxe and Representative Daniel Lipinski (IL 3) staff member.

We are monitoring activities around proposed cuts to indirect costs at NSF, White House appointment at the Office of Science and Technology Policy (OSTP), for example.

## Other Activities of the Washington Office

## Coalitions

The Washington Office works with several coalitions. Within the mathematics community, we have close working relationships with those doing advocacy work for the Joint Policy Board for Mathematics (JPBM) member organizations (AMS, ASA, MAA and SIAM), and also with Conference Board of the Mathematical Sciences (CBMS). Other coalitions that the AMS is part of include the American Association for the Advancement of Science (AAAS), the Coalition for National Science Funding (CNSF), the Task Force on American Innovation (TFAI), NDD United, and the Government Affairs Task Force (GATF). Hill visits are made with these groups, with
discussions focusing on the federal budget, as well as relevant White House appointments and legislative matters.

## Legislative Branch Connections

In addition to making visits to Senate and House offices with the various coalitions, Karen Saxe has been making visits on her own, establishing relationships with staff members. She also attends selected committee hearings, in order to gain a sense of the congressional members' priorities and relations with each other.

## Fellowships

The Washington Office manages two fellowship programs -- the AMS/AAAS Congressional Fellows Program and the AAAS Mass Media Science \& Engineering Fellows Program. We have selected Fellows for both programs for 2017. The AAAS Mass Media Science \& Engineering Fellow is Benjamin Thompson. Ben is a PhD student at Boston University studying Algebraic Geometry and will spend his fellowship this summer working for Voice of America in Washington DC. We currently have an offer out for the Congressional Fellowship.

## Events on the Hill

Each year, the AMS Washington Office facilitates mathematicians presenting their work to Congress. Each spring, we take part in the Annual CNSF Capitol Hill Exhibition. The $23^{\text {nd }}$ Annual CNSF Capitol Hill Exhibition will take place May 16, 2017. The presenter will be Lea Jenkins of Clemson University who will display her work on precision agriculture.

The Washington Office hosts the annual AMS Congressional Lunch Briefing on Capitol Hill, typically in early December. This year, we are also hosting - jointly with MSRI - a second briefing; this will take place on June 28, 2017. The speaker will be David Donoho of Stanford University, and NY Senator Charles Schumer's office is hosting this event. We will assess how this first joint AMS/MSRI Congressional Lunch Briefing on Capitol Hill goes and consider continuing with this, which would mean we organize and host two briefings per year.

## AMS Policy Committees

The Washington Office organizes the annual meetings of the Committees on Education (CoE) and on Science Policy (CSP). The 2017 annual meeting of the latter took place April 4 and 5, 2017 and included presentations by Kei Koizumi (AAAS and recently of OSTP), Jennifer Wickre (Professional Staff Member, House Subcommittee on Research and Technology), and current AMS Congressional Fellow Catherine Paolucci. Congressman and mathematician Jerry McNerney (CA 9) attended the April 4 dinner. The CSP had a long discussion about its charge, and about the planned grassroots activities of the Washington Office.

The CoE meets in the fall and the Washington Office is working with CoE chair Doug Mupasiri to plan for the next meeting.

## Joint Mathematics Meetings

The Washington Office organizes the annual AMS Department Chairs Workshop. The 2017 workshop was held in conjunction with the Joint Mathematics Meetings on January 3, 2017 in Atlanta, GA. This workshop was the twentieth to be managed by the AMS Washington Office and it was organized and led by: Malcolm Adams, Professor, Department of Mathematics, University of Georgia; Matthew Ando, Chair, Department of Mathematics, University of Illinois at Urbana-Champaign; Krista Maxson, VP for Academic Affairs, University for Science and Arts of Oklahoma; and Douglas Mupasiri, Head, Department of Mathematics, University of Northern Iowa.

The Committee on Science Policy held a panel discussion at the Joint Mathematics Meetings in Atlanta, GA entitled "Grassroots Advocacy for Mathematics and Science Policy." Karen Saxe, Director of the AMS Washington Office, moderated the panel which included Catherine Paolucci (Office of Senator AI Franken and AMS 2016-17 Congressional Fellow); Doug Mupasiri (University of Northern Iowa and AMS Committee on Education chair); and Scott Wolpert (University of Maryland and CSP chair 2017). This panel was organized to discuss ways to engage with elected officials in addressing policy issues of concern to the mathematics community, including research funding and education. Panelists talked about the importance of grassroots advocacy and building relationships with legislators to further goals.

The AMS and SIAM Committees on Education held a joint panel discussion at the Joint Mathematics Meetings in Atlanta, GA entitled "Broadening Research Experiences for Doctoral Students in the Mathematical Sciences." Suzanne Weekes (WPI) moderated the panel, which included Richard Laugesen (University of Illinois at Urbana-Champaign); Stephen Pankavich (Colorado School of Mines); Dan Spirn (Institute of Mathematics and its Applications); and John Zweck (University of Texas-Dallas).

This panel focused on the fact that a substantial portion of doctoral recipients are taking positions outside of academia and discussed efforts to improve the training of mathematical sciences doctoral students by involving them in research activities outside of their main dissertation research in order to better them for a broader range of careers.

The COE also co-sponsored a panel with the MAA and SIAM entitled "Multiple Paths to Mathematics Careers in Business, Industry and Government (BIG)." The panel was moderated by Rachel Levy (Harvey Mudd College) and included Carla Cotwright-Williams (U.S. Social Security Administration); Frank Cullen (Blackstone \& Cullen, Inc.); Mary Morley (State of New Jersey); Dan Sanders (Columbia University); and Prasad Tetali (Georgia Tech).

In addition and in collaboration with the National Science Foundation (NSF) Education and Human Resources Directorate (EHR), the Washington Office helped organize a workshop on "Developing a Competitive Proposal for NSF-EHR." Also, the AMS Special Session on Congressional Fellowships was held with the current AMS Congressional Fellow Catherine Paolucci (Office of Senator AI Franken), Edgar Fuller (U.S. Department of Homeland Security) and Karen Saxe discussing the AMS Congressional Fellowship in particular and AAAS Science \& Technology Fellowships in general.

## Facilities

The AMS rents one floor of an old row house for its Washington Office. The space is fundamentally beautiful, but needed a lot of work. Carpet has been torn up, floors refinished, old furniture moved out, new furniture purchased, and walls painted. This work continues. Karen Saxe and Anita Benjamin have been overseeing this work.

## Future Plans for the Washington Office

## Grassroots Advocacy

The Washington Office continues to plan for a robust grassroots advocacy network that can be deployed on short notice to impact congressional action. The network currently numbers over 4,000 members and continues to grow. The planning for launching this program has been in the works for years, but the Office has not had enough capacity to do so. We will be hiring another person for the Office and also the leadership of the CNSF will no longer be part of our portfolio; with these two factors, we will be able to do this work.

## Executive Branch Connections

Karen Saxe is beginning to establish relations with employees working with math programs at the federal agencies including at the NSF, Department of Energy, and National Security Agency. She will continue to establish and build these relationships.

## AMS Member Hill Visits

In the past, CSP members made visits to Congressional members once a year, when in DC for the annual CSP meeting. We plan to continue with that, but also take AMS members to the Hill whenever they are in town and want to engage with Congress. One such visit has taken place so far - Jordan Ellenberg (University of Wisconsin) met with Senators Baldwin and Barrasso, and with a staff member from Senator Johnson's office. We will be thinking about how to engage groups of AMS members (e.g., Grassroots Action Network members, graduate students, NSF awardees) in Hill visits.

## Blog

In March Karen Saxe posted her first blog piece, at the new AMS blog: blogs.ams.org/capitalcurrents/ Posts will appear every 2-3 weeks, and will include information on activities in Congress that affect mathematics and the broader science community as well as opportunities for engaging with Congress and other policymakers.

## Getting Math "at the Table"

Plans for this are a little more tenuous, and are at least partly motivated by the fact that there was no mathematician on the President's Council of Advisors on Science and Technology (PCAST) 2012 Engage to Excel report writing committee. Not only did the AMS community feel alarmed by parts of that report, but we feel that any such report will get better traction in the mathematics community if there is at least one mathematician on the committee writing the report. To this end, and for example, Karen Saxe has been attending meetings of the Board on Higher Education and Workforce at the National Academies, convened to lead a study of STEM graduate-level education in the U.S., and encouraging AMS members to give feedback.

## New Hire

Karen Saxe was hired with the agreement that a third full-time person could be added to the Washington Office staff. A job description should be ready by late June, with a search to start as soon as possible after that time.

Karen Saxe
Associate Executive Director and
Director of Washington Office
April 19, 2017

# American Mathematical Society Committee on Science Policy Meeting April 4-5, 2017 <br> Washington, DC 

Summary

The Committee on Science Policy (CSP) met over two days with presentations on the federal budget process, current legislative outlook and grassroots advocacy. The committee also spent a good deal of time considering the committee's charge and focus of activities. Committee Chair Scott Wolpert began the meeting by outlining the agenda for the meeting and welcoming all participants.

Karen Saxe (new Director of the AMS Washington Office) kicked-off the meeting by introducing the AMS Washington Office and describing its goals, work and responsibilities. The office connects the math community with policymakers in Washington, working on issues such as funding for mathematics research, open access, education and immigration. She also updated the committee on the status of scientific Administration appointments of interest - there is currently no person identified for director of the White House Office of Science \& Technology Policy (OSTP); France Córdova will stay on as director of NSF.

## Kei Koizumi

American Association for the Advancement of Science (AAAS)
Kei Koizumi discussed the federal budget and appropriations process. He reported that Congress has still not settled the budget for FY2017 (which runs from October 1, 2016 through September 30, 2017). Currently, there is a Continuing Resolution (CR) in place until April 28 funding almost all agencies at last year's levels. Moving forward on FY2017, Congress will either need to write and pass individual appropriations bills for the rest of FY2017, pass an omnibus package covering all appropriations in one bill, extend the CR until the end of the fiscal year or come to no agreement and cause a shutdown. He feels the most likely scenario would be a hybrid whereby some agencies would get a CR and others would get appropriated.

Koizumi also talked about the President's so-called "skinny budget" for FY2018 that came out a few weeks ago. This budget request would cut $10 \%$ or $\$ 50$ million from domestic programs and shift the money to spend on defense. Across the board, many science agencies are looking at big cuts, but there was no information on the National Science Foundation (NSF) in this budget.

The President's annual budget request is merely a proposal. Congress always has different priorities than the President so the work in passing a budget each year is in negotiation and compromise. The detailed budget for FY2018 is due to come out in early May and should contain real numbers and details on how cuts will be allocated. There has been no specific information on this budget as yet. Koizumi felt it highly unlikely that the FY2018 budget process will be complete by October 1 when the fiscal year begins.

## Catherine Paolucci

## Office of Senator Al Franken (MN)

AMS Congressional Fellow 2016-17
Catherine Paolucci began her presentation by talking about the AAAS Science \& Technology fellowship program, explaining the different types of fellowships, their size and focus. She highlighted the need for more mathematicians to apply for these fellowships noting that mathematics is underrepresented among other scientists in this program with only 2 of 250 fellows this year. She then discussed the Congressional Fellowship program specifically and talked about her own experience supporting Senator Al Franken (MN).

Paolucci then provided her insight into holding effective meetings with Congressional representatives on Capitol Hill. She talked about the importance of being clear and specific in what you're asking for, of providing real stories that support your "ask" and creating an ongoing relationship with your
Representative's office.

## Jennifer Wickre

## House Committee on Science, Space \& Technology

## Subcommittee on Research and Technology

Jenn Wickre provided an introduction to the House Science, Space \& Technology committee. She described the makeup of the committee, its jurisdiction and its priorities. She talked about a few laws passed in the $114^{\text {th }}$ Congress including the American Innovation and Competitiveness Act (AICA) and the STEM Education Act. Also, the INSPIRE Act and Promoting Women in Entrepreneurship Act, just passed in Feb 2017 and focused on supporting women in STEM programs at NSF and NASA.

Wickre then looked at priorities for research and technology in the $115^{\text {th }}$ and current Congress. In addition to prioritizing STEM education this year, Congress will work on the reauthorization of NSF and NIST, oversight of the implementation of AICA, and cybersecurity. There have already been hearings on strengthening U.S. cybersecurity capabilities and future opportunities and challenges at NSF. Upcoming hearings on other research and technology issues will likely include elimination of indirect costs on federal grants, particularly at the National Institutes of Health (NIH), as a means to maximize money provided for research.

## Grassroots Advocacy

Anita Benjamin, Assistant Director of the AMS Washington Office, presented information on plans for the AMS Grassroots Advocacy Network. She spoke about the approximately 4,000 self-selected members of this network and how the AMS Washington Office plans to confirm and update their records so as to activate the network to advocate for the interests of mathematics and mathematicians on the grassroots level. She also spoke about work that is being done on the AMS website to create easily accessible resources for advocacy efforts, including the possible purchase of grassroots advocacy software that could help conduct and manage online advocacy campaigns.

Karen Saxe also presented an idea from Scott Wolpert of an "advocacy action of the month" whereby anyone through the AMS website, but especially the AMS Grassroots Advocacy Network, would be asked to do one thing each month of the year. She provided a few ideas for a few months of the year and asked the committee to work on other months to complete the twelve months of advocacy.

## Committee Business

1) Reconsideration of the Committee on Science Policy Charge

Catherine Roberts led a discussion on the charge and direction of the Committee on Science Policy. She spoke about the current charge, how it was authorized and the prescribed activities of the committee. This review of the current charge is to determine whether the committee is operating in a way that is most helpful to the AMS, the Council and its members.

Carla Savage talked about the five AMS policy committees, speaking specifically about the Committee on Science Policy and the Committee on Education, both of which liaise with the AMS Washington Office. She explained that the other three policy committees have a portfolio of programs created by the Council for oversight by the committees, yet CSP and COE do not. Council has not created any programs or initiatives for CSP or COE, another reason it may be appropriate to re-visit the CSP committee charge. Also, some programs might actually fit better in the portfolio of another committee, for instance perhaps the Human Rights Committee would fit better under CSP for periodic review rather than the Committee on the Profession. CSP could make a case for moving it. It was also discussed whether the AMS Congressional Fellowship program should be reviewed by CSP every four years or so. So it's a good time to review these committee charges.

The committee also discussed the importance of it making Hill visits each year. It was thought that perhaps it would be more effective to have the committee interact with Council on science policy issues and leave the Hill visits, for the most part, to groups brought in when necessary and most beneficial depending on timing, and to utilize the Grassroots Advocacy Network to make many and targeted visits throughout the year. Of course, the committee could also do Hill visits but it wouldn't have the same kind of impact as a larger effort.

The committee reviewed the tenets of the current committee charge and made some suggestions of possible changes, including adding a descriptive opening paragraph and a review of the AMS Congressional Fellowship on a periodic basis. CSP chair Scott Wolpert will form a subcommittee to review the charge and make recommendations to CSP at its 2018 committee meeting and then ultimately to the Council in 2018. A subcommittee to be headed by Talitha Washington and including Doug Mupasiri and Mary Pugh was named to review the congressional fellowship for next year's meeting.

There was also some discussion about there not being a mechanism for reporting what happens at the CSP meeting getting back to the society at large. It was suggested that perhaps the committee could write a report and/or articles for the Notices. Secretary Carla Savage offered the secretary's section of the Notices for this purpose. Karen Saxe suggested also using "Capital Currents" blog to relay information to the society. Other suggestions were for Catherine Paolucci, current AMS Congressional Fellow, to write an article for the Notices or for the blog on how to hold effective meetings with Congressional representatives and also for committee members to act as team leaders for Hill visits, especially for those involving bringing students to Washington, DC.

## 2) Proposal for Expedited Consideration on Matters Affecting the Status of Mathematics and Mathematicians

The committee entertained a proposal brought forward by Scott Wolpert regarding accelerating the process by which matters affecting the status of mathematics and mathematicians are brought to the Council, including science policy matters, national/state science/mathematics funding, visas and mathematics education. The Society may deem it appropriate to respond to such
actions as issuing public statements, signing petitions and in special circumstances joining legal actions. The Society Bylaws provide for such considerations, although the standard procedure has a six month time frame. The proposal brought forward for consideration reads:

On a one year renewable basis, the Council delegates to the Executive Council the authority to fully consider matters affecting the status of mathematics and mathematicians, when it is not practical or timely for the Council to consider such matters. As practical, the President should seek input and advice from the Society's professional staff and the appropriate committees. Advice may be garnered from email communications.

Wolpert provided some background information on why the proposal is being brought forward for consideration. It was borne out of the travel ban instituted by President Trump earlier this year and how the AMS might want to respond to matters such as this and other potential future issues in a more timely way than is afforded by the current ByLaws. The proposal is based on Article IV of the ByLaws which describes what the Council does and how it functions, Section 8 of Article IV is a specific procedure about Council making a statement on behalf of the Society. Also, Section 7 of Article IV gives the possibility of Council giving the Executive Committee authority to act on matters in between Council meetings and the Executive Committee can act on a shorter timeline than the Council. The proposal is to request that the Council, for some interim period, invoke Section 7 and give the Executive Committee this authority.

Secretary Carla Savage stated that the intention of the ByLaws in Section 8 was not to delegate such authority to the Executive Committee. The process by which the Council is able to take action on behalf of the Society is very precise and prescriptive in this section, so much so that it cannot be interpreted to allow such delegation of authority. Therefore, the proposal as it was presented is mute. Scott Wolpert thus withdrew the proposal from consideration.

The committee continued to discuss ways that the AMS may be able to act on an important matter and take action more quickly. However, there is not a clear way for any entity other than the Council to take action on behalf of the Society. The recent Board of Trustees statement issued in response to President Trump's travel ban can even be interpreted as being a formal AMS statement rather than only citing the opinions of the individuals that make up the Board of Trustees (BT) or of the BT alone.

The committee reviewed a statement by the Council from 1996 on illegal immigration. This resolution was considered by Council over a period of time and then approved. The process is a slow and deliberate one on purpose. So rather than ask the Council to review the proposal presented at this CSP meeting, it was decided that CSP would submit for Council approval a request to reaffirm the resolution it adopted in 1997 regarding immigration to read:

## The Council reaffirms its policy on immigration, adopted in March of 1997.

Mathematical sciences profit enormously from unfettered contact between colleagues from all over the world. The United States is a destination of choice for international students who wish to study mathematics; the US annually hosts many conferences attracting global participation. Our nation's position of leadership in mathematics depends critically upon open scientific borders. We urge our colleagues to support efforts to maintain the international collegiality, openness, and exchange that strengthens the vitality of the mathematics community, to the benefit of our nation and the world.

Scott Wolpert moved that this proposed statement reaffirming Council's resolution of March 1997 be sent to Council for its April 29 meeting agenda. The motion was seconded by Doug Mupasiri and passed unanimously.

## AMS Branding Update

Catherine Roberts updated the committee on the AMS Strategic Plan's branding effort. The Advocacy, Awareness \& Visibility initiative within the strategic plan calls for the creation of new and consistent branding across the society. The team specifically charged with addressing this branding effort has been collecting data and the AMS has hired a professional company, TBI (The Big Idea), to help synthesize this information to capture the essence of the society, how we perceive ourselves and how others perceive us. The branding team continues to meet and will review logo designs and tag lines soon. A report on this effort will be brought to the ECBT at its spring 2017 meeting.

## Date of Next Meeting

The 2018 Committee on Science Policy meeting is scheduled for Tuesday, April 10 and Wednesday, April 11, 2018 in Washington, DC.

Submitted by Anita Benjamin
Assistant Director, Washington Office
April 25, 2017

## AMS Committee on Meetings and Conferences

## Highlights of 2017 Meeting

The Committee on Meetings and Conferences (COMC) held its annual meeting on March 18, 2017, at the Hilton Chicago O’Hare Airport Hotel. Monica Nevins, chair, presided.

The meeting began with a number of reports, including the following:

- Secretariat. AMS Secretary Carla Savage reported on the March 17, 2017 Secretariat meeting.

In lieu of a Joint International Meeting in 2017, the AMS will participate in the Mathematical Congress of the Americas in Montréal on July 23-28, 2017. A joint meeting at Fudan University in Shanghai, China, has been approved for June 11-14, 2018.

Plans for upcoming Einstein Public Lectures and Erdös Memorial Lectures were described. It was suggested that nominations for these lecturers be solicited on the AMS website.

The Secretariat is planning to work with host departments during the coming year to provide lactation rooms at Sectional meetings.

- JMM 2017 Questionnaire. The responses to the Atlanta questionnaire, which was completed by about 1500 participants, were reviewed. Penny Pina, the AMS Director of Meetings and Conferences, reported that there were many favorable comments about the JMM program. The percentage of registrants who downloaded the JMM app more than doubled, reaching $37 \%$ in 2017. Participants complained about the high registration fees for JMM, noted a lack of adequate signage in the hotels, and requested free Wi-Fi in the meeting rooms.
- Child Care Grants. For the 2017 JMM in Atlanta, the AMS and MAA offered reimbursement grants of US $\$ 250$ per family to help with the cost of child care for registered participants. The funds could be used for child care expenses from local resources in Atlanta or for any other form of child care (such as hiring a nanny at home, bringing a caregiver to Atlanta, etc.), with the goal of enabling the parent to participate more fully in JMM. About 71 eligible applications were received, and all were awarded grants. About nine applicants subsequently withdrew, so that about 62 grants were made. A survey of child care grant recipients indicated that they were pleased with this arrangement, although a few expressed a desire for an earlier application deadline and award date. It was agreed that this suggestion would be relayed to the Meetings and Conferences Department.

COMC also discussed the possibility of offering child care grants for Sectional meetings, and it unanimously asked the AMS staff to look into this option. It was suggested that the amount be $\$ 125$, and Penny Pina agreed to distribute a survey about child care needs at the Fall 2017 Sectional meetings.

- 2017 Annual Review - Mathematics Research Communities, Short Courses, and Summer Institutes. Rebecca Garcia, Monica Nevins (chair), and Alan Reid formed the subcommittee that carried out this review. The subcommittee divided its report into three sections, the first of which covered the Mathematics Research Communities (MRC). The subcommittee deemed the program very successful and noted that the participants felt that the working groups were the most valuable part of the summer conferences. The subcommittee also pointed to areas where improvements could be made, including generating more proposals and attracting a diverse set of participants and organizers. COMC discussed strategies for addressing these problems and voted to organize a panel at JMM 2018 about opportunities provided by collaborative research communities.

The second section of the report dealt with Short Courses. The subcommittee felt that they make a positive contribution to the mathematical community and noted a happy consistency between the instructions given to Short Course organizers and participants' comments about what features make a Short Course successful. Although some Short Courses draw a small number of registrants, those who do register are usually pleased with the event and sometimes cite its small size as one of its virtues. It was suggested that the manual for organizers include the possibility of utilizing "active learning" models. COMC also discussed the role that video recordings or webinars might play in the Short Courses but decided to defer any recommendations until after the Joint Meetings Committee's upcoming discussion of video recordings of invited addresses at JMM.

The third section of the report dealt with the Summer Research Institutes (SRI's) in Algebraic Geometry. These represent a sporadic extension of what had, until 1999, been a regular AMS program of annual SRI's. The topics were chosen by a selection committee, and the program was funded by an NSF grant to the AMS. After NSF support ended, the selection committee had no work to do, and the Council voted in January 2000 to dissolve it. Although the SRI program no longer existed, the AMS, at the request of groups of algebraic geometers, subsequently applied for NSF funding for SRI's in that subject. As a result, the AMS conducted SRI's in Algebraic Geometry in 2005 and again in 2015. In addition to the NSF, the 2015 SRI was supported by the NSA, the Clay Mathematics Institute, the Simons Foundation, and the European Mathematical Society. A total of 742 mathematicians from 32 countries attended the 2015 SRI in Algebraic Geometry in Salt Lake City, Utah. Participation was by invitation only.

The subcommittee expressed serious reservations about the paucity of women among the speakers at the 2015 SRI. COMC also asked whether it was appropriate for the AMS to sponsor SRI's in just this one field, and it wondered whether three-week conferences were as relevant now as they were when the SRI program last flourished in the 1990s. After this discussion, COMC unanimously passed a motion recommending to the Council that the SRI
program be discontinued. Since the selection committee for the SRI's had already been dissolved, COMC is working with the Secretary's office to determine the precise wording of its recommendation to the Council.

Other topics discussed by COMC include the following:

- Meetings and Conferences in Cooperation with the AMS. At its meeting in March 2016, COMC recommended to the Council that the program of "Meetings in cooperation with the AMS" be discontinued. It then passed an additional recommendation stating that, "In truly exceptional circumstances, the Secretariat may recommend to the Executive Committee that AMS participate in a meeting or conference in some form, with appropriate information about this possibility being posted on the AMS website." In January 2017 the Council approved the first of these recommendations, thus ending the program of "Meetings in Cooperation with the AMS." The Council rejected the second recommendation. Some Council members felt that the resolution was unclear and did not define a transparent mechanism for cooperating with the AMS; others expressed the view that the resolution is unnecessary, since the Secretariat could recommend such cooperation with or without it. In the end, the Council left it to COMC to bring another proposal forward if, upon reconsideration, COMC so desired. COMC decided that it did not wish to do so.
- Prize Venues. An agreement between the AMS and the Mathematical Association of America limits the number of prizes that may be given at the Joint Prize Session at the Joint Mathematics Meetings. Since the AMS is in the process of creating new prizes, it may become necessary to award some prizes in venues other than the Joint Prize Session, and a joint subcommittee of CoProf and COMC was created to deliberate about the issue of prize venues. The members of that subcommittee were Richard Durrett and Christina Sormani from COMC and Alicia Dickenstein and Bryna Kra (Chair) from CoProf. COMC discussed the subcommittee's report and brainstormed about alternate venues for awarding prizes.
- Possible AMS Website for Information about Conferences. COMC discussed the idea of an ArXiv-like platform for conferences that would be hosted by the AMS, and it established a subcommittee comprising Pierre Albin (chair), Ivan Corwin, and Bryna Kra to study the idea further.
- 2018 Annual Review. As the topic of its next Annual Review, COMC chose the AMS scientific program at JMM.
- Review of von Neumann Symposium. At the request of staff, COMC also created a subcommittee to review the von Neumann Symposium, which last took place in 2016. Since it is scheduled to occur again in 2020, this seemed like an appropriate time for COMC to examine the program.
- Invited Addresses at Sectional Meetings. In response to a request from a member of the mathematical community, COMC discussed the way in which speakers for invited addresses
at Sectional meetings are chosen. COMC judged it appropriate to maintain the current system, under which speakers for invited addresses are chosen by AMS Section Program Committees. It also agreed that the AMS should continue to welcome suggestions from the local organizers and that these should be carefully considered.
- Possible Diversity and Membership Activities at Sectional Meetings. Within the constraints imposed by the way Sectional meetings are structured and organized, COMC discussed possible activities at Sectional meetings that might promote membership in AMS and diversity in the mathematical community.
- 2018 COMC Meeting. The next meeting of COMC will be held on March 24, 2018, at AMS Headquarters in Providence.

T. Christine Stevens<br>Associate Executive Director for<br>Meetings \& Professional Services<br>April 26, 2017

# Update on Proposals Planned, Submitted, or Deferred 

## Planned

Staff requests approval of the ECBT to plan, prepare, and submit these three proposals.

## NSF INCLUDES Alliance: Inclusive Graduate Education (IGEN)

- Collaborative proposal with the American Physical Society and other professional organizations
- To be submitted to the National Science Foundation INCLUDES Alliance program
- The AMS portion of the proposal is likely to be about $\$ 2.5$ million over a five-year period.

The American Physical Society (APS) has invited the AMS, the American Chemical Society, and the American Geophysical Union to join them in submitting a collaborative proposal to improve the diversity of graduate students completing Ph.D.'s in these fields. In a collaborative proposal, each organization has its own budget, with funding coming directly from NSF, but a single, combined proposal is submitted.

The APS currently has an NSF INCLUDES Design \& Development Launch Pilot grant: A National Network for Access and Inclusion in Physics Graduate Education. A key idea behind the NSF INCLUDES program is that the pilot grants are used to jump-start much larger projects in which the project components are scaled-up, in this case to include more physics graduate programs and, at the same time, more disciplines. Another key idea in the program is that the various collaborators in a project do not all have to be doing exactly the same things, as long as they are working towards the same goals and have agreed upon measures of success. Hence, the AMS will not be bound to using a particular APS project component if we do not feel it will be effective in mathematics graduate education.

The overarching goal of the project is to transform graduate education in these fields to support fully the inclusion of women and individuals from under-represented ethnic and racial minority groups. The vision is of a national network of scientists, mathematicians, and staff from professional organizations developing and implementing evidence-based knowledge of effective practices for recruitment, admissions, and retention of graduate students from groups under-represented in these fields. The APS pilot is focused on improving admissions practices, but it is also taking exploratory steps to develop scalable recruitment and retention strategies. The main approach that APS is using to deal with admissions issues involves running workshops for admissions committees on "best practices," including ideas from "holistic admissions," strategies for reducing sources of unintentional bias, and the development of a rubric for evaluating applications. The APS is collecting data from the schools at which they have held these workshops and hopes to have data the AMS can use to design more effective workshops, including the possibility of holding workshops for multiple departmental admission committees, possibly attached to AMS conferences. To refine their interventions, the APS has conducted research to identify and understand the points before and during physics graduate programs at which students, particularly those from under-represented groups, drop out of the academic pipeline. Obtaining parallel data for mathematics would be extremely useful in our work to increase the number of students from groups under-represented in mathematics who complete the Ph.D.

AMS President Ribet has appointed Professor Richard McGehee, Director of Graduate Studies at the University of Minnesota, to provide input from the mathematical community on the development of the
proposed project. He and the Education and Diversity Director will both be attending a meeting with the APS in May, during which work will begin on crafting the actual proposal. The NSF has not yet set a deadline for submission of the NSF Alliance grant proposals, but has stated that it will be in 2017.

## Travel Support for U.S. Participants in ICM 2018

- To be submitted to the Infrastructure Program in the NSF Division of Mathematical Sciences
- A request in the range $\$ 300,000$ to $\$ 350,000$ is likely.

This proposal will seek funds for travel grants to approximately ninety U.S. mathematicians to attend the International Congress of Mathematicians (ICM) in Rio de Janeiro on August 1-9, 2018. The Society has administered similar travel grant programs for previous ICM gatherings, beginning with ICM-1990 in Kyoto, Japan, and most recently for ICM-2014 in Seoul, Korea. The proposal will be submitted as soon as possible after its approval by the ECBT.

## A workshop about strategies for assisting graduate students to pursue BIG careers

- Probably to be submitted to the Enriched Doctoral Training Program in the NSF Division of Mathematical Sciences
- A request up to $\$ 115,000$ is likely.

NSF program officers have expressed an interest in having the AMS organize a workshop to develop strategies for making graduate students aware of opportunities in business, government, and industry (BIG) and providing them with the necessary preparation for such careers. We expect to have 40-50 participants, drawn from the ranks of graduate directors and other mathematics faculty members, mathematics Ph.D.s who work in industry, and graduate students. It is possible that the funding request will be for less than the $\$ 100,000$ threshold that requires ECBT approval, but it seems prudent to seek that approval, just in case the budget exceeds that amount.

## Submitted

Travel grants for U.S. participants MCA 2017

- The ECBT approved submission of this proposal at the November 2015 meeting.
- Submitted to the Infrastructure Program, Division of Mathematical Sciences at NSF
- Award of $\$ 67,500$ made

The proposal was submitted in May 2016, and an award was made in the amount of $\$ 67,500$. It will provide travel grants to approximately fifty U.S. mathematicians to attend the Mathematical Congress of the Americas in Montréal, Canada on July $24-28$, 2017. Priority will be given to early-career mathematicians.

## Support for the NSF/CBMS Regional Research Conferences in Mathematics

- Approved electronically by ECBT in October 2016
- Submitted to the Infrastructure Program, Division of Mathematical Sciences at NSF
- Award of \$100,000 made

The AMS provides the financial infrastructure for this project, which is conducted via a sub-award to the Conference Board of the Mathematical Sciences (CBMS), which promotes, advertises, and provides support services for this conference series. The proposal was submitted in October 2016, and an award was made in the amount of $\$ 100,000$ over three years. The grant will provide speakers' stipends for four conferences in the summer of 2018, as well as honoraria for manuscripts arising from the conferences held in 2017 or earlier. The program officer at NSF suggested that the CBMS re-envision this conference series and its products before seeking longer-term funding.

## Renewal proposal to the Simons Foundation to support the AMS-Simons travel grants in 2017, 2018, and 2019

- The ECBT approved the submission of this proposal at the November 2015 meeting.
- Award of $\$ 1,053,000$ made

The proposal was submitted in December 2016, and the Simons Foundation awarded the AMS $\$ 1,053,000$ for continued support of this program. The new grant increases the number of awards from sixty to seventy per year and also covers a greater portion of the AMS's administrative costs for this program.

## Universally Enhancing Math on the Web

- The ECBT approved submission of this proposal at the May 2016 meeting.
- Award of \$150,000 made

This is a proposal from the MathJax Consortium for research and development on semantic enrichment of math on the web. It was jointly submitted by the AMS and the Society for Industrial and Applied Mathematics (SIAM), which are the principal partners in the Consortium. The MathJax "research team" includes Peter Krautzberger (director of the MathJax Project), Davide Cervone (Union College, lead developer of MathJax), and Volker Sorge (University of Birmingham, expert on document understanding). The Simons Foundation made an award of $\$ 150,000$ over two years (2017 and 2018).

## Deferred

## Travel Support for the AMS Math in Moscow Scholarship Program

- Funding request of about $\$ 320,000$
- The ECBT approved the submission of this proposal at the November 2015 meeting.
- To be submitted to the DMS Infrastructure Program (co-funded)

The Independent University of Moscow (IUM) is a small, elite institution of higher learning that focuses primarily on mathematics. It was founded in 1991 at the initiative of a group of well-known Russian research mathematicians, who now comprise the Academic Council of the University. Since April 2001, the National Science Foundation (NSF) has awarded five grants to the AMS, with the funds used to support mathematically talented U.S. undergraduates for a semester of study at the Math in Moscow program of the IUM. Along with other AMS programs, the Math in Moscow Scholarship Program is being reviewed as part of the strategic planning process.

The Division of Mathematical Sciences at the NSF classifies a proposal for Math in Moscow scholarships as an "unsolicited training project." According to NSF guidelines, such projects must "include a core mathematical sciences research component for trainees." Although the Math in Moscow program does not currently contain a research component, the IUM faculty is working to develop one. The NSF accepts proposals for unsolicited training projects once per year, and the next target date is in December 2017. As that deadline approaches, a decision will be made about whether to submit a proposal.

## SIGMA Beyond: Women Succeeding in Graduate Mathematics and Beyond.

- Funding request on the order of $\$ 600,000$
- The ECBT approved submission of this proposal at the November 2016 meeting.

This is a five-year project that uses education, mentoring, and support to improve the success rate of women in securing tenured faculty positions in the mathematical sciences. It was developed in collaboration with the Association for Women in Mathematics (AWM), the Enhancing Diversity in Graduate Education Program (EDGE), and the Director of the Career Mentoring Workshop for women (CaMeW). A letter of intent was submitted in December 2016 to the NSF ADVANCE-Partnership program, which subsequently deemed the project to fall outside its guidelines. The Education and Diversity Director is seeking other sources of support for this project, both within and outside NSF.
T. Christine Stevens

Associate Executive Director for Meetings \& Professional Services

May 3, 2017

## April 2017 Draft Report Report of the Executive Director: State of the AMS, 2016

The American Mathematical Society had another successful year, thanks to the efforts of its members and dedicated staff. Several notable events and transitions occurred in 2016.

- Attendance at the Joint Mathematics Meetings (JMM) in Seattle totaled 6,252, which made it the second largest JMM since 2011. JMM attendance has remained at 5,900 or above since 2011 with San Diego in 2013 reaching over 6,600. Note that this was the first time the JMM ever took place in Seattle.
- Don McClure retired as Executive Director and Catherine A. Roberts started in August. Most recently, she was department chair and professor at the College of the Holy Cross in Worcester, MA and Chief Editor of the journal, Natural Resource Modeling.
- Sam Rankin retired as Associate Executive Director of our DC office at the end of 2016 to be succeeded by Karen Saxe in January 2017. Karen was department chair and professor at Macalester College in St. Paul, MN. She was the 2013-14 AMS/AAAS Science and Technology Policy Congressional Fellow.
- We received several bequests in 2016 , including two significant ones ( $\$ 1,250,000$ from the Peterson Estate and $\$ 189,587$ from the Fleischer Estate). These generous gifts provide direct support to our programs and we are grateful to those of you who remember the AMS in your estate planning through our Fiske Society.
- The new Education and Diversity Department launched in June 2016 with Helen G. Grundman as Director. She joins us from Bryn Mawr College and was recently awarded the Association for Women in Mathematics' M. Gwyneth Humphreys Award for Mentoring Undergraduate Women.
- The AMS book Gallery of the Infinite, by Richard Evan Schwartz, received an honorary mention at the American Association of Publishers 2016 PROSE Awards for books published in the mathematics category.
- Our Mathematics Research Communities program welcomed its one thousandth participant in 2016. This program helps early-career mathematicians launch their research program by fostering the creation of ongoing, productive collaborations.


## Strategic Plan 2016-2020

The implementation of our Strategic Plan is underway! A historical note: the previous Strategic Plan from 1991 led to many changes, including the establishment of five policy committees to streamline our governance structure. Our new plan was approved by the Executive Committee and Board of Trustees in November 2015 and by the Council in January 2016. This ambitious plan offers a framework to move the Society forward with six over-arching initiatives pertaining to: Diversity and Inclusion; Advocacy, Awareness, and Visibility; Membership Development; the Development and Promotion of a coherent portfolio of programs, meetings, publications, and professional services; Mathematical Reviews/MathSciNet; and Publishing. The Board of Trustees made $\$ 250,000$ available in the 2016 budget for implementation of the Strategic Initiatives and our work has begun in earnest.

There is a lot to tell you about! Below are a few highlights from 2016 in each of the six major initiatives.

## Diversity and Inclusion

In June 2016, Helen G. Grundman became our first Director of the newly-established Department of Education and Diversity. The initial focus for the Department is on graduate education in the mathematical sciences, the preparation of students to enter graduate programs, mentoring of students for success in graduate school, and the promotion of diversity and inclusiveness at the graduate level.

To assist with including all parts of the AMS membership in the direction of the society's support for research and scholarship, we continue to expand our offering of AMS Blogs (blogs.ams.org). In 2016, we introduced Book Ends (discussion forum for mathematics books) and inclusion/exclusion (about underrepresented groups in mathematics).

Advocacy, Awareness, and Visibility
The Strategic Plan calls for the creation of new and consistent branding across the AMS for its publications, programs, and services. To this end, we established a working group consisting of our AMS president, one person from both our Board of Trustees and the Council, as well as several AMS staff representing each of our divisional areas of focus. A design firm has been hired to help us clarify our "brand essence" and translate this into a new logo and tagline. You will hear more about this in the coming months. I hope you will be open to embracing a new approach to enhancing the visibility for all AMS endeavors.

The AMS is a volunteer-driven organization with a spectacular range of valuable programs, publications, and services. We want to support an enhanced level of awareness and participation in the work of our professional society, from supporting a broader public appreciation for mathematics to involving more of us in advancing public policy around mathematics. In these early stages, we are working to set up systems to help us communicate. More to come!

## Membership Development

Why join your professional society? The AMS helps connect us as a community of mathematicians. Our work supports mathematicians at many stages of their careers, with programs like the Mathematics Research Communities, through our meetings and conferences, and with our publications. We develop and maintain products like MathSciNet, Mathjobs.org, and MathJax to support your work. We have a presence in Washington DC to advocate for NSF funding and other matters that impact mathematics. To be successful, we need members to support this work, both financially and by volunteering. To help us secure and grow an effective society membership, we established a Membership Department and hired Megan Turcotte as its first Director at the beginning of 2017.

Develop and promote a coherent portfolio of programs, meetings, publications, and professional services

The Strategic Plan asks us to assess existing AMS programs, meetings, and professional services to advance mathematics research, education, and careers. We are taking stock of what we do, systematically evaluating it in order to thoughtfully craft a portfolio that represents our mission as a society of mathematicians. We will identify ways in which existing programs can reinforce and enhance one another, and determine whether any new programs are needed to complement ones that already exist. We will also develop a coherent plan for making people aware of our programs, publications, and professional services by enhancing our communication strategy.

## Mathematical Reviews/MathSciNet

Research mathematicians recognize the value provided by MathSciNet, our online database of the mathematical literature containing expert reviews as well as additional resources. In order to integrate MathSciNet into the daily habits of mathematicians, we are embarking on an effort to improve the user experience with a new user interface, the creation of new features and tools, and creative partnerships with appropriate and valued resources such as the arXiv and MathOverflow. We have already launched some new features. Our intent is to ensure that Mathematical Reviews provides an effective and useful guide to the literature that evolves with the changing needs of researchers and with advances in technology.

## Publishing

We are always striving to develop innovative tools for research and teaching. With ebooks, blogs, and other emerging forms of publishing, we continue to work to enhance the productivity of mathematicians. We aim to publish more mathematical content, increase our reach to global markets, and grow our marketing and sales efforts. To accommodate the growth in the volume of research literature, the AMS is striving to publish more high quality content. The issue is being addressed in the Strategic Plan, through increases in the pages published in the primary research
journals, and by focusing discussions of the Council and the Publishing Division on the possible introduction of new AMS journals.

## Washington Office

The AMS Washington Office represents the interests of the mathematical community to federal agencies, legislative offices, and other science policy groups, coalitions, and professional organizations. This office works as an advocate for science and mathematics. We aim to strengthen the perception of the significance of mathematics in science policy considerations in multiple ways.

Knowing Sam Rankin was planning to retire at the end of 2016, much of the year was spent searching for and preparing for his replacement. Karen Saxe started in January 2017 as the new Director of the Washington Office.

In 2016, the Washington Office continued to provide support and leadership for the Coalition for National Science Funding (CNSF) - an alliance of over 140 science organizations committed to increasing the national investment in NSF. The Washington Office continues to monitor the development of open access policies of the federal government through its work with the Government Affairs Task Force (GATF), a group of for-profit and non-profit publishers.

This office organized several events, including the $19^{\text {th }}$ annual AMS Department Chairs Workshop, annual meetings of the AMS Committee on Science Policy and the AMS Committee on Education, and panels at the Joint Mathematics Meetings. We support a mathematics graduate student to be a Mass Media Science \& Engineering Fellow through the American Association for the Advancement of Science (AAAS). Kelsey Houston-Edwards, a PhD student at Cornell University, worked at NOVA. The Washington Office also runs the AMS/AAAS Congressional Fellows program and selected mathematician Catherine Paolucci from State University of New York (SUNY), New Palz. She is spending her year working in the office of Senator Al Franken (MN).

## Publishing

The publishing program at the AMS is multi-faceted and consists mainly of our Book Program, our Journal Program, and the Mathematical Reviews Database (MRDB), which feeds our online tool, MathSciNet.

The AMS published 70 books in 2016. Notable books published in 2016 include: Algebraic Spaces and Stacks by Martin Olsson (Colloquium Publications), The Case of Academician Nikolai Nikolaevich Luzin edited by Sergei S. Demidov and Boris V. Lëvshin (History of Mathematics), and Polynomial Methods in Combinatorics by Larry Guth (University Lecture Series). Our Book Program was reviewed by the Committee on Publications in 2016. They concluded that the AMS is achieving its main goals of publishing books of high scientific quality and that we are adequately representing all areas of mathematics. The support the AMS provides to authors and editors of the books it publishes was recognized as very valuable - this year we enhanced our internal publication tracking system to continue to improve our author support. It was suggested that we explore new modes of accessibility and usage for AMS eBooks.

AMS journals remain among the top-ranked in mathematics, based on Impact Factor (IF) and MR Citation Quotient data. The 2015 IF ranking of Bulletin of the AMS is 5 out of 312 and the Journal of the $A M S$ is 7 out of 312 . We continue to publish two Gold Open Access journals, Proceedings of the AMS, Series $B$ and Transactions of the AMS, Series B. We are actively addressing backlog issues and are seeing some improvements. This year we developed AMS Math Viewer as a new option for viewing online journal articles. We also released STIX version 2 . This redesign and expansion of this font will benefit the mathematical and scientific communities.

As the research literature grows, we strive to maintain our MRDB so it can continue to serve as a valuable resource to the mathematics community. This year, our Acquisitions Department received 2,491 books and 9,828 journal issues. The total number of regular items added to the database has, overall, increased $39 \%$ since 2007. We added 125,489 items and 88,921 reviews to MathSciNet in 2016. As the volume of mathematics literature continues its relentless growth, the AMS carefully considers which journals to include in MRDB. There are more than 1,900 journals listed in MathSciNet. Highlights this year include the addition of 50,869 author profiles to MathSciNet. We accelerated updates to the system and added live links from MathSciNet reference lists to the arXiv.

The AMS continues to expand its promotion and marketing to help mathematicians access our strong publishing program's products. Please visit our new online bookstore to see what we're up to (bookstore.ams.org)! This year we also developed AMS Open Math Notes (www.ams.org/open-mathnotes), launched in January 2017, to host online course notes and syllabi from undergraduate and graduate mathematics courses.

## Meetings and Professional Services

Our professional meetings, programs, and services support the continuing professional development of the AMS membership and the mathematical community at large. The Society runs a rich constellation of mathematical programs, such as the successful ninth year of our Mathematics Research Communities (MRC) program. This program helps early-career mathematicians launch their research programs by fostering collaborations during week-long workshops. The three week-long conferences drew 110 earlycareer mathematicians. These conferences are funded in part by the National Science Foundation. The workshops in 2016 were (1) Lie group representations, discretization, and Gelfand pairs; (2) Character Varieties: Experiments and New Frontiers; and (3) Algebraic Statistics.

We also provide support for several programs that help the entire mathematics community. For example, we oversee the annual survey for the Conference Board of the Mathematical Sciences, an umbrella organization of seventeen professional societies in the United States. The Committee on the Profession and the Committee on Meetings and Conferences held their annual meetings. The AMS writes grant proposals to external agencies and in 2016 received continued support of the AMS-Simons Travel Grants and for travel grants to U.S. mathematicians participating in the Mathematical Congress of the Americas in 2017.

In addition to running our recurring meetings and conferences, such as the Joint Mathematics Meetings (held in Seattle in January 2016) and eight regional Sectional meetings, we also provided support for the MRC workshops in Snowbird, UT and the 2016 von Neumann Symposium.

Our Public Awareness Office maintained and expanded its activities to promote mathematics and to promote the Society and its programs. It continues to run the popular Who Wants to be a Mathematician games; regionally, a national version at JMM, and a version at the USA Science and Engineering Festival. It also produces the printed Calendar of Mathematical Imagery and handled a number of promotional and informational items.

## Gratitude to our Members and Supporters

None of the important work that the AMS accomplishes would be possible without the extraordinary efforts of our staff, the dedication of hundreds of volunteers, and the support of donors and funding agencies. In my first months as the Executive Director, I have been overwhelmed by the professionalism and dedication present at the AMS every day. Thank you for all that you do and please know that you are appreciated.

# Mathematics at the 2017 AAAS Meeting <br> February 16-20, 2017 Boston, MA 

Section A sponsored two symposia this year, featuring outstanding expository talks by prominent mathematicians and scientists. Additionally, Section A sponsored a "Flash Talk," which is a 15-minute "TED Talk" type presentation (this is a new feature at AAAS meetings). The two symposia and the flash talk sponsored by Section A this year were:

## Symposium: Cybersecurity: Mathematics and Policy

This panel brought together experts on cybersecurity, cybersecurity policy, and relevant fields of mathematics to discuss what is new and debate the latest controversies. Presentations were followed by a moderated, fullgroup discussion. Speakers and topics were: Ronald Rivest, Massachusetts Institute of Technology, Cryptography and Cybersecurity; Nadia Heninger, University of Pennsylvania, The Mathematics of Cryptographic Security; and Susan Landau, Worcester Polytechnic Institute, Cybersecurity and Privacy: A Surprising Alignment. Alice Silverberg organized the symposium and moderated.

## Symposium: Supporting Environmental Decision-Making: Modeling Complex and Noisy Biology

This session discussed the promise of mathematical modeling with three case studies. Through examples, speakers addressed the following key challenges: models must be able to integrate data from simple levels of biological organization and predict effects on whole animals; methods must be scalable to be able to make predictions on tens to hundreds of thousands of chemicals; and methods must be robust in the face of noise in both the simple data they are built on and the complex phenotypes they are validated against. Speakers and topics were: Nicole Kleinstreuer, National Institutes of Health, Developing, Validating, and Applying PathwayBased Models for Endocrine Disruption; Kamel Mansouri, Oak Ridge Institute for Science and Education Fellow at U.S. Environmental Protection Agency, Consensus Models to Predict Endocrine Disruption for All HumanExposure Chemicals; and Matthew Betti, University of Western Ontario, Modeling Honey Bee-Plant Symbiosis in the Presence of Environmental Toxins. Nessy Tania, Smith College, and Richard Judson, U. S. Environmental Protection Agency, organized the symposium, and Professor Tania chaired the session.

## Flash Talk: Symbols of Success: New Representations for Teaching and Doing Mathematics by Keith Devlin, Stanford University

Professor Devlin notes that while symbolic representations are powerful in doing mathematics, it has been known since the early 1990s that much of the difficulty people have learning mathematics is because of the symbolic interface. The modern tablet computer ("paper on steroids") offers the possibility of developing alternative representations. Applications to K-12 mathematics teaching have already been developed and promise to have a significant impact on mathematics learning. We can expect novel representations to play a role in doing (some) mathematics as well.

Fellows: Section A elected two mathematicians to AAAS fellowship this year. Recognized at the 2017 meeting were David Kinderlehrer and Robert Guralnick.

Submitted by Andy Magid
Secretary, Section A (Mathematics), AAAS
April 20, 2017

### 3.2. Commission for Developing Countries (CDC)

http://www.mathunion.org/cde/

## Activity Report and Financial Statement 2015

Wandera Ogana, Lena Koch

The Commission for Developing Countries is a nine-member commission. Its members are elected or appointed for a four-year term by the IMU General Assembly.
The CDC members 2015-2018 are:

- Wandera Ogana (Kenya) - CDC President
- Olga Gil Medrano (Spain) - CDC Secretary for Policy
- Srinivasan Kesavan (India) - CDC Secretary for Grant Selection
- Alf Onshuus (Colombia) - Latin American Member
- Mama Foupouagnigni (Cameroon) - African Member
- Polly Sy (Philippines) - Asian Member
- Budi Nurani Ruchjana (Indonesia) - CDC member appointed by the IMU EC
- Angel Pineda (USA/Honduras) -CDC member appointed by the IMU EC
- Angel Ruiz (Costa Rica) - CDC member appointed by the ICMI EC
- Shigefumi Mori (Japan) - CDC Ex-officio member (IMU President)
C. Herbert Clemens (USA) - retired as of October 31, 2015 from the position of CDC Secretary for Policy.

The CDC and all CDC related activities are supported by staff members from the IMU Secretariat, Berlin who manage most of the administration of the CDC in addition to the many volunteers who support CDC activities worldwide.


## CDC - Grants Selection Committee (CDC-GSC)

The CDC grants for conferences and the IMU-Simons Travel Fellowship are allocated by the Grants Selection Committee, a seven-member committee supervised by the Commission for Developing Countries. Its 2015-2018 members are recognized mathematicians from India, Thailand, Colombia, Argentina, Senegal and South Korea. Three GSC members are also members of the Commission for Developing Countries.

Abel Visiting Scholar Program Selection Committee 2013-2016 consists of
a) One member chosen by the Abel Board
b) One member chosen by CDC
c) One member chosen by the IMU EC

All other programs are evaluated and selected by CDC.

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During 2015 the Commission for Developing Countries has continued to use the funds it receives from the IMU and other donors to support mathematics research and advanced mathematical teaching in developing countries, guided by the basic principles incorporated into its original charge:
I. Work with and support local mathematical leadership in developing countries.
II. Leverage resources through partnering and networking with other organizations with goals compatible with the CDC mandate.
III. Set clear norms of quality, transparency and accountability.

Guided by these principles, the CDC allocated its funds in 2015 for the following purposes:

## A) Project Support Program and IMU Special Grant

Under the Project Support Program the CDC supports capacity building projects and programs in mathematics and mathematics education, be they international, regional or local initiatives in developing countries. The CDC members evaluate and select the grant recipients.

In 2013 the CDC received from the IMU, in addition to its regular annual budget, an additional grant of $€ 100,000$. The CDC decided to focus on the MENAO event in 2014 and use the proposals generated in connection with that event as the basis for the competition for awards. During the CDC meeting in March 12-13, 2015 in Berlin the CDC distributed the funds labelled as "IMU SPECIAL GRANT" to projects received from the mathematical communities in the developing world and presented at MENAO. All grants are one-time project grants.

## B) Volunteer Lecturer Program

The goal of this program is to offer universities in the developing world lecturers for intensive 2-4 week courses in mathematics at the advanced undergraduate or master's level.

## C) Grants for Conferences

The Conference Support Program gives partial support to conferences organized in developing and economically disadvantaged countries. The Program also supports major international conferences occurring in developed countries to enable them to invite mathematicians from developing counties. The funds are for academic use only (travel or living expenses of invited speakers or participants coming from developing countries). The CDC Grant Selection Committee selects the grant recipients.

## D) IMU-Simons Travel Fellowship for Individuals

The IMU-Simons Travel Fellowship supports travel costs for research visits (minimum stay is four weeks) by mathematicians based in developing and economically disadvantaged countries to an international center of excellence. The Simons Foundation, based in New York, funds the program. The Foundation has been annually giving the amount of USD 25,000 during the period 9/2013-08/2016. It replaces the Individual Research Travel Grant Program during this time. The CDC Grant Selection Committee selects the grant recipients.

## E) Abel Visiting Scholar Program

In 2013 the Niels Henrik Abel Board (Norway) and the CDC launched the "Abel Visiting Scholar Program". The Niels Henrik Abel Board gives an annual grant of NOK 350,000 which include USD 15,000 for the Visiting Scholar Program to support mathematicians professionally based in developing countries to visit an international research collaborator for

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a period of one month. The period is extendable for up to three months in the case of matching support from the host institution. The program is designed for postdoctoral mathematicians in the early stages of their professional careers. It is designed to offer the opportunity for a 'research sabbatical,' a necessary complement to teaching and other academic duties for mathematicians desiring to also sustain a viable research program. The Abel Visiting Scholar Program Selection Committee selects the grant recipients.

## F) Library Assistance Scheme

The IMU-CDC Library Assistance Scheme matches donors of mathematical materials with libraries in universities/research institutions in developing countries where there is a need for mathematical research literature. The CDC offers limited financial support for shipment costs for individual scientists or institutions wishing to donate books in the mathematical sciences to libraries in developing countries.

## G) Meetings

Since 2011 the CDC has met every two years at the IMU Secretariat in Berlin. The CDC also supports the travel costs of its members to selected meetings or workshops.

## H) Administration

Administrative costs are kept to no more than $10 \%$ of the CDC operating budget. The ICMICDC Administrator salary and many other administrative expenses are covered by the IMU Secretariat budget, which receives its funds from the German Ministry of Education and Research (BMBF) and the Federal State of Berlin.
The ICMI-CDC Administrator in the IMU Secretariat takes care of all administrative tasks related to the above named CDC programs and activities.

## CDC Website

All updates, programs and information about the selection committees can be found on the CDC website: www.mathunion.org.
The CDC website is edited by the ICMI-CDC Administrator.

## A) Project Support Program and IMU Special Grant

In 2015 a total of 14 projects and activities were supported from the CDC Project Grant Program and the IMU Special Grant:

1. AMMSI is a network of mathematics centers in sub-Saharan Africa that organizes conferences and workshops, visiting lectureships and an extensive scholarship program for mathematics graduate students doing PhD work in the African continent. As in the previous years, the CDC supported in 2015 the request from AMMSI to support the African graduate student scholarship program in the amount of EURO 9,000 for the academic year 2015. In 2015 the amount of EURO 5,000 was transferred. The other grants will be transferred in 2016. The AMMSI scholarship program continues to need international bridge funding to maintain its vital work of supporting the continent's next generation of mathematical leadership in Africa.
More details can be found on the AMMSI website: http://www.ammsi.org.
2. The third workshop on African Women Mathematicians, held during July 16-18, 2015 at Lake Naivasha Panorama Park, Naivasha, Kenya received the amount of EUR 3,000 to support travel cost of participants. The workshop entitled "Women in Mathematics for Social

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Change and Sustainable Livelihoods" addressed gender inequality in mathematics across the African continent.
3. The MARM Project received the amount of EUR 14,000 to keep its projects in Africa running. The amount of Euro 8,100 was taken from the IMU Special Grant. CDC agreed to support MARM in 2017 with another grant of EURO 14,000.
4. The CDC has supported 12 mathematical leaders from Nepal to participate from August 31 to September 8, 2015, in Ho Chi Minh City, Vietnam in the SEAMS School "Number Theory and Applications in Cryptography and Coding Theory". This contributed to connect mathematicians from Nepal with mathematicians from Vietnam and neighboring countries and to help them to make plans for support and regional projects after the earthquake. The supported grant was EURO 10,000.
5. The CDC donated Euro 10,000 to support the purchase of 25 computers for a computer lab in the mathematics department of RUPP in Phnom Penh, Cambodia.
6. Kev Da, a Cambodian student who finished his master at RUPP in 2014, received a grant from CDC to travel to Pune, India in February 2015. During his stay in Pune, he worked with Professor Anup Biswas and they discussed possible solutions to mathematical problems relating to "Measure theory relating to probability". The grant was Euro 750.

## IMU SPECIAL GRANT

7. The graduate program in Mathematics and its Application at the University of Botswana, Gaborone, Botswana was supported with EUR 8,000.
8. The Ouagadougou University in Burkina Faso received EUR 8,000 to support Mathematics PhD training.
9. Three Ph.D. students of the Doctoral School of Pure Mathematics, in Brazzaville, Congo were supported with a total of Euro 9,900.
10. The Project "Integrating Technology in Mathematics Education in Cambodia" received the amount of EUR 8,000 .
11. An intensive 10-day training program on calculus content and the teaching of calculus in Philippines was supported with a project grant of EUR 8,000 .
12. The 'Regional PhD program in Mathematics launched by the Higher University Council of Central American Universities', received the amount Euro 12,000.
13. The 'Central America and Caribbean Math Olympiad (OMCC)' to be held in 2016 in Jamaica received the amount EUR 8,000.
14. CDC supported the ICMI Capacity and Network Project (CANP 5 to be held in Peru 2016) with a grant of Euro 30,000.

All updates and pictures of the supported projects in 2015 can be found here: http://www.mathunion.org/cdc/grants/project-support/project-support-2015/
B) Volunteer Lecturer Program (VLP)

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The CDC supported eight lecturers under its Volunteer Lecturer Program in 2015:

1. Michel Jambu, France gave a course in Topology from November 12, 2014-January 15, 2015 at the Master Program at RUPP, Cambodia. During his visit, Cambodian and French mathematicians met in January 2015 to discuss a new initiative "Excellence Program in Mathematics" which aims to prepare Mathematics Bachelor students for the Master in Mathematics at RUPP who can continue directly for a PhD.
2. Brigitte Lucquin, France gave a course on Approximation of PDE 1 from March 23-April 10, 2015 at RUPP, Cambodia.
3. Michel Waldschmidt, France taught a 45 hours course to the students of year 1 of the Master of Science in Mathematics of the Royal University of Phnom Penh (RUPP) from April 20-May 8, 2015.
4. Mark Gockenbach, USA gave a course on "Ordinary Differential Equations" in June/July 2015 at RUPP, Cambodia.

All Cambodian reports can be found here: http://www.mathunion.org/cdc/volunteer-lecturerprogram/country-reports/vlp-cambodia/cambodia-2015/
5. Christopher Thron, USA visited the National School of Agro-Industrial Sciences (ENSAI) in Cameroon and taught a course in "Numerical Methods" from March 5-April 20, 2015.
6. Christopher Thron, USA also volunteered as a lecturer from June 18-July 14, 2015 at the University of N,Djamena FSEA in Chad. He gave a course on Numerical Analysis to 30 Bachelor students.
7. Christophe Petit from the University of London, UK gave a course in the African Institute for Mathematical Sciences (AIMS), Senegal, from March 28-April 19, 2015.
8. Friedrich Hubalek from the TU Wien, Austria gave a course on Probability Theory at the National University of Mongolia, Department of Mathematics, from June 8-26, 2015.
9. Chandan Dalawat, India gave a course on Numerical Analysis at IPM Tehran, Iran on September 10-30, 2015. The course of Prof. Dalawat is not accounted to 2015 but 2016.

The reports can be found online.
http://www.mathunion.org/cdc/volunteer-lecturer-program/country-reports/

## C) Grants for Conferences

During the interval January 1-December 31, 2015, the Grant Selection Committee supported conferences, in the two existing categories:

Conferences in developing countries ${ }^{1}$
Conferences in developed countries ${ }^{2}$

[^1]For a list of the supported conferences, please go here:
http://www.mathunion.org/cde/grants/conference-support-program/conferencessupported-in2015/

| Total transfers* for Conference Grants <br> $/$ Year 2015 | Total value of awards (Euro) |
| :---: | :--- |
| 74 | $68,500 €$ |

*Bank transfers done from Jan 1 - Dec 12, 2015.

## D) IMU-Simons Travel Fellowship for Individuals

| Number of Awards | Total value of awards (Euro) |
| :---: | :--- |
| 16 | $24,251.92 €$ |

The IMU Simons Funds (USD 25,000) are not budgeted to the general CDC budget, but kept in a separate budget line.

## E) Abel Visiting Scholar Program

In 2015 the following scholars received an Abel Visiting Fellowship Award:
Hammed Praise Adeyemo (b. 1975) is a lecturer at the University of Ibadan, Nigeria. His area of research is the study of the cohomology of flag manifolds and algebraic groups. His research project is a continuation of earlier work with his host, giving geometric explanations for certain formulas in cohomology and K-theory. He was hosted by Frank Sottile at the Texas A \& M University, USA.

Amin Rafiei (b. 1978) is an assistant professor Hakim Sabzevari University, Iran. He works in applied mathematics. His proposed research project is to implement the pivoting strategy for factoring a matrix using a backward factored inverse approximation. He was hosted by professor Matthias Bollhöfer at the Technical University Braunschweig, Germany.

Anju Saini (b. 1980) is a postdoctoral fellow at the CTRANS, IIT Roorkee, India. Her research area is mathematical modeling and biomechanics, and her proposed project concerns the study of hyper-elasticity in the lungs. She was hosted by Maia Angelova at Northumbria University, Newcastle in the UK.

The Funds for the Abel Visiting Scholar Program (USD 15,000) are not budgeted to the general CDC budget, but kept in a separate budget line.

## F) Library Assistant Scheme

In 2015 the CDC supported three shipments of books:

[^2]
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Claude Mitschi from Strasbourg, France donated and shipped in July 2015 books to the Département de Mathématiques, N'djamena (Chad) as well as to the African Institute for Mathematical Sciences in Senegal. The cost for both shipments was $668 €$.

Angel Pineda, USA donated in May 2015 books from the California State University Fullerton, USA to the Mathematics Department Mandalay University in Myanmar. The cost for the shipment to Myanmar was $766 €$.

## G) Meetings

The newly elected CDC 2015-2018 met on March 12-13, 2015 in the IMU Secretariat in Berlin, Germany. Key issues discussed included the new CDC Grant Selection Committee 2015-2018, new programs and activities and the distribution of a special IMU Grant for projects. During the meeting in Berlin the CDC decided to launch a new program: The African Diaspora Mathematician Project. CDC President Wandera Ogana is the chair of pilot program (two years). It is aimed to announce the program to the public in 2016.

On March 13, the CDC had a joint meeting with the IMU EC 2015-2018. Key issues discussed included the IMU/CDC definition of "Developing Country". Most expenditure of the meeting was covered from the funds of the IMU Secretariat. The CDC spent the amount of $3,662 €$ on the meeting.

In July 2015, CDC member Polly Sy participated in a meeting at the Royal University of Phnom Penh which was organized by ISP Uppsala (Sweden) to discuss common activities with emphasis on master training in the region. The aim is to set up a network (in mathematics) between RUPP in Cambodia, NUOL in Laos and Mandalay University in Myanmar, starting from this year - South-East Asia Mathematical Network (SEAMaN). The cost of her travel was $992 €$.

## H) Administrative Costs

Administrative costs are kept to no more than $10 \%$ of the CDC operating budget. The CDC Administrator salary and many other administrative expenses are covered by the IMU Secretariat budget, which receives its funds from the German Ministry of Education and Research and the Federal State of Berlin.
The total administrative costs were $1,269 €$ (mainly shipment costs) and 2,509 € for bank transfer costs.

## CDC Income

The CDC's principal source of income is an annual grant from the International Mathematical Union.
Additionally the CDC received support from the Niels Henrik Abel Board (Norway), the Simons Foundation (USA), the Mathematical Society of Japan, the Swiss Mathematical Society and the American Mathematical Society (AMS).
The CDC Administration is supported by a staff member from the IMU Secretariat (WIAS Berlin).

Further information about CDC and its activities can be found on the website: www.mathunion.org/CDC

Wandera Ogana, CDC President

Lena Koch, IMU Secretariat
March 2016

## FINANCIAL STATEMENT CDC 2015

| Revenue by Source | In EURO |
| :--- | :---: |
| Savings 2014 (1.1.2015) | 183,144 |
| IMU Grant | 77,283 |
| Niels Henrik Abel Board | 24,511 |
| Donation Japanese Mathematical Society | 1,095 |
| Donation Swiss Mathematical Society | 550 |
| Donation AMS, Grant for the VLP | 3,921 |
| Return of funds (un-used grants or reimbursement by <br> WIAS for travel costs) | 3,682 |
|  |  |
| Total Budget 2015 | $\mathbf{2 9 4 , 1 8 6}$ |
|  | In EURO |
| EXPENDITURE 2015 by Category | 1,269 |
| Administrative Cost | 2,509 |
| Bank Transfer | 3,341 |
| CDC Meeting Berlin 2015 | 992 |
| CDC Members participating in other meetings | 68,500 |
| Conference Grant Program (transfers 1.1.2015-31.12.2015) | 1,434 |
| Library Assistance Scheme | 134,665 |
| Project Support Program including IMU Special Grant | 17,662 |
| Volunteer Lecturer Program (VLP) | 210 |
| Unforeseen Cost | $\mathbf{2 3 0 , 5 8 2}$ |
|  | $\mathbf{6 3 , 6 0 4}$ |
| Total spending in 2015 |  |
| CDC Savings 2015 (31.12.2015) |  |

Note: The Simons Funds as well as the funds for the Abel Visiting Scholar Program are not budgeted to the general CDC budget, but kept in a separate budget line.

## AMS Graduate Student Chapters



Chapters that have been approved since the November 2016 ECBT meeting:

1) Tulane University
2) Duke University
3) University of Illinois at Chicago
4) University of Louisiana at Lafayette
5) Adelphi University
6) University of Rochester
7) Florida Atlantic University
8) Colorado State University

There are now fifty four active chapters. They are listed on the AMS Graduate Student Chapter web page (http://www.ams.org/programs/studentchapters).

## 2017 JMM in Atlanta, GA

The Membership staff hosted the Student Chapter Lunch at JMM for the second year in a row. Like the first one, this event was extremely successful with much more interaction. Students volunteered to get up in front of the room and shared something about their chapter.

When asked "What can the AMS do to help?" many students suggested that there should be a forum where all chapters can communicate, bounce ideas off each other, and get some encouragement from other members on how to start off their chapter in the beginning stages. The Membership Department decided to create an AMS Student Chapter group on Facebook and hope that this will be a helpful platform for engagement: www.facebook.com/groups/1907367759492602. There is also a Chapter Newsletter that will run three issues per semester. Chapters and various departments of the AMS are asked to submit relevant content to be included in the newsletter.

Megan Turcotte
Director of Membership
April 28, 2017

## Epsilon Awards to Mathcamps 2017

Carried over from prior year:
MathILy (Serious Mathematics Infused with Levity), Bryn Mawr College
\$7,000

New awards:
All Girls/All Math Summer Camp, University of Nebraska \$3,000
Bridge to Enter Advanced Mathematics (BEAM), 2 colleges in the Hudson
Valley, NY (Bard College and TBA) $\$ 15,000$
Camp Euclid, Euclid Lab (online) \$5,000
Canada/USA Mathcamp, University of Puget Sound \$15,000
GirlsGetMath@ICERM 2017, ICERM, Brown University \$5,000
GirlsGetMath@Rochester, University of Rochester \$5,000
Hampshire College Summer Studies in Mathematics, Hampshire College \$14,000
MathlLy-Er, Willamette University \$9,000
MathPath, Mount Holyoke College \$10,000
Mathworks Honors Summer Math Camp, Texas State University \$15,000
Michigan Math and Science Scholars (MMSS), University of Michigan \$2,500
PROMYS-Program in Mathematics for Young Scientists, Boston University \$14,000
PROTaSM (Puerto Rico Opportunities for Talented Students in Mathematics), University of Puerto Rico, Mayaguez Campus \$5,000

Research Science Institute (RSI), Massachusetts Institute of Technology \$2,500
SigmaCamp, Silver Lake Camp and Conference Center, Sharon, CT \$2,500
Summer Institute for Mathematics at UW, University of Washington \$2,500

# Report to the AMS on the Mathematics activities at the 2016 SACNAS conference 

Prepared by Dr. Antonia Franco, SACNAS Executive Director
Mathematics has always been a part of SACNAS and together with our partnering and sponsoring agencies and organizations such as the National Security Agency (NSA), National Geospatial Intelligence Agency (NGA), National Mathematics Societies (AMS, MAA, SIAM), and 8 NSF-funded Mathematics Institutes we continue to sponsor a coordinated effort to both increase and sustain the pipeline of underrepresented mathematicians through a strong presence at the SACNAS conference.

## CONFERENCE ATTENDANCE

The total attendance at the 2016 SACNAS conference was approximately 4,120. The overall attendance of mathematics students and professionals in the last several years is shown in Table 1. The table shows the number of conference participants that identified themselves in the area of mathematics. The totals include student participants, postdocs, faculty, teachers and professionals and illustrate our strong commitment not only to maintaining a strong mathematics presence at the SACNAS conference, but also to increase our mathematics attendance at future conferences.

Table 1: Mathematics Representation at SACNAS Conferences

| Year | Number of Total <br> Math Students | Total Math <br> Attendance | Location |
| :--- | :--- | :--- | :--- |
| 2002 | 109 | 147 | Anaheim, CA |
| 2003 | 129 | 234 | Albuquerque, NM |
| 2004 | 124 | 249 | Austin, TX |
| 2005 | 164 | 312 | Denver, CO |
| 2006 | 169 | 276 | Tampa, FL |
| 2007 | 152 | 271 | Kansas City, MO |
| 2008 | 150 | 269 | Salt Lake City, UT |
| 2009 | 146 | 235 | Dallas, TX |
| 2010 | 170 | 293 | Anaheim, CA |
| 2011 | 212 | 326 | San Jose, CA |
| 2012 | 196 | 312 | Seattle, WA |
| 2013 | 160 | 276 | San Antonio, TX |
| 2014 | 127 | 256 | Los Angeles, CA |
| 2015 | 113 | 255 | Washington, DC |
| 2016 | 107 | 197 | Long Beach, CA |

Overall, the 2016 SACNAS national conference provided a broad range of highly effective educational, mentoring and networking activities that supported and served the minority scientific community at all levels of the higher education pipeline. These activities, which benefited all conference attendees and certainly impacted mathematics students equally, included opportunities to:

- Engage via Scientific Symposia and Keynote Addresses with nationally recognized scientific and mathematical role models and mentors.
- Gain professional skills essential for advancement in the sciences and mathematics, including professional development workshops that focused on communication of scientific and mathematical research methods and findings.
- Receive feedback from faculty judging poster and oral presentations and in the process make meaningful connections with prospective mentors.
- Make informed decisions about their professional future and to establish lasting connections with university, government agency, industry, and research organization representatives.
- Engage in structured mentoring activities such as the Conversations with Scientists and the Mathematics Institutes Reception, where professional scientists, mathematicians and administrators provided essential information to students at all stages of the higher education pipeline, and assisted them to develop an academic and career roadmap that will guide effectively as they navigate their way to professional success in the science and mathematics world.


## CONFERENCE ACTIVITIES

In 2016, SACNAS implemented a broad range of educational, and professional and leadership development activities for undergraduate, graduate, post-doctoral and young professionals. These provided critically important opportunities for mathematics students and professionals to establish and maintain contact with a strong network who, as mentors and role models, will support them throughout their college and university years and their professional lives. Students' oral or poster presentations, attendance at mathematics focused symposia and mini-courses addressed current research in mathematics.

The 2016 SACNAS national conference offered the following activities and events:

## SCIENTIFIC SYMPOSIA

The conference provided opportunities to be exposed to cutting edge research and engage with role models through scientific symposia, including 5 symposia on mathematics topics. Students attending these symposia had the opportunity to be inspired by the research being produced by people from their own communities. These activities also served to strengthen personal and professional networks.

The mathematics symposia and the included talks were:

## Algebra: Much More than Arithmetic!

- Coxeter groups and some (fun) problems related to them

Alexander Diaz-Lopez, PhD, Visiting Assistant Professor, Swarthmore College

- Non-associative algebraic structures in cryptography

Minerva Cordero, PhD, Professor of Mathematics, University of Texas at Arlington

- Belyi Maps for Trees of a Given Passport

Naomi Cameron, PhD, Associate Professor of Mathematics, Lewis and Clark College

- Generalizing Parabolic Subsets from Involutorial Automorphisms

Samuel Ivy, PhD, Assistant Professor, United States Military Academy West Point

## A Showcase of Data-Driven Interdisciplinary Research in the Statistical Sciences

- Two Sample Testing for Functional Data

Gina-Maria Pomannm, PhD, Manager and Senior Biostatistician, Duke University

- Statistical Methods for Establishing Biosimilarity

Sujit Ghosh, PhD, Professor and Deputy Director, North Carolina State University

- Dimension Reduction in the Context of Survival Analysis

Javier Rojo, PhD, The University of Nevada, Reno

- Statistical Approaches to Analyzing Neuroimaging Data

Russell Taki Shinohara, PhD, Assistant Professor, Perelman School of Medicine, University of Pennsylvania

## At the Crossroads Between Number Theory and Representation Theory

- Random Matrices and L-Functions

Eduardo Dueñez, PhD, Assistant Professor, University of Texas at San Antonio

- On a Generalization of Local Coefficients

Carlos De la Mora, Postdoctoral Researcher, School of Mathematics, University of East Anglia, UK

- Arithmetic Mirror Symmetry of K3 Surfaces and Hypergeometric Functions

Adriana Salerno, PhD, Assistant Professor, Bates College

- A Survey of the Local Langlands Conjecture

Luis Lomeli, PhD, Assistant Professor, Instituto de Matematicas PUCV

## Abstract Algebra Research Topics for Undergraduates

- Zero Forcing Number and Minimum Rank of Graphs

Minerva Catral, PhD, Associate Professor, Mathematics Department, Xavier University

- Sandpile groups for undergraduates

Luis Garcia-Puente, PhD, Assistant Professor, Sam Houston State University

- Exponential Domination in Grids

Michael Young, PhD, Assistant Professor, Iowa State University

- Algebra and Origami

Adriana Salerno, PhD, Assistant Professor, Bates College

## Discovery and Societal Impact with Statistical Science

- Using Statistics to Make Educational Games That Can Change the World AnnMaria De Mars, PhD, President, 7 Generation Games
- Using Data Science to Study Human Brain Genomic Measurements Leonardo Collado-Torres, PhD, Data Scientist, Lieber Institute for Brain Development
- Machine Learning and Biostatistics for Public Health

Sherri Rose, PhD, Assistant Professor of Biostatistics, Harvard Medical School

- Imagine a World without Gender Inequity: The Role of Statistical Simulation

Francis Abreu, PhD, Genentech

## PROFESSIONAL DEVELOPMENT SESSIONS

Professional Development has always been a halmark of the SACNAS Conferences. At SACNAS we have continued to develop this program in order to provide our attendees with the tools they need to reach the next steps in their career, and insights on how to address the specific challenges facing URM students and scientists. With that in mind SACNAS offers professional development sessions organized into specific tracks for undergraduates, graduates, postdoctoral scholars, and professionals so that participants at each level could obtain the targeted assistance they need to advance in their career paths. While the majority of these sessions are applicable to mathematics attendees, there was one professional development session focused on a mathematics topic:

The New Mathways Project: Rethinking the Pathway to Calculus to Broaden Participation in the STEM Workforce

Speaker: Francisco Savina, Course Program Specialist, University of Texas at Austin

## MENTORING SESSIONS

## Math Institutes Reception (Wednesday 5:30-7:00pm)

Reception for all attendees of the Modern Mathematics Workshop and concurrent Undergraduate minicourses in Mathematics. (See below)

## Conversations with Scientists

Representing the spectrum of science disciplines, SACNAS professionals renowned for their scientific and mentorship activities gather with student attendees to engage in informal roundtable discussions about careers in the sciences. Conversations are intended to break down the barriers that often exist between students and professionals. Through Conversations with Scientists interactions, mentors share their personal experiences and insights offering students guidance and inspiration regarding educational and career choices. The personal connections made during Conversations with Scientists set the stage for ongoing mentorship and support throughout the conference. There were two different rooms of roundtables for Mathematics and Statistics.

## Mathematics Student Presentations

At the 2016 SACNAS National Convention there were at total of 1045 undergraduate and graduate research presenters, including 846 undergraduate posters, 117 graduate posters, and 82 graduate oral presentations. Of these, 51 presented in the mathematical sciences, including 43 undergraduates and 8 graduate students. SACNAS considers this opportunity to be an important feature of the conference. All student presentations are judged by at least two professionals and the judges give students helpful supportive feedback about their work and presentation style. This is an important way in which students are initiated into the world of scholarship, preparing them to present at professional conferences within their discipline in the future. The winners included one graduate student and four undergraduates in mathematics and statistics.

## PRECONFERENCE ACTIVITIES

In addition to the activities put on during the conference, SACNAS partners with other organizations and groups interested in serving URM Scientists and Mathematicians to put on pre-conference events that take place on the day immediately preceding the conference. As has become tradition in the last several years, in 2016 the nine National Science Foundation institutes jointly presented cutting-edge mathematics activities for mathematics attendees.

## Math Institutes Modern Mathematics Workshop (Wednesday and Thursday): Sponsored by the Math Institutes

The workshop features presentations from speakers on behalf of each institute, a keynote lecture, and informational panels describing upcoming programs, how to participate in them, and career opportunities.

## Undergraduate Mini-courses in Mathematics

These sessions ran in parallel with the Modern Mathematics Workshop (MMW) organized by the Mathematics Institutes. While the MMW highlights programs for graduate students, postdocs and professionals, the institutes are also interested in reaching undergraduate students by organizing two mini-courses in different mathematics topics and combining the audiences of the MMW with the undergraduates during a keynote speech. The two mini-courses were:

Undergraduate Mini-Course 1: Concave Monotone Mappings in Higher Dimensions Taught by: Selenne Bañuelos (CSU Channel Islands)

Undergraduate Mini-Course 2: Mathematical Modeling in Ecology: Applications of Graph Theory Taught by: Amanda Ruiz (University of San Diego) and Jennifer Prairie (University of San Diego)

## FISCAL REPORT

The AMS sponsorship of \$5,000 Provided registration, travel and lodging support for the following session presenters:

- Leonardo Collado-Torres, PhD. Presenter in Discovery and Societal Impact with Statistical Science
- Carlos De la Mora, PhD. Presenter in At the Crossroads Between Number Theory and Representation Theory
- Gina Maria Pomann. Presenter in A Showcase of Data-Driven Interdisciplinary Research in the Statistical Sciences

The following fees for the Employment Center, EIMS, MathJobs.org, MathPrograms.org, and the AMS Short Course have been approved by the Executive Director.

## Fees for the Employment Center

The employer fees listed in the chart below have been approved for the 2018 Employment Center in San Diego, California. Applicants pay no fees but are required to have a meeting badge.

Use of this service by employers dipped about 30\% in 2017 after several years of holding steady. The job market has shifted somewhat earlier, but the AMS is still committed to providing a safe and central environment for job interviews. Holding prices steady may help keep the employers in place.

Costs of running this program include space and equipment fees, onsite electricity and internet, computer rental fees, and staff time and travel. Also, a significant fee is paid annually to Duke University Math Department for the customized registration system attached to MathJobs.org. As of 2016, all tables offer electrical outlets, which has added a significant expense but is thought to be essential.

To contain costs, all registrations after the normal JMM deadline in late December are for OneDay Tables. A Skype booth, available to paid employers, has proved to be somewhat popular and helps small groups of employers complete their interviewing schedule.

| Employment Center Summary of recent and planned fees |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  | 2013 | 2014 | 2015 | 2016 | 2017 | $\mathbf{2 0 1 8}$ |
| Quiet Area table (1-2 interviewers) | 310 | 315 | 320 | 340 | 350 | $\mathbf{3 5 0}$ |
| Second Quiet Area table | 125 | 130 | 130 | 175 | 195 | $\mathbf{1 9 5}$ |
| Committee table (3-6 interviewers) | 385 | 390 | 400 | 430 | 440 | $\mathbf{4 4 0}$ |
| Second Committee table | 135 | 140 | 145 | 190 | 215 | $\mathbf{2 1 5}$ |
| Electricity, per table | 50 | 75 | 85 | FREE | FREE | FREE |
| One Day table, available on site, <br> seats 3 interviewers |  |  | 190 | 195 | 195 | $\mathbf{1 9 5}$ |

## Fees for Employment Information in the Mathematical Sciences (EIMS)

The following fees have been approved for the 2017/18 Employment Information in the Mathematical Sciences electronic job ad system.

This system, utilizing software and web hosting provided by Boxwood Technology, is aimed at a general mathematical audience as well as the PhD market. It has the appearance of being
housed on the AMS website. The "Featured Job" functionality allows employers to have their job featured more prominently in search results.

As more and more job ads are migrating to MathJobs.org, we are attempting to maintain EIMS as a simpler, lower cost alternative.

| EIMS Summary of recent and planned fees |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2012 / 13$ | $2013 / 14$ | $2014 / 15$ | $2015 / 16$ | $\mathbf{2 0 1 6 / 1 7}$ | $\mathbf{2 0 1 7 / 1 8}$ |
| 60 day listing, <br> unlimited size | 220 | 225 | 230 | 235 | $\mathbf{2 4 0}$ | $\mathbf{2 4 5}$ |
| 120 day listing, <br> unlimited size | 300 | 305 | 310 | 315 | $\mathbf{3 2 0}$ | $\mathbf{3 2 5}$ |
| 180 day listing, <br> unlimited size | 375 | 380 | 390 | 395 | $\mathbf{4 0 0}$ | $\mathbf{4 0 5}$ |
| "Featured Job" <br> add-on | 80 | 80 | 85 | 90 | $\mathbf{9 0}$ | $\mathbf{9 0}$ |

## Fee changes for MathJobs.org

The following fees have been approved for 2017/18 MathJobs.org employer registrations (from July 1, 2017 through June 30, 2018). The service is free to applicants. Full application accounts are available worldwide, as well as posting-only accounts.

There are currently 689 employer accounts on MathJobs.org and use of MathJobs by employers seems to be leveling off, after 16 years of growth.

## Planned employer fees 2017/18:

Regular account (for up to 7 ads), 12 months from date of sign up \$620
Regular account (for one ad only), 12 months of usage from date of sign-up \$425
Upgrade from single-ad account to 7 ad account \$295
Advertising-only account (for up to 7 ads), 12 months from date of sign up $\$ 505$
Advertising-only account (for one ad), 12 months from date of sign up

| MathJobs.org |  | Previous fees |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
| Regular <br> Account | $\begin{aligned} & \hline \text { Up to } \\ & 7 \mathrm{ads} \\ & \hline \end{aligned}$ | \$550 | \$585 | \$595 | \$600 | \$610 | \$615 |
|  | 1 ad | \$385 | \$395 | \$405 | \$410 | \$415 | \$420 |
| Upgrade from 1 to 7 ads |  |  |  | \$290 | \$290 | \$295 | \$295 |
| Ad-only account | $\begin{aligned} & \hline \text { Up to } \\ & 7 \text { ads } \end{aligned}$ | \$440 | \$475 | \$485 | \$490 | \$495 | \$500 |
|  | 1 ad | \$275 | \$285 | \$295 | \$300 | \$305 | \$310 |

## Fees for MathPrograms.org

The following fees have been approved for 2017/18 MathPrograms.org registrations. This clone of MathJobs.org is a setting for program, grant, admissions and fellowship applications. The site also has a mechanism for turning any program into a nomination procedure (instead of applications).

There are 50 accounts currently in the system, including various AMS programs. REU programs, graduate admissions, and a few institute programs account for the majority of the listings.

The fees will be in effect from July 1, 2017 through June 30, 2018. A one-program fee is in place to support small programs. The service is free to applicants.

| MathPrograms.org | Summary of recent and planned fees |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2011 / 12$ | $2012 / 13$ | $2013 / 14$ | $2014 / 15$ | $2015 / 16$ | $\mathbf{2 0 1 6 / 1 7}$ |
| Regular account, <br> up to 7 programs, |  |  |  |  |  |  |
| 12 months from <br> date of sign up | $\$ 500$ | $\$ 525$ | $\$ 535$ | $\$ 540$ | $\$ 575$ | $\mathbf{\$ 5 8 0}$ |
| Regular account, 1 <br> program, 12 <br> months from date <br> of signup |  |  |  |  |  |  |

Attachment 25
Item 21.7
Page 4 of 4
May 2017 AMS ECBT
Short Course Fees

The following chart indicates the history of fees for the Short Course since 2007 and the fees that have been set for 2018.

| Year | Name of Course | Preregistermember/non | On-sitemember/non | S/U/Eprereg* | S/U/Eonsite* |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2007 | Aspects of Statistical Learning | \$90/\$120 | \$120/\$151 | \$40 | \$60 |
| 2008 | Applications of Knot theory | \$94/\$125 | \$125/\$155 | \$42 | \$63 |
| 2009 | Quantum Computation and Quantum Information | \$96/\$130 | \$130/\$160 | \$44 | \$65 |
| 2010 | Markov Chains and Mixing Times | \$98/\$135 | \$132/\$165 | \$46 | \$67 |
| 2011 | Computational Topology Evolutionary Game Dynamics | $\begin{aligned} & \hline \$ 100 / \$ 140 \\ & \$ 100 / \$ 140 \end{aligned}$ | $\begin{aligned} & \hline \$ 134 / \$ 170 \\ & \$ 134 / \$ 170 \end{aligned}$ | $\begin{aligned} & \$ 48 \\ & \$ 48 \end{aligned}$ | $\begin{aligned} & \hline \$ 69 \\ & \$ 69 \end{aligned}$ |
| 2012 | Random Fields and Random Geometry Computing with Elliptic Curves using Sage | $\begin{aligned} & \hline \$ 102 / \$ 145 \\ & \$ 102 / \$ 145 \end{aligned}$ | $\begin{aligned} & \hline \$ 136 / \$ 175 \\ & \$ 136 / \$ 175 \end{aligned}$ | $\begin{aligned} & \$ 50 \\ & \$ 50 \end{aligned}$ | $\begin{aligned} & \$ 71 \\ & \$ 71 \end{aligned}$ |
| 2013 | Random Matrices | \$104/\$150 | \$138/\$180 | \$52 | \$73 |
| 2014 | Geometry and Topology in Statistical Inference | \$106/\$155 | \$140/\$185 | \$54 | \$75 |
| 2015 | Finite Frame Theory: A Complete Introduction to Overcompleteness | \$108/\$160 | \$142/\$190 | \$56 | \$77 |
| 2016 | Rigorous Numerics in Dynamics | \$110/165 | \$144/\$195 | \$58 | \$79 |
| 2017 | Random Growth Models | \$112/\$170 | \$146/\$200 | \$60 | \$81 |
| 2018 | Discrete Differential Geometry | \$114/\$175 | \$148/\$205 | \$62 | \$83 |

*S/U/E: Student/Unemployed/Emeritus
T. Christine Stevens

Associate Executive Director for
Meetings \& Professional Services
April 26, 2017

## Report on Activities of New Membership Department

As part of the strategic initiative on membership development, the AMS established a Membership Department, with the goal of increasing the number of AMS members and their level of engagement with the Society. After a national search, Megan E. Turcotte was hired as the first Director of Membership. She had spent the previous ten years at the Rhode Island Medical Society, where she was Director of Member Services and Specialty Societies. She began work at the AMS on January 30, 2017. At the same time, the Membership Assistant, Jenny Phothisarath, was transferred to the new Membership Department. They immediately began work on two other components of the strategic initiative, namely, identifying the needs of AMS members and potential members, and assessing the dues structure, dues rates, and membership benefits.

The Department's initial project was to create a clear description of AMS services, member benefits, and membership categories. This information will be used to train the relevant members of the staff about AMS membership and the products, programs and services that it provides to members and the community as a whole. It will also be used to update the Membership section of the AMS web page and to develop new, informative marketing pieces.

The Membership Director and the Associate Executive Director (AED) for Meetings and Professional Services have also been researching the legislative history of the current member categories, dues structures, and member benefits. Some of these are established by the Bylaws, and others arise from actions of the Council and the ECBT. It is possible that the Membership Director and the AED will, in the future, propose changes that will require the approval of the governance.

The Department has made plans to increase the visibility of AMS Membership at the Joint Mathematics Meetings (JMM) and Sectional Meetings, as well as at other meetings and conferences at which the AMS has exhibits. The Membership staff plan to attend at least three Sectional Meetings per year, where they can answer member questions and provide a face to the AMS Membership team. In July 2017, they will travel to both Mathematical Association of America (MAA) MathFest and the Mathematical Congress of the Americas to speak with members and nonmembers about AMS programs, services, and member benefits.

Looking ahead to JMM 2018, the Department is redesigning the configuration and offerings of the AMS Membership Booth, which will welcome AMS members for a professional portrait shoot. Members will be offered appointments in advance and can use these images for their various professional needs. In coordination with the rebranding initiative, the AMS logo will be a banner on the bottom of the portrait. The layout of the AMS Membership Booth will be revised to promote conversation between staff and members/nonmembers alike, rather than providing a checkout counter experience.

The Department's efforts in these areas are informed by its interactions with the staff Membership Council, which has been expanded to include representatives of a wide range of
departments. This group will initially meet monthly and then on a routine that allows for continued effective collaboration. The Membership Director is also working with the Committee on the Profession's Subcommittee on Members and Member Benefits, which has provided valuable input on membership issues from the perspective of the mathematical community.

The Membership Department has assumed responsibility for the Graduate Student Chapters program, which had previously been handled by the Professional Programs Department. In response to requests made at a luncheon at JMM 2017 for the leaders of the graduate student chapters, the staff created a private Facebook group that permits the participants to communicate regularly with one another about best practices and to promote their events. The Membership staff has also created a Chapter Newsletter that will be sent during winter, spring and fall terms. The newsletter includes information directly from the Chapters, as well as material from AMS departments that offer programs and services that are geared towards students.

In addition to aforementioned projects, the Department worked with the Creative Services Department to develop membership advertisements for Notices of the AMS. The Department has created several member spotlight ads that will appear in Notices in the coming months to promote AMS membership. The staff has also worked with the Graduate Student Chapters to create a Notices spread that will include a Chapter Spotlight and a Chapter President Spotlight. The student leadership eagerly responded to this opportunity, which suggests that this should become a continuing project.
T. Christine Stevens, Associate Executive Director for Meetings \& Professional Services Megan E. Turcotte, Director of Membership April 30, 2017


## AMS Long-term Investments Cliffs Notes

(For details, see section D of Fiscal Reports)
OPERATIONS


ESF $=50 \%$ annual operating expenses + unfunded medical liability (APBO) + Flood selfInsurance (\$1,700,000 in 2014)
OSF = quasi-endowment (spending on average of 4 year-end balances)
Rebalanced annually, December 31
Note: Spendable income from true endowment funds held in Temp Restricted net assets and 'released' to operations as related expenses are incurred.

| Values as of: | $12 / 31 / 16$ | $12 / 31 / 15$ |
| :---: | ---: | ---: |
| ESF | $\$ 24.2 \mathrm{M}$ | $\$ 29.4 \mathrm{M}$ |
| OSF | 94.6 M | 78.4 M |
| Unrestricted | 8.2 M | 7.9 M |
| Restricted | 7.9 M | 6.8 M |
|  |  |  |

## Appropriated Spendable Income

Support for AMS programs comes from a variety of sources, such as grants, donations, and income generated from specifically restricted funds. A portion of our endowment generates income that is not restricted. The Board of Trustees decides how to allocate these spendable funds. The programs these funds support vary from year-to-year, based on other available resources. In November 2016, the Board of Trustees requested a list of projects that are considered for support with income generated by our unrestricted endowment. Two programs that need this funding consistently are the Congressional Fellow and the Centennial Fellow. It is difficult to do fundraising for these programs. The following are other projects that the Board of Trustees has considered over the past five years:

## Fellows of the American Mathematical Society (\$10,000)

The selection and induction of new Fellows are expected to incur total expenses of approximately $\$ 10,000$ in 2017. The budgeting of some revenue from unrestricted endowment will offset part of the recurrent expenses.

## AMS Congressional Fellow ( $\mathbf{\$ 8 0 , 0 0 0 )}$

For several years now the AMS has supported a congressional fellow. Fellows are placed in a congressional office (or equivalent) and spend a year serving that office. Fellows do NOT represent the AMS, but they provide mathematical expertise, in addition to gaining government expertise themselves. The goal is to build a cadre of knowledgeable mathematicians who can serve the interests of mathematics, either inside or outside government. The AAAS and other professional organizations also sponsor fellows. Interest by members of Congress to host fellows on their staff to advise them on science and education issues is growing. If the Board of Trustees ever wanted to add a second AMS Congressional Fellow, it would be funded in the same way.

## The Golden Goose Award $\mathbf{( \$ 6 , 0 0 0 )}$

The purpose of the "Golden Goose" award is to demonstrate the human and/or economic benefits of federally funded research. It is also intended to demonstrate that scientific outcomes build upon each other and that the technological advances that flow from them cannot easily be predicted at the outset of a particular scientific research project. The AMS has been supporting the Golden Goose awards at the level of $\$ 6,000$ per year, which includes a $\$ 5,000$ sponsorship and a $\$ 1,000$ video sponsorship.

## Support of arXiv $(\$ 3,000)$

The arXiv is supported by members who pay annual fees based on usage and by other supporters. Only educational institutions can become members. The ECBT voted to support the arXiv at the level of $\$ 3,000$ per year for five years (2016-2020) to become the first professional society and publisher supporter.

## Centennial Fellow $(\$ 50,000)$

The revenue from donations to the support of the Centennial Fellowship is no longer adequate to fully support one Fellow. This appropriation will supplement funds from (i) current donations and (ii) spendable income from the small endowment fund in order to support the Centennial Fellow.

## SACNAS Sponsorship and Participation (\$7,000)

The AMS continues to support the work of the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS). The AMS sponsors a scientific session at the SACNAS annual meeting and staffs a booth.

## Programs of the Department of Education and Diversity $\mathbf{( \$ 5 0 , 0 0 0 )}$

During 2017, these funds will enable the new department to offer direct support to programs such as EDGE, selected REUs, and the National Alliance for Doctoral Studies in the Mathematical Sciences that promote diversity in graduate education. The support may include access to AMS services such as MathPrograms.org as well as modest contributions.

## AMS-AAAS Mass Media Fellow (\$10,000)

For more than 15 years, the AMS has supported a graduate student participant in this widely recognized program run by the American Association for the Advancement of Science. The student is placed in a media outlet during the summer and gains experience while providing scientific expertise. The former media fellows frequently contribute to the work of the Public Awareness Office.

## AMS Graduate Student Chapters $(\$ 15,000)$

There are now 41 active AMS Graduate Student Chapters. Each one receives up to $\$ 500$ per year for support of chapter activities. Some funds are received as donations, but the donations need to be supplemented from operating funds. The program is described at http://www.ams.org/programs/studentchapters. In 2016, we provided about $\$ 30,000$ in funding to support student chapters, but only about $\$ 2,000$ to $\$ 3,000$ of these costs are covered by donations.

## MathJax Development and eBook Innovation (\$20,000)

MathJax is server-based software for rendering LaTeX expressions into mathematical expressions that can be displayed by standard web browsers and by ebook applications. MathJax development is supported jointly by the AMS and SIAM. In 2013, the AMS became the managing member of the MathJax joint venture. Since its release in 2010, MathJax has gained a broad group of users and financial supporters. A current priority for ongoing development is to adapt MathJax to the ePub3 standard for electronic books. This holds great promise for displaying mathematics with free flowing text, which is important for the quality of display of mathematics on small screen devices.

## Project NExT $(\$ 15,000)$

Project NExT is a professional development program of the MAA for new or recent PhDs in the mathematical sciences that addresses all aspects of an academic career. Each year the AMS sponsors six Project NExT Fellows who are affiliated with PhD-granting institutions and who show promise in mathematics research.

## IMU Volunteer Lecturer Program (\$5,000)

In accordance with the previous approval by the ECBT, the AMS contributes $\$ 5,000$ each year to support the Volunteer Lecturer Program of the IMU's Commission for Developing Countries. The funds support expenses of the volunteer lecturer and of the participating students.

## Travel Grant Support for MCA2017 (\$10,000)

The ECBT has approved a contribution of $\$ 40,000$ to the pool of funds to be used to support travel expenses of early career mathematical scientists from Latin America to participate in MCA2017. The contribution will be made in 2017 and this $\$ 10,000$ is a portion of the total amount.

## Mathematics Research Communities

The MRC program is funded (mainly) by a grant from the National Science Foundation, which pays for participant support and the basic cost of operation. We found in the past three years, however, that having a budget for extras not covered by the NSF grant greatly enriched the program. MRC promises to be a gem in the Society's outreach programs, and investing some extra money in those extras will pay great dividends in the future. Areas that have been funded are (i) modest support for follow-up collaboration by participants of MRCs in prior years and (ii) partial support by the AMS of participants from abroad. We have also spent some funds on costs that NSF no longer covers, such as honorariums for session leaders.

## Activity Groups

The Committee on the Profession recommended to the Council that final approval be given at the January 2013 meeting to start a program of AMS Activity Groups. Ongoing support of Activity Groups will rely on collaboration and professional networking software licensed from Higher Logic. The allocated funding offset some of the first year's expense. Direct costs are about $\$ 60,000$.

## What's Happening in Mathematical Sciences

The goal of this series is to shed light on topics on the leading edge of mathematical research in a way that is accessible to a scientifically literate reader. Direct costs of producing a volume are about $\$ 50,000$. We currently publish this volume once every two years. While we sell some copies, many are given away.

## Book and Journal Donations

This program was originally funded by contributions from the Stroock Family Foundation, and it pays for shipping of donated books and journals to institutions in developing countries. Interest for donated journals has waned, but there may still be interest in donated books. Costs are about $\$ 2,000$ to $\$ 3,000$ per year.

## Task Force on American Innovation

Every year, the AMS give $\$ 5,000$ to the Task Force on American Innovation, which is a coalition of businesses, scientific societies, and business and university organizations, who strongly urge Congress to support American innovation and key agencies supporting scientific research.

## National Mathematical Reviews (MathSciNet) for Developing Countries

Every year, the AMS gives free subscriptions of MathSciNet to developing countries. Some fundraising is done to cover the costs of this project, but in recent years, we are not covering the full costs of this project. Costs are about $\$ 10,000$ per year, with $\$ 3,000$ to $\$ 5,000$ being covered by donations.

## Who Wants to Be a Mathematician

The costs of this national mathematics game run by the AMS Public Awareness office are not fully covered. Direct costs of prizes and travel for participants are about $\$ 60,000$. Currently, about a third of the direct costs are covered by an annual donation.

## 2016 Review of the AMS Spending Rate

## Executive Summary

After a review and discussion of past investment returns, expected future returns, the effect of inflation, and data from the NACUBO-Commonfund Study of Endowments, the Investment Committee decided the following:

- to retain an endowment spending rate of $4 \%$;
- to retain the stated goal of the long-term portfolio to achieve a return of at least $4 \%$ plus inflation over the long-term;
- recommend to the Board of Trustees that $\$ 1,500,000$ be released from the Income-Unrestricted Endowment; and,
- change the data points used to for calculation of the spendable income.


## Background

"The trustees of endowed institutions are the guardians of the future against the claims of the present. Their task is to preserve equity among generations." -James Tobin, Yale University

According to the Uniform Prudent Management of Institutional Funds Act (UPMIFA), a board must consider the following in making spending decisions regarding endowments:

- the duration and preservation of the endowment fund;
- the purposes of the institution and the endowment fund;
- general economic conditions;
- the effect of inflation or deflation;
- the expected total return from income and the appreciation of investments;
- other resources of the institution; and
- the investment policy of the institution.

The UPMIFA instructions are important to keep in mind while making decisions regarding the AMS spending rates. The UPMIFA guidelines apply only to the permanently restricted endowment or true endowment portion of the long-term portfolio. The board-designated or quasi-endowment funds are not governed by UPMIFA.

The AMS should have a spending rate that is high enough to provide a reasonable level of income for supported projects, that compares favorably with spending rates of other endowments, and that is not so high as to prevent the endowment from growing at least as fast as inflation. College and university endowments in 2016 had effective spending rates that averaged $4.3 \%$, according to the 2016 NACUBOCommonfund Study of Endowments. When the spending rate was reviewed five years ago, the average was $4.6 \%$ (2011), indicating that many endowment spending rates have decreased in the past years anticipating lower expected earnings.

Based on an analysis of portfolio returns and spending rates, reviews of literature on current spending rate practices, and Society's quantifiable needs for spendable income, it seems prudent to retain the current spending rate of $4 \%$.

The AMS has been following the Total Return Concept for approximately 28 years. This concept provides for investment management that concentrates on higher returns over the long-term combined with spending policies intended to provide a reasonably predictable level of funding for support activities. Endowment managers often refer to "intergenerational equity" as one of the benefits of this approach. If a constant spending rate can be applied to an endowment whose net growth (total return less spending) matches inflation, then the beneficiaries in the next generation will receive a benefit from the endowment that is equitable when compared to the benefits received by the current generation.

Fluctuations in income are dampened somewhat by computing spendable income using a spending rate applied to a moving average of recent endowment fund balances. The Society uses the most recent four year-end balances for this purpose.

The endowment is divided into three parts: the income-restricted true endowment funds, the incomeunrestricted true endowment funds, and the board-designated quasi-endowment funds. A more detailed description of these funds is contained in Exhibit 1.

## NACUBO-Commonfund Study - Spending Rates and Spending Rules

Currently, the Society's stated spending rate is $4 \%$. Table 1 shows the effective rate of spending for each part of the endowment. The effective rate is the spendable income divided by the market value of the endowment on January 1. The quasi-endowments have a low effective spending rate, because not all of the funds, including one Economic Stabilization Fund (ESF), produce spendable income. For 2017, the effective rate of spending on the entire long-term portfolio is $2.41 \%$. The effective rate of spending on the quasi-endowment or board-designated endowment is $2.25 \%$. The effective rate of spending on the permanently restricted or true endowment is currently $3.4 \%$. Because the $4 \%$ spending is calculated on the average of the prior four-year end balances, the effective spending rate is lower than the current approved $4 \%$ spending rate.

| American Mathematical Society Spendable Income Analysis(in 000's) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 2012 | 2013 | 2014 | 2015 | 2016 |
| Permanently Restr Endwmnt Spendable Income |  |  |  |  |  |
| Income Restricted Endowment | 195 | 157 | 174 | 198 | 226 |
| \% Growth |  | -19\% | 11\% | 14\% | 14\% |
| Income Unrestricted Endowment | 260 | 201 | 217 | 241 | 263 |
| \% Growth |  | -23\% | 8\% | 11\% | 9\% |
| Subtotal Permamently Restricted Endowment | 455 | 358 | 391 | 439 | 489 |
| Quasi-Endowment Spendable Income |  |  |  |  |  |
| Young Scholars Fund + Baxter | 28 | 22 | 24 | 26 | 37 |
| \% Growth |  | -21\% | 9\% | 8\% | 42\% |
| Operations Support Fund (OSF) | 1,744 | 1,438 | 1,776 | 2,048 | 2,500 |
| \% Growth |  | -18\% | 24\% | 15\% | 22\% |
| Total Spendable Income | 2,227 | 1,818 | 2,191 | 2,513 | 3,026 |
| Long-term Portfolio Jan. 1 Balance- Less Beal | 81,031 | 93,592 | 114,042 | 125,555 | 125,799 |
| Effective Rate* of Spending for whole portfolio | 2.75\% | 1.94\% | 1.92\% | 2.00\% | 2.41\% |
| Quasi-endowment Jan. 1 Balance | 71,017 | 82,389 | 100,510 | 110,666 | 111,290 |
| Effective Spending Rate for the Quasi-Endwment | 2.50\% | 1.77\% | 1.79\% | 1.87\% | 2.28\% |
| Permanently Restr Endowment Jan . 1 Balance | 10,014 | 11,203 | 13,533 | 14,778 | 14,508 |
| Effective Rate of Spending - Permanently Restricted      <br> Endowment $4.5 \%$ $3.2 \%$ $2.9 \%$ $3.0 \%$ $3.4 \%$ |  |  |  |  |  |
| NACUBO Endowment Study Effective Rate of |  |  |  |  |  |
| *The "effective rate" is used for the NACUBO Endowment Study, and income by the endowment market value on January 1. | is calculated | y dividing th | spendable |  |  |

TABLE 1

There are a couple of reasons to look at what other institutions are doing. First, looking at what other institutions are doing provides a reality check on the AMS's policies. In other words, if we were to follow a course that is radically different from what other institutions are doing, we would want to be very confident that we understood why. A second reason relates to marketing. Potential major donors may be concerned with both investment policies (they want to be sure their money will be safe and generate a good return) and the potential benefits accruing to program activities. The spending rate relates to both of these and could be a factor in comparing one institution to another. In general, we would not want to compete on the basis of spending rates but rather on the basis of the ability to meet the donor's philanthropic goals.

NACUBO (National Association of College and University Business Officers) and Commonfund publish a joint endowment study annually. Its report for the fiscal year ended June 30, 2016, is now available. In addition to annual investment returns, the Study reports spending rates and spending rules.

## According to NACUBO:

The FY2016 effective spending rate for the 805 participating institutions averaged 4.3 percent, up slightly from 4.2 percent last year. The highest effective spending rate, at 4.4 percent, was reported by institutions with assets over $\$ 1$ billion and those with assets between $\$ 51$ and $\$ 100$ million. The lowest rate, at 3.8 percent, was reported by institutions with assets under $\$ 25$ million. Seventy-four percent of participants reported increasing their endowment spending in dollar terms.

NACUBO reports effective spending rates. This is the institution's spendable income (determined by the institution) divided by the market value of the endowment at the beginning of the year. NACUBO uses this sort of approach because the variations in the methods of computing spendable income make it difficult to directly compare stated spending rates.

The most common spending rule is that used by the AMS; it is used by about $75 \%$ of institutions, and provides that spendable income is computed by applying a spending rate to a moving average of endowment balances for prior years. The AMS uses the average of the prior four year-end balances as a base for calculating the spendable income.

Currently, the AMS calculated spending rate for the permanently restricted endowment funds is less than the NACUBO sample, indicating that the actual spending rate of $4 \%$ is most likely less than most institution's and is conservative and prudent. This supports either leaving the stated spending rate unchanged or increasing it slightly.

The practice at the AMS has been to calculate the spendable income for the following year during the budgeting process. For example, to calculate the spendable income budget for 2018, the spending rate is applied to the average of the year end balances of the endowment for 2016, 2015, 2014, and 2013. This budgeted amount is then used as the spendable income for 2018. In order to make the AMS effective spending rate on the permanently restricted endowment closer to the actual spending rate, the Investment Committee decided that the actual spendable income be recalculated during the
current year using the average of the immediate four year-end balances. For example, in 2018, the actual spendable income would be recalculated during 2018 using the average of the 2017, 2016, 2015, and 2014 year-end balances, which will differ from the budget.

## Long-term Investment Returns and Inflation

As stated at the beginning of this review, UPMIFA suggests that people making decisions about spending on endowments should consider the effects of inflation or deflation. There is much confusing data regarding the effects of inflation on endowments, and the data are highly influenced by the time period being examined. Table 2 below shows a very long view (1926 to 2016) of historical returns for portfolios similar to the AMS's. The AMS's asset allocation is most similar to the second and third rows in the table. Average inflation over this period was $2.96 \%$. Over the very long-term of 90 years, a portfolio similar to the AMS's experienced returns that beat inflation. The table data are from the Ibbotson SBBI 2015 Yearbook.

| EXHIBIT 2.11 |  |  |  |
| :---: | :---: | :---: | :---: |
| Summary Statistics of Annual Returns (in percent) from 1926 to 2015 |  |  |  |
| Portfolio (Always Rebalance) | Geometric Mean 10.0 | Arithmetic Mean <br> 120 | Standard <br> Deviation <br> 20.0 |
| 90\% Stocks/l 0\% Bonds | 9.8 | 11.3 | 18.0 |
| 70\% Stocks/30\% Bonds | 9.1 | 10.1 | 14.3 |
| 50\% Stocks/50\% Bonds | 8.3 | 8.9 | 11.2 |
| 30\% Stocks/70\% Bonds | 7.3 | 7.7 | 9.3 |
| 10\% Stocks/90\% Bonds | 6.2 | 6.6 | 9.2 |
| 100\% Long-Term Govt. Bonds | 5.6 | 6.0 | 10.0 |

Chart 1 shows the AMS total return from 1996 to 2016 and CPI plus $5 \%$ until 2013, when the spending rate was changed to $4 \%$. CPI plus $5 \%$ or $4 \%$ represents the effect of inflation plus the use of the historic $5 \%$ or $4 \%$ of endowment balance as spendable income. The bars between the lines represent the annual change in the endowment balance resulting from inflation and spending. Since the last spending rate review in 2012, the portfolio return has been greater than inflation plus the spending rate four out of five years.


Chart 1

Various investment analysts have predicted that future earnings on portfolios similar to the Society's have stated that 10 -year earnings will most likely be in the 5 to $6 \%$ range. For example, Vanguard predicts that a portfolio consisting of $80 \%$ equities and $20 \%$ fixed income has a high probability of earning about $5 \%$ over the next 10 years, as stated in their research article, 2017 Economic and Market Outlook. Based on this review of long term returns, asset allocation, inflation, and expected earnings, a stated spending rate of around $4 \%$ is justified. With expected inflation of $2 \%$, a portfolio, such as the Society's, will need to earn $6 \%$ to have a real return of $4 \%$ over time.

In October 2011, Vanguard published a research paper entitled, Is 5\% the Right Return Target for Institutional Investors? There has been no updated research paper since that time. This paper presents a model of investment return results of a traditional $60 / 40$ portfolio ( $60 \%$ U.S. Stocks $/ 40 \%$ U.S. bonds) with various spending rates. The $60 / 40$ portfolio with a spending rate of $4 \%$ or $4.5 \%$ had returns that exceeded inflation during that time period, while a portfolio with a $5 \%$ return did not. Vanguard's conclusion is that institutional investors should keep their spending low, and that $4 \%$ is a reasonable starting point. Vanguard also concluded that with a lower spending rate, savings can compound year over year creating a larger portfolio, which leads to historically more overall spending.

## The Income-Unrestricted Endowment Funds

The income-unrestricted endowment funds as explained in Exhibit 1 consist of donations from contributors who do not specify a purpose for the income or investment earnings from their donations. For many years, the AMS did not spend the earnings from these endowment funds. In 2002, the AMS began to release spendable income from these funds, but over the years the accumulated earnings have amounted to $\$ 6,627,565$ on a corpus of $\$ 1,578,101$. In 2002, the accumulated earnings in the incomeunrestricted endowment funds were $\$ 3,012,338$, and they have more than doubled as of December 31, 2016.

While it does not seem prudent to raise the spending rate on the entire portfolio, it does seem entirely prudent to spend some of the earnings on the income-unrestricted endowment when the operations of the

AMS need additional funds. In past audits, the AMS auditors have questioned the amount of unspent earnings in the endowment, as they do not observe so much accumulation of earnings in other endowments. This is due in part to the fact that earnings accumulate because they are being set aside to be used for a prize in three years, or the earnings are set aside for the AMS reserve fund, the Economic Stabilization Fund (ESF). However, a significant part of the earnings come from the IncomeUnrestricted Endowment Funds. The donors to these funds most likely expect that the earnings from their gift will be used, but presently, at a $4 \%$ spending rate, the majority of these earnings will not ever be used.

The AMS revenues from its business operations no longer cover the total operating expenses of the organization because of the number of programs/expenses being added that do not generate revenues. With strategic planning, it is expected that new revenues will be generated, but that has not occurred yet. It is possible that there will be large purchases related to the strategic plan implementation in the near future.
The AMS auditors have been consulted, and they concur that it seems reasonable to release some of the additional earnings the AMS has accumulated in the income-unrestricted endowment over the years. If $\$ 1,500,000$ were released, enough earnings would be preserved to continue to have decent spendable income for future years. Therefore, the Investment Committee is recommending to the Board of Trustees that $\mathbf{\$ 1 , 5 0 0 , 0 0 0}$ be released immediately from the Income-Unrestricted Endowment.

Emily D. Riley, Chief Financial Officer

April 24, 2017

## EXHIBIT 1

## American Mathematical Society (AMS) Endowment Funds-EXHIBIT 1

There are three types of endowment funds at the AMS: the income-restricted true endowment funds, the income-unrestricted true endowment funds, and the board-designated quasi-endowment funds. The following is an explanation of all three funds:

## Income-Restricted True Endowment Funds

The income-restricted true endowment funds consist of donations from contributors who permanently restrict the income from the funds to be used for a specific purpose. The original donor's gift or corpus of the fund must always remain intact and may never be spent. However, the income from the fund may be spent according to the donor's wishes. For example, the original gift for the Veblen Prize funds is $\$ 58,599$. However, the total value of the fund was $\$ 90,090$ at December 31,2016 . The value of the fund in excess of $\$ 58,599$ is used to fund the Veblen prize every three years through the AMS spending rate policy.


Illustration 1: The earnings from Income-Restricted True Endowment Funds may only be used for the purpose specified by the donor. The original gifts or corpus of the funds may never be used.

## EXHIBIT 1

## Income-Unrestricted True Endowment Funds - EXHIBIT 1 (CONT.)

The income-unrestricted true endowment funds consist of donations from contributors who do not specify a purpose for income from their donations. The donors specify only that they want to give to the endowment. The Board of Trustees (BT) has chosen to fund various projects in the AMS operating budget each year to spend the income from these endowment funds through the spending rate policy. Like the income-restricted funds, the original gifts or corpus of the funds may never be spent. As of December 31, 2016, the earnings in excess of the corpus amounted to $\$ 6,627,565$.


Illustration 2: The earnings from income-unrestricted true endowment Funds currently fund budgeted projects in operations as approved by the BT. The original gifts or corpus of the funds may never be used.

## EXHIBIT 1

## Board-Designated Quasi-Endowment Funds-EXHIBIT 1 (CONT.)

The board-designated quasi-endowment funds are not "true" endowment funds. In other words, the funds do not come from contributors' donations and they are not permanently restricted. The funds originate from the net operating income and the income from earnings on the quasi-endowment invested funds in the long-term portfolio. The net operating income ordinarily becomes the unrestricted, undesignated net assets. Over the years, the BT has designated virtually all of the unrestricted net assets of the organization for various purposes. The BT can "un-designate" the quasi-endowment funds at any time, so these funds, for accounting purposes, are considered unrestricted. Some of the quasi-endowment funds produce spendable income via the spending rate, such as the Operations Support Fund (OSF). Other quasi-endowment funds are kept at a specified balance, such as the Economic Stabilization Fund (ESF), which does not produce spendable income.


Illustration 3: The board-designated quasi-endowment funds are net assets derived from the net operating income and unrestricted investment earnings from the long-term portfolio that have been "designated" by the Board of Trustees for specific purposes.

## Proposal to Limit the Journal Archive Fund

At the November 1995 ECBT meeting, the ECBT voted to begin funding a Journal Archive Fund in the Board-Designated Endowment. Initially, $0.5 \%$ of journal revenues from operations were to be contributed to the fund, but in later years, $1 \%$ of journal revenues were contributed.

The following are excerpts from the November 1995 ECBT minutes describing the fund:
At the May 1995 ECBT meeting there was an extensive discussion of the need to prepare for potential changes in electronic data in the future. It is likely that the Society periodically will need to convert the electronic files from publications in order to make them accessible to future users. This is an essential feature of archiving, along with the actual storage of files. Although it cannot be anticipated now what changes will be necessary or when they will be made, it is known that they will cost money.

Money in the Archiving fund is intended to be used primarily to pay for expenses related to the archiving and future conversion of the electronic files of AMS publications. The Board was advised that allocations to this fund will take place only if there is a sufficient cash flow available from operations to support a transfer.

The initial transfer to the fund in 1995 was $\$ 23,000$. Since 1995 the fund has grown to $\$ 1,872,852$. The Society's operations continue to add $1 \%$ of the journal revenues each year.

It is not known how much a change to the Society's electronic archives will cost in the future, but as a matter of comparison, $\$ 400,000$ was set aside to digitize/rekey the AMS book backfile in 2012 and since then, about $\$ 340,000$ has been used, and the project is nearly complete. Considering this, it does not seem that $\$ 1,872,852$ would need to be available for an archiving project.

There are possibilities for uses of this fund in the future. Per the AMS Chief Information Officer, Tom Blythe, "While the PDF files are an adequate archival version of the journal articles, that format is not very good for reuse and repurposing of the content. I also believe the PDFs of older journal articles are scanned PDFs, not full text PDFs, limiting their usefulness for searching and repurposing. We do not have source file (TeX or otherwise) for these articles. I think the Journal Archive Fund could have a number of potential uses, both now and in the future."

While it seems prudent to continue to have a Journal Archive Fund, at a total balance of $\$ 1,872,852$, the fund appears to have more than the AMS will need in the future. Therefore, the CFO recommends that the fund be capped at $\$ 1,000,000$, that no further funds be contributed, and that the balance of the funds over $\$ 1,000,000$ be transferred to the Operations Support Fund.

## AMERICAN MATHEMATICAL SOCIETY

To: Board of Trustees<br>Date: April 24, 2017<br>From: Emily Riley, CFO and Associate Executive Director of Finance and Administration<br>Subject: Operating Fund Portfolio Management Report

## SUMMARY RETURNS

The purpose of this memorandum is to summarize the Society's cash management policies and report on the operating portfolio's investment income performance during 2016. Investment earnings results and other pertinent portfolio information for 2016 and the preceding six years are as follows:

|  | $\underline{\mathbf{2 0 1 6}}$ | $\underline{\mathbf{2 0 1 5}}$ | $\underline{\mathbf{2 0 1 4}}$ | $\underline{\mathbf{2 0 1 3}}$ | $\underline{\mathbf{2 0 1 2}}$ | $\underline{\mathbf{2 0 1 1}}$ | $\underline{\mathbf{2 0 1 0}}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Money Market Funds | $0.01 \%$ | $0.01 \%$ | $0.01 \%$ | $0.01 \%$ | $0.04 \%$ | $0.05 \%$ | $0.16 \%$ |
| Vanguard Fixed Income Mutual Funds: |  |  |  |  |  |  |  |
| Short Term Corporate Bond Fund | $2.82 \%$ | $1.13 \%$ | $1.86 \%$ | $1.05 \%$ | $4.63 \%$ | $2 \%$ | $5.3 \%$ |
| GNMA Fund | $1.95 \%$ | $1.43 \%$ | $6.76 \%$ | $(2.13 \%)$ | $2.45 \%$ | $7.8 \%$ | $7.1 \%$ |
| Long Term US Treasury Fund | $1.3 \%$ | $(1.44 \%)$ | $25.37 \%$ | $(12.94 \%)$ | $3.56 \%$ | $29.4 \%$ | $9.1 \%$ |
| Fidelity Floating Rate Fund (12/04) | $9.92 \%$ | $(1.17 \%)$ | $2.47 \%$ | $3.92 \%$ | $6.81 \%$ | $1.7 \%$ | $7.8 \%$ |
| Vanguard Convertible Securities | $6.62 \%$ | $(1.42 \%)$ | $2.38 \%$ | $19.46 \%$ | $14.47 \%$ | $(6.8 \%)$ | $19.2 \%$ |
| TIPs (April 2005) |  |  |  |  |  |  |  |
| Certificates of Deposit (CD) | $1.07 \%$ | $0.92 \%$ | $0.84 \%$ | $0.76 \%$ | $1 \%$ | $1 \%$ | $1.3 \%$ |
| Common Stock | $5.32 \%$ | $1.9 \%$ | $5.0 \%$ | $14.6 \%$ | $11.5 \%$ | $12 \%$ | $3.0 \%$ |
| Annual total portfolio return | $2.98 \%$ | $0 \%$ | $2.79 \%$ | $2.0 \%$ | $3.33 \%$ | $2.2 \%$ | $4.5 \%$ |
| AMS benchmark - Avg 6 month CD rate per <br> Federal Reserve Bank (Discontinued) | $\mathrm{N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ | $0.27 \%$ | $0.44 \%$ | $0.42 \%$ | $0.44 \%$ |
| NEW AMS benchmark -Barclays US 1-5 <br> Year Gov/Cr Bond Index | $2.58 \%$ | $0.97 \%$ | $1.43 \%$ | $.82 \%$ | $2.23 \%$ | $3.37 \%$ |  |
| AMS returns versus CD benchmark | $\mathrm{N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ | $1.63 \%$ | $2.89 \%$ | $1.78 \%$ | $3.86 \%$ |
| AMS returns versus - Barclays US 1-5 Year <br> Gov/Cr Bond Index | $.40 \%$ | $(0.97 \%)$ | $1.36 \%$ | $1.18 \%$ | $1.1 \%$ | $(1.17 \%)$ |  |
| Wkly Average Operating Portfolio (in 000's) | $\$ 13,182$ | $\$ 13,805$ | $\$ 13,637$ | $\$ 12,708$ | $\$ 12,977$ | $\$ 13,245$ | $\$ 13,866$ |
| Annual Investment Income (in 000's) | $\$ 394$ | $\$ 0.064$ | $\$ 381$ | $\$ 263$ | $\$ 460$ | $\$ 270$ | $\$ 626$ |

At December 31, 2016 operating fund investments equaled $\$ 15,112,922$ which is an increase of approximately $\$ 100,000$ from the previous year. The return for the entire portfolio was $\$ 394,000$ or $2.98 \%$, which was slightly better than the Barclays US 1-5 Year Gov/Cr Bond Index.

The mix of funds in this operating portfolio continues to be an excellent choice due to its diversity. The intermediate or mutual fund portion of the portfolio has experienced a $4.75 \%$ return over the past 6 years, which is offset by lower returns from money markets and CD's.

The weekly average balance in the operating portfolio decreased in 2016 from $\$ 13,805,000$ in 2015 to $\$ 13,183,000$. The Endowment Income Stabilization fund was moved from this portfolio during the year, and the funds were transferred to the quasi-endowment Operations Support Fund. This is the primary reason that the balance of the operating portfolio decreased. When the funds were moved, approximately $\$ 200,000$ was removed from the Long-Term Treasury fund to
decrease the duration of the bond portion of the portfolio. In times of rising interest rates, it is best to decrease the duration of the bonds that are held in a portfolio.

## History of Authorized Investment Vehicles and Limits.

At the May 1996 ECBT meeting it was agreed that the Society should have as a goal an accumulation of current assets such that they exceed current liabilities. To help achieve this objective, at the May 1997 ECBT meeting a plan for the creation of an intermediate term investment portfolio was adopted. Increased limits of $\$ 1,000,000$ (to $\$ 4,000,000$ ) in our money market funds, $\$ 1,000,000$ (to $\$ 2,000,000$ ) in our Vanguard fixed income funds, and $\$ 500,000$ (to $\$ 1,500,000$ ) in Treasury Notes were approved. In addition, a $\$ 1,500,000$ combined limit for other mutual funds, consisting of high yield and convertible bond funds, was established at this time.

In May 2000, the limits for money market funds, fixed income funds and the high yield/convertible funds were each increased by $\$ 500,000$. At the May 2002 ECBT meeting, the limit on the money market fund was increased to $\$ 5,500,000$, primarily to accommodate the larger investment balance carried in the operating portfolio. In May 2004, The Board of Trustees added floating rate bond funds to the authorized investments, with an investment limit of $\$ 2,000,000$. In May 2005, the Board changed the limit on money market investments to be $50 \%$ of the operating portfolio balance at any point in time, again to accommodate the larger portfolio balance and liquidity needs of the Society.

In December 2013, the Board of Trustees authorized the inclusion of the Endowment Income Stabilization Fund (EISF) in the intermediate-term portion of the operating portfolio. This added approximately $\$ 500,000$ to the portfolio. In May 2014, the maximum investment limit for the convertible securities fund investment was raised to $30 \%$ of the intermediate-term portion of the operating portfolio.

## Recent Portfolio Adjustments.

At the end of 2014, the Society was invested in about $\$ 1.6$ million in Certificates of Deposits (CD's). By the end of 2016, the balance invested in CD's had declined to about $\$ 660,000$, because operations needed the cash and because interest rates continue to be low. Money market interest remains about as low as it can get at $0.01 \%$, but during 2017 the AMS will move money market funds to Citizen's Band where the interest rate is slightly higher.

## Cash Management at the AMS.

The following rules govern AMS's management of cash:

1. Availability and Liquidity. The placement of investments in the operating portfolio is coordinated with the Society's immediate and estimated future cash requirements, which are based on actual and projected revenue and disbursement streams. Cash needs to be available at the appropriate times to cover the operating expenses of the Society as they are incurred payroll, payroll taxes and other withholdings, and vendor liabilities comprise the bulk of our cash needs. Adequate portfolio liquidity is the ability to turn investments readily into cash without suffering undo loss of principal.
2. Income. Cash in excess of immediate operating needs should be invested so as to optimize returns. The Society has intentionally accreted such excess cash, so that the ratio of current assets to current liabilities remains at least 1 tol. This ratio was 1.25 at December 31, 2015, and 1.19 as of December 31, 2016.
3. Preservation of principal. Safety is of prime concern in investments of operating capital. Diversifying investment vehicles and monitoring investment maturity dates and market value fluctuations greatly reduces an investment portfolio's exposure to risk. Maximum allowable positions should and have been established for different types of investments.

## Authorized Investments.

The investment vehicles authorized by the Board of Trustees for the operating portfolio are as follows:

- Certificates of Deposit. As in prior years, part of the Society's operating investment portfolio has been invested in certificates of deposit, although it has declined in recent years for the reasons discussed above. The weekly balance in certificates of deposit averaged $6 \%$ of the total portfolio in 2016, and 12\% of the total portfolio in 2015.

The AMS generally purchases "jumbo" CD's of federally insured savings institutions and commercial banks that are assigned an acceptable safety rating by a weekly bank rating newsletter. Current investment policies limit the amount of investment in each bank issuing CDs to the Federal Insurance Deposit limit of $\$ 250,000$ (exclusive of accrued interest). There is no limit to the total amount of CDs that can be held by the operating investment portfolio.

| Issuer | Banks \& Savings and Loans |
| :--- | :--- |
| Risk of default | None - federally insured |
| Risk of market decline | None |
| Maximum Amount | $\$ 250,000$ per bank, unlimited in total |

- Treasury Bills. T-Bills are convenient to use when we have a large planned expenditure for a predetermined future date, such as contributions to the Economic Stabilization Fund; however, better rates are available on alternative forms of short-term operating investments. Treasury Bills have no market risk associated with them because they are backed by the full faith and credit of the US government, are issued for short durations and are highly liquid. Accordingly, there is no limit to the total amount of T-Bills we may hold in our portfolio.

| Issuer | U.S. Government |
| :--- | :--- |
| Risk of default | None |
| Risk of market decline | None if held to maturity |
| Maximum Amount | Unlimited |

- Cash and repos (repurchase agreements). The AMS uses a concentration account at Citizens Bank - Massachusetts into which all receipts are automatically deposited and from which all disbursements are made. Under a repurchase agreement, cash above an established minimum
balance is "swept" on a daily basis and invested overnight in repurchase agreements. Under a repurchase agreement, the customer (AMS) purchases government securities and the bank agrees to "repurchase" them the following day. The rate earned on these depends on the dollar amount of the repo; it is generally very low in comparison to rates available on other investment vehicles. Interest rates on repurchase agreements have been extremely low for a number of years. Unless one is sweeping large amounts of cash throughout the year, the interest earned does not justify the fees charged to maintain the agreement in place. The AMS has not used this investment vehicle since 1999 and it is not expected to be used in the near future.

| Issuer | Citizens Bank - Massachusetts |
| :--- | :--- |
| Risk of default | Minimal |
| Risk of market decline | None |
| Maximum Amount | $\$ 1,000,000$ |
| Comments | Collateralized by US Gov't securities |

- Monev market funds. The Board of Trustees has authorized a maximum investment of 50\% of the balance in the operating portfolio at any point in time. At the end of 2016 the balance in money markets was $\$ 6,080,557$, or $40 \%$ of the entire portfolio, exclusively in Vanguard's Federal Money Market fund. Yields on the funds averaged $0.01 \%$ in 2016, and will likely not increase significantly anytime soon. There is little risk to principal because the valuation of the initial investment is generally not subject to change because of its short-term duration. Balances in these funds are usually maintained only at levels needed for short-term operating needs in excess of short-term maturities, or for planned investments to be made in the near future (which avoids the administrative costs of 3 month CD's or T-bills), or to take advantage of rising interest rates, since they generally under-perform alternative authorized investment vehicles.

Issuer<br>Risk of default<br>Risk of market decline<br>Maximum Amount

Vanguard and Fidelity<br>Minimal<br>Very Low<br>$50 \%$ of operating portfolio balance

- US Treasury Notes. The Board of Trustees has authorized a maximum investment of $\$ 1,500,000$ in US Treasury Notes. A loss of market value may be incurred on these investments in a rising interest rate environment if funds are needed before maturity and have to be sold; however this risk is slight as the Society's liquidity is deemed extremely adequate. Treasury Notes can be an attractive investment when interest rates are expected to decline and the yield curve is fairly steep. This has not been the case in recent history.

Issuer
Risk of default
Risk of market decline
Maximum Amount
Comments

## U.S. Government

None
None if held to maturity, otherwise value moves inversely to interest rate changes \$1,500,000
Best used just before interest rates decline

- Fixed Income (Bond) Mutual funds. The Board of Trustees has authorized a maximum investment of $\$ 2,500,000$ in fixed income mutual funds (initial investment, exclusive of reinvested income and share price increases, with appropriate disclosure to Treasurers and Board), and at the end of 2016 we had $\$ 4,355,748$ invested. The initial investment amount is well below the limit. All of these investments are with the Vanguard Group of Valley Forge, PA. A combination of three funds is used: the Short-Term Corporate Bond portfolio, the GNMA portfolio, and the Long-Term US Treasury portfolio.

| Issuer (currently used) | The Vanguard Group <br> Risk of default |
| :--- | :--- |
| Risk of market decline | The longer the maturities of underlying investments, <br> The higher the risk. |
| Maximum Amount | $\$ 2,500,000$ |
| Comments | Market value will decline as interest rates rise and <br> increase as rates fall. |

Historically, most of the volatility in the Society's short-term portfolio has been the result of market valuation adjustments on these investments (they are marked to market monthly); however, gains or losses technically are not realized on these funds until they are redeemed. The GNMA fund is less affected by interest rate volatility than the Long-Term US Treasury, despite similarity in term length of the underlying securities, as these debt instruments support the housing industry.

The following funds are the included within the Fixed Income (Bond) Mutual funds category:

## Vanguard High Grade Short-Term Corporate Bond Fund:

| Issuer (currently used) | The Vanguard Group <br> Low, due to quality of underlying debt instruments <br> and borrowers |
| :--- | :--- |
| Risk of market decline <br> investments | Low, due to short duration of underlying |
| Comments | Share price is usually relatively stable; return is <br> determined by recent interest rates, as underlying <br> debt is short duration <br> $2.82 \%$ |
| 2016 return |  |

## Vanguard GNMA Fund:

Issuer (currently used)
Risk of default

The Vanguard Group
Low - while not backed by the full faith and credit of the US government, it isn't likely that the US government would allow GNMA to default on its obligations

| Risk of market decline | Medium, as duration is longer <br> Comments <br> Since the GNMA obligations are linked to <br> collateralized mortgage obligations, and mortgage <br> rates tend to change more slowly than other long <br> term rates, this fund is a bit less volatile when |
| :--- | :--- |
| interest rates change. |  |
| $1.95 \%$ |  |

## Vanguard Long-Term US Treasury Fund:

| Issuer (currently used) | The Vanguard Group <br> Low, as most underlying securities are US <br> Risk of default <br> government direct issues |
| :--- | :--- |
| Risk of market decline | Highly sensitive to interest rate changes, as duration <br> of underlying securities is long-term <br> This fund has caused most of the volatility in the <br> Intermediate portfolio; staff mitigates some risk by <br> adjusting investment amount |
| Comments | $1.30 \%$ |

- High Yield and Convertible Bond Mutual funds. The Board of Trustees has authorized a maximum investment of $30 \%$ of the intermediate-term portfolio investments in any combination of high yield bond and convertible securities accounts. At December 31, 2016 the AMS had $\$ 2,148,000$ or $26 \%$ invested in these vehicles, in one convertible securities mutual fund managed by the Vanguard Group. Gains or losses technically are not realized on these funds until they are redeemed, although, for financial statement purposes, the Society records these investments at market.

The initial investment into the fund was $\$ 570,000$ in 1998. Also included in the total funds are realized and unrealized gains since 1998. In 2013, $\$ 249,000$ in EISF funds were moved into this fund and in September 2016, EISF funds of $\$ 200,000$ were moved out and placed into the long-term portfolio.

| Issuer (currently used) | The Vanguard Group |
| :--- | :--- |
| Risk of default | Medium to High |
| Risk of market decline | Sensitive to movements in the equity markets |
| Maximum Amount | $30 \%$ of intermediate-term portfolio |
| Comments | Total returns often parallel those of equity markets |
| 2016 Return | $9.92 \%$ |

- Floating Rate Income funds. The Board of Trustees has authorized a maximum investment of $\$ 2,000,000$ in Floating Rate funds. $\$ 1,000,000$ was invested in the Fidelity Floating Rate High Income Fund in December 2004. The return for 2016 was $-9.92 \%$. Gains or losses technically are not realized on these funds until they are redeemed, although, for financial statement purposes, the Society records these investments at market.

| Issuer | Fidelity |
| :--- | :--- |
| Risk of default |  |
| Risk of market decline <br> significantly | Low <br> Low, possibly medium if economy falters |
| Maximum Amount <br> Comments | $\$ 2,000,000$ <br> The fund is expected to have a relatively stable |
| 2016 Return | NAV with yield providing most of the return <br> $9.92 \%$ |

Summary of Operating Portfolio Investments, December 31, 2016.

| Description | Value at 12/31/16 | Current Board Limit | Excess over Limit |
| :---: | :---: | :---: | :---: |
| Money Market Funds | \$6,080,557 | $50 \%$ of total portfolio | NA |
| Certificates of Deposit | 660,000 | \$250,000 per inst. | NA |
| Treasury Notes |  | 1,500,000 | NA |
| Vanguard Bond Funds: |  |  |  |
| GNMA Fund | 1,717,050 |  |  |
| Short-Term Corp Bond Fund | 1,892,634 |  |  |
| LT US Treasury Fund | 746,064 |  |  |
| Subtotal | 4,355,748 | 2,500,000 (1) | NA |
| High Yield and Convertible |  |  |  |
| Funds: |  |  |  |
| Vanguard Convertible | 2,168,482 |  |  |
| Subtotal | 2,168,482 | $30 \%$ of mutual fund investments | NA |
| Floating Rate Funds: |  |  |  |
| Fidelity Floating Rate High Inc Subtotal | 1,827,054 | 2,000,000 | NA |
| Common Stock | \$21,681 | Unrestricted gifts |  |
| Total | \$15,112,923 |  |  |

(1) Limit is exclusive of reinvested dividends and share price increases. See discussion above.

## Business Title:

(40 Character Limit)

|  | TIN: 0 -0264797 Sta | State Company Established In: Select | W ashington, DC |
| :---: | :---: | :---: | :---: |
| Business Type: | Corporation-Private <br> General Partnership <br> Limited Liability-Manager Managed | $\square$ Corporation-Publicly Traded Limited Partnership $\square$ Limited Liability-Member Managed | Sole Proprietor Non-Profit Association |

Number of Employees: (Select One) $\quad \square$ 1-4 $\square$ 5-9 $\square$ 10-99 4 100-249 $\square$ 250-499 $\square 500+$
Nature of Business (e.g. Retail, Real Estate, etc): Professional Membership Organization
Business Telephone Number: 401-455-4000
Physical Address (No PO Boxes):
City, State \& Zip Code: 201 Charles Street, Providence, RI 02904
Mailing Address (if diffrent from above)
City, State \& Zip Code: N/A

## Primary Contact

Name, Phone \& Email: Emily D. Riley
Signers: List signer(s) names below. If any signer owners $20 \%$ or more ownership, please select box to the left of their name and complete the CIP form provided. If using a Master Signature Card, indicate whether individual is signer, binder or both (Please ask your deposit specialist if you are unsure)

| Owner? | List of signers | Signer | Binder | Facsimile |
| :---: | :---: | :---: | :---: | :---: |
|  | Thomas J Blythe | 4 |  |  |
|  | Robert M Harington | 4 |  |  |
|  | Jane M Hawkins | 4 |  |  |
|  | Emily D Riley | 4 |  |  |
|  | Catherine A Roberts | 4 |  |  |
| $\square$ | T Christine Stevens | 4 | $\square$ | $\square$ |

Are all signers U.S. Residents with a SSN? 4 Yes $\square$ No (additional information will be required)
Binders required (if using Master Agreement):
Account Type: $\begin{aligned} & \square \text { Commercial Checking (if using cash management services, fees apply) } \\ & \square \text { Money Market } \\ & \square \text { Savings / CD }\end{aligned}$
Subtitle if applicable (e.g. "Operating", "Payroll") If more than 3, please indicate in your email. 40 character limit.
1.)
2.)
$\qquad$ (Charges Apply)
Signing Authority:
(MMDA \& Non Analyzed, 2 signers not available)

$\square$
$\square$
$\square$One Signature required on checks Two Signatures required over \$ (Charges Apply)

## Statement Option: (Select one)

4 Paper Statements without images (Charges Apply)
$\square$ Paper Statements with images (Charges Apply)
Statements via Access Money Manager (Charges Apply - availability depends on account type)
Wire Initiating: (Select one)
4 The new account will not be added to the wire system
$\square$ The new account is to be added to the existing Money Transfer Agreement on file
Send a new Money Transfer Agreement and Service Request to establish wiring capabilities
Add the new account to the existing Access Money Manager System (Cash Management. Charges Apply)
Send a new Money Transfer Agreement for Access Money Manager System (Cash Management. Charges Apply)

## Check Ordering

To order checks, please call Deluxe checks at 866-649-8710. Their full catalog is available at www.deluxeforms.com. To order through a different vendor, please request check specification sheets from your deposit specialist.

| 胀Citizens Bank* | Commerical Deposit Services Direct Dynamic Interview |
| :---: | :---: |
| Questions | Answers |
|  |  |
| Specify SIC or NAICS Code and list the code \# (must be completed) | 813920 |
| Was your organization formed outside the U.S.? If Yes, what country? | No |
| Date of Formation? | 1923 |
| Is your business publicly traded? (yes or no) | No |
| If yes, on what exchange and what is the exchange symbol/Cusip? | N/A |
| Does your annual revenue exceed $\$ 200,000,000.00$ ? (yes or no) | No |
| Is your business engaged in internet gambling and/or internet sweepstakes cafes? (yes or no) | No |
| Are you an Embasassy or Foreign Consulate (yes or no) | No |
| Do you own or operate an ATM (yes or no) | No |
| Are your customers primarily Domestic/International | Domestic |
| If Domestic (Local, Regional or National) | National |
| If International - what Countries apply - list all | N/A |
| Does your company provide Money Services? (yes or no) |  |
| - Currency dealers/exchangers <br> - check cashers <br> - issuers of: <br> travelers checks, money orders/stored value sellers/redeemers of travelers checks, money orders or stored value OR money transmitters(Western Union/Payment Centers) | No |
| To your knowledge, are any of the Beneficial Owners, or Key Principals, whether or not a signer, in the past 10 years hold any of these <br> offices/positions? (yes or no) <br> - US Senators, US Congressmen, State Governors <br> - Ambassadors, US Military officers with rank of Colonel or above <br> - Executive Members of State-owned enterprises. <br> - Members of Supreme Courts, Constitutional Courts, or high Judicial bodies <br> Auditors of the boards of central banks <br> - Heads of State | No |
| Does the business have any of the following additional services with the bank: (only select from this list) <br> - Cash Mgmt/ Treasury Solutions products: Wire, ACH, Lockbox <br> - Large Corporate Card Product <br> - Asset Based Lending <br> - HSA (Health Savings Account) <br> - Private Banking/Trust Accounts <br> - None of the above | Cash Mgmt/ Treasury Solutions products: Wire, ACH, Lockbox |
| Do you provide payment processing services/collect funds on Behalf of another business? (Yes or no) | No |


| Initial Source of Funds: (select one) |  |
| :---: | :---: |
| - Affiliate Sale Proceeds <br> - Bond Proceeds <br> - Changing Banks <br> - Credit Card Receivables <br> - Existing CFG Account <br> - Fees <br> - Gifts/Grants <br> Operating Revenue <br> - State or Federal Allocations <br> - Tax Receipts <br> - Trust Funds <br> - Other(describe) | Existing CFG Account |
| How do you plan to use the account? (select one) <br> - ATM <br> Control/General Ledger Accounts <br> - Payroll Account <br> - General Operating Account <br> - Disbursement Account <br> - Retirement Account (on behalf of employees) <br> - Investment Account <br> - Health Savings Account | Disbursement Account |
| Anticipated Physical Cash Activity IN (Monthly basis) - ACH/Wire activity do not apply (select one) <br> \$ 0-1000 <br> \$1000-5000 <br> \$5000-8000 <br> \$8000-10,000 <br> \$10,000-over | \$0-1000 |
| Anticipated Physical Cash Activity OUT (Monthly basis) ACH/Wire activity do not apply <br> (select one) <br> \$0-1000 <br> \$1000-5000 <br> \$5000-8000 <br> \$8000-10,000 <br> \$10,000-over | \$0-1000 |
| Do you expect to perform International Transactions? (yes or no) if yes complete below questions; if no stop | No |
| INTERNATIONAL TRANSACTIONS Expected (Incoming) Transaction Details |  |
| Geography (List All Countries that apply) |  |
| Anticipated activity (select one) <br> Under \$5,000 $\begin{aligned} & 5 \mathrm{~K}-10 \mathrm{~K} \\ & 10 \mathrm{~K}-20 \mathrm{~K} \\ & 20 \mathrm{k}-50 \mathrm{k} \\ & 5-\mathrm{K}-100 \mathrm{~K} \\ & 100 \mathrm{~K} \text { - over } \\ & \hline \end{aligned}$ |  |

## Attachment 34 | Item 3C. 3

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| Frequency (select one) |  |
| :---: | :---: |
| Daily |  |
| Weekly |  |
| Monthly |  |
| Occasionally |  |
| Never |  |
| Number of transactions per period listed above |  |
| Purpose of the international transactions (select one from the below |  |
|  |  |
| - Payroll |  |
| - Invoicing |  |
| - Family Remittance |  |
| - USD Clearing |  |
| - FX |  |
| - Trade Transactions |  |
| - Settlement |  |
| INTERNATIONAL TRANSACTIONSExpected (Outgoing) Transaction Details |  |
|  |  |
| Geography (List Countries that apply) |  |
| Anticipated activity (select one) |  |
| Under \$5,000 |  |
| 5K-10K |  |
| 10K - 20k |  |
| 20k - 50k |  |
| 5-K - 100K |  |
| 100K - over |  |
| Frequency (select one) |  |
| Daily |  |
| Weekly |  |
| Monthly |  |
| Occasionally |  |
| Never |  |
| Number of transactions per period listed above |  |
| Purpose of the international transactions (select one from the below |  |
| list) |  |
| - Payroll |  |
| - Invoicing |  |
| - Family Remittance |  |
| - USD Clearing |  |
| - FX |  |
| - Trade Transactions |  |
| - Settlement |  |
| - other |  |

## Education and Diversity Department

## Executive Summary

As part of the strategic initiative on diversity and inclusion, the AMS established an Education and Diversity Department. The possibility of creating such a department first arose in conjunction with a proposal that the AMS become the institutional home of the National Alliance for Doctoral Studies in Mathematics (the Math Alliance), but the strategic plan's commitment to establishing the Department was independent of discussions with the Math Alliance. Thus the plan to create the Department was not affected by the Math Alliance's decision, in December 2015, that Purdue University would become its institutional home.

After a national search, Helen G. Grundman, Ph.D. was hired as the first Director of Education and Diversity. A Professor of Mathematics at Bryn Mawr College, she had also served as a program officer in the Division of Mathematical Sciences at the National Science Foundation (NSF) and had long been involved in activities to promote diversity in the mathematical sciences, including the Enhancing Diversity in Graduate Education (EDGE) program. Her success as a mentor led the Association for Women in Mathematics (AWM) to confer upon her the 2017 Gweneth Humphreys Award for Mentorship of Undergraduate Women in Mathematics. She began working part-time for the Society in March 2016 and became full-time in June.

As detailed in the Strategic Plan, the Department "seeks to promote diversity and inclusion at all stages of the mathematics 'pipeline.' Its initial focus is on graduate education in the mathematical sciences, the preparation of students to enter graduate programs, mentoring of students for success in graduate school, and the promotion of diversity and inclusiveness at the graduate level."

To launch the Education and Diversity Department, Director Grundman worked with the Associate Executive Director (AED) for Meetings and Professional Services, T. Christine Stevens, to craft a mission statement and produce an operating plan for 2017, including specific short-term goals, and a 2017 budget. She also completed the process of hiring and training of an assistant who began work in January 2017.

Thus far, the Director's work to establish the new Department has focused on three areas: informing the mathematical community about the Department and its goals; establishing strong connections both with other groups that promote diversity in the mathematical community and with AMS staff and volunteers; and developing projects that are candidates for external funding. In addition, the Director and the AED are working to clarify how the Department's activities fit into the AMS governance structure. These efforts are detailed in subsequent sections of this report.

## Priorities

One of the Director's first priorities was to let the Society's membership, committees, and donors know that the Department now exists, who the Director is, and what the goals of the new Department are. Conversely, it was also necessary to dispel misconceptions about the Department, particularly the notion that it could serve as a major source of funds for education and diversity projects that other groups or organizations are conducting or planning. The dissemination of this information was accomplished through a series of articles and interviews (on the AMS webpage, in the Line, and in the Notices of the AMS), through the Director's participation in several conferences, and through her attendance at meetings of AMS committees and other governance bodies.

Another top priority was to establish strong connections with other groups and individuals with similar or overlapping goals, in order to create a working relationship of cooperation and mutual support and to explore the possibilities for collaborative efforts in the future. At the same time, the Director has established effective working relationships with AMS committees and with other AMS staff, including the new Director of the Washington Office

These priorities dovetail well with a third priority, which is to develop plans for programs and services that will further the Department's mission, and to identify and apply to potential sources of funding for them. These efforts, which are detailed in the last section of this report, have produced two submitted proposals, and another is under development.

Finally, the Department is working with the AMS leadership to delineate its relationship to the governance structure. Some parts of this relationship are clear, such as the fact that the ECBT must approve any proposal from the Department for funding of $\$ 100,000$ or more. Less clear is the relationship of the Department to the Committee on Education (CoE), which is currently charged with reviewing the Society's activities in the area of education, and whose staff liaison is the Director of the Washington Office. At the request of the Long Range Planning Committee, an ad hoc committee is currently reviewing the CoE charge, and it is hoped that its recommendations will point the way to effective interactions between the Department and the CoE. It may also be necessary to review the Department's relationship with the Committee on the Profession (CoProf), which oversees the Society's activities for "increasing participation at all levels of under-represented groups." Although a schedule conflict unfortunately prevented the Director from attending the CoE meeting in October 2016, she attended the May 2016 ECBT meeting, the September 2016 meeting of CoProf, and the April 2017 Council meeting, at which the discussion topic was AMS activities in education.

The Department is also developing a productive relationship with the Washington Office. The Director is working with the new Director of the Washington Office, Karen Saxe, to familiarize herself with policy initiatives involving education and diversity and to coordinate their efforts in this realm.

## Coordination with other organizations

An important first step for the Department was to establish a new connection with the Math Alliance. Having already been involved with the organization as an Alliance Mentor, the Director was well placed to forge a new relationship, independent of past negotiations between the organization and the AMS. The Director facilitated the dissemination of a Math Alliance conference announcement via AMS electronic channels, and she assisted in implementing the ECBT's decision to contribute \$15,000 in 2016 for student participation in the Math Alliance's annual conference, known as the Field of Dreams. She attended that conference in November 2016 and has continued to interact with the key people in the organization via email and at other meetings and conferences.

In 2016 the American Physical Society (APS) approached the AMS to request its participation in their National Science Foundation (NSF) grant proposal for an NSF INCLUDES Design and Development Launch Pilot Project: Inclusive Graduate Education Network (IGEN). Then-Executive-Director Donald McClure approved the activity, and it was agreed that Director Grundman would serve as the AMS liaison to this project. The proposal was subsequently funded, and the grant paid for the Director to attend the APS Graduate Education and Bridge Program Conference and an IGEN Project Meeting. It will also pay for her attendance at another Project Meeting in May 2017. The expectation is that the AMS will, later this year, apply for a collaborative grant with the APS, the American Chemical Society, and the American Geophysical Union. AMS President Ken Ribet has appointed Professor Richard McGehee, Director of Graduate Studies at the University of Minnesota, to advise the Director about the planned proposal, and he will accompany her to the next Project Meeting. The final section of this report contains more details about the forthcoming proposal, which the ECBT will be asked to approve in May 2017.

Then-Executive-Director McClure also approved Director Grundman's participation on the Advisory Board for another NSF INCLUDES Design and Development Launch Pilot Project: Women Achieving Through Community Hubs in the United States (WATCH-US). This proposal, from the University of Nebraska, Lincoln, was funded and, at the request of the Principal Investigators, the Director chaired the first meeting of its Advisory Board. The initial focus of the project is a research study on the effectiveness of various intervention programs and efforts aimed at increasing the number of women successfully completing mathematics Ph.D.'s. In June 2017, the initial findings will be shared at a Stakeholders Meeting with the Advisory Board, representatives from various undergraduate and graduate institutions, and other employers of Ph.D. mathematicians. The plan is to draw together a "best practices" document and to craft a call for proposals for "prototype projects" that build on these findings.

Both to publicly affirm the AMS's commitment to diversity and inclusion in graduate mathematics education and to support the important work being done by the Enhancing Diversity in Graduate Education Foundation (EDGE), Director Grundman, with the approval of Executive Director Catherine Roberts and AED Stevens, made a one-time AMS contribution of $\$ 9,000$ for the participation of three 2017 EDGE AMS Scholars in the EDGE Summer Program. The AMS is now listed as a sponsor on the EDGE Program's main web page (https://www.edgeforwomen.org/), as well as the EDGE Foundation's website (http://edgefoundation.net/).

The Education and Diversity Department developed a collaborative project with the Association for Women in Mathematics (AWM) and EDGE, in consultation with the creator of the Career Mentoring Workshop for women (CaMeW) to increase the participation of women in the mathematics professoriate. The project received ECBT approval in November 2016. The original anticipated funding source turned out to be too narrowly focused for the proposal, so the Director is working with the other organizations to find an appropriate funding source.

Working with AED Stevens and professors at California State University, Northridge, and the University of California, Davis, the Director developed a project to increase the numbers of minority students applying and enrolling, and succeeding in mathematics graduate school, in the southwestern United States. The team submitted a pre-proposal (which does not contain a budget and thus did not require ECBT approval) for an NSF INCLUDES Design and Development Launch Pilot, but was not among those invited to submit a full proposal. One of the reviewers urged revision and resubmission next year, an option that is now under serious consideration.

The Director is also in correspondence with the Chair of the MAA Committee on Minority Participation in Mathematics on a possible joint project to increase the visibility of mathematicians from underrepresented groups, which may, in the future, lead to a grant proposal for a new program.

In cooperation with the AWM, Building Diversity in Science, EDGE, and the National Association of Mathematicians (NAM), the Education and Diversity Department organized an extremely enthusiastically received panel presentation at the Joint Mathematics Meetings (JMM) on "The Mathematics and Mathematicians Behind Hidden Figures," featuring the author of the book and one of the mathematicians featured therein. The event was very favorably reviewed in AMS blogs and in the newsletter of the National Association of Mathematicians (NAM). In the post-JMM survey of registrants, many people cited this panel as a high point of JMM 2017.

Also at the JMM, the Director was a panelist on the AWM panel "Mentoring Women in Mathematics," and, by invitation, attended the business meeting of Spectra: the Association for LGBT Mathematicians. While networking at the SACNAS National Conference and the Blackwell-Tapia Conference and Award Ceremony, she helped to form and encourage the working group that created the web site MathematicallyGiftedandBlack.com in the tradition started by Lathisms.org, showcasing mathematicians from under-represented groups during Black History and Hispanic Heritage Months, respectively.

In addition to serving as the designated AMS Liaison to Transforming Post-Secondary Education in Mathematics (TPSE Math), the Director was an advisor on the planning of the Graduate Education portion of TPSE Math's "Chairs+1 Conference," which she attended in March 2017. At this conference, she made initial contacts with a Program Officer of the Board on Higher Education and Workforce at the National Academies of Sciences, Engineering, and Medicine (NASEM), and, in cooperation with the Director of the Washington Office, has communicated with her about the extremely limited inclusion of mathematics in their Revitalizing Graduate STEM Education for the 21st Century project.

More recently, the Director accepted an invitation to take part in a workshop sponsored by Indiana University and funded by the National Science Foundation on Preparing Mathematics Graduate

Students for Careers in Teaching. At this workshop, she had discussions with the Executive Director of the Society for Industrial and Applied Mathematics and reconnected with the Head of the Education and Human Resources Program at the American Association for the Advancement of Science.

Locally, in Providence, the Director spoke and answered questions from high school teachers and students as part of a Providence NAACP event on the Hidden Figures movie.

## Coordination within the AMS

Director Grundman has established effective working relationships with both staff and volunteers of the Society, particularly those involved specifically in matters of education and/or diversity.

She attended the 2016 meeting of the Committee on the Profession (CoProf) and is now assisting one of its subcommittees, which is charged with investigating whether the AMS should develop a "site visitation" program for evaluating the climate for women and minorities in mathematics departments (fashioned after a program offered by the APS). She also moderated the CoProf panel discussion at the JMM, "Diversity and Inclusion in the Mathematical Sciences."

Although travel commitments kept her from attending the 2016 meeting of the Committee on Education (COE), the Director has had extended conversations with the Committee Chair and is planning to attend its 2017 meeting. She is also in conversation with the Chair and additional members of the ad hoc Committee to Review COE (appointed at the request of the Long Range Planning Committee), and they have requested her input into the committee's deliberations. Concerned about the past inactivity and lack of a Chair for the Committee on Women in Mathematics, the Director talked with a past Chair and then corresponded at length with the new Chair, once he had been designated, offering information and suggestions. She continues this correspondence, serving as an informal resource for the Committee. Again serving in no formal capacity, the Director monitors the email list for the Joint Committee on Women for any issues in which she feels the Education and Diversity Department should be involved.

Director Grundman has been working effectively with the Washington Office on a variety of topics of common interest, including the CoE, the annual Chair's Workshop, and the NASEM project on graduate STEM education.

The Director worked extensively with the Meetings and Conferences Department in making arrangements for the Hidden Figures event at the JMM. She also worked with them to remove from the AMS web site a photo from an earlier year's JMM that was unintentionally somewhat offensive. She worked with then-AMS-President Robert Bryant to post a letter from him on the web page for the AMS Sectional Meeting in North Carolina, addressing the problems raised by the North Carolina House Bill 2 in light of the AMS Policy on a Welcoming Environment.

In 2016 the Director worked with the Meetings and Professional Services Department to learn the yearly process behind the Award for Mathematics Programs that Make a Difference. Beginning with the 2018 award, the nominations, coordination of the selection committee, and communications with
nominated programs will all be handled by the Education and Diversity Department. The Director also worked with the Development Office in crafting the wording for establishing the Mark Green and Kathryn Kert Green Fund for Inclusion and Diversity, an endowment that will fund a cash prize to go with the award.

Surprisingly, the AMS does not have access to good data about how many mathematicians (or even how many AMS members) are women and how many are from under-represented minorities. The Director has worked with others at the AMS to improve past estimates of these numbers, and is hoping for further improvements, through changes in data collection. She also accepted an invitation to attend part of the January 2017 meeting of the Joint Data Committee.

Although the initial focus of the Department is on diversifying graduate mathematics education in the U.S., part of the vision behind its creation was for it to serve as a resource for AMS staff and volunteers working to improve diversity in the Society's programs and activities. For example, the Division of Meetings and Professional Services wants to attract a more diverse population of participants to the Mathematical Research Communities (MRC's). The Director brainstormed with other members of the Division to create some new approaches to the problem. One approach involved a data search, paid for by the Education and Diversity Department, to determine which research areas are most common among mathematicians from under-represented groups (including women), and then working to aim some future MRC's towards those areas.

## Additional Activities

The Education and Diversity Department has received a wide range of requests from members of the mathematical community. Responding to these requests not only encourages a positive public attitude towards the Department and the AMS in general, but also enhances the Director's understanding of the wide range of education and diversity issues of concern to the mathematical community. Most requests for advice concern recruiting, hiring, and retaining a diverse faculty at a college or university, or how to teach math in a more inclusive manner. Other people were basically asking for AMS services, or about how best to raise with the AMS a diversity issue on which they felt that it should take a stand. The only other common topic is the AMS's perceived emphasis on white male mathematicians, although almost everyone is quick to agree that things are changing for the better.

The Director has also been actively working to increase her knowledge of the proposal process and to improve her skills at writing successful grant proposals. In January 2017, she attended the AMS/NSFEHR grant writing workshop, as an introduction to writing proposals to the NSF Directorate for Education and Human Resources. To update her understanding of how NSF makes its decisions on funding grant proposals, she accepted an invitation to serve on a proposal evaluation panel, also in January 2017. Since then, she has participated in two webinars and a video conference on NSF INCLUDES proposals, one a webinar given by the NSF on the pre-proposal process, and the others run by National Institute for Mathematical and Biological Synthesis (NIMBioS) on program evaluation, which is a required part of INCLUDES proposals.

## Grant Proposals Submitted or Under Development

The Director has been involved in designing three different potential AMS projects for funding by the NSF. Each was mentioned briefly above, and they are described in more detail in this section.

In March of 2016, shortly after Director Grundman began working part-time for the AMS, she and AED Stevens began discussing the possibility of applying for an NSF INCLUDES Design and Development Launch Pilot grant. These discussions led to a project: A nationally grounded, regionally implemented coalition to diversify the mathematical workforce at the PhD level, in collaboration with Professor Maria Helena Noronha of California State University, Northridge, and Professor Jesús De Loera of the University of California, Davis. The project is aimed at increasing the diversity in mathematics graduate programs and, particularly, of the students completing their Ph.D.'s in mathematics. Although the initial two-year grant would focus on a single geographic region, the intention is to scale up to include other geographic regions with a future grant.

The Design and Development Launch Pilots are planning and start-up activities aimed at testing the feasibility of developing and implementing a comprehensive plan and process to broaden participation in Science, Technology, Engineering, and Mathematics. These grants are seen as first steps towards the larger NSF INCLUDES Alliance grants. They are exceedingly competitive, with a two-step review process.

In February 2017, the Director submitted the team's required pre-proposal, and in March learned that they had not been invited to submit a full proposal. The reviews did, however, provide some helpful guidance about how to revise the pre-proposal, with one review stressing that the proposal should definitely be revised and resubmitted next year.

The project will (1) bring representatives from a collection of Southern California colleges with a significant number of undergraduates from groups under-represented in mathematics together with representatives from a collection of mathematics Ph.D. programs in California to discuss the sorts of changes and interventions that could increase the diversity in the graduate programs, and (2) facilitate the implementation of some of the agreed-upon changes and interventions.

The project team (Grundman, De Loera, Noronha, and Stevens), is hoping to submit a revised preproposal next year, although they are open to other opportunities to fund this, or a similar project.

In November of 2016, the ECBT approved the planning, preparation, and submission of a proposal to fund SIGMA Beyond: Women Succeeding in Graduate Mathematics and Beyond. This is a multi-year project that uses education, mentoring, and support to improve the success rate of women in securing tenured faculty positions in the mathematical sciences. It was developed in collaboration with the AWM, the EDGE program, and the Director of CaMeW. The ECBT approved submitting a proposal to the NSF ADVANCE-Partnership program or other possible funding sources. In the fall of 2016, the Department submitted the required "letter of intent" to the NSF ADVANCE-Partnership program. The Director subsequently received a form letter from NSF, explaining a narrow interpretation of the proposal solicitation that made it an inappropriate source of funding for this project. She has been talking with NSF program officers to identify other programs that may be interested in the project, while also looking for other funding possibilities.

The project, as currently envisioned, will support women mathematicians preparing for or newly in the professoriate. Each year, it will offer three distinct workshops to which women may apply: one for women transitioning into a math Ph.D. program; another for women in the dissertation research and writing phase of their graduate studies; and a third for women poised to enter the academic job market. Each of these workshops will encourage peer-mentoring and social activities, to help build a lasting community among the participants.

The program would be run in cooperation with the AWM, EDGE, and Wheaton College (Massachusetts), each of which has valuable expertise in different parts of this proposal, with input from an Advisory Board appointed by the AMS President.

In May 2017, the ECBT will be asked to approve the planning, preparation, and submission of a collaborative grant proposal, NSF INCLUDES Alliance: Inclusive Graduate Education (IGEN), the AMS's portion of which would fund new programs to increase the diversity in graduate mathematics programs. In a collaborative proposal, each organization has its own budget, with funding coming directly from NSF, but a single, combined proposal is submitted. In this case, the American Physical Society has invited the AMS, the American Chemical Society, and the American Geophysical Union to join them in submitting a collaborative proposal to improve the diversity of graduate students completing Ph.D.'s in these fields. Details about this proposal can be found in item 2.15 of this ECBT agenda.

The Director is hopeful that some of the programs already designed by her department may be worked into this proposal and find funding as a part of a successful collaborative grant proposal. The NSF has not yet set a deadline for submission of the NSF INCLUDES Alliance grant proposals, but has stated that it will be in 2017.

T. Christine Stevens, Associate Executive Director<br>for Meetings \& Professional Services

Helen G. Grundman, Director of Education and Diversity
May 2, 2017

## Financial Statements

## American Mathematical Society

December 31, 2016 and 2015

# AMERICAN MATHEMATICAL SOCIETY 

## Financial Statements

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# Independent Auditors' Report 

The Board of Trustees
American Mathematical Society
Providence, Rhode Island

We have audited the accompanying financial statements of American Mathematical Society (the "Society"), which comprise the balance sheets as of December 31, 2016 and 2015, and the related statements of activities and cash flows for the years 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.

## Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits 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 auditors' 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 the entity's 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 the entity's 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 American Mathematical Society as of December 31, 2016 and 2015, and the changes in its net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## Mayo Atffeman Tuscan P.C.

May 19, 2017
Providence, Rhode Island

Balance Sheets

December 31, 2016

2015

## Assets

Cash
Certificates of deposit
Short-term investments
Accounts and contributions receivable, net of allowances of $\$ 284,980$ and $\$ 258,480$ in 2016 and 2015, respectively
Deferred prepublication costs
Completed books
Prepaid expenses and deposits
Land, buildings and equipment, net
Long-term investments

| $\$ 1,131,379$ | $\$$ | $1,018,324$ |
| ---: | ---: | ---: |
| 660,000 | 710,000 |  |
| $14,600,782$ | $14,454,171$ |  |
|  |  |  |
| 553,200 | $1,150,407$ |  |
| 594,587 | 568,295 |  |
| $1,360,939$ | $1,291,914$ |  |
| $1,632,127$ | $2,038,938$ |  |
| $5,086,655$ | $4,379,852$ |  |
| $140,116,402$ | $127,034,621$ |  |

Total assets
$\$ \xlongequal{165,736,071} \$ \xlongequal{152,646,522}$

## Liabilities and Net Assets

Liabilities:
Accounts payable and accrued expenses
Accrued study leave pay
Deferred revenue
Postretirement benefit obligation

Total liabilities

| $\$$ | $4,190,837$ | $\$$ | $3,748,485$ |
| ---: | ---: | ---: | ---: |
| 736,298 |  | 698,508 |  |
| $12,926,112$ |  | $12,613,091$ |  |
| $7,646,939$ |  | $7,321,355$ |  |
|  |  |  |  |
|  |  |  | $\mathbf{2 4 , 3 8 1 , 4 3 9}$ |

Net assets:
Unrestricted:
Undesignated
Designated

Temporarily restricted
Permanently restricted

## Total net assets

Total liabilities and net assets

| - |  | 120,955 |
| :---: | :---: | :---: |
| 122,198,789 |  | 111,782,413 |
| 122,198,789 |  | 111,903,368 |
| 11,667,789 |  | 10,665,546 |
| 6,369,307 |  | 5,696,169 |
| 140,235,885 |  | 128,265,083 |
| \$ 165,736,071 | \$ | 152,646,522 |

# AMERICAN MATHEMATICAL SOCIETY 

## Statements of Activities

|  |  | Years Ended December 31, |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 2016 |  | 2015 |
| Changes in unrestricted net assets: |  |  |  |  |
| Operating revenue, including net assets released from restrictions: |  |  |  |  |
| Mathematical reviews | \$ | 11,877,717 | \$ | 11,521,492 |
| Journals |  | 5,171,245 |  | 5,206,573 |
| Books |  | 4,134,261 |  | 3,494,449 |
| Dues, services, and outreach |  | 3,378,939 |  | 3,613,378 |
| Investment returns appropriated for spending |  | 2,537,418 |  | 2,074,382 |
| Other publications-related revenue |  | 590,102 |  | 605,080 |
| Grants, prizes and awards |  | 1,473,577 |  | 1,753,884 |
| Meetings |  | 1,438,623 |  | 1,321,735 |
| Unrestricted contributions |  | 797,693 |  | 1,813,725 |
| Short-term investment income |  | 394,068 |  | 64 |
| Other |  | 22,006 |  | 68,216 |
| Total operating revenue |  | 31,815,649 |  | 31,472,978 |
| Operating expenses: |  |  |  |  |
| Mathematical reviews |  | 8,189,326 |  | 7,696,350 |
| Journals |  | 1,488,098 |  | 1,515,997 |
| Books |  | 3,629,068 |  | 3,442,729 |
| Publications indirect |  | 1,373,895 |  | 1,216,181 |
| Customer services, warehousing and distribution |  | 1,615,466 |  | 1,625,478 |
| Other publications-related expense |  | 188,623 |  | 141,647 |
| Membership, services and outreach |  | 4,804,083 |  | 4,533,481 |
| Grants, prizes and awards |  | 1,405,161 |  | 2,138,628 |
| Meetings |  | 1,344,479 |  | 1,268,016 |
| Governance |  | 642,822 |  | 569,277 |
| Member and professional services indirect |  | 1,054,673 |  | 891,823 |
| General and administrative |  | 4,418,657 |  | 3,915,508 |
| Other |  | 75,888 |  | 100,011 |
| Total operating expenses |  | 30,230,239 |  | 29,055,126 |
| Excess of operating revenue over operating expenses |  | 1,585,410 |  | 2,417,852 |
| Nonoperating revenues and expenses: |  |  |  |  |
| Investment returns (loss) net of investment returns available for spending |  | 8,512,302 |  | $(1,872,939)$ |
| Use of board designated funds from Backfile Digitization, Strategic Initiative and Endowment Income Stablization Funds |  | $(82,332)$ |  | $(6,680)$ |
| Add back for capitalization of in-house software development labor |  | 509,745 |  | - |
| Depreciation of in-house software development labor |  | $(57,438)$ |  | $(53,810)$ |
| Postretirement benefit-related changes other than net periodic cost |  | $(172,266)$ |  | 247,745 |
| Change in unrestricted net assets |  | 10,295,421 |  | 732,168 |

## AMERICAN MATHEMATICAL SOCIETY

## Statements of Activities (Continued)

Years Ended December 31,
2016

Changes in temporarily restricted net assets:
Contributions
Investment returns
Net assets released from restrictions
Reclassifications for donor redesignations
$\quad$ Change in temporarily restricted net assets

Change in permanently restricted net assets:
Contributions
Reclassifications for donor redesignations
Change in permanently restricted net assets
Change in net assets
Net assets, beginning of year
Net assets, end of year

| \$ | 205,377 | \$ | 332,307 |
| :---: | :---: | :---: | :---: |
|  | 1,549,217 |  | 13,503 |
|  | $(652,351)$ |  | $(730,744)$ |
|  | $(100,000)$ |  | - |
|  | 1,002,243 |  | $(384,934)$ |


| 573,138 | 158,041 |
| :---: | :---: |
| 100,000 | - |
| 673,138 | 158,041 |
| 11,970,802 | 505,275 |
| 128,265,083 | 127,759,808 |

$\$ \xlongequal{140,235,885} \$ \xlongequal{\text { 128,265,083 }}$

Cash flows from operating activities:
Change in net assets
Adjustments to reconcile change in net assets to net cash provided by operating activities:

Depreciation
Provision for (recovery from) losses on accounts receivable
Net realized and unrealized losses (gains) on long-term investments
Net realized gains on short-term investments
Contributions restricted for permanent investment
Contributions in-kind
Loss on disposal of equipment
Changes in assets and liabilities:
Accounts receivable
Deferred prepublication costs
Completed books
Prepaid expenses and deposits
Accounts payable and accrued expenses
Deferred revenue
Postretirement benefit obligation

## Net cash provided by operating activities

## Cash flows from investing activities:

Purchases and sales of short-term investments, net
Purchases and redemptions of certificates of deposit, net
Purchases of property and equipment, net
Purchases of long-term investments

## Net cash used in investing activities

## Cash flows from financing activities:

Contributions restricted for permanent investment
Net cash provided by financing activities
Net increase (decrease) in cash
Cash at beginning of year
Cash at end of year

Years Ended December 31, 2016

2015

|  |  |  |
| :---: | :---: | ---: |
|  | $11,970,802$ | $\$$ |
|  | 505,275 |  |
|  |  |  |
| 798,341 | 674,977 |  |
| 26,500 | $(36,321)$ |  |
| $(9,453,317)$ | $2,674,364$ |  |
| $(394,068)$ | $(1,046)$ |  |
| $(573,138)$ | $(158,041)$ |  |
| - | $(925,442)$ |  |
| - | 3,300 |  |
|  |  |  |
|  |  |  |
| 570,707 | $(458,334)$ |  |
| $(26,292)$ | 66,141 |  |
| $(69,025)$ | $(97,679)$ |  |
| 406,811 | $(373,285)$ |  |
| 480,142 | $(307,176)$ |  |
| 313,021 | $1,161,999$ |  |
| 325,584 | $(87,123)$ |  |

4,376,068

|  |  |  |
| ---: | ---: | ---: |
|  |  | $(195,940)$ |
| 247,457 |  | 891,460 |
| 50,000 |  | $(608,622)$ |
| $(1,505,144)$ |  | $(2,890,420)$ |
| $(3,628,464)$ |  | $(\mathbf{2 , 8 0 3 , 5 2 2})$ |
| $(\mathbf{4 , 8 3 6 , 1 5 1 )}$ |  |  |


| 573,138 |  | 158,041 |  |
| ---: | ---: | ---: | ---: |
|  |  | $\mathbf{1 5 8 , 0 4 1}$ |  |
| $\mathbf{5 7 3 , 1 3 8}$ |  | $(\mathbf{3 , 8 7 2})$ |  |
| $\mathbf{1 1 3 , 0 5 5}$ |  | $1,022,196$ |  |
| $1,018,324$ |  |  |  |
|  |  |  | $\mathbf{1 , 0 1 8 , 3 2 4}$ |

## Notes to Financial Statements

## Note 1 - Description of Organization and Summary of Significant Accounting Policies

## Description of Organization

The American Mathematical Society (the "Society") was created in 1888 to further mathematical research and scholarship. It is an international membership organization, currently with approximately 28,000 members. The Society fulfills its mission with publications and professional programs to further the interests of mathematical research, scholarship and education.

The Society is incorporated under the laws of the District of Columbia and follows the provisions of the Uniform Prudent Management of Institutional Funds Act (the "Act") as enacted.

## Basis of Financial Statement Presentation

The financial statements of the Society have been prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America ("GAAP").

The Society presents information regarding its financial position and activities according to three classes of net assets described as follows:

Unrestricted - All resources over which the governing board has discretionary control. The governing Board of the Society may elect to designate such resources for specific purposes. This designation may be removed at the Board's discretion.

Temporarily restricted - Resources accumulated through donations or grants for specific operating or capital purposes. Such resources will become unrestricted when the requirements of the donor or grantee have been satisfied through expenditure for the specified purpose or program or through the passage of time.

Permanently restricted - Endowment resources accumulated through donations or grants that are subject to the restriction in perpetuity that the principal be invested. These net assets include the original value of the gift, plus any subsequent additions. Unexpended appreciation on permanently restricted net assets is included in temporarily restricted net assets until appropriated by the Board in accordance with the Act for use unless otherwise instructed by the donor.

## Estimates

The preparation of the financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and disclosures of contingent assets and liabilities, as of the dates of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates. Significant estimates include allowances on accounts receivable, releases of donor restrictions, recoverability of deferred publication and completed books costs, useful lives of depreciable assets, deferred revenue, postretirement benefit obligations, accrued paid personal leave and capitalization of in-house software development labor costs.

# AMERICAN MATHEMATICAL SOCIETY 

## Notes to Financial Statements

## Note 1 - Description of Organization and Summary of Significant Accounting Policies (Continued)

## Operations

The Society defines operating income as the net increase in unrestricted net assets derived from the activities related to the accomplishment of its mission, such as publications, programs, meetings and conferences, and member services. Investments appropriated for spending by the Board of Trustees are also presented as operating revenue. Investment returns less amounts appropriated for spending and other non-operational and one time charges that arise are presented as a non-operating item.

## Contributions, Gifts and Pledges Receivable

Contributions are recorded as revenue when received or verifiably promised at estimated fair value. Such amounts are recorded as unrestricted, temporarily restricted, or permanently restricted support depending on the existence and nature of any donor restrictions. Contributions are considered to be available for unrestricted use unless specifically restricted by the donor or grantor. The fair value of promises to give are considered a non-recurring fair value measure. Restricted amounts are reclassified to unrestricted net assets upon satisfaction of the donor restriction. Restrictions related to the acquisition of long-lived assets are considered satisfied at the time the asset is acquired. Accounts receivable includes $\$ 35,000$ of pledges receivable at December 31, 2016. Of this amount $\$ 15,000$ of the balance is due within one year, with the remaining $\$ 20,000$ due over the next five years. There was $\$ 90,000$ due at December 31, 2015 .

The Society receives contributed services from its members, principally as volunteer leaders in the governance structure of the Society and as volunteer members of editorial committees for the Society's various publications. The latter category of contributed services qualifies for recognition as income and expense under GAAP, as the members of the editorial committees must possess specialized skills. However, the Society has no practical way of measuring the fair value of the services received from its volunteer editorial committee members, and accordingly, no such estimate is included as revenue or expense in the accompanying financial statements.

## Cash

Cash is comprised of bank accounts and petty cash. The Society maintains its cash in bank deposit accounts which, at times, may exceed federally insured limits. The Society monitors its exposure associated with cash in bank deposits and has not experienced any losses in such accounts.

## Certificates of Deposit

Certificates of deposit are carried at cost plus accrued interest and are subject to similar risks as noted in cash.

## Accounts Receivable

Accounts receivable are stated net of allowances for returns and doubtful accounts in the balance sheets. The allowance for doubtful accounts has been established based on a review of the aged accounts. The factors influencing management's judgment of the adequacy of the allowance for doubtful accounts include historical losses and the status of current collection efforts. The allowance for returns has been established based on historical returns. Trade accounts receivable are written off after it is evident that the collection efforts have been exhausted.

## Notes to Financial Statements

## Note 1 - Description of Organization and Summary of Significant Accounting Policies (Continued)

## Short-Term and Long-Term Investments

Both short-term and long-term investments are carried at fair value. Fair value is determined as per the fair value policies described later in this section. Accordingly, revenue is recorded as fair market value changes in the period in which such fair value changes occur.

Interest, dividends, and net gains or losses on all donor-restricted endowment fund investments are recorded in temporarily restricted net assets net of amounts appropriated for spending. Such amounts are reclassified from temporarily restricted net assets as used for intended purposes.

The Board of Trustees also appropriates from its other funds to support the Society's mission-driven activities. Returns from the board-designated funds, the Operating Support Fund and the Young Scholars Fund, support the operations of the Society under a spending policy.

The investments of the Society are pooled and unitized for accounting purposes. Each fund subscribes to, or disposes of, units on the basis of the fair value per unit at the end of the calendar quarter within which the transactions take place. Investment income, including interest, dividends and realized and unrealized gains and losses, is allocated quarterly based on the number of units held by each fund at the beginning of the quarter.

## Fair Value Measurements

The Society reports certain assets and liabilities at fair value on a recurring and non-recurring basis depending on the underlying accounting policy for the particular item. Recurring fair values measures include the Society's investments in marketable securities. These standards require an entity to maximize the use of observable inputs (such as quoted prices in active markets) and minimize the use of observable inputs (such as appraisals or valuation techniques) to determine fair value.

The three levels of the fair value hierarchy are described below:
Level I - Quoted prices are available in active markets for identical instruments as of the reporting date. Instruments which are generally included in this category include listed equity and debt securities publicly traded on a stock exchange.

Level II - Pricing inputs are other than quoted prices in active markets, which are either directly or indirectly observable as of the reporting date, and fair value is determined through the use of models or other valuation methodologies.

Level III - Pricing inputs are unobservable for the instrument and include situations where there is little, if any, market activity for the instrument. The inputs into the determination of fair value require significant management judgment or estimation.

# AMERICAN MATHEMATICAL SOCIETY 

## Notes to Financial Statements

## Note 1 - Description of Organization and Summary of Significant Accounting Policies (Continued)

## Fair Value Measurements (Continued)

In some instances, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such instances, an instrument's level within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement.

Market price is affected by a number of factors, including the type of asset or liability and the characteristics specific to the asset or liability. Assets or liabilities with readily available active quoted prices or for which fair value can be measured from actively quoted prices generally will have a higher degree of market price observability and a lesser degree of judgment used in measuring fair value. It is reasonably possible that changes in values of these assets or liabilities will occur in the near term and that such changes could materially affect amounts reported in these financial statements. For more information on the fair value of the Society's financial assets, see Note 3 - Investments.

## Deferred Prepublication Costs

Prepublication costs, consisting of translation, editorial, composition and proofreading costs, are deferred until publication. Upon publication, prepublication costs related to books are transferred into completed books inventory and prepublication costs related to journals are expensed, effectively matching subscription revenue for such journals.

## Completed Books

Publication costs of books, consisting of paper, printing, and prepublication costs, are accumulated and recorded as completed books. Costs are amortized and charged to expense generally over five years. The majority of costs are allocated to the first year after completion based on management's assessment of historical sales patterns. This method approximates completed books being recorded at the lower of cost or market.

## Land, Buildings, Equipment and Accumulated Depreciation

Land, buildings, and equipment are recorded at cost less accumulated depreciation. Depreciation is provided over the estimated useful lives of the assets using straight-line or accelerated methods.

| Asset Classifications | Estimated <br> Useful Life |
| :--- | ---: |
| Land improvements | $10-20$ years |
| Buildings and improvements | $10-35$ years |
| Furniture, equipment and software | $3-10$ years |
| Transportation equipment | $3-15$ years |

## Notes to Financial Statements

## Note 1 - Description of Organization and Summary of Significant Accounting Policies (Continued)

## Land, Buildings, Equipment and Accumulated Depreciation (Continued)

The Society accounts for costs incurred for software developed or obtained for internal use including capitalizing costs incurred during the application development stage with amortization on a straight-line basis beginning when the computer software is ready for its intended use.

## Revenue Recognition and Deferred Revenue

Advanced collections for mathematical reviews, membership dues and other subscriptions are deferred and recorded as income over the related membership period or subscription period. Subscriptions include traditional printed and electronic media. Meetings income is reported as revenue on the date of the event. Advance sales are reported as deferred revenue.

Books, journals and other publications revenues are recorded upon shipment, less an estimate for returns.
Grant income from government funded arrangements is recorded as revenue as costs are incurred under the related arrangement. Accounting for grant income from other sources is evaluated for proper recognition with certain grants being recorded as revenue as related costs are incurred while others are recorded as revenue upon receipt.

The Society receives various grants that are subject to audit by the grantors or their representatives. Such audits could result in requests for reimbursement for expenditures disallowed under the terms of the grant; however, management believes that these disallowances, if any, would be immaterial.

Net assets released from restrictions are classified in the respective revenue accounts on the statements of activities.

Conditional contributions received from donors are deferred and recorded as contributions revenue once the donor's conditions are substantially met. There was $\$ 275,000$ and $\$ 112,000$ in conditional contributions included in deferred revenue at December 31, 2016 and 2015, respectively.

Investment returns are reflected in the statements of activities based on the fair value of the underlying securities with such changes being reflected in the appropriate net asset category as the changes occur. Interest and dividend income is recognized when earned.

# AMERICAN MATHEMATICAL SOCIETY 

## Notes to Financial Statements

## Note 1 - Description of Organization and Summary of Significant Accounting Policies (Continued)

## Service Fees

The Society provides various supporting services to other unaffiliated organizations for a service fee. These fees are included in other publications-related revenue on the statements of activities in the amount of $\$ 299,680$ and $\$ 303,161$ for the years ended December 31, 2016 and 2015, respectively. Certain transactions flow through the Society's financial accounts; however, revenues and expenses of such organizations are not included in the financial statements of the Society.

## Income Tax Status

The Society is recognized by the Internal Revenue Service as an organization described under Section 501(c)(3) of the Internal Revenue Code and is generally exempt from Federal and state income taxes on related income.

## Uncertain Tax Positions

The Society accounts for the effect of any uncertain tax positions based on a "more likely than not" threshold to the recognition of the tax positions being sustained based on the technical merits of the position under scrutiny by the applicable taxing authority. If a tax position or positions are deemed to result in uncertainties of those positions, the unrecognized tax benefit is estimated based on a "cumulative probability assessment" that aggregates the estimated tax liability for all uncertain tax positions. The Society has identified its tax status as a tax-exempt entity and its determinations to classify income as related and unrelated as its only significant tax positions; however, the Society has determined that such tax positions do not result in an uncertainty requiring recognition. The Society is not currently under examination by any taxing jurisdiction. The Society's Federal and state tax returns are generally open for examination for three years following the date filed.

## Functional Expense Allocation

Costs have been allocated to functional classifications based on percentage of effort, usage, square footage and other criteria.

Fundraising costs for the years ended December 31, 2016 and 2015 were $\$ 404,307$ and $\$ 343,990$, respectively, and are included within membership, services and outreach in the statements of activities.

## Reclassifications

Certain amounts in the financial statements for 2015 have been reclassified to conform with the 2016 presentation.

Notes to Financial Statements
May 2017 AMS ECBT

## Note 2 - Land, Buildings, and Equipment, Net

The following comprise the Society's investments in land, buildings, and equipment as of December 31:

|  | 2016 |  | 2015 |  |
| :---: | :---: | :---: | :---: | :---: |
| Land and improvements | \$ | 422,507 | \$ | 422,507 |
| Buildings and improvements |  | 7,992,803 |  | 7,847,598 |
| Furniture, equipment and software |  | 6,929,079 |  | 5,804,509 |
| Transportation equipment |  | 93,449 |  | 65,625 |
| Buildings, equipment and software in progress |  | 451,837 |  | 244,292 |
|  |  | $15,889,675$ $(10,803.020)$ |  | $14,384,531$ $(10.004 .679)$ |
| Less accumulated depreciation |  | $(10,803,020)$ |  | $(10,004,679)$ |
|  | \$ | 5,086,655 | \$ | 4,379,852 |

## Note 3 - Investments

The following table summarizes the Society's investments as of December 31:

|  | 2016 |  |  | 2015 |
| :---: | :---: | :---: | :---: | :---: |
| Fixed income mutual funds | \$ | 6,182,150 | \$ | 6,204,505 |
| Convertible securities mutual fund |  | 2,168,482 |  | 2,222,529 |
| Domestic corporate stock |  | 21,681 |  | 32,266 |
| Money market mutual funds |  | 6,228,469 |  | 5,994,871 |
| Total short-term investments |  | 14,600,782 |  | 14,454,171 |
| Fixed income mutual funds |  | 26,132,129 |  | 25,371,753 |
| Equity mutual funds: |  |  |  |  |
| Broad U.S. market stock mutual fund |  | 96,706,292 |  | 85,829,583 |
| Domestic real estate investment trusts |  | 5,495,839 |  | 5,065,281 |
| Non U.S. developed and emerging markets stock mutual fund |  | 11,782,142 |  | 10,768,004 |
| Total long-term investments |  | 140,116,402 |  | 127,034,621 |
| Total investments | \$ | 154,717,184 | \$ | 141,488,792 |

# AMERICAN MATHEMATICAL SOCIETY 

## Notes to Financial Statements

## Note 3-Investments (Continued)

Short-term and long-term investments are classified as Level I in the fair value hierarchy because of the Society's ability to obtain quoted prices at the reporting date and redeem its interest on a daily basis.

The Society's long-term investments are segregated into four separate portfolios (including mutual funds), each with its own investment manager and investment objective. The overall investment strategy is determined by the Investment Committee of the Board of Trustees and is approved by the Board of Trustees annually. The primary investment objective of the long-term investment portfolio is an average real total return (net of investment fees and the effects of consumer inflation) of at least $4 \%$ over the long term. To achieve this result, the investment portfolio is allocated approximately $75 \%$ to equity investments and $25 \%$ to fixed income investments. The equity investments are further diversified into domestic, international, and real estate holdings. Additionally, the entire portfolio is diversified across economic sectors, geographic locations, industries, and size of investees.

The following schedule summarizes the long-term investment return and its classification in the accompanying statements of activities for the years ended December 31:

|  |  | 2016 |  | 2015 |
| :---: | :---: | :---: | :---: | :---: |
| Dividends and interest, net of management fees Net realized and unrealized gains (losses) | \$ | $\begin{aligned} & 3,145,620 \\ & 9,453,317 \\ & \hline \end{aligned}$ | \$ | $\begin{gathered} 2,889,310 \\ (2,674,364) \\ \hline \end{gathered}$ |
| Investment returns |  | 12,598,937 |  | 214,946 |
| Less investment returns classified as temporarily restricted |  | $(1,549,217)$ |  | $(13,503)$ |
| Less investment appropriated for spending: Spendable income from Operations Support Fund Spendable income from Young Scholars \& Baxter Fund |  | $\begin{array}{r} (2,500,000) \\ (37,418) \\ \hline \end{array}$ |  | $\begin{array}{r} (2,048,000) \\ (26,382) \\ \hline \end{array}$ |
| Sub-total |  | $(2,537,418)$ |  | (2,074,382) |
| Investment returns less investment returns appropriated for spending | \$ | 8,512,302 | \$ | $(1,872,939)$ |

Management fees are incurred directly by mutual funds which the Society has holdings; such returns reported by the funds are net of such costs, and accordingly, such fees are embedded within the investment returns.

Under certain unusual circumstances, mutual funds may alter redemption provisions of their investment vehicles which could impact the liquidity of funds. No such changes to redemption provisions have occurred in 2016 or 2015.

## Notes to Financial Statements

## Note 4 - Accrued Study Leave Pay

Certain employees of the Society receive vested rights to study leave pay based upon salary and years of service. The Society provides for this obligation over the related years of the employees' service. The provision for the study leave pay charged to expense totaled $\$ 224,265$ and $\$ 147,484$ in 2016 and 2015, respectively.

## Note 5 - Pension and Postretirement Benefits

The Society has contributory retirement plans (the "Plans") covering substantially all full-time employees. The Plans are administered by, and related assets are maintained with, Teachers Insurance and Annuity Association and College Retirement Equities Fund. Under the Plans, the Society contributes $9.5 \%$ of eligible compensation (with higher amounts for employees earning in excess of the social security second bend point). The Society's retirement expenses for the Plans totaled $\$ 1,383,769$ and $\$ 1,291,752$ in 2016 and 2015, respectively. In addition, the Society offers an employee only plan which allows for additional contributions upon election of said employee.

The Society sponsors a defined benefit postretirement medical plan that covers substantially all full-time employees. Under the plan provisions, employees who retire from the Society at age 62 or older with at least 12 years of service are eligible for benefits under the plan upon the attainment of age 65. Plan benefits consist of health insurance coverage under a Medicare Supplement Plan and reimbursement of Medicare Part B premiums. Employees who retire before age 62 may qualify for coverage under the plan according to a longer service requirement schedule established by the Society. Spouses of eligible retirees are not covered. The plan is noncontributory and is unfunded.

The plan limits the annual benefit per retiree to $\$ 4,000$ for reimbursement of actual premiums paid for Medicare Supplement insurance and any Medicare coverage premiums. The plan was frozen effective June 30, 2006 whereby employees hired after that date are not eligible to participate in the plan. There is no provision for this maximum benefit amount to increase over time.

Net postretirement benefit cost for the years ended December 31, 2016 and 2015 consisted of the following components:
20162015

| Service cost | \$ | 118,125 | \$ | 147,917 |
| :---: | :---: | :---: | :---: | :---: |
| Interest cost |  | 301,411 |  | 266,262 |
| Amortization of prior service credit, post-2007 amendment |  | $(246,258)$ |  | $(246,258)$ |
| Amortization of net experience losses |  | 176,200 |  | 166,800 |
| Net postretirement benefit cost | \$ | 349,478 | \$ | 334,721 |

The prior service cost (credit) and net loss (gain) expected to be recognized as components of net periodic postretirement benefit cost for the year ending December 31, 2017 are approximately $\$(246,258)$ and $\$ 159,300$, respectively.

# AMERICAN MATHEMATICAL SOCIETY 

## Notes to Financial Statements

## Note 5 - Pension and Postretirement Benefits (Continued)

The following table reconciles the plan's funded status with the amounts presented in the Society's financial statements at December 31:

$$
2016 \quad 2015
$$

Projected postretirement benefit obligation, beginning of the year (and funded status)
Service and interest cost for the year

| $\$$ | $7,321,355$ | $\$$ | $7,408,478$ |
| :---: | :---: | :---: | :---: |
|  | 419,536 |  | 414,179 |
|  | $(173,527)$ | $(173,527)$ |  |
|  | 79,575 | $(327,775)$ |  |

Projected postretirement benefit obligation, end of year
$\$ \xlongequal{\mathbf{7 , 6 4 6 , 9 3 9}} \$ \xlongequal{\mathbf{7 , 3 2 1 , 3 5 5}}$
Net liability recognized in the balance sheet


The following table presents additional information relating to the plan for the years ended December 31:

Discount rate
Healthcare cost trend rate assumed for next year
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)
Year that the rate reaches the ultimate trend rate
4.0\% (2016) 4.1\% (2015)

Not applicable

Not applicable
Not applicable

The expected future benefit payments under plan provisions for the next ten years are as follows:
Years ending December 31:
2017
\$
319,313
2018
2019
2020
333,370
363,494
372,531
2021
404,663
2022-2026
2,296,439

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

## Note 6 - Designated Unrestricted Net Assets

The Board of Trustees of the Society has designated components of unrestricted net assets to support certain purposes. All such designated funds within unrestricted net assets are supported by the unrestricted portion of the long-term investment portfolio. The Economic Stabilization Fund is designated to provide support for the Society in future years should an unexpected need arise. The Operations Support Fund is designated to provide current operating support to the Society via use of a $4 \%$ spending rate applied to the average of the prior four-year ending values of the fund. The Journal Archive Fund is designated to accumulate funds to support changes that may be necessary for electronic files to be available for future use due to as yet unforeseen technological changes. The Young Scholars Fund was created by the Board of Trustees in 2000 to augment the funds in Epsilon Fund for Young Scholars, a true endowment fund that supports programs for high school mathematics students. The Backfile Digitization Fund is expected to be used in future years for the digitization of the Society's backfile collection of more than 3,000 published books. In addition, the Endowment Income Stabilization Fund was established to supplement the endowment spendable income when the income does not meet a fund's established goals; however, the Board of Trustees decided that the fund was no longer needed, and the funds were returned to the Operations Support Fund in 2016. The Strategic Initiative Fund was set aside in 2015 to fund expenses related to strategic planning implementation.

The following comprises the balances in these designated funds within unrestricted net assets as of December 31:

$$
2016 \quad 2015
$$

| Spending subject to spending policy: |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Operations Support Fund | \$ | 94,606,082 | \$ | 78,041,064 |
| Young Scholars Fund |  | 896,980 |  | 843,852 |
| Kathleen Baxter Memorial Fund |  | 281,288 |  | 263,859 |
| Spending subject to Board approval: |  |  |  |  |
| Economic Stabilization Fund |  | 24,163,443 |  | 30,131,910 |
| Backfile Digitization Fund |  | 68,401 |  | 111,389 |
| Strategic Initiative Fund |  | 310,657 |  | 250,000 |
| Endowment Income Stabilization Fund |  | - |  | 482,844 |
| Journal Archive Fund |  | 1,871,938 |  | 1,657,495 |
| Total | \$ | 122,198,789 | \$ | 111,782,413 |

# AMERICAN MATHEMATICAL SOCIETY 

## Notes to Financial Statements

## Note 7-Temporarily Restricted Net Assets

Temporarily restricted net assets consist of amounts restricted by donors for the following purposes as of December 31:

|  |  | 2016 |  | 2015 |
| :---: | :---: | :---: | :---: | :---: |
| Restricted purpose: |  |  |  |  |
| Prizes and scholarships | \$ | 1,164,927 | \$ | 1,160,524 |
| Lectures and symposia |  | 243,197 |  | 273,020 |
| Epsilon awards |  | 97,377 |  | 94,765 |
| Graduate student travel program |  | 57,829 |  | 47,544 |
| Translation Projects |  | 24,658 |  | 24,658 |
| Mathematical reviews projects and subscriptions |  | 30,000 |  | 42,213 |
| Other miscellaneous |  | 167,498 |  | 125,202 |
| Unspent spendable income from unrestricted use true endowment funds |  | 131,317 |  | 84,060 |
| Accumulated gains on true endowment gifts |  | 9,750,986 |  | 8,813,560 |
| Total | \$ | 11,667,789 | \$ | 10,665,546 |

## Net Assets Released from Restrictions

Net assets are released from temporary donor restrictions by incurring expenses satisfying the restricted purposes or by occurrence of events specified by the donors. The corresponding operating revenue released is presented on the statements of activities in the respective category. Net asset releases were as follows for the years ended December 31:

|  | 2016 |  | 2015 |  |
| :---: | :---: | :---: | :---: | :---: |
| Prizes and scholarships | \$ | 118,005 | \$ | 110,611 |
| Lectures and symposia |  | 48,199 |  | 24,701 |
| Fellowships |  | 39,000 |  | 89,799 |
| Epsilon awards |  | 89,342 |  | 83,618 |
| Graduate student travel program |  | 89,715 |  | 93,826 |
| National Mathematics Game |  | 21,264 |  | 19,300 |
| Mathematical reviews projects and subscriptions |  | 15,293 |  | 19,100 |
| Other miscellaneous |  | 16,230 |  | 6,902 |
| Releases from unrestricted use true endowment funds |  | 215,303 |  | 282,887 |
| Total | \$ | 652,351 | \$ | 730,744 |

## Notes to Financial Statements

## Note 8 - Permanently Restricted Net Assets

The Society has two types of donor-restricted endowments: gifts with no donor designations as to the use of income derived therefrom and gifts whose donors have designated a specific purpose in the gift instrument.

These endowments consisted of the following at December 31:

|  | 2016 |  | 2015 |  |
| :---: | :---: | :---: | :---: | :---: |
| Endowment without donor designation on use of income | \$ | 1,578,101 | \$ | 1,576,376 |
| Endowment with donor designation on use of income: |  |  |  |  |
| Prizes |  | 1,292,159 |  | 1,115,573 |
| Scholarships and fellowships |  | 257,213 |  | 257,213 |
| Early Career Mathematician Fund |  | 403,000 |  | - |
| Symposia and lectures |  | 305,595 |  | 303,579 |
| China collaboration |  | 366,757 |  | 366,757 |
| Epsilon Fund for Young Scholars |  | 2,166,482 |  | 2,076,671 |
|  | \$ | 6,369,307 | \$ | 5,696,169 |

## Note 9-Endowment

The Society's endowment consists of approximately 30 individual funds established for a variety of purposes, including both donor-restricted endowment funds (true endowment) and funds designated by the Board of Trustees to function as endowments. Net assets associated with endowment funds, including funds designated by the Board of Trustees to function as endowments, are classified and reported based on the existence or absence of donor-imposed restrictions.

# AMERICAN MATHEMATICAL SOCIETY 

## Notes to Financial Statements

## Note 9-Endowment (Continued)

The following table summarizes the changes in endowment net assets for the year ended December 31, 2016:

|  | Unrestricted |  | Temporarily Restricted |  | Permanently <br> Restricted |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Endowment net assets, January 1, 2016 | \$ | 111,782,413 | \$ | 8,813,560 | \$ | 5,696,169 | \$ | 126,292,142 |
| Donor-restricted contributions |  | - |  | - |  | 573,138 |  | 573,138 |
| Reclassifications for donor redesignations |  |  |  | - |  | 100,000 |  | 100,000 |
| Investment income |  | 11,049,745 |  | 1,425,730 |  | - |  | 12,475,475 |
| Release of endowment net asset restrictions |  | $(2,619,749)$ |  | $(488,304)$ |  | - |  | $(3,108,053)$ |
| Additions from operations |  | 1,986,380 |  | - |  | - |  | 1,986,380 |
| Endowment net assets, December 31, 2016 | \$ | 122,198,789 | \$ | 9,750,986 | \$ | 6,369,307 | \$ | 138,319,082 |

The following table summarizes the changes in endowment net assets for the year ended December 31, 2015:

|  | Unrestricted |  | Temporarily <br> Restricted |  | Permanently <br> Restricted |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Endowment net assets, January 1, 2015 | \$ | 111,171,200 | \$ | 9,240,735 | \$ | 5,538,128 | \$ | 125,950,063 |
| Donor-restricted contributions |  | - |  | - |  | 158,041 |  | 158,041 |
| Investment income |  | 201,443 |  | 12,381 |  | - |  | 213,824 |
| Release of endowment net asset restrictions |  | $(2,081,062)$ |  | $(439,556)$ |  | - |  | $(2,520,618)$ |
| Additions from operations |  | 2,490,832 |  | ( |  | - |  | 2,490,832 |
| Endowment net assets, December 31, 2015 | \$ | 111,782,413 | \$ | 8,813,560 | \$ | 5,696,169 | \$ | 126,292,142 |

## Notes to Financial Statements

## Note 9-Endowment (Continued)

## Interpretation of Relevant Law

The portion of the donor-restricted endowment fund that is not classified in permanently restricted net assets is classified as temporarily restricted net assets until those amounts are appropriated for expenditure by the Society in a manner consistent with the standards of prudence prescribed by the Act. In accordance with the Act, the Society considers the following factors in making a determination to appropriate or accumulate donor-restricted endowment funds:

1. The duration and preservation of the fund
2. The purposes of the Society and the donor-restricted endowment fund
3. General economic conditions
4. The possible effect of inflation and deflation
5. The expected total return from income and the appreciation of investments
6. Other resources of the Society
7. The investment policies of the Society

## Funds with Deficiencies

From time to time, the fair value of assets associated with individual donor-restricted endowment funds may fall below the level that the donor or the Act requires the Society to retain as a fund of perpetual duration. There were no deficiencies of this nature in 2016 or 2015.

## Return Objectives and Risk Parameters

The Society has adopted investment and spending policies for endowment assets that attempt to provide a predictable stream of funding to programs supported by its endowment while seeking to maintain the purchasing power of the endowment assets. Endowment assets include those assets of donor-restricted funds that the Society must hold in perpetuity or for a donor-specified period as well as board-designated funds. Under this policy, as approved by the Board of Trustees, the endowment assets are invested in a manner that is intended to produce an average annual real rate of return of approximately $4 \%$ over the long term. Actual returns in any given year may vary from this amount.

## Strategies Employed for Achieving Objectives

To satisfy its long-term rate-of-return objectives, the Society relies on a total return strategy in which investment returns are achieved through both capital appreciation (realized and unrealized) and current yield (interest and dividends). The Society targets a diversified asset allocation that places emphasis on investments in equities (allocation in the portfolio between $65 \%$ to $85 \%$, with foreign equities comprising no more than $25 \%$ of the equity total), fixed income securities (allocation in the portfolio between $15 \%$ to $25 \%$ ) and alternatives (currently real estate investment trusts and emerging markets investments with an allocation in the portfolio of no more than $10 \%$ ) to achieve its long-term return objectives within prudent risk constraints.

# AMERICAN MATHEMATICAL SOCIETY 

## Notes to Financial Statements

## Note 9 - Endowment (Continued)

## Spending Policy and How the Investment Objectives Relate to Spending Policy

The Society has a policy of appropriating for distribution each year $4 \%$ of its true endowment funds' average fair value using an average determined prior to the beginning of the fiscal year of which the spending policy relates based on the prior four fiscal year end balances. The Board-Designated Operations Support and Young Scholars Fund's spending is calculated the same way. In establishing these policies, the Society considered the expected return on its endowment. Accordingly, the Society expects the current spending policy to allow its endowment to maintain its purchasing power by growing at a rate, on average over time, equal to planned payouts. Additional real growth will be provided through new gifts and any excess investment return.

Note 10 - Leases

The Society leases certain facilities under short-term arrangements that are renewable annually based on notice.

## Note 11 - Subsequent Events

The Society has evaluated subsequent events through May 19, 2017, the date on which the financial statements were available to be issued. There were no subsequent events to be disclosed based on this evaluation.


[^0]:    ${ }^{1}$ The amount owed to operations arises as a result of spendable income netted against contributions to endowment and Board designated funds.
    ${ }^{2}$ The current ratio is the Society's current assets from the balance sheet divided by the current liabilities. It is a liquidity ratio that measures the Society's ability to pay short-term obligations. A ratio under 1 generally suggests that an organization would not be able to pay its short-term obligation if they came due at that point in time.

[^1]:    ${ }^{1}$ In 2010, the IMU/CDC definition of a developing country was where the Per Capita Gross National Income according to the World Bank's Development Indicators (Atlas methodology) was not in excess of USD 7,500 (World Development Indicators database, World Bank, revised July 9, 2010).

[^2]:    ${ }^{2}$ CDC support to this category is intended solely for the participation of mathematicians from developing countries. Furthermore, conference organizers are required to demonstrate that they will match the funds being requested from/granted by CDC by an equal amount from other sources also dedicated to the participation of mathematicians from developing countries.

