

**AMERICAN MATHEMATICAL SOCIETY
EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES MEETING
NOVEMBER 18-19, 2016
MINUTES
TABLE OF CONTENTS – PAGE 1 OF 3**

0	CALL TO ORDER AND ANNOUNCEMENTS	PAGE
0.1	Opening of the Meeting and Introductions.....	2
0.2	2016 AMS Election Results	2
0.3	Housekeeping Matters.....	3
1	EXECUTIVE COMMITTEE ACTION/DISCUSSION ITEMS	PAGE
1.1	Draft Agenda for January 2017 Council Meeting	3
1I	EXECUTIVE COMMITTEE INFORMATION ITEMS.....	PAGE
1I.1	Secretariat Business by Mail. Att. #4	3
2	EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES ACTION/DISCUSSION ITEMS	PAGE
2.1	Report on Committee on the Profession (CoProf). Att. #5.....	3
2.2	Report on Committee on Education (COE). Att. #6	3
2.3	Report on Committee on Publications (CPub). Att. #7	3
2.4	Report on Mathematical Reviews Editorial Committee (MREC). Att. #8	4
2.5	Report on Committee on Meetings and Conferences (COMC)	4
2.6	Report on Committee on Science Policy (CSP)	4
2.7	Washington Office Report. Att. #9.....	4
2.8	Report on Long Range Planning Committee (LRPC)	4
2.9	2018 Individual Member Dues. Att. #10.....	5
2.10	Approval of Proposals to Funding Agencies and Foundations. Att. #11	5
2.11	Motions of the Secretary	5
2C	EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES CONSENT ITEMS	PAGE
2C.1	May 2016 ECBT Meeting.....	6

**AMERICAN MATHEMATICAL SOCIETY
EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES MEETING
NOVEMBER 18-19, 2016
MINUTES
TABLE OF CONTENTS – PAGE 2 OF 3**

2I	EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES INFORMATION ITEMS.....	PAGE
-----------	--	-------------

2I.1	The Relationship Between the AMS and the National Security Agency (NSA)	6
2I.2	Report on Petitions for AMS Student Chapters. Att. #17	7
2I.3	Changes in Registration Fees for Conferences, Employment Center or Short Course.....	7
2I.4	AMS Education and Diversity Department. Att. #18	7
2I.5	New Director of the AMS Washington Office. Att. #19	8
2I.6	AMS Congressional Fellowship	8
2I.7	AAAS-AMS Mass Media Fellowship	8
2I.8	State of the AMS. Att. #20	9

3	BOARD OF TRUSTEES ACTION/DISCUSSION ITEMS	PAGE
----------	---	-------------

3.1	Budget Review	9
3.1.1	Discussion of Fiscal Reports	9
3.1.2	Capital Expenditures – 2016 and 2017 Capital Purchase Plans.....	9
3.1.3	Capital Expenditures - Approval of Specific Purchases.....	9
3.2	Spendable Income, Operations Support Fund and other Related Items. Att. #21...9	
3.2.1	Addition to Operations Support Fund	10
3.2.2	Rebalancing of Economic Stabilization and Operational Support Funds	10
3.2.3	Allocation of Operations Support Fund (OSF) Spendable Income	10
3.2.4	Appropriation of Spendable Income from Unrestricted Endowment. Att. #22	11
3.2.5	Report on Changes in Appropriated Spendable Income and Report on Endowment Funds	12
3.3	Status of AMS Self-insurance for Health Plan. Att. #28.....	12
3.4	Investment Committee Report	12
3.5	Audit Committee.....	13
3.6	Board-designated Fund for Strategic Plan Implementation.....	13
3.7	Report on Expenditures from Board-designated Fund for Strategic Plan Implementation	13
3.8	Trustees' Officers	14
3.9	Trustees' Committees, etc. Att. #23	14

**AMERICAN MATHEMATICAL SOCIETY
EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES MEETING
NOVEMBER 18-19, 2016
MINUTES
TABLE OF CONTENTS – PAGE 3 OF 3**

3C	BOARD OF TRUSTEES CONSENT ITEMS	PAGE
-----------	---	-------------

3C.1	Request for Support of Speakers at 2018 AAAS Meeting.....	15
3C.2	Recognition for Length of Service.....	17

3I	BOARD OF TRUSTEES INFORMATION ITEMS.....	PAGE
-----------	--	-------------

3I.1	Change in Fringe Benefits	17
3I.2	Retirement Plan Investment Committee Report.....	17

ATTACHMENTS.....		ITEM
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4	Secretariat Business by Mail	11.1
5	Report on Committee on the Profession (CoProf)	2.1
6	Report on Committee on Education (COE).....	2.2
7	Report on Committee on Publications (CPub).....	2.3
8	Report on Mathematical Reviews Editorial Committee (MREC).....	2.4
9	Washington Office Report	2.7
10	2018 Individual Member Dues.....	2.9
11	Approval of Proposals to Funding Agencies and Foundations	2.10
17	Report on Petitions for AMS Student Chapters.....	2I.2
18	AMS Education and Diversity Department	2I.4
19	New Director of AMS Washington Office	2I.5
20	State of the AMS.....	2I.8
21	Spendable Income, Operations Support Fund, and other Related Items	3.2
22	Appropriation of Spendable Income from Unrestricted Endowment.....	3.2.4
23	Trustees’ Committees, etc.	3.9
28	Status of AMS Self-insurance for Health Plan.....	3.3

**AMERICAN MATHEMATICAL SOCIETY
EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES MEETING
NOVEMBER 18-19, 2016**

MINUTES

A joint meeting of the Executive Committee of the Council (EC) and the Board of Trustees (BT) was held Friday and Saturday, November 18-19, 2016, at the AMS Headquarters in Providence, Rhode Island.

All members of the EC were present: Alejandro Adem, Robert L. Bryant, Jesús A. De Loera, Tara S. Holm, Kenneth A. Ribet, Carla D. Savage, and Jennifer Taback. It is noted for the record that a quorum (four members) was present.

All members of the BT were present: Robert L. Bryant, Ruth M. Charney, Jane M. Hawkins, Bryna Kra, Robert K. Lazarsfeld, Zbigniew H. Nitecki, Joseph H. Silverman, and Karen Vogtmann. 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), 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), and T. Christine Stevens (Associate Executive Director, Meetings and Professional Services). Samuel M. Rankin (Associate Executive Director, Washington Office) was unable to attend the meeting.

President Robert Bryant presided over the EC and ECBT portions of the meeting (items beginning with 0, 1, or 2). Board Chair Karen Vogtmann 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
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0.1 **Opening of the Meeting and Introductions.**

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

0.2 **2016 AMS Election Results.**

Secretary Savage announced the following election results:

Vice President

David Jerison, Massachusetts Institute of Technology
Term is three years (1 February 2017 - 31 January 2020)

Trustee

Ralph L. Cohen, Stanford University
Term is five years (1 February 2017 - 31 January 2022)

Members at Large of the Council

Nathan M. Dunfield, University of Illinois at Urbana-Champaign
Gregory F. Lawler, University of Chicago
Irina Mitrea, Temple University
Ravi Vakil, Stanford University
Talitha M. Washington, Howard University
Terms are three years (1 February 2017 - 31 January 2020)

Nominating Committee

Linda Chen, Swarthmore College
Laura De Carli, Florida International University
Shelly Harvey, Rice University
Bjorn Poonen, Massachusetts Institute of Technology
Terms are three years (1 January 2017 - 31 December 2019)
[It is noted for the record that four people were seated on the Nominating Committee, rather than the usual three, because there was an unprecedented tie for the third of three vacancies on the Committee. The Executive Committee decided to appoint both candidates to the Committee.]

Editorial Boards Committee

Hélène Barcelo, MSRI and Arizona State University
Scott Sheffield, Massachusetts Institute of Technology
Terms are three years (1 February 2017 - 31 January 2020)

0.3 Housekeeping Matters.

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

1 EXECUTIVE COMMITTEE ACTION/DISCUSSION ITEMS
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1.1 Draft Agenda for January 2017 Council Meeting.

The EC reviewed a draft agenda for the January 2017 Council meeting. It was decided that the discussion topic for the April 2017 Council Meeting will be: *What is the AMS doing about education? What should the AMS be doing about education?*

1I EXECUTIVE COMMITTEE INFORMATION ITEMS

1I.1 Secretariat Business by Mail. Att. #4.

Minutes of Secretariat business by mail during the months May 2016 – October 2016 are attached (#4).

2 EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES ACTION/DISCUSSION ITEMS
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2.1 Report on Committee on the Profession (CoProf). Att. #5.

The ECBT received the attached (#5) report on the September 17-18, 2016 CoProf meeting in Providence, RI.

2.2 Report on Committee on Education (COE). Att. #6.

The ECBT received the attached (#6) report on the October 13-15, 2016 COE meeting in Washington, DC.

2.3 Report on Committee on Publications (CPub). Att. #7.

The ECBT received the attached (#7) report on the September 16-17, 2016 CPub meeting in Providence, RI.

2.4 Report on Mathematical Reviews Editorial Committee (MREC). Att. #8.

The ECBT received the attached (#8) report on the October 10, 2016 MREC meeting in Ann Arbor, MI.

2.5 Report on Committee on Meetings and Conferences (COMC).

The ECBT was informed that the last COMC meeting was held on March 12, 2016 in Chicago, IL; a report on that meeting was given at the May 2016 ECBT meeting. The Chair of COMC for February 1, 2016 – January 31, 2018 is Monica Nevins of the University of Ottawa. The next COMC meeting will be held on March 18, 2017 at the Hilton Chicago O’Hare Airport Hotel.

2.6 Report on Committee on Science Policy (CSP).

The ECBT was informed that the last CSP meeting was held on April 12-13, 2016 in Washington, DC; a report on that meeting was given at the May 2016 ECBT meeting. CSP will host a panel discussion at the Joint Mathematics Meetings in Atlanta on January 6, 2017. Panelists are currently being invited to participate in this panel entitled “Grassroots Advocacy for Mathematics and Science Policy.” The next CSP meeting will be held April 4-5, 2017 in Washington, DC.

2.7 Washington Office Report. Att. #9.

The ECBT received the attached report (#9) on the activities of the Washington Office.

2.8 Report on Long Range Planning Committee (LRPC).

It was reported that the LRPC met on November 18, 2016 and discussed two topics:

1. The Mathematical Reviews facility in Ann Arbor, Michigan. There are a number of pressing maintenance issues facing this building. The LRPC suggested a variety of possible alternatives for the staff to investigate and report to the ECBT. It is envisioned that the ECBT will make a decision on how to proceed in November 2017.
2. The charge of the Committee on Education (COE). It has been observed that COE is not operating in the manner which was envisioned when the policy committees were created. Since the AMS has a newly-established Department of Education & Diversity, as well as a new Associate Executive Director for Government Relations & Programs (Washington Office), it seemed timely to reconsider the charge of COE, the structure of its meetings, and the designation of a staff liaison. It was decided that the President will appoint an ad hoc committee to review the COE charge and report back to the LRPC.

2.9 2018 Individual Member Dues. Att. #10.

The ECBT reviewed Att. #10, which presents the principles and procedures for setting individual member dues and information used by staff in formulating the recommendation that the 2018 dues rate for individual members be increased \$4 above the 2017 level.

The ECBT concurred with the staff and voted to recommend to the January 2017 Council that 2018 “regular high” dues be increased by \$4 (from \$192 to \$196), with the salary cutoff for high/low rates remaining at \$85,000.

2.10 Approval of Proposals to Funding Agencies and Foundations. Att. #11.

The ECBT received the attached report (#11) on the current status of proposals and approved planning, preparing, and submitting a proposal on the order of \$600,000 for support of a program to increase the participation of women in the professoriate. The proposal will be submitted to the NSF ADVANCE-Partnership Program (or other possible funding sources).

2.11 Motions of the Secretary.

The following motions were approved by acclamation:

*Be it resolved that the Executive Committee and Board of Trustees of the American Mathematical Society accept the retirement of **Samuel M. Rankin, III** with deep appreciation for his long record of faithful service. Sam Rankin has served the Society admirably for 25 years: first as the Associate Executive Director for Publications and then, starting in 1995, as Associate Executive Director for Government Relations and Programs. Sam has been a tireless advocate for increased funding for mathematics research, cultivated partnerships with other organizations to develop strategies to increase funding for all science, connected the mathematics community to decision makers on Capitol Hill, and ensured that mathematicians participated in key science policy groups. Sam has served as the voice of mathematics to policymakers and has successfully conveyed the beauty and value of mathematics to them and the general public. The ECBT offers Sam their special thanks and heartfelt good wishes for a happy and well-deserved retirement.*

*The Executive Committee and Board of Trustees of the American Mathematical Society record their thanks to **Tara S. Holm** for her service to the Society as a member of the Executive Committee during the past four years. The ECBT expresses its gratitude to Professor Holm for her*

thoughtful participation and hopes that she will continue to be available to serve the Society in other ways.

*The Executive Committee and Board of Trustees of the American Mathematical Society record their thanks to **Ruth M. Charney** for her service to the Society as a member of the Board of Trustees during the past five years. The ECBT expresses its gratitude to Professor Charney for her wisdom in contributing to the management of the Society and hopes to be able to draw upon her talents again.*

*The Executive Committee and Board of Trustees of the American Mathematical Society record their thanks to **Robert L. Bryant** for his leadership as President of the Society and for his contribution to the management of the Society as a member of the Board of Trustees. The ECBT is grateful for Professor Bryant's thoughtful participation and trusts that he will continue to be available to the Society as needed.*

2C EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES CONSENT ITEMS

2C.1 May 2016 ECBT Meeting.

The ECBT approved the minutes of the meeting of the Executive Committee and Board of Trustees held May 20-21, 2016, in Providence, Rhode Island, which had been distributed separately. These minutes include:

- ECBT open minutes prepared by the Secretary of the Society
www.ams.org/secretary/ecbt-minutes/ecbt-minutes-0516.pdf
- ECBT executive session minutes prepared by the Secretary of the Society

See also item 3E.8 (approval of the May 2016 BT executive session minutes).

2I EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES INFORMATION ITEMS

2I.1 The Relationship Between the AMS and the National Security Agency (NSA).

For many years, the NSA's Mathematical Sciences Program (MSP) has made awards for research, conferences, and undergraduate activities, and the AMS had a contract under which it administered the submission and review process for proposals. For budgetary reasons, the MSP is unable to fund any new proposals during the 2017 fiscal year (i.e., October 1, 2016 - September 30, 2017). As a result, the contract with the AMS has been canceled. The MSP

program might be partially reinstated in the 2018 fiscal year. See <https://sam.msp.org/nsa-ams/about/program/guidelines.html> for more information.

2I.2 Report on Petitions for AMS Student Chapters. Att. #17.

Att. #17 lists the five new student chapters that have been approved by the Secretariat (on behalf of the BT) since the May 2016 ECBT meeting. As of October 24, 2016 there are 46 student chapters, and three petitions are pending.

2I.3 Changes in Registration Fees for Conferences, Employment Center or Short Course.

The Executive Director is authorized to make changes in these registration fees and then inform the ECBT. There have been no changes since the May 2016 ECBT meeting.

2I.4 AMS Education and Diversity Department. Att. #18.

In 2016 the AMS established an Education and Diversity Department, and Helen Grundman was hired as its Director. She began working part-time in this capacity in March 2016 and became a full-time employee in June 2016. An interview with Helen, which appeared in the December 2016 *Notices*, is attached (#18).

According to the 2017 Operating Plan:

The mission of the Education and Diversity Department is to promote diversity and inclusion in the mathematical sciences and to contribute to the improvement of mathematics education. Initially this new department will focus on the graduate level, seeking to improve the recruitment, preparation, and success rate of students, particularly of members of groups that are under-represented in the mathematical sciences, including women. Increasing the number of doctoral recipients among these groups will not only diversify the population of Ph.D. mathematicians, but will also, over time, positively affect diversity at earlier stages of the mathematics pipeline.

The Education and Diversity Department will plan, develop, and seek funding for new AMS activities and programs. At the same time, it will work with AMS staff to make existing AMS programs, activities, and services more diverse and inclusive. A full report on the Department's activities will be provided to the ECBT at the May 2017 meeting.

2I.5 New Director of the AMS Washington Office. Att. #19.

Sam Rankin will retire at the end of 2016, and his successor, Karen Saxe, has been hired. Dr. Saxe began working part-time recently and will become a full-time employee on January 1, 2017. An interview with Dr. Saxe, which appeared in the December 2016 *Notices*, is attached (#19). A full report from Dr. Saxe will be provided to the ECBT at the May 2017 meeting.

2I.6 AMS Congressional Fellowship.

Dr. Catherine Paolucci has been awarded the 2016-17 AMS Congressional Fellowship. She is working in the offices of Senator Al Franken (MN). Paolucci is an Assistant Professor at the State University of New York (SUNY) at New Paltz. She is a member of both the Department of Mathematics and the Department of Teaching and Learning and serves as the Secondary Mathematics Education Coordinator. Her research is primarily in mathematics teacher education, although she has recently been investigating ways to enhance mathematical learning for students at all levels using 3-D design and 3-D printing. The development of the International Mathematics Enrichment Project (IMEP), which offers future teachers an opportunity to provide mathematics enrichment for children in South Africa, also reflects her commitment to developing innovative programs that increase access to STEM education for all learners.

The AMS again plans to sponsor a Congressional Fellow in 2017-18. The deadline for receipt of applications for that fellowship is February 15, 2017. An announcement and information on the application process will be sent to mathematical sciences department chairs, in addition to being publicized in the *Notices*, on the AMS website, in newsletters and through AMS social media outlets.

2I.7 AAAS-AMS Mass Media Fellowship.

The AMS sponsored Kelsey Houston-Edwards, a PhD student at Cornell University. She spent the summer working at the PBS program NOVA and has been invited by NOVA Next to contribute several YouTube videos specifically on mathematics.

The AMS plans to sponsor a Mass Media Fellow again in 2017. The deadline for receipt of applications for that fellowship is January 15, 2017. An announcement and information on the application process will be sent to graduate students in the mathematical sciences, in addition to being publicized in the *Notices*, on the AMS website, in newsletters and through AMS social media outlets.

21.8 State of the AMS. Att. #20.

Former Executive Director Don McClure's annual report to the spring 2016 Council is attached ([#20](#)). It was published in the [September 2016 issue of Notices](#).

3 BOARD OF TRUSTEES ACTION/DISCUSSION ITEMS
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3.1 Budget Review.

The BT discussed items 3.1.1 through 3.3 and then voted to approve the 2017 budget as presented, subject to the discussion of item 3E.6 (Salary Increments for 2017) in closed executive session.

3.1.1 Discussion of Fiscal Reports.

The BT received and discussed various fiscal reports, including the following:

- 2015 actuals; 2016 year-to-date actuals, projections, and budget; and the 2017 budget, along with explanations of variances
- information about spendable income, long-term investments and endowment funds
- the 2017 Capital Plan and past actuals
- the *Financial Review Memo* from the Chief Financial Officer, which includes an analysis of 2016 actual results and 2017 budget information.

3.1.2 Capital Expenditures – 2016 and 2017 Capital Purchase Plans.

The BT reviewed the 2016 and 2017 capital purchase plans and approved the 2017 plan as part of the 2017 budget. See item 3.1.

3.1.3 Capital Expenditures - Approval of Specific Purchases.

This item is reserved for requests for authorization to make specific large purchases (items costing \$100,000 or more). No such requests were made at this meeting.

3.2 Spendable Income, Operations Support Fund and other Related Items. Att. #21.

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 [Att. #21](#).

3.2.1 Addition to Operations Support Fund.

The amount due operations from the long-term investment portfolio at the end of 2016 is estimated to be approximately \$2,750,000. Operations may not have a need for the entire amount due from the long-term investment portfolio, so any remaining funds should remain in the long-term portfolio, provided that there are enough undesignated, unrestricted net assets to make this move. It is unlikely that the entire amount due operations from the long-term investment portfolio will remain in the portfolio.

The BT approved the Chief Financial Officer's recommendation that the amount due operations from the long-term investment portfolio at 12/31/16 (estimated to be approximately \$2,750,000) be used to fulfill any obligation to maintain the value of true endowment funds at their original gift amount, if possible. Further, any remaining operating funds in the long-term investment portfolio should remain there and be officially added to the OSF, provided that there are enough undesignated, unrestricted net assets available to accomplish this. If this is not possible, part of the OSF will be used to fulfill any obligation to maintain the value of true endowment funds. Any amounts due operations that are greater than the balance of the undesignated, unrestricted net assets at year-end will be transferred from the long-term portfolio to operations.

3.2.2 Rebalancing of Economic Stabilization and Operational Support Funds.

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. At the present time, with current market conditions, it is likely that the transfer will return to the direction of ESF to OSF in 2016.

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

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

The income from the OSF for 2016 and 2017, determined according to the guidelines approved by the BT are \$2,500,000 and 2,831,000, respectively. Both the 2016 and 2017 amounts have been previously approved.

3.2.4 Appropriation of Spendable Income from Unrestricted Endowment. Att. #22.

The May 2001 Board of Trustees adopted the following policy:

Each year, the budgeting process will include recommendations for allocating spendable income from the Unrestricted 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.

At its May 2016 meeting, the Board of Trustees asked staff to change the current procedure to include a review in May and a final approval in November. The Chief Financial Officer recommended the following revised policy:

Each year, the budgeting process will include recommendations for allocating spendable income from the Unrestricted 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 review at its May meeting. In November, the recommendations will again be brought to the Board for final approval as part of 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 BT took no action on this recommendation.

The BT asked that an item be put on the agenda for the next meeting in May 2017 to review the entire list of projects that are considered eligible to receive an allocation of spendable income from the unrestricted endowment.

The BT was informed that the 2017 revenue budget currently includes \$282,194 of spendable income from true endowment funds whose use of income is unrestricted. A list of recommended projects receiving this income, that was reviewed at the May 2016 ECBT meeting, was presented in Att. #22. The amounts budgeted in 2016 and 2017 are \$262,560 and \$282,194, respectively. By virtue of the action on the 2017 budget recorded under item 3.1 above, the appropriations for 2017 as shown in Att. #22 were approved.

3.2.5 Report on Changes in Appropriated Spendable Income and Report on Endowment 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. Any such transfers are to be reported to the BT at their next meeting. Following is a report of transfers that were made since the last BT meeting:

- \$10,000 from funds that were allocated to the Young Scholars Math Camp Conference in 2011 were allocated to the Young Scholars Program.
- Unspent funds budgeted in 2012 for the development of a new MR electronic product will be redirected to the contribution for travel support for the 2017 Mathematical Congress of the Americas (MCA2017) (this contribution was approved by the November 2015 ECBT).

As directed by the May 2016 BT, following is a report of endowment funds falling short of desired funding goals; these shortages will be covered by operating funds:

- The Veblen Prize fund covered \$6,844 of the total \$10,638 in direct travel and award expenses.
- The Wiener Prize fund covered \$4,672 of the total \$6,592 in direct travel and award expenses.
- The Robbins Prize fund covered \$8,034 of the total \$11,216 in direct travel and award expenses.
- The Exemplary Program Prize fund covered \$4,615 of the \$5,000 award expense.
- The Chevalley Prize fund covered \$7,425 of the \$8,000 award expense.

3.3 Status of AMS Self-insurance for Health Plan. Att. #28.

The BT received the attached report (#28) on the status of the possibility of the AMS self-insuring for the health plan it provides to employees.

3.4 Investment Committee Report.

The BT received a report on the November 18, 2016 Investment Committee meeting from the Chair of the Committee, Jane Hawkins. The Committee discussed the following topics:

- current portfolio returns vs. benchmarks for 2013, 2014, and year-to-date indicated for 2016

- whether any rebalancing should be made to conform to the current asset allocation policy
- spending rate and spendable income
- Endowment Income Stabilization Fund (as it relates to the impact of potential changes in how funds cover their administrative expenses)

3.5 Audit Committee.

The BT received a report on the November 18, 2016 Audit Committee meeting from the Chair of the Committee, Jane Hawkins. The Audit Committee decided to engage the current auditing firm of Mayer Hoffman McCann P.C. (CBIZ Tofias) for another year.

3.6 Board-designated Fund for Strategic Plan Implementation.

The AMS is in the implementation stage of the *Strategic Plan 2016-2020*. The November 2015 BT approved taking \$250,000 from the Operations Support Fund (OSF) and designating it as a fund to be used for strategic planning initiatives. It was proposed that an additional \$100,000 be taken from the OSF and added to the Strategic Planning Fund in 2017.

It was reported that, as of September 2016, it is expected that about \$70,000 of the \$250,000 will be used in 2016; the majority of which is being used to cover some personnel expenses incurred at Mathematical Reviews to update the database. In 2017, there will be additional expenses incurred to carry out strategic initiatives, such as possible personnel or consulting expenses. These expenses are not yet fully identified, but are estimated to be \$280,000.

The BT approved the recommendation from the Executive Director and the Chief Financial Officer that the Society set aside an additional \$100,000 to be taken from the Operations Support Fund and be designated by the Board of Trustees as part the Strategic Planning Fund, to be used for implementation of strategic plan initiatives.

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

The BT received the following report on expenditures from the Board-designated Fund for Strategic Plan Implementation:

In 2016, approximately \$70,000 of the \$250,000 will be used for the following:

- 1.0 FTE (new position) bibliographic specialist in the Mathematical Reviews Division (MR) to assist with the loading of pre-1985 bibliographic data into the database

- Increase a current administrative employee in the Executive Director Department from .80 FTE to 1.0 FTE to track the status of strategic planning initiatives and assist with the branding initiative
- Possibly add 1.0 FTE (new position) in the MR Information Technology Department to do programming related to strategic planning

In 2017, part of the remaining \$280,000 will be used for the following:

- A rebranding consultant
- Continued support of the MR Information Technology position (1.0 FTE)
- Continued support of .20 of an FTE in the Executive Director Department to track the status of strategic planning initiatives and assist with the branding initiative
- 1.0 FTE (new position) in communications for the Washington Division

3.8 Trustees' Officers.

It is noted for the record that Robert Lazarsfeld and Zbigniew Nitecki excused themselves from the meeting while this matter was being discussed and voted on.

The Board elected Robert Lazarsfeld Chair of the Board for the term February 1, 2017 – January 31, 2018.

The Board re-elected Zbigniew Nitecki Secretary of the Board for the term February 1, 2017 – January 31, 2018.

3.9 Trustees' Committees, etc. Att. #23.

Board Chair Vogtmann made the appointments/assignments as shown in Att. #23.

3C BOARD OF TRUSTEES CONSENT ITEMS

3C.1 Request for Support of Speakers at 2018 AAAS Meeting.

The BT authorized \$12,000 to support mathematics speakers at the 2018 AAAS annual meeting and agreed to permit the Secretary of Section A to over-commit funds up to 20%, with the understanding that the goal is not to exceed \$12,000.

3C.2 Recognition for Length of Service.

The BT approved the following proclamations for the employees noted.

20 years of service:

Sherry A. O'Brien
Nancy A. Rosas

The Board of Trustees takes great pride in recognizing <full name> for twenty years 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 <first name> their special thanks and their best wishes.

25 years of service:

paul j. drummond
Caroline M. Hibbad
Mary E. Letourneau
Roxanne F. McGlynn
Lori E. Nero
Samuel M. Rankin III

The Board of Trustees takes great pride in recognizing <full name> who has devoted twenty-five years of service to the Society. 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 their special thanks and their best wishes to <first name> for being such a loyal employee and wish <him/her> well in the future.

30 years of service:

Brenda J. Hopkins
Gerard L. Loon
Lori A. Melucci

The Board of Trustees takes great pride in recognizing <full name> for the outstanding distinction of serving the Society for thirty years. The Board expresses its profound gratitude for this long record of faithful service to the Society. 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 their special thanks and their best wishes to this loyal employee.

35 years of service:

Cheryl M. Marino

Twila M. Price

The Board of Trustees takes great pride in recognizing <full name> for the outstanding distinction of serving the Society for thirty-five 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 their special thanks and their best wishes to <first name> for being such a loyal employee and wish him well in the future.

40 years of service:

Ellen H. Heiser

The Board of Trustees takes great pride in recognizing Ellen H. Heiser for the outstanding distinction of serving the Society for forty 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 their special thanks and their best wishes to Ellen for being such a loyal employee and wish her well in the future.

50 years of service:

Leonora T. Davol

The Board of Trustees takes great pride in recognizing Leonora T. Davol who has devoted fifty years of service to the Society. The Board expresses its profound gratitude for this outstanding distinction 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 their special thanks and their best wishes to Lee for being such a loyal employee and wish her well in the future.

3C.3 Resolution for Retiree.

The BT approved the following resolution:

Be it resolved that the Trustees accept the retirement of Stephen Moye with deep appreciation for his faithful service over a period of 14 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 Stephen their special thanks and heartfelt good wishes for a happy and well-deserved retirement.

3I BOARD OF TRUSTEES INFORMATION ITEMS

3I.1 Change in Fringe Benefits.

The November 1996 BT authorized the Executive Director to approve changes in benefit plans (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 BT when appropriate.

Effective 7/1/2016, the AMS made available a 529 College Savings Plan Benefit designed to help families save more for college. The service, paid for by the AMS, provides employees with access to a licensed financial advisor to guide them through the college savings process, from choosing a plan and investment options through account setup and ongoing support. This is part of an effort to improve employee financial wellness by taking a holistic view of benefit offerings and linking financial education and guidance to employee needs at every life stage – from early career to and through retirement.

3I.2 Retirement Plan Investment Committee Report.

The Retirement Plan Investment Committee is a standing committee of the Board that is responsible for insuring that the Society fulfills its Plan Sponsor responsibilities. The current members of the Committee are Zbigniew Nitecki, Emily Riley, Joseph Silverman, and Tammy Walsh.

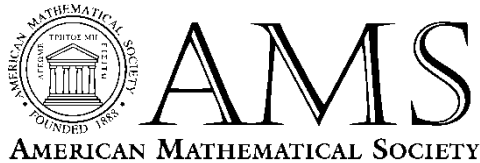
The Committee met on July 22, 2016 and welcomed new member, Joseph Silverman and elected Emily Riley as the Secretary. The Committee approved by-laws and operating procedures and reviewed and approved issuing a Request for Proposal (RFP) for independent investment advisory services. Responses were received from seven firms. After review, a short

list of finalists will be invited to Providence to meet with the Committee and make presentations. The selection decision and final contract negotiations will be completed with a targeted start date of 12/1/2016.

Respectfully submitted,

A handwritten signature in black ink that reads "Carla D. Savage". The signature is written in a cursive style with a large initial "C".

*Carla D. Savage, Secretary
Raleigh, North Carolina
January 20, 2017*



Department of Computer Science, 3320 Engineering Building II
North Carolina State University, 890 Oval Drive
Raleigh, NC 27606 USA
Phone: 919-515-7863 Fax: 919-515-7896
www.ams.org

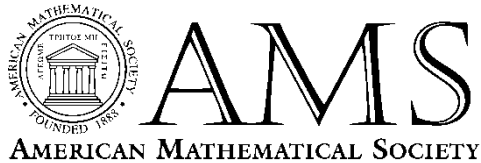
Carla D. Savage, Secretary

**SECRETARIAT
BUSINESS BY MAIL
MINUTES
MAY 1, 2016
Revised: May 3, 2016
(from the Ballot dated April 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 March 20, 2016.
2. Approved the Student Chapter Petition for University of Colorado at Boulder.
3. Approved the proposal to hold the Spring 2018 Eastern Sectional meeting on April 21-22, 2018 at Northeastern University, Boston, MA.
4. Approved the proposal to hold the Spring 2019 Joint Central-Western Sectional meeting on March 29-31, 2019 at the University of Hawaii at Manoa, Honolulu, Hawaii.
5. Approved the proposal to hold the Spring 2018 Central Sectional meeting on March 24-25, 2018 at Ohio State University, Columbus OH.
6. Approved the proposal to hold the 9th International Conference on Science and Mathematics Education in Developing Countries, at Mandalay University, Mandalay, Myanmar, on November 4-6, 2016 as a "Meetings in Cooperation with" the AMS.
7. Approved the proposal for the AMS to hold a Joint International Meeting with the Chinese Mathematical Society, June 11-14, 2018, at Fudan University, Shanghai, China.
8. Approved the Minutes of the Secretariat Business by Mail from the ballot dated March 1, 2016.

Carla D. Savage



Department of Computer Science, 3320 Engineering Building II
North Carolina State University, 890 Oval Drive
Raleigh, NC 27606 USA
Phone: 919-515-7863 Fax: 919-515-7896
www.ams.org

Carla D. Savage, Secretary

**SECRETARIAT
BUSINESS BY MAIL
MINUTES
June 1, 2016
(from the Ballot dated May 3, 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 April 20, 2016.
2. Approved the proposal to hold the Spring 2018 Southeastern Sectional meeting on April 14-15, 2018 at Vanderbilt University, Nashville, TN.
3. Approved the Minutes of the Secretariat Business by Mail from the ballot dated April 1, 2016, incorporating the following correction of the wording of agenda item 7.

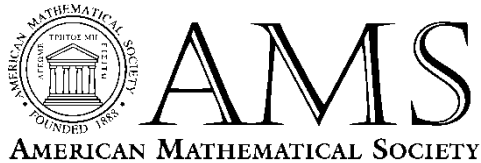
Instead of:

"Approved the proposal to hold the 2018 meeting of the Chinese Mathematical Society, from June 11-14, 2018 at Fudan University, Shanghai China, as a Joint International Meeting with the AMS."

record:

"Approved the proposal for the AMS to hold a Joint International Meeting with the Chinese Mathematical Society, June 11-14, 2018, at Fudan University, Shanghai, China."

Carla D. Savage



Department of Computer Science, 3320 Engineering Building II
North Carolina State University, 890 Oval Drive
Raleigh, NC 27606 USA
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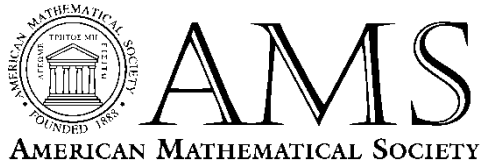
Carla D. Savage, Secretary

**SECRETARIAT
BUSINESS BY MAIL
MINUTES
July 1, 2016
(from the Ballot dated June 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 May 20, 2016.
2. Approved the petition for a Student Chapter at the University of North Carolina at Chapel Hill, Chapel Hill, NC.
3. Approved the Minutes of the Secretariat Business by Mail from the ballot dated May 3, 2016.

Carla D. Savage



Department of Computer Science, 3320 Engineering Building II
North Carolina State University, 890 Oval Drive
Raleigh, NC 27606 USA
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www.ams.org

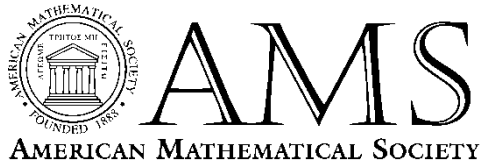
Carla D. Savage, Secretary

**SECRETARIAT
BUSINESS BY MAIL
MINUTES
August 1, 2016
(from the Ballot dated July 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 June 20, 2016.
2. Approved the Minutes of the Secretariat Business by Mail from the ballot dated June 1, 2016.

Carla D. Savage



Department of Computer Science, 3320 Engineering Building II
North Carolina State University, 890 Oval Drive
Raleigh, NC 27606 USA
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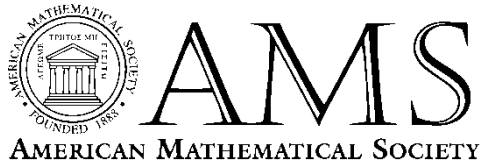
Carla D. Savage, Secretary

**SECRETARIAT
BUSINESS BY MAIL
MINUTES
September 1, 2016
(from the Ballot dated August 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 July 20, 2016.
2. Approved the Minutes of the Secretariat Business by Mail from the ballot dated July 1, 2016.

Carla D. Savage



Department of Computer Science, 3320 Engineering Building II
North Carolina State University, 890 Oval Drive
Raleigh, NC 27606 USA
Phone: 919-515-7863 Fax: 919-515-7896
www.ams.org

Carla D. Savage, Secretary

**SECRETARIAT
BUSINESS BY MAIL
MINUTES
October 1, 2016
(from the Ballot dated September 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 August 20, 2016.
2. Approved the proposal to change the dates of the 2018 Spring Central Sectional meeting from March 24-25, 2018 to March 17-18, 2018 to be held at Ohio State University, Columbus, OH, from the ballot dated September 1, 2016.
3. Approved the proposal to hold the 2018 Fall Eastern Sectional meeting on Sept. 29-30, 2018 at the University of Delaware, Newark, DE, from the ballot dated September 1, 2016.
4. Approved the petition for a student chapter at Stony Brook University, Stony Brook, NY, from the ballot dated September 1, 2016.
5. Approved the petition for a student chapter at Florida Institute of Technology, Melbourne, FL, from the ballot dated September 1, 2016.
6. Approved the Minutes of the Secretariat Business by Mail from the ballot dated August 1, 2016.

Carla D. Savage

**Committee on the Profession
Annual Report
2016**

The Committee on the Profession (CoProf) held its annual meeting on September 17-18, 2016, at AMS Headquarters in Providence. David Savitt, Johns Hopkins University, chaired the meeting. There was a very full agenda, the highlights of which are summarized below.

Agenda items that were endorsed by CoProf and will be taken to the Council for consideration:

- **Committee on Academic Freedom, Tenure, and Employment Security (CAFTES):** CoProf's annual review, conducted by a subcommittee, dealt with CAFTES. It focused on whether CAFTES should continue to exist and, if so, whether its existing guidelines provide sufficient guidance. After discussing the report, CoProf voted to recommend the retirement of CAFTES. Although CoProf felt that issues of academic freedom, tenure, and employment security remain vitally important, it noted that the academic environment had changed since CAFTES was established, with most institutions now having formal processes for handling grievances and appeals. CoProf felt that a committee of the AMS would not be effective in addressing these issues and noted that other scientific professional organizations do not seem to have committees with comparable responsibilities. In addition, concerns were expressed about possible legal ramifications of actions of CAFTES.
- **Guidelines for the submission, refereeing, and publication of computer-assisted proofs:** Currently there are no established guidelines or policies about how to submit, referee, and publish mathematical articles with significant computational components. A joint subcommittee of CoProf and the Committee on Publications (CPub) drafted such guidelines, which were approved by CoProf and had been previously approved by CPub.
- **Charge of the Cole Prize Committee:** CoProf approved a clarification of the charge of the Cole Prize Committee. CoProf also asked its Prize Oversight Committee to review the language of the charge, including the term "North American journal."
- **Bertrand Russell Prize:** The recently created Bertrand Russell Prize honors "research or service contributions of mathematicians or related professionals to promoting good in the world" and recognizes "the various ways that mathematics furthers human values." CoProf endorsed the creation of a selection committee for the prize and approved its charge.
- **Ulf Grenander Prize in Stochastic Theory and Modeling:** After approving the prize description and guiding principles for this new prize, CoProf endorsed the creation of a selection committee for the prize and approved its charge.
- **Joan and Joseph Birman Fellowship:** CoProf discussed a proposal to establish a series of year-long, mid-career research fellowships for women, as a way of addressing the paucity of women at the highest levels of research in mathematics. CoProf recommended establishing the Joan and Joseph Birman Fellowship and the creation of a selection committee, along with its charge.

- **Joint Committee on Women (JCW):** CoProf approved procedures for adding new organizations to those represented on JCW. It then approved the addition of the National Association of Mathematicians to JCW.
- **Mathematics Programs that Make a Difference (PTMD):** Each year, CoProf recognizes at most two programs that succeed in bringing and keeping “more persons from underrepresented backgrounds into some portion of the pipeline beginning at the undergraduate level and leading to advanced degrees in mathematics and professional success.” Recipients of the Mathematics Programs that Make a Difference Award receive a certificate, and an article about their program appears in the *Notices*, but there is currently no monetary award. The AMS has received a gift whose donor wishes to use it to fund the PTMD award. CoProf voted to request the Council to fund the Mathematics Programs that Make a Difference Award as an award in the amount of \$1000.
- **Statistics on women mathematicians:** Each year, as required by a motion passed by the Council in 1985, the *Notices* publishes information about “the relative number of men versus women” in several categories, such as speakers in special sessions at AMS meetings. In an era in which gender identity is becoming more fluid, CoProf recommended that the question be framed in terms of gender identity, rather than “men versus women.” It also asked the Council to consider whether it wishes to modify the categories about which information is gathered, or broaden the scope of the data that are collected (to include, for example, underrepresented minorities).

Other actions taken by CoProf:

- **Site visit program to improve the departmental climate for women and minorities:** The American Physical Society (APS) has programs under which institutions can request “site visits,” for the purpose of improving the climate for women and minorities. CoProf discussed the report of a subcommittee that studied the possibility that the AMS develop a similar program, and it formed a new subcommittee for further investigation of the issues involved. These include estimating the financial cost to a department of having a site visit, the training and composition of the site visit team, and whether departments would make use of such a program.
- **Open-access policies:** Many institutions and funding agencies have copyright and open access policies that affect mathematicians. Jointly with CPub, CoProf voted to form a subcommittee to study such policies and to determine whether any steps should be taken to raise awareness among mathematicians or provide guidelines for dealing with these issues.
- **Mikhail Gordin Award:** CoProf discussed a donor’s interest in establishing an award in honor of the Russian mathematician Mikhail Gordin and asked the Development Committee to provide more details about the nature and functioning of the award.
- **Nominating Committee:** CoProf discussed changes that the Nominating Committee had suggested to its charge, dealing with the article that is published in the *Notices* about each

candidate for President. CoProf decided to appoint a subcommittee to review the language of the entire charge.

- **JMM panel:** CoProf will sponsor a panel at JMM 2017 entitled “Diversity and Inclusion in the Mathematical Sciences,” at 4:30 – 6:00 p.m. on Wednesday, January 4, 2017. Panelists include: Carlos Castillo-Chavez, Arizona State University; Duane Cooper, Morehouse College; Kristin Lauter, Microsoft Corporation; and Talithia Williams, Harvey Mudd College. As the topic for its panel at JMM 2018, CoProf has chosen “Pathways for mathematicians to collaborate with scientists.”
- **Possible new prizes:** CoProf discussed a report from its Prize Oversight Committee, which had been charged with creating a “wish list” of new prizes. It agreed to forward this report, with a summary of the CoProf discussion, to the Development Committee.
- **Annual review for 2017:** CoProf chose the Committee on Human Rights of Mathematicians as the topic for its annual review in 2017.

Other business:

- **Subcommittee reports:** CoProf discussed a report from the Committee on Members and Member Benefits and stressed the importance of reversing the decline in AMS membership. It also discussed a report from a subcommittee, jointly established with the Committee on Meetings and Conferences, that explored possible venues for the awarding of AMS prizes.
- **Postdoctoral hiring practices:** CoProf expressed support for the program in which the AMS facilitates an arrangement under which institutions can agree not to require applicants to respond to postdoc job offers before a specified date. Prompted by a suggestion from a member of the mathematical community, CoProf also discussed the possibility of implementing a stable matching algorithm for postdoctoral positions but decided that such a system would not be feasible in mathematics.
- **Written reports:** Staff reports on the following topics were included in the CoProf agenda: the Department Chairs Workshop, Membership, Employment Services of the AMS, Graduate Student Chapters, and Mathematics Research Communities.
- **Next meeting:** The Committee on the Profession will hold its next meeting on October 14-15, 2017, at the Hilton Chicago O’Hare Airport.

*T. Christine Stevens
Associate Executive Director for
Meetings & Professional Services
October, 2016*

**American Mathematical Society
Committee on Education Meeting
October 13-15, 2016
Washington DC**

Summary

The focus of this year's AMS Committee on Education meeting was on "Broadening the Conversation: Engaging other STEM Education Stakeholders." The meeting itself consisted of presentations and discussions over a day and a half. Attendees included a number of chairs of departments of mathematics from across the country. Douglas Mupasiri, Chair of COE, introduced the speakers and facilitated the meeting.

Education Activities of the American Physical Society

Ted Hodapp (American Physical Society-APS) began his presentation by talking about the guiding principles of APS education and diversity programs. He noted problems facing physics today including a lack of high school physics teachers, a lack of diversity (racial/ethnic and gender), and adapting evidence based pedagogical techniques in the classroom.

Hodapp then talked about the statements on these issues that APS publishes and also about some of the APS programs designed to address these concerns. Specifically, he discussed PhysTEC and the APS Bridge Program. PhysTEC is a partnership between APS and the American Association of Physics Teachers (AAPT) designed to improve and promote the education of future physics teachers.

The APS Bridge Program is an effort to increase the number of physics PhDs awarded to underrepresented minority students. The program utilizes a national network of doctoral granting institutions that provide mentoring for students to help them successfully complete their PhD programs. The program provides selected institutions (Bridge and Partnership Sites) with funding to build bridge programs and improve mentoring efforts.

Hodapp talked about the APS Conferences for Undergraduate Women in Physics (three day regional conferences for undergraduate physics majors) and also about their mentoring programs.

ACS Education Division: Resources supporting learners and educators

Nancy Bakowski (American Chemical Society-ACS) started by giving some background on ACS and its education division. She then discussed ACS education programs including the American Association of Chemistry Teachers (AACT), K-12 programs, higher education and scholars programs, and ACS awards and committees.

AACT is a national organization that supports K-12 teachers of chemistry with customized resources and professional development opportunities. The K-12 programs that were discussed included Project SEED, which offers summer research experiences to economically disadvantaged high school students, and the U.S. Chemistry Olympiad, a multi-tiered chemistry competition from which the top four students also compete on the international level.

Bakowski also talked about the ACS Scholars Program, which awards renewable scholarships to underrepresented minority students who want to work in chemistry or chemistry-related fields. She also

mentioned their student chapters program and support for graduate students and post docs. Additional programs discussed included the Next Generation Science Standards (NGSS) and ACS Approval program.

Transforming Post-Secondary Education in Mathematics: An Update on our Activities

Tara Holm (Cornell University) presented an update on the work of the Transforming Post-Secondary Education in Mathematics (TPSE Math) group, including their strategic priorities and action plan. She discussed the renewed federal interest in higher education in general and in undergraduate STEM in particular and how time is of the essence in creating sustainable change in these areas.

TPSE Math's vision for the future is to make it so that 'post-secondary mathematics education will enable any student, regardless of his or her chosen program of study, to develop the mathematical knowledge and skills necessary for productive engagement in society and in the workplace.' The group has incorporated and has set up an administrative center at the University of Maryland.

TPSE Math strategic priorities include coherent pathways (lower division), enhanced/alternative pathways (upper division), new teaching strategies and graduate education. They are addressing these priorities in a few different ways including through the launch of a Mathematics Advisory Group that is mobilizing department chairs and also by building an action network beyond the math community.

Holm conducted some small group discussion among meeting attendees to discuss ideas for how TPSE and the AMS might support transformation in post-secondary education. Further discussion focused on a permanent AMS liaison to TPSE, stronger partnerships between TPSE and other groups and creating a clearinghouse for active learning programs and instructional practices.

Developing the open source on-line homework system WeBWork within academia

Michael Gage (University of Rochester) began his presentation by describing the open-source online homework system known as WeBWork. It is supported by the Mathematical Association of America (MAA) and the National Science Foundation (NSF) and was designed as an experimental platform which has evolved over 20 years into a tool used in 750 institutions. It utilizes the Open Problem Library (OPL), a curated collection of 30,000 math homework problems contributed by many faculty.

WeBWork strives to make homework more effective and efficient by providing students with immediate feedback on their answers and giving them the opportunity to correct mistakes in the moment. It was developed and is maintained by mathematicians and offers flexibility and extensibility.

Gage provided some problem examples and discussed WeBWork's goals and key features. He also discussed the program's significant impact and how open-source software has become an increasingly important part of education and research.

Gender disparity in STEM and the Role of Calculus

Jess Ellis (Colorado State University) spoke to the group about gender inequality in STEM, why it's important to note and how examining calculus persistence helps identify the problem. She began her presentation by discussing the leaking STEM pipeline and how Calculus I is often to blame. She referred to the Characteristics of Successful Programs in College Calculus project, a national survey by the MAA and supported by NSF that examines successful calculus programs. This survey identifies factors that are correlated with success in Calculus I including confidence and interest in mathematics, positive (or neutral) changes in enjoyment, and persistence to Calculus II.

Ellis presented data on men and women in the STEM pipeline over time and identified the disparity between them at different stages of their education even with similar interest in science and math early on. The data showed significant drop off of women continuing in STEM after completion of Calculus I. Surveys of students taken before and after Calculus I determined that women are not going on to Calculus II because of their lack of confidence and not their lack of ability.

With Calculus I giving insight into the experience of women, Ellis suggested solution strategies to address gender inequality in STEM that would include increasing the pipeline flow by involving young women in STEM earlier in their math career in an effort to increase their confidence, and also decreasing pipeline leaks by viewing introductory STEM courses as opportunities to increase confidence.

Bootstrap: A Unique Approach to Teaching Algebra through Programming

Emmanuel Schanzer (founder and creator of Bootstrap) began his presentation by talking about the importance of algebra and how computer science can help student success in this subject. He described the Bootstrap program and how it teaches mathematical concepts through computer programming.

Currently reaching 15,000 students annually, Bootstrap is a curricular module for students ages 12-16, which teaches algebraic and geometric concepts through computer programming. It integrates algebra with computing fostering student growth in both subjects. Bootstrap can be integrated into a standard math class and provides complete lesson plans, student materials, software and teacher-training workshops. Lessons are aligned to state and national standards and are continually assessed for student math achievement.

Schanzer explained there are other Bootstrap programs as well, one for data structures, one dealing with lightweight data science and another with physics.

The Enriched Doctoral Training in the Mathematical Sciences (EDT) Program

Tie Luo (National Science Foundation) began by presenting some history of the Workforce Program at NSF's Division of Mathematical Sciences (DMS). He went on to discuss current DMS Workforce Programs including the Enriched Doctoral Training (EDT) Program.

The goal of EDT is to enhance doctoral training in the mathematical sciences and to prepare doctoral students for a wide range of career paths. The program is in its third year with two awards having been given in 2015 and four awards in 2016. The 2017 proposal deadline date is in July.

Luo mentioned the Mathematical Sciences Graduate Internship program that is coming soon. This program will be done through the Oak Ridge Institute for Science and Education (ORISE) and is aimed at students interested in using advanced mathematical and statistical techniques to address world problems.

New Instructor Training at UMich: Promoting Engaged Learning

Gavin LaRose (University of Michigan) began with a history of the University of Michigan's new instructor training efforts over the past 35 years. He then spoke to their current training methods, the program's scope and its focus on active learning.

New instructors, mostly graduate students and post docs, receive one full week of training before regular classes begin. After training week, each new instructor is supported with day-by-day lesson plans, instructor meetings, class visits and midterm evaluation surveys. LaRose noted that they produce 50-65 new instructors each fall.

The training program addresses how to lecture, what to do with problem students and teaching logistics. Reasonable salaries are offered to new instructors in the program, who almost exclusively teach Pre-calculus and Calculus I. Class sizes are small and courses, homework and exams are uniform.

A Preceptor Program: Taking an Aim at Excellence in Introductory-Level Calculus Instruction

Robin Gottlieb (Harvard University) started by discussing the history and evolution of the Harvard preceptor program and its key elements. Established in 2000, the preceptor program allows Harvard to address the challenges of creating a successful calculus program.

Gottlieb talked about how preceptors impact calculus teaching and their importance to the coordination and administration of courses. She also discussed professional development and how they prepare graduate students to teach by conducting mandatory pedagogy courses for first year grad students, then teaching apprenticeship and calculus coaching programs.

Gottlieb reported that hiring challenges are a notable issue and that support for the program among department faculty is critical for successful implementation. She also discussed additional work that preceptors are doing and outlined some positions that former preceptors have taken.

Building Bridges to Belonging: Mindsets That Increase Participation, Achievement, and Learning in Math

Catherine Good (Baruch College, CUNY) defined a '*stereotype threat*' as "an unpleasant apprehension arising from the awareness of a negative ability stereotype in a situation where the stereotype is relevant and thus confirmable." She then examined this threat's ability to undermine the success of individuals in the learning process, particularly gender, race and ethnicity stereotypes that impact an individual's success in mathematics.

She explained that the impact of a *stereotype threat* does not come from the person's belief in the stereotype itself, but rather that simple awareness of a *negative stereotype* is a burden to the individual that can change performance. Conversely, knowledge of a *positive stereotype* can cause a lift in performance. *Negative stereotype* not only questions a person's ability but also impact's their sense of belonging so that even if performance is high, the sense of belonging is low and the person becomes less engaged.

Good discussed ways in which vulnerability to a *stereotype threat* can be reduced including: 1) encouraging a growth mindset -- believing that intelligence can be developed and is not fixed (this for students as well as faculty/department/discipline) ; 2) encourage belonging based on effort/engagement -- creating a classroom learning environment that values effort and engagement as a path to belonging; and 3) re-attribution for difficulty -- encouraging students to attribute their difficulties to causes other than their own limitations.

*Submitted by Anita Benjamin
Assistant Director, Washington Office
November 2, 2016*

American Mathematical Society
Committee on Publications
2016 Annual Meeting
SUMMARY REPORT

The annual meeting of the AMS Committee on Publications (CPub) was held on Friday and Saturday, September 16-17, 2016 in Providence, RI. CPub Chair Anatoly Libgober presided over the meeting.

Old Business - Updates on Actions

- **Approval of 2015 Minutes**
The minutes of the 2015 CPub meeting were approved as drafted.
- **2015 Annual Report**
CPub's 2015 annual report has been filed in the AMS Committee Report Book as Committee Report Number 151116-009 and posted on the Committee's homepage at <http://www.ams.org/ams/cpub-home.html>.
- **Actions Taken on CPub Recommendations**
Actions taken on CPub recommendations made in 2014 and 2015 include the following:
 - CPub's 2014 recommendation that "*The AMS should increase the capacity of its research journals in order to better serve the mathematical community*" was considered as part of the larger Strategic Plan initiative to "Publish More Mathematics Content" as the discussion topic at the April 2016 Council meeting.
 - CPub's 2015 recommendation to take over publication of the *Online Journal of Analytic Combinatorics* was rejected by the January 2016 Council.
 - CPub's 2015 recommendation to discontinue the translation journal *Theory of Probability and Mathematical Statistics* was rejected by the November 2015 Executive Committee and Board of Trustees and the January 2016 Council.
- **Computational Reproducibility Guidelines for Mathematics**
In 2015, a joint subcommittee consisting of two members each from CPub and the AMS Committee on the Profession (CoProf) was formed to consider what role, if any, the AMS should have in the creation of guidelines for computational reproducibility standards for the mathematical community. The subcommittee recommended the following guidelines, which were approved by both CPub and CoProf:

As with all proofs in mathematics, computer-assisted proofs should be presented in enough detail for experts to validate them. Independent researchers should be able to examine all relevant calculations. Although each specific research community must and should decide its own standards, generally useful practices include giving complete descriptions of algorithms, and assuring access to software. When less standard packages or custom-written programs are used, it may be important to

provide source code. Just as with the written text of papers, it is important to consider long-term stability of repositories and appropriate placement. For example, code can be attached to an arXiv submission or included in the online version of the journal where the paper is published.

The title approved by CPub for the guidelines, “Guidelines for Communicating Computer-Assisted Proofs,” was later revised by CoProf to “Guidelines for the Submission, Refereeing and Publication of Computer-Assisted Proofs.” The CPub-CoProf approved Guidelines will be included in the January 2017 Council agenda for approval.

Reports

- **Report on Journal Backlogs**

CPub received the following reports by attachment: “Status of Backlog Reduction Plan,” “Journal Statistics Report,” and “Backlog of Mathematics Research Journals.” Robert Harington reviewed current primary journal statistics including publication, submission, and backlog data and provided an update on the status of the backlog reduction plan which was initiated in 2014 with the goal of reducing the backlogs of AMS’s primary journals to “zero” (i.e., a four-month in-house backlog).

- **Report on AMS Open Access Journals**

CPub received the reports “Status of Open Access Journals” and “Open Access Journal Statistics” by attachment, and Robert Harington reported on the status of the two electronic-only, open-access journals, *Proceedings of the American Mathematical Society, Series B* and *Transactions of the American Mathematical Society, Series B*.

- **Report on Mathematical Reviews**

CPub received “Report on *Mathematical Reviews* to CPub” by attachment, which was presented by Executive Editor Edward Dunne.

New Business

- **AMS Publishing Strategic Plan and Journal Business Models**

Associate Executive Director, Publishing, Robert Harington presented a summary of the key initiatives of the AMS Strategic Plan for Publishing and lead discussion on possible new publishing models for AMS journals. The Committee discussed the feasibility of several potential options for new AMS journal publishing models as outlined in Robert Harington’s May 5, 2016 white paper “Journal Business Models for the AMS.”

After the meeting, a revised version of the “Journal Business Models for the AMS” white paper was prepared to incorporate the input offered during CPub’s discussion. Members of CPub were then asked to vote on whether or not they were in favor of endorsing the proposed new journal models as described in the revised white paper. The potential new models were endorsed by CPub by majority vote, and as part of the vote, comments were also solicited and received. CPub’s endorsement of the new models and the comments submitted will go forward

to the Executive Committee and Board of Trustees for discussion at for its November 2016 meeting.

- **Revisions to Editorial Committee Charges**

- **Mathematics of Computation (MCOM) Editorial Committee Charge**

Secretary Carla Savage and MCOM Managing Editor Susanne Brenner informed CPub that since book reviews in the area of computational mathematics are now covered by *Bulletin of the AMS* and are no longer published in *Mathematics of Computation*, a change to the MCOM Editorial Committee charge is needed. CPub endorsed revising “Principal Activities” item 4 of the MCOM Editorial Committee charge to delete language regarding receiving and soliciting books for review in the “Reviews” section of the journal. The proposed revisions to the charge will be included in the January 2017 Council agenda for approval.

- **Notices Editorial Board Charge**

Secretary Carla Savage suggested revisions to the Notices Editorial Board charge to define the term of the Chief Editor and to make current policy on member terms more explicit. CPub endorsed the suggested revisions to the “General Description” section of the charge, which will be included in the January 2017 Council agenda for approval.

- **Review of AMS Book Program**

CPub received the “2016 Report of the Subcommittee Reviewing the AMS Book Program” by attachment, which was presented by Anatoly Libgober, chair of the CPub subcommittee that conducted the 2016 review. Other subcommittee members included: Henry Cohn, Michael Larsen, Karen Vogtmann, and Ben Webster.

The subcommittee’s review focused on assessing the following aspects of the Book Program:

1. How do AMS membership, editors of the series, and the authors of books published by AMS assess the scientific quality of AMS book program?
2. How does AMS membership view the scope of the program in terms of the areas covered?
3. How do authors view AMS in comparison with other publishers?
4. How successfully does the AMS book program adapt to the changes in the book publishing industry?

The general findings of the subcommittee’s review indicate that the AMS is achieving its main goals of publishing books of high scientific quality, adequately representing all areas of mathematics, and providing valuable support to authors. The subcommittee recommended further review of possible new modes of accessibility and usage for books published in electronic format.

The Committee moved to accept the report with thanks and to appoint a subcommittee of CPub to make recommendations on “adopting new media for AMS books” to report to CPub at its 2017 meeting. The subcommittee’s membership and charge are to be determined after February 1, 2017, once the 2017 committee is seated.

- **TAMS Editorial Committee Restructuring**

In 2014, a “backlog reduction plan” aimed at reducing the backlogs of AMS’s primary journals to “zero” (i.e., a four-month in-house backlog) became a priority. As part of this plan, and to improve the overall functioning of the journal’s editorial processes, the Publisher and Associate Executive Director, Publishing presented a proposal to modify the current structure of the Transactions and Memoirs of the AMS Editorial Committee to add Coordinating Editors.

CPub approved the proposal and moved to recommend to Council that the charge to the TAMS Editorial Committee be revised to indicate the composition of the committee as consisting of the Managing Editor, five Coordinating Editors, and about fifteen Editors.

CPub’s recommendation has been forwarded to the Editorial Boards Committee for comment and will be included in the January 2017 Council agenda for approval.

- **Procedures for New Journal Proposals**

A call for formal procedures for handling new journal proposals was made at the November 2015 Executive Committee and Board of Trustees (ECBT) meeting in connection with the discussion of the *Online Journal of Analytic Combinatorics* (item 2E.3 of those minutes). It was suggested that the procedures would include such things as instructions for submitting a proposal, how these instructions will be promulgated, how proposals will be vetted by staff, and what the governance protocol will be for getting a proposal approved by the Council and the Board of Trustees.

The Committee received and discussed the “Proposed Procedures for New Journal Proposals,” as prepared by AMS Publisher Sergei Gelfand, for the submission, evaluation and approval of proposals to publish new journals. CPub approved an amended version of the procedures which will go forward to the ECBT and Council for further consideration.

- **Institutional Open Access Policies**

CPub Member Ilya Kapovich presented a brief history and overview of institutional open access policies as they relate to authors’, publishers’, funding agencies’, and schools’ rights for faculty-authored scholarly articles and proposed that AMS consider launching a public campaign aimed at heightening awareness of institutional open access policies.

Time constraints did not allow for full discussion of this item during the meeting, and the matter was referred to the AMS Committee on the Profession (CoProf) by Publisher Sergei Gelfand for consideration jointly with CPub.

CoProf endorsed the establishment of a joint subcommittee of CPub and CoProf to further consider the matter and drafted the following charge:

Many institutions and funding agencies have copyright and open access policies that affect mathematicians. This committee is charged with:

- *studying a sampling of such policies,*
- *determining whether there is a need to raise mathematicians' awareness about the existence of these policies,*
- *determining whether there is a need for guidelines for mathematicians to deal with these issues,*
- *determining whether the AMS is an appropriate body to create such guidelines; and*
- *if the answer to the previous question is positive, considering what further steps should be taken.*

Following the meeting, CPub conducted an online vote and approved the formation of the joint CPub-CoProf subcommittee as charged. CPub members Ilya Kapovich and Henry Cohn have volunteered to serve on behalf of CPub, and Alicia Dickenstein and John McCleary have volunteered to serve on behalf of CoProf. A chair will be selected upon mutual agreement of the CPub and CoProf chairs.

Informational Items/Other Business

- **2017 CPub Meeting**

The next CPub meeting will be held *Friday and Saturday, October 13-14, 2017* at the Chicago Hilton O'Hare in Chicago, IL.

- **2017 CPub Review**

An evaluation of the AMS Member Journals (*Bulletin, Notices* and *Abstracts*) will be conducted and presented at the 2017 meeting.

*Sergei Gelfand
Publisher
October 25, 2016*

Report on the 2016 Annual Meeting of the Mathematical Reviews Editorial Committee

The 2016 annual meeting of the Mathematical Reviews Editorial Committee (MREC) was held on Monday, October 10, in the Mathematical Reviews offices in Ann Arbor, Michigan. In attendance were committee members Danny Calegari, Andreas Frommer, Barbara Keyfitz, Jeffrey Lagarias, Shigefumi Mori, Ronald Solomon (Chair), Catherine Roberts (AMS Executive Director), and Zbigniew Nitecki (AMS Associate Treasurer); Edward Dunne (MR Executive Editor), Norman Richert (MR Managing Editor) and the MR Associate Editors: Andres Caicedo, Dean Carlson, Steve Damelin, Asen Dontchev, Chris Elmer, James Epperson, Robert Hladky, Guo Ying Jiang, Michael Jones, Vasilii Kurta, Milan Lukic, Lon Mitchell, Victor Protsak, Irina Sivergina, Margaret Stawiska-Friedland, and Ursula Whitcher. Elizabeth Downie (Manager of MR Cataloging) was in attendance for a presentation.

1. *MREC Membership.* Ron Solomon retires from the committee and as chair of MREC on January 31, 2017. Andreas Frommer and Jeffrey Lagarias were nominated for second terms, which would begin February 1, 2017. Pham Huu Tiep will begin his term on February 1, 2017. Andreas Frommer will become chair on February 1, 2017.
2. *Date of Next Meeting.* The next MREC meeting will take place Monday, October 9, 2017.
3. *Approval of the Minutes of the 2015 Meeting.* The minutes of the 2015 meeting were discussed by email in advance of the meeting. The minutes were approved with no changes.
4. *Update on MR Activities.* Dunne gave an update on Mathematical Reviews (MR) activities. Many of these are related to the following item, as the implementation of strategic planning naturally includes updates. Per usual, the EE reported on MR production numbers, which are up for this year as compared to last. He also described recent additions of data from retro-digitization projects (DML). The newest addition was the upload of data from NUMDAM on French theses from the Entre-deux-guerres Period, defined by NUMDAM as 1913-1947. Dunne also discussed MR's work on the data from before 1985, which involves both bibliographic specialists and the MR IT department. Improving the old data is an important constituent in the plans to enhance and update the MR database as part of the implementation of the strategic plan, as other projects depend on it. Dunne gave a demonstration of the prototype interface for MathSciNet based on Elasticsearch. The EE also provided information on new or improved links with other organizations and mathematical websites, including the arXiv and the MacTutor History of Mathematics Archive.
5. *Strategic Planning.* There was a discussion of how MR is working to achieve the initiatives that have come out of the Strategic Planning for MathSciNet. Besides the updates just discussed, Dunne described the hiring of a new bibliographic specialist and a current job search in IT, both of which are specifically targeted to help achieve the strategic initiatives. A video demonstrating some of the enhancements is available at:
<https://youtu.be/IzhxRU5reB0>
6. *Subscription Information.* Roberts gave an overview of pricing and subscription information, including the MathSciNet for Developing Countries Program (MDC) and consortia. Consortia continue to be an important component of the subscriptions. There are now 46

countries participating in the MathSciNet for Developing Countries Program. At least 11 more are eligible.

7. *Author Disambiguation at MR*. Elizabeth Downie, Manager of the MR Cataloging Department, gave an overview of the challenging and important work of unique author identification. Downie began with examples derived from papers with authors who had not yet been identified, and tracked through the steps used to compare the unknown authors with known authors in the database, until either a clear match is made or it becomes clear that the author is not yet in the MR Database, in which case a new author must be created. The demonstration concluded with Downie showing the net effect in MathSciNet of the bibliographic work.
8. *MSC 2020 Update*. Dunne and Associate Editor Dean Carlson gave an update on the revision of the Mathematics Subject Classification scheme, currently done on a ten-year cycle. This is a joint project of MR and zbMATH. A website (msc2020.org) has been created, hosted at MR, where comments and suggestions can be registered. Keyfitz said that she expected the classes for applied areas were most in need of revisions. She also recommended that MSC2020 take heed of the classifications used by ICIAM. Calegari suggested ways to make use of the MR data to identify areas in need of new or revised classes.
9. *MR Database Statistics*. Norman Richert gave an overview of some of the statistics of MR database. The statistics show how the percentages of signed reviews versus summaries versus indexed-only items change over time.
10. *Adding Series to the Reference List Program*. MREC approved expanding the Reference List program to include series, with specific approval of the two collection series *Contemporary Mathematics* and *Lecture Notes in Computer Science* (LNCS). Both series exhibit many of the features, in terms of content and their role in the literature, of research journals. The addition of LNCS, in particular, will improve a researcher's ability to navigate the computer science literature. Also, citations to the works of computer scientists will be more complete with this addition.
11. *Reference List Journals*. Dunne presented a list of 23 journals recommended by the Associate Editors to be added to the Reference List Journal program. The committee approved 22 of the recommendations, bringing the total number of Reference List Journals to 610. The list of the journals to be added is given below.
12. *Review of the MR Editorial Statement*. The Mathematical Reviews editorial statement was reviewed, and was unanimously reaffirmed.
13. *MR-zbMATH news*. Norm Richert provided some comparative data on MR and zbMATH coverage. MR tends to add items to MathSciNet faster than zbMATH, but they tend to catch up after a year.
14. *Tour of MR*. The meeting concluded with a tour of the MR facilities. The members of MREC were given a short presentation by each department manager, as they saw the facility and met staff from every department. They were also shown the new server room, which was completed after the last MREC meeting.

New Reference List Journals

Journal	Publisher
<i>Advances in Nonlinear Analysis</i>	De Gruyter
<i>Annals of the Institute of Statistical Mathematics</i>	Springer
<i>Annales mathématiques du Québec</i>	Springer
<i>Applicable Algebra in Engineering, Communication and Computing</i>	Springer
<i>The Bulletin of the Iranian Mathematical Society</i>	Iranian Mathematical Society
<i>Bulletin on Mathematical Sciences</i>	Springer
<i>Cambridge Journal of Mathematics</i>	International Press
<i>Classical and Quantum Gravity</i>	Institute of Physics (IOP)
<i>Discrete Optimization</i>	Elsevier
<i>EMS Surveys in Mathematical Sciences</i>	European Mathematical Society
<i>Fibonacci Quarterly</i>	Fibonacci Association
<i>Involve</i>	Mathematical Sciences Publishers (MSP)
<i>Journal of Algebraic Statistics</i>	Illinois Institute of Technology
<i>Journal of Computational Dynamics</i>	American Institute of Mathematical Sciences (AIMS)
<i>Journal of Dynamic Games</i>	American Institute of Mathematical Sciences (AIMS)
<i>Moscow Journal of Combinatorics and Number Theory</i>	Moscow Institute of Physics and Technology
<i>Operations Research</i>	INFORMS
<i>Probability and Mathematical Statistics</i>	Wrocław University of Science and Technology
<i>Questions and Answers in General Topology</i>	Sympos. Gen. Topology, Shimane University, Japan
<i>Random Matrices: Theory and Applications</i>	World Scientific Publishing
<i>Research in the Mathematical Sciences</i>	Springer
<i>Zeitschrift für Angewandte Mathematik und Physik</i>	Birkhauser

*Edward Dunne
 Executive Editor
 Mathematical Reviews
 October 31, 2016*

Washington Office Report

October 20, 2016

Federal Budget

As is usual for this time of year, the federal government is running on a Continuing Budget Resolution (CR) through December 9, 2016. This CR provides for the continuation of appropriations at the levels of and under the terms and conditions of, the FY 2016 ACTS, reduced by 0.496 percent.

The House and Senate Appropriations Committees have approved the FY 2017 Commerce, Justice, Science, and Related Agencies' (CJS) appropriations bills. The National Science Foundation (NSF) is under the jurisdiction of the House and Senate CJS Appropriations subcommittees, so the NSF budget is part of the House and Senate CJS bills.

The House CJS Committee has recommended a FY 2017 NSF Budget of \$7,405,930,000 - \$57,555,000 below the NSF FY 2016 enacted budget. The Senate CJS Committee has designated a FY 2017 NSF budget of \$7,509,788,000 – a \$46,303,000 increase over the NSF FY 2016 enacted budget. The Senate budget is \$103,858,000 over the House budget, so the Senate and House will have to come up with a compromise NSF FY 2017 budget. These budget levels are disappointing and fail to meet an eight billion budget level advocated by the Coalition for National Science Funding (CNSF) and 143 House Members. The House Appropriations Committee has provided the NSF FY 2017 Research and Related Activities (R&RA) budget with \$6,079,430,000 - \$45,785,000 above the FY 2016 enacted level and the same level as the President's Budget Request. The Senate Appropriations Committee has recommended the same level as the FY 2016 enacted R&RA budget and \$45,785,000 below the Budget Request.

Report language of the House CJS bill directs NSF to “continue efforts to ensure that award abstracts clearly explain in plain English the intent of the project and how the project meets both the intellectual merit and the broader impact review criterion. The Committee believes that abstracts should explain how a project increases economic competitiveness in the United States; advances the health and welfare of the American Public; develops an American STEM workforce, including computer science and information technology sectors, that are globally competitive; increases public scientific literacy and public engagement with science and technology in the United States; increases partnerships between academia and industry in the United States; supports the national defense of the United States; or promotes the progress of science for the United States.”

Relative to the peer review process, Senate CJS language states “NSF should include criteria that evaluates how a proposal will advance our Nation’s national security and economic interests, as well as promote the progress of science and innovation in the United States.”

Senate CJS language encourages NSF to fully fund Its United States scientific research facilities and instruments to adequately support scientists and students engaged in sustained, cutting-edge research, to make timely and significant investments in high-performance computing. The Senate CJS Committee “recognizes the importance of NSF Mathematical Sciences Institutes across the country, which provide important basic research in multiple fields.”

Both the House and Senate Appropriations Committees recommend a FY 2017 budget for Education and Human Resources at the FY 2016 enacted level of \$880,000,000. Programs emphasized are those that broaden participation of underrepresented populations in STEM education programs; the Advanced Technological Education program; and, the Innovation Corps program, a program that helps train scientists on how to turn their research into real-world products.

The House Appropriations Committee approved reducing the Major Research Equipment and Facilities Construction (MREFC) line in the NSF FY 2017 budget by \$113,190,000 to \$87,120,000. The Senate Appropriations Committee raised the FY 2017 MREFC budget to \$246,573,000. This recommendation is \$46,263,000 above the FY 2016 enacted level and \$53,453,000 above the Budget Request. The increase includes funds to facilitate planning and construction of three regional class research ships.

The House and Senate Appropriations Committees have approved their Energy and Water (EW) Appropriations bills. The bills each provide a FY 2017 budget of \$5,400,000,000 for the Department of Energy’s Office of Science. This level of funding is \$49,800,000 over the FY 2016 enacted budget and \$172,069,000 below the Office of Science FY 2017 Budget Request. The Advanced Scientific Computing Research (ASCR) office is included in the Office of Science budget.

The House Committee provides ASCR with a FY 2017 budget of \$621,000,000, the same as FY 2016 and \$42,180,000 below the Budget Request. The Senate Committee recommends \$656,180,000 for FY 2017, \$35,180,000 above the FY 2016 level and \$7,000,000 below the Request. The Applied Mathematics and Scientific Discovery through Advanced Computing (SciDAC) programs are funded through ASCR.

Priorities in the bills are exascale computing; high performance computing and network facilities; and the BRAIN Initiative. The House EW Committee encourages the Department to work with the NSF and the National Institutes of Health on a national brain observatory to leverage its high performance computing capabilities to advance a deeper understanding of the brain and how it works.

Both Appropriations Committees strongly support the exascale initiative, which is critical to maintaining our global competitiveness and supporting national security. The Committees also support the Oak Ridge Leadership Computing Facility and the National Energy Research Scientific Computing Center facility at Lawrence Berkeley National Laboratory.

Education

The report language of the House and Senate CJS bills 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 success rate for EHR awards is based on proposal pressure. The more proposals from a discipline will increase the percentage of grant awards that discipline will receive. According to EHR program staff not many proposals are submitted by mathematicians and consequently, the number of awards that mathematicians receive is small.

Meetings of the AMS Committee on Education (COE) now have a focus on improving undergraduate mathematics education, as do recent COE JMM panel discussions. Given the opportunities for students with STEM training, the mathematical sciences should play an important role in the education of these students.

A new program initiated by the NSF Division of Mathematical Sciences (DMS), directed toward graduate students, is the Enriched Doctoral Training in the Mathematical Sciences (EDT) program. The goal of EDT is to increase the number of U.S citizens, nationals, and permanent residents who pursue careers in the mathematical sciences and in other professions in which expertise in the mathematical sciences plays an important role. This will be achieved by preparing Ph.D. students to recognize and find solutions to mathematical challenges arising in other fields and outside academic settings.

http://www.nsf.gov/pubs/2014/nsf14589/nsf14589.htm?WT.mc_id=USNSF_25&WT.mc_ev=click.

Open Access

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. This legislation is usually a reaction to constituent pressure and is most often directed at the length of the post-publication embargo period before making an article freely available, a troublesome issue for publishers. These bills usually want embargo periods of 6 to 12 months. The Government Affairs Task Force (GATF), a group of for-profit and non-profit publishers, continues to work at convincing policy makers that one embargo period does not work well for all disciplines and that there should be a process to change an embargo period for a discipline when a current embargo negatively impacts publishers. Recently, GATF has been working with staff of the Senate Committee on Homeland Security and Government Affairs (HSGA) concerning proposed legislation (S. 779) on open access. This legislation has a maximum embargo of twelve months, no process to change the embargo period for a specific field, does not allow third party repositories, and the reuse policy may infringe on copyright. The HSGA Committee has made some concessions, however, has not gone far enough and GATF continues to advocate its position.

The House Energy and Water Appropriations Committee has report language to its FY 2017 appropriations bill concerning public access of results of federally funded research. "The Committee is concerned that despite significant federal investments in scientific research, public access to the published results of this taxpayer-funded research is limited. The Committee directs the Department to adopt a federal research public access policy that is consistent with and advances the purposes of the Department. The Department shall submit to the Committees on Appropriations of both Houses of Congress not later than 60 days after the enactment of this Act a report regarding the appropriate efforts to adopt this Federal research public access policy." This is an example of Congress demanding something that is already being addressed. 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.

*Samuel M. Rankin
Associate Executive Director, Washington Office
October 20, 2016*

Determining the 2018 Individual Member Dues Recommendation to the Council

The procedure used for setting individual dues requires that discussions begin in year X, in order to set the dues rate for year X+2. The procedure for setting individual dues is the following:

- In November of year X, staff makes a recommendation about dues, guided by the principles described below. The ECBT then recommends a dues rate for year X+2 to the Council.
- In January of year X+1, the Council reviews the ECBT recommendation and sets the dues rate for year X+2.
- In May of year X+1, the Board of Trustees approves the dues set by Council.

In May 2015 the Board of Trustees approved a modification of the principles that guide the setting of individual member dues. The revised principles are:

Principle 1: The total revenue from individual and institutional dues should exceed the total net direct costs of the following membership related areas: privilege journals, members-only services, membership development, membership administration and governance, as reported to the Board of Trustees.

Principle 2: When an increase in dues rates is deemed to be appropriate, the following factors should guide the Council and the Board of Trustees in establishing the new dues rates:

- The current rate of inflation.
- The recent rate of growth in faculty salaries.
- The rate of growth in the net direct costs of the membership related areas listed in Principle 1.

Principle 3: A single increase in dues rates substantially beyond the level of the factors listed in Principle 2 should be avoided in favor of several successive moderate annual increases.

Recommendation for 2018 Dues

As shown in the table below, the total revenue from individual and institutional dues exceeds the total net direct costs of the specified membership-related areas by a significant, though decreasing, margin. Thus the requirements of Principle 1 have been met.

The staff recommends a small increase in dues for 2018. For the near future, we will continue to experience the problem of static dues revenues and rising costs. Indeed, individual dues revenues have been decreasing, and it is important to reverse the decline in membership –

something that an initiative in the AMS strategic plan is intended to achieve. In accord with Principle 3, it is better to raise dues in small increments over the years rather than to raise them significantly all at once in the future, if dues once again no longer cover the net direct costs of membership activities. It is also important to note that the institutional dues provide other benefits that are a cost to the AMS, such as significant discounts on AMS products. Therefore, showing a significant margin associated with Principle 1 does not imply that AMS is benefitting excessively from institutional dues.

Dues Revenue and Net Direct Cost of Membership Activities (1,000's)

Year	Individual Dues Revenues	Institutional Dues Revenues	Net Direct Cost of Membership Activities	Surplus (Deficit) of Revenue over Costs
2015	1,248	1,180	(1,782)	646
2016 Projected	1,215	1,212	(2,033)	394
2017 Budget	1,231	1,200	(2,094)	337
2018- \$192	1,231	1,200	(2,094)	337
2018 - \$196	1,256	1,200	(2,094)	362
2018 - \$200	1,281	1,200	(2,094)	387

Explanatory Notes:

1. Membership Activities under Principle 1 are:
 - a) *Notices & Bulletin*,
 - b) Membership development and administration, and
 - c) Governance
2. The amounts are taken directly from the B-Pages, pages 5 and 7, as presented to the ABC.
3. 2016 dues revenue reflects current projections and 2017 dues revenue is as budgeted. The three scenarios presented for 2018 dues assume a paying membership similar to that budgeted for 2016.

Principles 2 and 3 describe the factors to be taken into consideration for the determination of the amount of a dues increase. Shown in the chart at the end of this attachment are the economic data related to growth in faculty salaries and general inflation. The data on salaries relate to the general ability of members and potential members to pay dues with total personal income. It seems prudent for a membership organization to increase dues at the same or slower rate than its members' salaries increase. As of the end of 2015 (the last year of actual data), the cumulative dues increase as of 2016 lags the salary increase in the AMS survey by more than five years. Similar results are seen if one uses the AAUP salary data, although the lag time and differences in the cumulative increases are less than the results using the AMS survey.

The data on inflation relate to the ability of members and potential members to pay dues from discretionary income. Again, it seems prudent for a membership organization to maintain the

cumulative increase in dues in line with general inflation in the absence of any significant financial needs. It should be noted that dues for year X are generally paid by members in the last quarter of year X-1, so the inflationary effect of dues on discretionary income felt by the individual member is likely somewhere in between the cumulative increase of year X (dues paid during dues year) and X-1 (dues paid in advance).

Therefore, AMS staff members recommend that the regular high dues rate for 2018 be set at \$196, with the salary cutoff for high/low rates remaining at \$85,000. This is a \$4 increase over the dues for 2017.

*T. Christine Stevens, Associate Executive Director for
Meetings & Professional Services
Emily D. Riley, Chief Financial Officer
October 2016*

Factors for Consideration in Setting Individual Dues Rates for 2018

Academic Year Beginning	Faculty Salaries Data				Inflation Data			Regular High Dues Rates		
	AAUP Reports		AMS Annual Survey		Calendar Year	Annual Increase CPI-U	Cumulative Increase CPI-U	Actual Dues	Cumulative Increase	High/Low Cutoff
	Annual Increase	Cumulative Increase	Doctoral Departments	Cumulative Increase						
1996	3.0%				1996	3.3%		120		45,000
1997	3.3%	3.3%	2.7%	2.7%	1997	1.7%	1.7%	124	3.3%	45,000
1998	3.6%	7.0%	3.8%	6.6%	1998	1.6%	3.3%	128	6.7%	45,000
1999	3.7%	11.0%	3.8%	10.7%	1999	2.7%	6.1%	132	10.0%	55,000
2000	3.5%	14.9%	5.0%	16.2%	2000	3.4%	9.7%	132	10.0%	65,000
2001	3.8%	19.2%	4.2%	21.1%	2001	1.6%	11.4%	136	13.3%	75,000
2002	3.0%	22.8%	3.3%	25.1%	2002	2.4%	14.1%	140	16.7%	75,000
2003	2.1%	25.4%	2.0%	27.6%	2003	1.9%	16.2%	144	20.0%	75,000
2004	2.8%	28.9%	2.2%	30.4%	2004	3.3%	20.0%	148	23.3%	80,000
2005	3.1%	32.9%	4.0%	35.6%	2005	3.4%	24.1%	152	26.7%	80,000
2006	3.8%	37.9%	3.5%	40.2%	2006	2.5%	27.2%	152	26.7%	80,000
2007	3.8%	43.2%	4.2%	46.1%	2007	4.1%	32.4%	156	30.0%	80,000
2008	3.4%	48.0%	1.6%	48.5%	2008	0.1%	32.6%	160	33.3%	80,000
2009	1.2%	49.8%	3.0%	53.0%	2009	2.7%	36.1%	164	36.7%	80,000
2010	1.4%	51.9%	0.7%	54.1%	2010	1.5%	38.2%	168	40.0%	85,000
2011	1.8%	54.6%	3.6%	59.6%	2011	3.0%	42.3%	168	40.0%	85,000
2012	1.7%	57.2%	1.3%	61.7%	2012	1.7%	44.7%	172	43.3%	85,000
2013	2.2%	60.7%	1.8%	64.6%	2013	1.5%	46.9%	176	46.7%	85,000
2014	2.2%	64.2%	3.0%	69.5%	2014	0.8%	48.1%	180	50.0%	85,000
2015			4.4%	77.0%	2015	0.7%	49.1%	184	53.3%	85,000
					2016 proj	1.1%	50.7%	188	56.7%	85,000
					2017 est	2.0%	53.7%	192	60.0%	85,000
					2018	2.0%	56.8%	192	60.0%	85,000
					2018	2.0%	56.8%	196	63.3%	85,000
					2018	2.0%	56.8%	200	66.7%	85,000

Explanatory Notes:

1. AAUP data: Percentage increase in average nominal salaries for institutions reporting comparable data for adjacent one-year periods.
2. CPI-U data: Based on the Dec. to Dec. annual change in the index, with estimates for 2016, 2017, and 2018.
3. The relevant AAUP salary data are not available for 2015.

Update on proposals planned or submitted

Submitted

Mathematics Research Communities, 2017-2019

- Support of Mathematics Research Communities for 2017, 2018 and 2019

The ECBT approved preparation and submission of this proposal in May 2015. It was funded on August 19, 2016 with an award of \$1,225,745 from the Infrastructure Program in the Division of Mathematical Sciences at the NSF. The grant will support hands-on research conferences and other activities for 120 participants per year in 2017, 2018, and 2019.

Travel grants for U.S. participants MCA2017

- Submitted to the Infrastructure Program, Division of Mathematical Sciences at NSF

The proposal was submitted in May 2016, and an award is anticipated in the amount of \$67,500. It will provide travel grants to approximately 50 U.S. mathematicians to attend the MCA 2017, with priority given to early-career mathematicians.

Planned

Support for the NSF/CBMS Regional Research Conferences in Mathematics

- Approved electronically by ECBT in October 2016
- To be submitted to the Infrastructure Program, Division of Mathematical Science, NSF
- Five-years, with a total budget of approximately \$250,000

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 is in the final stages of preparation.

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

- Funding request on the order of \$900,000 to \$1,000,000 is expected
- The ECBT approved the submission of this proposal at the November 2015 meeting.

The current funding from the Simons Foundation supports the competition for new travel-grant awards for recent doctoral recipients in 2016. Continuation of the program after 2016 requires a renewal of the funding. Conversations with the staff of the Simons Foundation are under way about the possibility of increasing the number of awards per year (and thus increasing the amount of the grant).

The proposal will be prepared and submitted soon.

Travel Support for the *Math in Moscow* 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 four continuing grants to the American Mathematical Society (AMS) with funds to be used to support mathematically talented U.S. undergraduates for a semester of study at the *Math in Moscow* program of the IUM.

The proposal is being prepared and will be submitted soon.

Proposal from the MathJax Consortium to the Simons Foundation for research and development on semantic enrichment of math on the web

- Joint proposal from the AMS and SIAM, the principal partners of the consortium
- Research plan and goals discussed with the Simons Foundation in May
- The amount of the request is \$150,000 for a two-year period

At its meeting in May 2016, the ECBT approved the planning, preparation, and submission of such a proposal for up to \$240,000 to either the Simons Foundation or the Sloan Foundation. In mid-May, Don McClure and Jim Crowley met with Yuri Tschinkel at the Simons Foundation to discuss the accomplishments to date and the plans for future research on semantic enrichment. 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 invited the submission of a proposal for two years of funding at \$75,000 per year. Submission of a proposal titled “*Universally enhancing math on the web*” for the period 2017 – 2018 is in progress. The Co-PIs are Catherine Roberts and Jim Crowley.

A Program to Increase the Participation of Women in the Professoriate

- Funding request on the order of \$600,000
- To be submitted to the NSF ADVANCE-Partnership program (or other possible funding sources)

This is a five-year project to improve the success rate of women in securing tenured faculty positions in the mathematical sciences through education, mentoring, and support during (1) the years of researching for and writing of the Ph.D. dissertation, and (2) the academic job search process and transition into a new position. These will be addressed each year by two

distinct workshops, to which women will be invited to apply. One of the workshops will be held at the Joint Mathematics Meetings and the other in the late summer.

The workshop for women in the dissertation phase of their graduate studies will be a day-long workshop at the Joint Mathematics Meetings, aimed at students in their first or second year of dissertation research. The workshop will consist of a variety of sessions featuring speakers, panels, and round-table discussions on a range of topics important to these students, along with social activities to encourage the forming of a community for the cohort. Emphasis will be placed on networking and how to put networking skills to use immediately at the JMM. As part of the workshop, each student will be assigned to a mentor for further support after the workshop is over. We hope to have the workshop dovetail with Poster Presentations and Reception of the Association for Women in Mathematics (AWM), since this event is a wonderful resource for role models and additional mentors for the students.

For women poised to enter the academic job market, we will offer a five-day workshop during the summer immediately before their job search. These workshops will be informed by the model set forth by the very successful Career Mentoring for Women (CaMeW) workshops (most recently held at Wheaton College in Massachusetts), but include more connections with other programs like MAA Project NExT and the AWM's Research Collaboration Conferences for Women. Along with receiving information and advice about academic employment and navigating the job market, participants will develop drafts of, and receive feedback and mentoring on, the key components of their application dossiers. Both graduate students and postdoctoral mathematicians re-entering the job market may apply for this workshop.

As conceived, the program would be run in partnership with the Association for Women in Mathematics. If the proposal were to be funded, the AMS Council would need to approve the creation of an Advisory Board, preferably including appropriate representatives of the AWM and other relevant projects and organizations, such as CaMeW.

We request approval of the ECBT to plan, prepare and submit this proposal.

*T. Christine Stevens
Associate Executive Director for
Meetings & Professional Services
October 25, 2016*

AMS Graduate Student Chapters

There are 46 Student Chapters as of October 2016

- Arizona State University
- Baylor University
- Boston College
- Boston University
- Brown University
- Bryn Mawr College
- California State University, San Marcos
- Central Michigan University
- Clemson University
- Florida Institute of Technology *
- Georgia Institute of Technology
- Georgia State University
- Indiana University-Purdue University Indianapolis
- Kansas State University
- North Carolina State University
- Oklahoma State University
- Purdue University
- Rutgers University
- Sam Houston State University
- Stony Brook University *
- SUNY New Paltz
- Syracuse University
- Texas A&M University
- Tufts University
- University at Albany
- University of British Columbia
- University of Calgary
- University of California, Riverside
- University of Colorado at Boulder *
- University of Georgia
- University of Houston
- University of Kansas
- University of Maryland, College Park
- University of Miami
- University of Minnesota
- University of Mississippi
- University of Missouri-Columbia
- University of Missouri-Kansas City
- University of Nebraska-Lincoln
- University of New Orleans
- University of North Carolina Chapel Hill *
- University of Wisconsin-Madison
- Washington State University *
- Wesleyan University
- Western Kentucky University
- Williams College

An asterisk (*) denotes chapters that have been approved since the May 2016 ECBT meeting.

Pending Approval

- Tulane University
- Duke University
- University of Illinois at Chicago

Plans for JMM

Last year, AED Christine Stevens and the membership staff planned a Meet and Greet Luncheon for the chapter leadership at JMM. This was a very successful event with a 100% turnout rate. Faculty advisors and student members had the opportunity to meet, mingle, and share their experience about past chapter activities, as well as get ideas from other chapters for future events. Because of the positive feedback, the membership department will plan a similar event for JMM 2017.

Chapter activities

Syracuse University:

On Saturday April 9th 2016 we had our 41th annual MGO conference. At this conference we invite two professors from other universities to give talks in the fields they research. This year, our speaker were Steve Zelditch from Northwestern University and MacArthur Fellow Jeff Weeks. Outside of the keynote talk, we have smaller breakout sessions where graduate students as well as post docs give talks in their respective fields of interest. We had many contributed talks from students at Syracuse University as well as other Upstate New York Universities.

In addition, we hold a biweekly graduate student colloquium, in which graduate students are encouraged to give a talk for the graduate body.

Brown University:

On Tuesday April 26th, 2016, the AMS Graduate Student Chapter at Brown University hosted its third graduate student conference of the year, on the topics of algebra and number theory. We brought together many participants (both speakers and non-speaking participants) from throughout the Northeast. Our speakers came from Boston College, Boston University, Harvard University, MIT, and SUNY Stony Brook University. We had about 25 participants, with almost half of the participants coming from outside universities. Aside from the talks, we had many breaks that helped foster discussion and collaboration of mathematics among graduate students from different universities.

Rutgers University:

One of our goals this year was to bring in charismatic speakers for nontraditional talks. Our first speaker was Dr. Greg Moore. Dr. Moore works in the Physics and Astronomy department. His talk was entitled "Four-dimensional Field Theories with $N=2$ Supersymmetry and their relation to Physical Mathematics." Our second speaker was Jean Steiner a data scientist at Google. She presented her talk, "What can a math major do at Google?" This talk was extremely popular and from it a group of graduate students have started an unofficial group to work on their coding.



Rutgers University



Brown University



Tufts University

*Jenny Phothisarath
Department of Membership and Programs
October 2016*

THE GRADUATE STUDENT SECTION

A Conversation with Helen G. Grundman, AMS Director of Education and Diversity

Stephen Kennedy and Helen G. Grundman



Helen G. Grundman is the Director of Education and Diversity of the American Mathematical Society and Professor Emeritus of Mathematics at Bryn Mawr College. Her email address is hgg@ams.org.

As part of its strategic initiative on diversity and inclusion, the AMS has created the new Education and Diversity Department, appointing Helen G. Grundman as its director. The AMS's Strategic Plan describes the new department as seeking to promote diversity and inclusion at all stages of the mathematics pipeline.

Grundman is a number theorist with a Berkeley PhD, who after two years as a Moore Instructor at MIT spent twenty-five years at Bryn Mawr College. She earned campus-wide awards from Bryn Mawr for both excellent teaching and effective mentoring. In January at the Joint Math-

ematics Meetings she will receive the AWM's M. Gwyneth Humphreys Award for Mentoring Undergraduate Women. *Notices* asked Grundman to tell us about herself and to share some of her thoughts on the new department.

Notices: *Please tell us about your educational background.*

Grundman: When I was seven, my family moved to Detroit so that my father could be the founding headmaster of a diverse college-prep school in the inner city. At the time, black students were being turned away from the elite

college-prep schools in the area. I attended Friends School in Detroit for eight formative years, part of a learning community with students from various races, religions, ethnicities, economic backgrounds, and physical, emotional, and intellectual abilities. I know from experience that education is enhanced by diversity.

At the University of Michigan, I double majored in mathematics and psychology and completed the work for secondary teaching credentials in mathematics and general sciences. I took an extra semester to finish because I wanted to do my student teaching in the fall, allowing me to start with the students at the beginning of their school year.

After that, I took a mid-academic year job at a large parochial high school just outside of Detroit, teaching there for three and a half years. I greatly enjoyed it, particularly teaching those students who came in the door convinced that they could not do math. I missed working on advanced mathematics, but teaching is a noble profession and going to graduate school in math seemed to me to be very self-indulgent. Then a friend of mine explained that I should get a PhD in math because the field needed more female role models. This meant that I could have fun learning and doing math and do it for a good cause!

I decided to go to UC Berkeley, where I was lucky enough to take a number theory class with Emery Thomas. A topologist who had converted to a number theorist in his later years, Emery became my dissertation advisor.

Notices: *Can you tell us something about your mathematical work? What areas have you worked in, what have you been doing lately?*

Grundman: I consider myself an algebraic number theorist. In my thesis, "The Arithmetic Genus of Hilbert Modular Threefolds," I used algebraic and computational number theory to derive results in algebraic geometry. Since then, my research has been varied, partly because I enjoy working collaboratively, and that often means pushing one's boundaries to find common ground with a collaborator. I have a number of publications dealing with

Stephen Kennedy is professor of mathematics at Carleton College, senior acquisitions editor for MAA Press, and associate editor of the Notices. His e-mail address is skennedy@carleton.edu.

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November 2016 AMS ECBT

Hilbert modular varieties and some related papers dealing with cubic number fields. I have a special love for elementary number theory, because it's usually easy to explain the problems to people who don't know much math and because it's an excellent area for involving undergraduates in research. Probably my most cited works are in inverse Galois theory, specifically on the realizability of groups as Galois groups. I've dabbled in some other areas of number theory, and in recent years have become involved in multiple projects concerning the solvability of families of Diophantine equations.

Notices: *I know you've been involved with the EDGE (Enhancing Diversity in Graduate Education) program. Can you tell us about that experience, the roles you played, the effects it had on your thinking, what lessons you learned?*

Grundman: EDGE is an amazing program. I taught algebra to the students the first and third years that the program existed, and had some minor roles in the following years. Several years later, Rhonda Hughes asked me to run the EDGE Mid-Atlantic Mentoring Cluster. This involved arranging gatherings of EDGE alums who were currently in the region. The most effective meetings involved a meal with a lot of socializing, followed by a more serious session in which the women shared their current situations, struggles, and victories. The feedback I received indicated that they, particularly the women in graduate school, greatly appreciated the sharing and mutual mentoring at these meetings.

The EDGE Program taught me how incredibly important it is to know that you are not alone when pursuing something like a graduate degree. These students learned ahead of time that there would be bumps in the roads to their degrees and were given tools and support that they could use to deal with difficult times. When times got rough for them, they were much less likely to get derailed, but instead became more determined. Of course, some decided on different directions, chose to change programs or final goals, but their support network helped to keep them from feeling that they had failed. These women knew that they were making choices and not letting others make their choices for them. And, of course, many of them now have PhDs and are teaching and mentoring a new generation.

Notices: *Are there other relevant life or professional experiences that will inform your work in the Education and Diversity Department?*

Grundman: Probably the most relevant life experience was my time as a math graduate student. I was coming to graduate school from being a high school teacher and was not used to being treated as a student, nor to leaving issues to others to resolve. I sincerely felt that the faculty, staff, and administrators were fellow educators and colleagues and should be wanting to improve their programs. I learned the bureaucracy and helped many graduate students navigate it—particularly when they needed

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exceptions to rules, something that women and underrepresented minority students seem less likely to know are commonly granted.

This was during a time when the Berkeley PhD program admitted a lot more students than they could support beyond the first year. Most professors didn't bother to get to know first-year students, since so many of them would not be there the next year. And then, of course, there were the exams, which caused even more students to leave. Though I am not at all opposed to graduate exams, I find it very frustrating

that so many very strong students get weeded out by them. It is the students without strong egos who leave rather than asking for a second or third try.

My second or third year, a friend of mine and I were asked by a faculty member to organize something for the women graduate students. We learned that a female graduate student had been stalked by an advanced graduate student who had originally claimed to be a beginning student in a class with her. She ended up avoiding him by entirely avoiding the math building, and she eventually left the program. Somewhere in the process, she found out that this same student had also been harassing other female students. Although that stalker had graduated and was gone, there was an awareness that the women graduate students needed to be less isolated.

We applied to the graduate dean for some funds and held a picnic for women math graduate students. We worked hard to get everyone to attend. One of our goals was for all of us to learn that there really were a lot of women in the program. Another was to make sure that every woman knew at least one other. The picnic became an annual event and later morphed into the Noetherian Ring, an organization for women math graduate students that has spawned similar organizations at other schools.

At that time, the Mathematics Opportunity Committee (MOC) was able to admit capable students from underrepresented groups, who were passed over by the regular admissions committee. Those who appeared to have a weaker background were admitted to the master's program with the understanding that they could then transfer into the PhD program. What I found during my six years at Berkeley is that very few ever transferred and many felt duped. I decided that there should be a set program for these students and, during my final year, I designed and proposed such a program with the help of two friends. The PrePhD program gave students one year (with support) during which they took advanced undergraduate courses in order to fill out their backgrounds. Students who passed the courses with an appropriate grade point average were automatically transferred to the PhD program, at which point the clock would start for them to complete their exams, etc. A number of years later, I was thrilled to meet

November 2016 AMS ECBT

and be thanked by the first student to complete the program and go on to receive her PhD.

All in all, my time in graduate school taught me a lot about how and why students leave mid-program. For so many of these students, their leaving did not seem to have anything to do with whether or not they would make strong mathematicians.

I should mention that prior to coming to Bryn Mawr College, I had great doubts about single-sex education. But I have learned some very good reasons for having this option for some students. I think that it's wonderful for a young woman to be on a campus where the goal is to educate women. (I think that there are plenty of campuses that give the impression that their goal is to educate men.) Equivalently, I think that it's wonderful for a black student to be on a campus with the historical goal of educating blacks. But I think that all of these campuses are enhanced by more diversity. For example, around 1950 Hampton Institute, now Hampton University, had a program in which white college students (my mother having been one of them) would attend this otherwise black college for a semester or a year, broadening the education of all of the students. I guess that my belief is that having diversity does not imply having to lose a particular institution's special focus.

Of course, all of my experiences at programs, conferences, and workshops, and my years at MIT, Bryn Mawr College, MSRI, and the Bunting Institute of Radcliffe College inform me of what does and does not help mathematics students and mathematicians at various levels to be successful. Also my work with AWM, Project NExT, and other organizations has given me a variety of additional experiences mentoring young women both before and



Grundman talks to graduate student Jonah Swann at a reception in the Anna Pell Wheeler Mathematics Lounge at Bryn Mawr College.

after obtaining their PhDs, helping to inform me of the issues near this difficult transition point.

Notices: *Can you tell us your thoughts on graduate education more generally?*

Grundman: First of all, I want to be very clear that we, in America, have the best graduate mathematics programs in the world and we don't want to change that. Of course, we should always be working to improve our programs, if only so that they remain the best.

I think that a PhD in math should indicate a broad knowledge and understanding of mathematics along with a very deep understanding of a small area, in which one has done independent (though, perhaps, guided) research and proven new results. I would like it also to indicate an ability (though not necessarily a desire) to do more mathematics research and I would like it to indicate an ability (though perhaps one that needs some honing and, again, not necessarily a desire) to teach mathematics.

Not everyone should get a PhD in mathematics, just as not everyone should become a symphony cellist. But, in either case, in order to produce the very best of the best, we need to make sure that everyone has the opportunity to enter pathways leading there, that they are appropriately encouraged and supported, and that the filters we use to remove students from programs achieve the desired outcomes. (And we need to agree that the desired outcomes include our having a more diverse mathematics community than we have now.) We know that orchestras are becoming more diverse and *of higher quality*, now that blind auditions are common. We need to find analogous ways to improve the filters that we use throughout our educational process. And, as anyone who has been working in graduate admissions to improve diversity can tell you, we definitely need to improve the opportunities (and encouragement) for underrepresented minorities and women to enter, and continue on, the pathways that can lead to applying to a PhD program in mathematics. Once we have admitted well-qualified, capable students into our programs, we need to ensure that we provide them with a challenging and supportive environment that does not (perhaps inadvertently) drive them out.

Notices: *What are some of the institutional or structural barriers to members of underrepresented groups in graduate education that persist? And what can we do about them?*

Grundman: I'm not sure that I'd call them barriers as much as hurdles, but they are hurdles that exist for some students, and not for others. And, as I talk with more and more people, I'm learning that they still persist at every step of the way, from undergraduate advising and mentoring, through admissions, and then each stage of the graduate-school experience.

For example, there are many issues at the point of admissions; many schools are already addressing some of them. One clear problem is the over-reliance on GRE scores. On one hand, it seems like such a clearly objective measure, independent of individual biases. But, to the

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We need to understand what mechanisms are in place that cause talented students to leave math graduate programs.

their current practices.

Admissions decisions that are not based on test scores usually depend a great deal on letters of recommendation. Obviously, letters from mathematicians known to members of the committee carry more weight than letters from unknowns. Thus, to improve diversity without sacrificing quality, members of admissions committees need to make an effort to get to know some of the professors who teach and write letters for applicants from underrepresented minorities. This would also allow the letter writers to learn more about what characteristics of the students are important to the committees.

Considering the problem more generally in graduate programs, one well-documented reason women and students from underrepresented minorities leave is because of isolation, because each is, at best, one of very few in their program. This reinforces the barrage of messages a student receives indicating that perhaps he or she doesn't belong there. These other messages are a combination of the small failures that almost all graduate students face, along with the (often accidental) micro-aggressions coming from both faculty and students, and, unfortunately, the blatantly racist and sexist actions and comments that we all would like to believe are not a part of our graduate programs.

A number of approaches have been tried to solve, or at least mitigate, some of these problems. Some institutions have drastically changed their admissions practices, with very positive results. To combat the problem of isolation, some campus-wide organizations have been formed to allow students from underrepresented minorities to see that they are not alone and to allow for co-mentoring. If that is not an option, then perhaps students can be connected with mentors on other campuses. Faculty in the students' departments can greatly reduce the effects of the negative messages, by delivering clear, honest, positive

contrary, we have very strong evidence (a controlled experiment run by the ETS) that this sort of standardized mathematics test yields lower scores for women (on average) than they do if a simple change in the testing procedure were made. And there are similar results for students in other groups that are underrepresented in mathematics.

Another admissions problem is the desire to admit students with trajectories typical of successful students previously admitted. Though this is, in many ways, a logical approach, it dooms us to repeat the past. Programs need more experience with students whose backgrounds are different, but they can't get that without changing



Grundman with four of her graduate students at Bryn Mawr College's graduation: Jaclyn Lang, MA '09 (PhD UCLA '16); Eva Goedhart, PhD '15; Amanda Hittson, MA '09; and Daniel Wisniewski, PhD '10.

messages to students. This is a skill that can be learned, along with the skill of avoiding micro-aggressions. Finally, departments that want to be diverse need to accept that they have a responsibility to set standards for acceptable behavior, to communicate them clearly, and to have an established procedure to be followed by people who witness racist or sexist behavior in the department or at a departmental event.

In general, I think that the biggest need is for high-quality mentoring, with at least one mentor who actually understands the student's situation. But I also think that we still have a lot to learn about success in graduate school. We need to understand what mechanisms are in place that cause talented and capable students to leave math graduate programs. If someone finds that they are not happy spending large amounts of their time working on mathematics, then it may well be that a PhD in math is not what they want. On the other hand, if they want to spend that time on math, but the real world intrudes and also demands much of their time, this should not necessitate an exit from mathematics. But few programs have easily identifiable procedures for dealing with such situations. If students enjoy math and excel at it, but circumstances make them miserable when they're physically in the math department, we should become aware of the situation and figure out what needs fixing. Again, having a good mentor in the department who can understand the problem and can help the student find ways to succeed is key.

Notices: Would you care to share some of your big-picture thinking about the mission of this office and your vision of what it can accomplish?

Grundman: The mission of the department, simply put, is to promote diversity and inclusion in the mathematical sciences and to contribute to the improvement of mathematics education. The initial focus is on diversity in graduate-level mathematics education. I'm hoping to find ways to improve the recruitment, preparation, and

success rate of students at this level, particularly members of groups that are underrepresented in the mathematical sciences, including women. Successfully increasing the number of doctoral recipients among these groups will not only diversify the population of PhD mathematicians, but will also, over time, positively affect diversity at earlier stages of the mathematics pipeline.

Credits

Headshot of Helen Grundman is courtesy of Bryn Mawr College.

Photo of Helen at reception is courtesy of Bryn Mawr College Mathematics Department.

Photo of Helen with graduate students at graduation is courtesy of Jaclyn Lang.

MY PROFESSOR



Artwork by Sam White.

COMMUNICATION

Interview with Karen Saxe

Harriet Pollatsek

Karen Saxe is the new director of the AMS Washington Office.



Karen Saxe is DeWitt Wallace Professor of Mathematics at Macalester College. She can be reached at saxe@macalester.edu.

first-hand how Congress operates and that I enjoy following legislation and policy discussions. I have always enjoyed working with lots of different people, and the fellowship year showed me that I could work with those in Washington. I hadn't been so sure about this given that I have always worked in academia, though I have volunteered time in Minnesota in local schools, with the League of Women Voters, and with local officials on redistricting, a mathematical interest of mine.

Pollatsek: *What else attracted you to the director position?*

Harriet Pollatsek is professor emerita of mathematics at Mount Holyoke College, and associate editor of Notices. Her email address is hpollats@mtholyoke.edu.

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Pollatsek: *What does the director of the Washington office do?*

Saxe: It's all about communicating the beauty and importance of research in mathematics. The director helps the AMS develop a policy agenda and advocacy strategy, works with principal decision makers who impact science and education funding, and reports back to the AMS membership.

Pollatsek: *Did your sabbatical year in Washington affect your interest in this job?*

Saxe: When I spent the 2013–14 year in Washington, working for Senator Al Franken as the AMS Congressional Fellow, I learned

Saxe: I wanted to work with AMS members and staff to continually update and refine our message about how mathematics is valuable for the nation and thus why it should be funded. I want to help stakeholders in Washington feel comfortable talking about mathematics and more generally to promote public understanding of the importance and impact of mathematics.

To be a strong advocate for our discipline, I look forward to establishing relations with AMS members to become more familiar with a broad range of mathematics at the frontiers of our collective knowledge. These relations will help me draw on the good will of AMS members when I need volunteers, for everything from Congressional briefings to grassroots advocacy.

Pollatsek: *What is your previous experience working with the professional societies?*

Saxe: I have been an active member of AMS, and also of AWM and MAA for many years. My most significant contribution has been in my recent service as a vice president of the MAA. I currently serve on the Science Policy Committees of both AWM and MAA. I have worked over the past year with several AMS members on policy-related issues via the NSF-funded Common Vision¹ project, on which I am principal investigator, and also through my involvement on the *Transforming Post-Secondary Education in Mathematics* (TPSE Math) Board of Directors.

The one-year grant to the Common Vision project ends September 30, 2016. The work done during the first year we view as Phase 1 of a two-part process. We now have a one-year extension, to launch collaborative work between the MAA and NCTM as we move Common Vision forward into the proposed Phase 2, now dubbed "Common Vision: Taking Action." I see my role lessening significantly on Common Vision as other groups are spurred to action and develop projects. The TPSE work is much broader, and we are beginning our implementation phase. Tara Holm and I recently wrote an article for the 2016 June/July *Notices* about both of these projects and their relation to each

¹www.maa.org/common-vision

November 2016 AMS ECBT

other.² I will continue my work on the TPSE Board.

Pollatsek: *What challenges do you see as you take on this position?*

Saxe: One challenge that impacts our profession is the general lack of understanding, and I would say “fear,” of mathematics. This fear is evidenced by the outsized publicity given critics like Andrew Hacker [whose book *The Math Myth* was reviewed in the 2016 November *Notices*]. (Evelyn Lamb rebuts well his argument “that abstract math is scary, damaging, and should be optional in American education.”³) The fact that Hacker is able to get such media attention for his cause indicates that we have not done a good job presenting our field to the public.

Criticism of our community is not limited to naïve critics such as Hacker; Engage to Excel: Producing One Million Additional College Graduates with Degrees in Science, Technology, Engineering, and Mathematics (President's Council of Advisors on Science and Technology, 2012) also criticizes our collective enterprise.⁴ The challenges laid out in this report, together with the opportunities described in the more positive *The Mathematical Sciences in 2025* (National Research Council, 2013) serve together as a call to action for our community to acknowledge the need for improvement as well as a platform from which to base improvement efforts. Common Vision and TPSE are just two examples of current initiatives launched in response to these two reports and aimed at encouraging and enabling positive change in the teaching of the mathematical sciences at the post-secondary level.

To present a better and more accurate image of what we do, I would like to increase the presence of mathematicians in the government sphere, at all levels. I am interested in increasing not only the number of senior members of our community in important posts within federal agencies, but also PhD mathematicians at all stages of their careers as AAAS Science and Technology Fellows (the fellowship that allowed me to serve Senator Franken), and even our undergraduate math majors as Congressional staffers and federal agency employees.

A second big challenge to our profession is a consequence of the fact that we are living in difficult fiscal times. Most AMS members are employed at institutions of higher education, many of which have been coping for several years with state disinvestment. Not only can lack of sufficient funds diminish the quality of our individual work lives, it can decrease the quality of the education offered our students and therefore negatively affect our pipeline of graduate students and post-doctoral fellows.

²Also see the opinion piece by Jorgensen in the 2016 November *Notices*.

³www.slate.com/articles/health_and_science/education/2016/03/andrew_hacker_s_the_math_myth_is_a_great_example_of_mathematics_illiteracy.html.

⁴See the October 2012 *Notices* for two articles about this report.

*We have not
done a good
job presenting
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the public.*

Mathematicians rely on NSF funding to support their research activities and this, too, has taken a hit in recent years. The NSF budget is determined by the House and Senate Appropriations Committees' respective subcommittees on Commerce, Justice, Science and Related Agencies. As of this interview, both the House and Senate appropriations bills have passed, and both propose disappointing 2017 budget levels for the NSF. I am looking forward to working

annually through the Congressional appropriations process to secure funds to support research. Not only do we need higher levels of funding allocated each year, we need to continue to push for long-term stability of these funds to enable programmatic and infrastructure planning for continued growth. Because federal funding is an increasingly large source of support for mathematicians, AMS's engagement with the annual decision-making process is critical.

So far I have talked about the challenges of the job “from the outside.” I know, too, that I face personal challenges as I take on this new job. Sam Rankin has held this position for over two decades; establishing relations as he has both within the AMS and also in Washington will require diligence and patience. And, I would be remiss if I didn't acknowledge a more emotional challenge—that I am moving away from teaching students and working with terrific colleagues developing programs and curricula, both of which I love and will miss.

Pollatsek: *Any final comments?*

Saxe: Being selected for this position to succeed Sam Rankin is an honor and a tremendous opportunity to serve the mathematics community.

For information on the federal budget process, check out these articles on the web:

A Brief Guide to the Federal Budget and Appropriations Process

Appropriations Watch: FY 2017

Policy Basics: Introduction to the Federal Budget Process

See these related *Notices* articles:

A Common Vision for Undergraduate Mathematics by Tara Holm and Karen Saxe, June/July, 2016. www.ams.org/publications/journals/notices/201606/rnoti-p630.pdf

Review by David Bressoud of *The Math Myth* by Andrew Hacker, November, 2016.

Are Mathematics Faculty Ready for Common Vision? by Marcus Jorgensen, November, 2016.

Credit

Photo of Karen Saxe is courtesy of David Turner/Macalester College.

Report of the Executive Director: *State of the AMS, 2015*



I am pleased to report that 2015 was again a successful year for the American Mathematical Society (AMS). The Society remains financially healthy, very active in supporting the mathematics community, and responsive in addressing professional and public advocacy issues thanks to the efforts of its members and dedicated staff. Several notable events and transitions occurred in 2015.

- Attendance at the Joint Mathematics Meetings (JMM) in San Antonio totaled 5,962, an increase of 17 percent from the total at the last JMM in San Antonio in 2006, and a modest decrease of 8 percent from the attendance in Baltimore in 2014. JMM attendance has remained at approximately 6,000 or above since 2011.

- Ellen Maycock completed her phased retirement from the position of Associate Executive Director (AED) of Meetings and Professional Services, a role in which she was succeeded by T. Christine Stevens in 2014. During 2015 Ellen served as Special Projects Officer until August when she was succeeded by Thomas H. Barr.

- The Society completed its Strategic Plan for 2016–2020. The plan was approved by the Executive Committee and the Board of Trustees in November 2015 and by the Council in January 2016. The last section of this report highlights some of the plan's strategic initiatives.

Current Issues

An issue that continues to affect the AMS in its role as a scholarly publisher is the steady growth of research literature in the mathematical sciences. A society publisher such as the AMS has its incentives perfectly aligned with the community members and with research libraries. During the period 2000 through 2009, the number of new research articles published annually in journals covered by Mathematical Reviews (MR) increased by 37 percent, a compounded annual growth rate of 3.6 percent. To accommodate this growth in the volume of research literature, the AMS is striving to publish more high quality content. The issue has been addressed in the Strategic Plan through increases for the pages published in the primary research journals and by focused discussions of the Council and the Publishing Division on the possible introduction of new AMS journals.

New policies have now been put in place for public access to research sponsored by government funding. There

are several dimensions to the discussion, including (1) what form the mandates for public access will take and (2) how business models for publishing scientific work will evolve; e.g., Open Access vs. subscription models for journals. In accordance with its mission statement, the AMS continues to promote open, rapid, and affordable communication of research. Some specific steps we have taken are described in the section on publishing below.

The AMS is concerned about how the support of basic research has become highly politicized. We continue to collaborate with other organizations in advocacy for the support of basic research.

Highlights of 2015 Activities

The Society's major activities rely on the contributions of dedicated volunteers and staff as well as the philanthropy of many individuals. We are grateful for their contributions of time and financial support.

"It truly was the best mathematical experience of my graduate career. I hope it will continue so that other young mathematicians can find a way to network and collaborate in meaningful research in their areas. I feel honored and I want to thank everyone involved in selecting me to take part in this experience."

—2015 MRC participant



Serving the Community

Mathematicians continue to attend meetings and conferences in person—to learn, advance their careers, meet colleagues, and recognize recipients of AMS prizes and awards. While AMS staff handle the complicated logistics, AMS Secretaries and organizers of special sessions and panels manage the scientific programs of AMS meetings. Special thanks go to AMS Secretary Carla D. Savage and Associate Secretaries Georgia Benkart, Brian D. Boe, Michel L. Lapidus, and Steven H. Weintraub, as well as the many organizers, speakers, and panelists who contribute their time, leadership, and expertise to these endeavors.

In 2015, two special meetings were sponsored by the AMS in partnership with other organizations. The 2015 Joint International Meeting was held in Porto, Portugal in June and was cosponsored with the European Mathematical Society and Sociedade Portuguesa de Matemática. It was a great success with over 1,100 participants from the US, Portugal, and many other European countries.

In July, the sixth Summer Research Institute on Algebraic Geometry was held at the University of Utah, Salt Lake City, sponsored by the AMS in collaboration with the Clay Mathematics Institute. The meeting continued a tradition of decennial summer institutes started in 1964. The goal of the three-week institute was to review major achievements in algebraic geometry in the past decade, and to bring the attendees to the forefront of the relevant subjects. The institute was modeled on the 2005 Summer Research Institute held at the University of Washington, Seattle, with plenary lectures in the mornings, and seminar series in the afternoons. Partial funding was provided by the National Science Foundation, the National Security Agency, and the Simons Foundation. Prior to the meeting, a one-week boot camp was held for advanced graduate students and postdocs to familiarize them with a broad range of developments in algebraic geometry and to introduce early-career algebraic geometers to their peers and to more senior algebraic geometers.

The Mathematics Research Communities (MRC) program continues to be highly successful. The 2015 MRC summer conferences at the Snowbird Resort in Utah drew

120 early-career mathematicians. These conferences, funded by the National Science Foundation, are part of this AMS program that also includes special sessions at JMMs, ongoing support from conference organizers, and a continuation of the connections and collaborations funded substantially by endowment income. Through 2015, approximately 900 participants have taken part in the MRC program.

Each year, approximately 300 graduate students receive travel support from the AMS to attend meetings. About 100 students attended JMM in San Antonio with support. They were treated to a brunch where they could meet other students and members of the AMS leadership. The student travel grants are supported by one generous anonymous donor.

Members and the broader mathematical community also look to the AMS to provide crucial services—employment services, career information, and other opportunities for advancement and involvement.

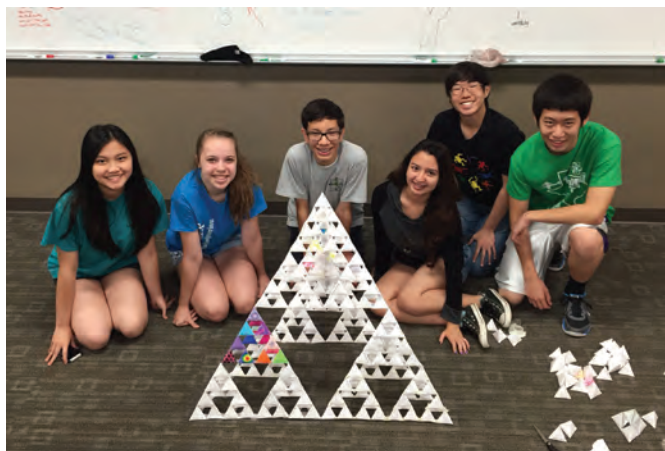
MathJobs.Org and the Employment Center at JMM remain valued by both employers and job seekers, especially for academic employment. By 2015, MathJobs was serving over 8,000 job applicants and 650 employers, including some international employers who began accepting job applications through the system in 2014.

The AMS also gathers data on the profession in annual surveys regarding faculty recruitment, hiring and salaries, course enrollments, degrees awarded, and the demographics of new PhD recipients along with their employment status. The survey reports are vital for the mathematical sciences community in gaining support for programs, in understanding how one's department compares to peers, and in providing reliable information about employment patterns and higher education in mathematics, applied mathematics, and statistics.

Support of summer math camps for talented pre-college students continues to grow. The Epsilon endowment fund is broadly supported by AMS member-donors. In 2015, the twenty-three summer camps receiving Epsilon Fund grants hosted over 1,450 students. It is a great program in which a modest amount of funding contributes to the support of a very large number of individual beneficiaries. The TexPREP program at Texas Tech University, for example, worked with 130 students from grades six through eleven to enhance their intellectual skills for success in college programs and careers in mathematics, science, and engineering.

AMS Publishing

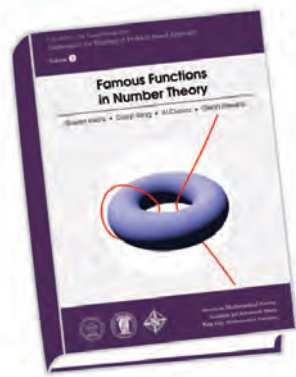
In January Mathematical Reviews celebrated its 75th year of publishing comprehensive coverage of new research in the mathematical sciences. In 2015, 119,000 items were added to the MR database, including 89,000 reviews. The growth in the mathematics literature presents a significant challenge to MathSciNet® in its mission of (1) covering all new research contributions in mathematics and, at the same time, (2) continuing to improve the capabilities of MathSciNet for discovery of new research results; for example, the addition of 14 new Reference List journals in 2015 vastly improves the research-discovery capabili-



TexPREP-Lubbock Summer Math Camp, Texas Tech University, Lubbock.

ties of MathSciNet. The strategic planning for MathSciNet done in 2015 addresses this challenge.

The Publishing Division, under the leadership of Associate Executive Director Robert M. Harington, and the Computer Services Division, under the leadership of Chief Information Officer Tom Blythe, continue to make major strides in broadening the availability of AMS eBooks. In 2015, the Society launched availability of additional back file collections for libraries, including selected out-of-series (MBK) volumes, the *CBMS Issues in Mathematics Education*, the *CBMS Regional Conference Series in Mathematics*, and *Mathematical World*.



In 2015, the book program published 81 new titles, of which we are very proud. Two sets of AMS books published in 2015 are especially noteworthy.

A new book series was launched in collaboration with the Institute for Advanced Study Park City Mathematics Institute. The books of *IAS/PCMI-The Teacher Program Series* present materials from the IAS/PCMI Secondary School

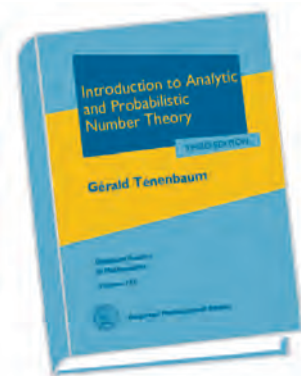
Teachers Program, an annual professional development program for middle school and high school teachers of mathematics. Books in the series are designed to facilitate the Secondary School Teacher's Program (SSTP) goal of improving teacher knowledge via a problem-based approach to learning. Three titles were published in this series in 2015: *Probability through Algebra*, *Famous Functions in Number Theory*, and *Applications of Algebra and Geometry to the Work of Teaching*.

The 5-volume set, *A Comprehensive Course in Analysis* by Barry Simon covers real and complex analysis, harmonic analysis, and operator theory in 3,259 pages. This unique set can serve as a comprehensive graduate-level text as well as a definitive reference for almost all areas of classical analysis.

The AMS added nine new volumes to its *Graduate Studies in Mathematics* series in 2015, including *Introduction to Analytic and Probabilistic Number Theory: Third Edition*, by Gérald Tenenbaum. The new edition expands the content of the previous edition by more than fifty percent.

A behind-the-scenes, high priority mission of the AMS is to continue the advancement of technology for the electronic distribution of mathematical content. The AMS partners with about twenty other organizations in the development of MathJax™. The AMS and the Society for Industrial and Applied Mathematics (SIAM) are the two leading partners for the MathJax Consortium. MathJax has had

a revolutionary impact in enabling the high-quality web rendering of MathML and mathematics authored in \LaTeX , in all standard browsers. The MathJax Content Delivery Network (CDN) currently serves more than 100 million unique visitors per month. In 2015, the key developers of MathJax were funded by the Alfred P. Sloan Foundation to develop capabilities using MathJax for embedding semantic markup of mathematical content and for developing a software infrastructure for *handicap accessibility* of mathematics on the web, such as text-to-speech processing. MathJax is just one part of the technology development being done by the Publishing Technology Group in the Computer Services Division and by the Publishing Division.



There were major developments for publishing of the AMS research journals as well in 2014–2015. I believe that a professional society such as the AMS has incentives that are perfectly aligned with the communities that our publications serve—the libraries, that are our customers, and the mathematical scientists, who are both our authors and our consumers. We can deliver the highest quality publications at the lowest possible cost. The logical implication for the AMS is that we should strive to publish more of the high-quality research content that is being created.

In 2015, the AMS made substantial increases to the pages published in its primary research journals. The increase is helping us to achieve two goals: (1) elimination of the backlogs of *Proceedings of the AMS* and *Transactions of the AMS*, and (2) delivery of more high-quality content at lower cost to the subscribers. The AMS published 26,000 journal pages in 2015, compared to 20,600 pages in 2013, an increase of 26 percent in two years.

In 2014, the AMS launched two new open access research journals, *Proceedings of the AMS, Series B* and *Transactions of the AMS, Series B*, companion journals to the primary AMS journals *Proceedings* and *Transactions*. The new journals offer the open access option for authors who wish to publish their work in the “gold” open-access model. In 2015, the Publishing and Computer Services divisions introduced Early View as a new AMS member benefit. As soon as an article is accepted by one of the primary research journals, the author's final submitted manuscript is posted on ams.org and made freely available for members to view. Authors are also encouraged to post their final manuscript at arXiv.org. All of these initiatives are designed to achieve rapid and broad dissemination of new research.



Barry Simon, AMS author and recipient of the 2016 Leroy P. Steele Prize for Lifetime Achievement.

Advocacy, Partnerships for Mathematics and Science, and Public Awareness

The AMS Public Awareness Office, the Washington, DC Office, as well as many in the profession, are key to promoting awareness of news and information about mathematics and mathematicians—to our own community as well as to scientists in other fields, students, decision-makers, the media, and the broader public.

The Washington Office leads or oversees a number of activities in advocacy for the mathematical sciences and public policy in support of science. These activities include an annual Congressional Briefing, leadership of the Coalition for National Science Funding (CNSF), staff liaison for the AMS policy committees on Education and Science Policy, recruitment and selection of the AMS Congressional Fellow and the AMS Mass Media Fellow, and a variety of advocacy initiatives.

CNSF is an alliance of over 140 professional societies, research institutes, higher education institutions, and businesses that works to increase the national investment in the National Science Foundation's research and education programs. The coalition organizes a reception and exhibition each year for members of Congress and Congressional staffers. The 2015 exhibition was attended by 275 people, including ten members of Congress. Katharine Gurski (Howard University) represented the AMS and presented her work on "Mathematical Algorithms for Space Weather, Tsunamis, and Plasma Physics."

For several years, the Committee on Science Policy has combined its annual spring meeting in Washington with "visits to the Hill." In April 2015, committee members visited the offices of thirty Senators and Representatives to have conversations about the state of science funding and to ask for support of budget increases proposed for NSF in FY 2016. Such visits are important; at the time of the visits, the NSF was being subjected to unprecedented scrutiny by the House Committee on Science, Space, and Technology.

The AMS Public Awareness Office (PAO) provides leadership and support for activities that communicate with the general public and with select constituencies about the importance of mathematics. In April 2015, the PAO and the AMS more broadly participated in the inaugural National Mathematics Festival. The PAO lent a lot of support to promoting the festival and sponsored the *Who Wants to Be a Mathematician* game.

Really Big Numbers won the first Mathical: Books for Kids from Tots to Teens book prize in two categories: Grades 3–5 and Grades 6–8 as part of the National Mathematics Festival. The book, written by Richard Evan

Schwartz of Brown University, was published by the AMS. The Mathical: Books for Kids from Tots to Teens book prize, presented by the Mathematical Sciences Research Institute (MSRI) and the Children's Book Council (CBC), recognizes the most inspiring math-related fiction and nonfiction books for young people of all ages.

Strategic Planning

At the May 2013 meeting of the Executive Committee and Board of Trustees (ECBT), the ECBT approved of the President appointing a committee to oversee the strategic planning for the AMS. President Vogan appointed a Strategic Planning Oversight Committee (referred to as SPOCK) including Ralph Cohen (EC member), Mark Green (BT Chair), Donald E. McClure (Executive Director), Emily Riley (CFO), Carla D. Savage (Secretary), and David A. Vogan Jr. (President). The committee was later expanded by adding William Jaco (2014 BT Chair) and Robert Bryant (2015–16 President). Also, Ronald Solomon (Chair, Mathematical Reviews Editorial Committee) was added for the part of strategic planning focused on MathSciNet.

The strategic planning has been done in three parts. The first part focuses on the AMS as a membership organization: membership, professional services, and the Washington Office. The second part concerns the AMS publishing of journals and books, plus the AMS web presence. The third part focuses on MathSciNet.

At the end of 2014, the first two parts were on track to start finalizing plans in mid-2015. The planning for MathSciNet achieved an ambitious schedule to finish in the fall of 2015.

The planning for membership, professional services,

and Washington activities engaged the services of a consulting firm McKinley Advisors from Washington, DC. The Society and McKinley had designed a survey of the mathematics community that was carried out right after JMM 2015. The objective of the survey was to assess and quantify the perceptions, needs, and expectations of AMS members and the mathematics community to inform the strategic planning process.

The plan was finalized by SPOCK in October 2015 and was recommended for approval to the ECBT and the Council. Final approval was given at the Council meeting on January 3, 2016, in Seattle. The plan relied very heavily on the findings of the member survey and on focused discussions of the Council on MathSciNet, membership, and publishing. The last discussion on publishing took place at the April 2016 Council meeting; that Council discussion expanded on earlier discussions in 2014 and 2015 by the Committee on Publications.



Katharine Gurski and Dr. France A. Córdoba, director of the National Science Foundation.

The plan consists of two parts, (1) a one-page Strategy Map outlining Goals, Objectives, and broad Strategic Initiatives, and (2) six pages with more detailed outlines of six groups of Initiatives to guide the planning of the Society over the five-year period 2016–2020.

The 2014 State of the AMS report summarized findings from the member survey about top-ranked professional challenges faced by respondents and about top-ranked areas of activity for emphasis by the AMS (Notices, December 2015, pp. 1357–60).

The ranking of areas of activity was determined by the proportion of responses categorizing that objective as “among the most important.”

The four top-ranked activities were:

1. Support and encourage young mathematicians and individuals pursuing undergraduate/graduate degrees in mathematics.
2. Increase advocacy efforts on key issues, such as support for basic research.
3. Promote awareness and appreciation of the importance of mathematics among the public.
4. Create programs to promote and foster diversity in the mathematics profession.

The six groups of Initiatives included in the approved plan reflect these priorities. They are:

1. Diversity and Inclusion—including the formation of the new Department of Education and Diversity
2. Advocacy, Awareness & Visibility
3. Membership Development
4. Development and promotion of a coherent portfolio of programs, meetings, publications, and professional services
5. Future directions for Mathematical Reviews / MathSciNet—including a roadmap for future development, as well as strategies to broaden access to MathSciNet by many more mathematical scientists
6. Publishing—including the development of tools for research and teaching, and strategies for publishing more mathematics content

The Board of Trustees made \$250,000 available in the 2016 budget for implementation of the Strategic Initiatives and the work has begun in earnest.

—*Donald E. McClure*
Executive Director

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TexPREP-Lubbock photo, courtesy of TexPREP.
Barry Simon photo, courtesy of California Institute of Technology|Bob Paz.
Gurski and Córdova photo, courtesy of Scavone Photography.



Faculty Position in Mathematics at the Ecole polytechnique fédérale de Lausanne (EPFL)

The School of Basic Sciences at EPFL invites applications for a **tenure-track assistant professor in mathematics** in all areas of pure mathematics.

We seek candidates with an outstanding research record and the capacity to direct high quality research. We also expect a strong commitment to excellence in teaching at all levels. While appointments are foreseen at the tenure-track assistant professor level, in exceptional cases an appointment at a more senior level may be considered.

Substantial start-up resources and research infrastructure will be made available.

Applications including a letter of motivation, curriculum vitae, publication research and teaching interests, as well as the

names and addresses (including email) of at least five referees and should be submitted in pdf format via the website:

<https://academicjobsonline.org/ajo/jobs/7451>

The evaluation process will start on **November 1st, 2016**; however applications arriving after that date may also be considered.

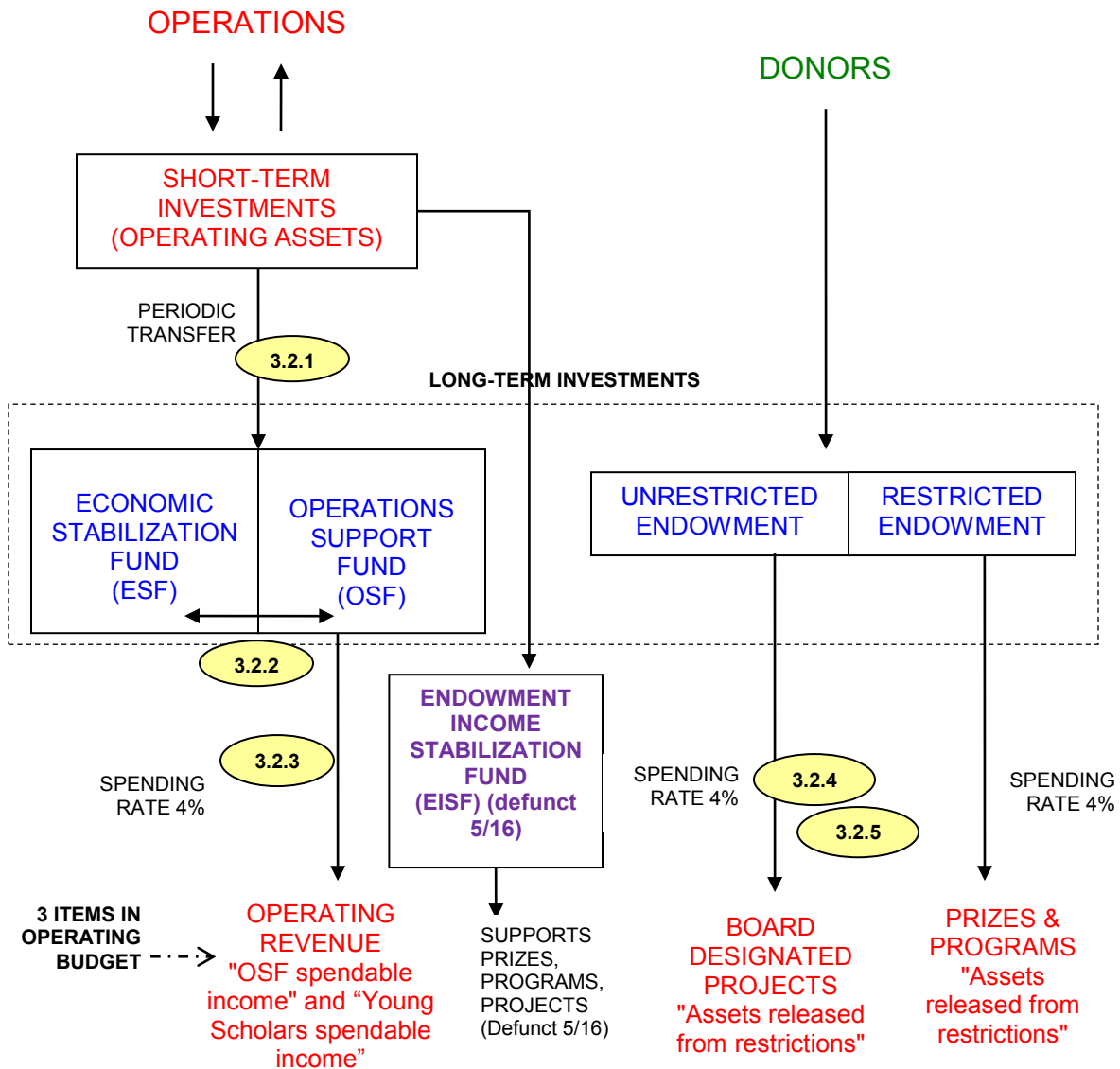
For additional information, please contact:
Professor Philippe Michel
Chair of the Mathematics Hiring Committee
Email:

mathhiring2017@epfl.ch
Please include the tag “[Math2017]” in the subject field of your email.

The School of Basic Sciences actively aims to increase the presence of women amongst its faculty, and female candidates are strongly encouraged to apply.

AMS Long-term Investments Cliffs Notes

(For details, see section D of Fiscal Reports)



ESF = 75% annual operating expenses + unfunded medical liability (APBO) + Flood self-Insurance (\$1,700,000 in 2014)

OSF = remainder of quasi-endowment (spending on 3-yr rolling average) Rebalanced annually, December 31

EISF = As of 5/2016, the BT decided to return these funds to the OSF. The fund supplemented prizes, programs, board designated projects when endowment funds from 4% spending rate were not adequate.

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:	12/31/15	12/31/14
ESF	\$ 29.4 M	\$30.1 M
OSF	78.4 M	78.3 M
EISF	.5 M	.5 M
Unrestricted	7.9 M	7.7 M
Restricted	6.8 M	6.8 M

Appropriated Spendable Income

This version of the plan allocates \$281,000 of the total available 2017 funding of \$282,194. We encourage the Board to make suggestions as well for alternative allocations. The amounts below are suggestions based on items budgeted in the 2017 budget.

Each year, the Board approves a list of designated projects that are paid for (in part) by spendable income from the unrestricted endowment. Those projects are selected to represent a variety of activities all of which are consistent with the mission of the Society.

Here are brief descriptions of the projects for 2017 appropriations.

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.

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.

Programs of the Department of Education and Diversity (\$50,000)

During its first full year, 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 Graduate Student Chapters (\$15,000)

There are now 44 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 www.ams.org/programs/studentchapters.

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.

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.

AMS Congressional Fellow (\$80,000)

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.

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.

The Golden Goose Award (\$6,000)¹

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)¹

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.

¹ These two items, totaling \$9,000, were not on the list presented at the May 2016 ECBT meeting; instead there was one item for \$10,000 for Mathematics Research Communities (which is no longer on this list).

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.

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.

The recommendations above total \$281,000.

*Catherine Roberts, Executive Director
Emily Riley, Chief Financial Officer
October 2016*

**BOARD OF TRUSTEES
STANDING COMMITTEES**

AGENDA AND BUDGET COMMITTEE (charge)

(as of February 1, 2017)

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Jane Hawkins (ex officio - Treasurer)

Robert Lazarsfeld (ex officio - Chair of BT)

Zbigniew Nitecki (ex officio - Associate Treasurer)

Carla Savage (ex officio - Secretary)

AUDIT COMMITTEE (charge)

(as of February 1, 2017)

Jane Hawkins, Chair (ex officio - Treasurer)

Robert Lazarsfeld (ex officio - Chair of BT)

Zbigniew Nitecki (ex officio – Associate Treasurer)

Joseph Silverman (ex officio – third-year Trustee/incoming Chair of BT)

INVESTMENT COMMITTEE (charge)

(as of February 1, 2017)

Jane Hawkins, Chair (ex officio - Treasurer)

Robert Lazarsfeld (February 1, 2016 - January 31, 2019)

Zbigniew Nitecki (ex officio - Associate Treasurer)

Rob Taylor (February 1, 2016 - January 31, 2019)

LIAISON COMMITTEE (charge)

(NOT A BT COMMITTEE, BUT LISTED HERE FOR CONVENIENCE)

(as of February 1, 2017)

Kenneth Ribet, Chair (ex officio - President)

Jane Hawkins (ex officio - Treasurer)

Robert Lazarsfeld (ex officio - Chair of BT)

Carla Savage (ex officio - Secretary)

RETIREMENT PLAN INVESTMENT COMMITTEE (charge)

(as of February 1, 2017)

Tammy Walsh, Chair (ex officio – Director of Human Resources)

Zbigniew Nitecki (ex officio – Associate Treasurer)

Emily Riley (ex officio – Chief Financial Officer)

Joseph Silverman (February 1, 2016 - January 31, 2018)

SALARY COMMITTEE (charge)

(as of February 1, 2017)

Jane Hawkins, Chair (ex officio - Treasurer)

Robert Lazarsfeld (ex officio - Chair of BT)

Zbigniew Nitecki (ex officio - Associate Treasurer)

**EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES
STANDING COMMITTEES**

DEVELOPMENT COMMITTEE (charge)

(as of February 1, 2017)

Karen Vogtmann, Chair (ex officio – fifth-year Trustee)

Jane Hawkins (ex officio - Treasurer)

Robert Lazarsfeld (ex officio - Chair of BT)

Kenneth Ribet (ex officio - President)

Catherine Roberts (ex officio - Executive Director)

Carla Savage (ex officio - Secretary)

LONG RANGE PLANNING COMMITTEE (charge)

(as of February 1, 2017)

Kenneth Ribet, Chair (ex officio - President)

Alejandro Adem (ex officio - second-year member of EC)

Jesús De Loera (ex officio - third-year member of EC)

Jane Hawkins (ex officio - Treasurer)

Robert Lazarsfeld (ex officio - Chair of BT)

Catherine Roberts (ex officio - Executive Director)

Carla Savage (ex officio - Secretary)

Joseph Silverman (ex officio – third-year Trustee/incoming Chair of BT)

ECBT NOMINATING COMMITTEE (charge)

(as of February 1, 2017)

Joseph Silverman, Chair (ex officio - third-year member of BT)

David Morrison (ex officio – Chair of Council Nominating Committee)

Jesús De Loera (ex officio - third-year member of EC)

NOTE: When the position of Secretary is under consideration, the Treasurer is a member of this Committee. When the position of Treasurer is under consideration, the Secretary is a member of this Committee.

**TRUSTEE APPOINTMENTS TO POLICY COMMITTEES FOR 2017
(February 1, 2017 – January 31, 2018)¹**

COMMITTEE ON EDUCATION

Joseph Silverman (third-year Trustee)

Next Meeting: October 26-28, 2017 (Thursday-Saturday) in Washington, DC

Current Members/Committee Charge:

www.ams.org/about-us/governance/committees/comm-all.html#COE

Committee Web Page: www.ams.org/about-us/governance/committees/coe-home

COMMITTEE ON MEETINGS AND CONFERENCES

Bryna Kra (second-year Trustee)

Next Meeting: March 18, 2017 (Saturday) in Chicago, IL

Current Members/Committee Charge:

www.ams.org/about-us/governance/committees/comm-all.html#MTGSCONFS

Committee Web Page: www.ams.org/about-us/governance/committees/comc-home

COMMITTEE ON THE PROFESSION

Ralph Cohen or Alejandro Uribe (first-year Trustee)

Next Meeting: October 14-15, 2017 (Saturday-Sunday) in Chicago, IL

Current Members/Committee Charge:

www.ams.org/about-us/governance/committees/comm-all.html#COPROF

Committee Web Page: www.ams.org/about-us/governance/committees/cprof-home

COMMITTEE ON PUBLICATIONS

Robert Lazarsfeld (fourth-year Trustee)

Next Meeting: October 13-14, 2017 (Friday-Saturday) in Chicago, IL

Current Members/Committee Charge:

www.ams.org/about-us/governance/committees/comm-all.html#CPUB

Committee Web Page: www.ams.org/about-us/governance/committees/cpub-home

COMMITTEE ON SCIENCE POLICY

Karen Vogtmann (fifth-year Trustee)

Next Meeting: April 4-5, 2017 (Tuesday-Wednesday) in Washington, DC

Current Members/Committee Charge:

www.ams.org/about-us/governance/committees/comm-all.html#CSP

Committee Web Page: www.ams.org/about-us/governance/committees/csp-home

¹ Each Trustee serves a five-year term and will spend one year on each of the five policy committees according to the following rotation: year 1: Profession, year 2: Meetings, year 3: Education, year 4: Publications, year 5: Science Policy.

TRUSTEE LIAISON ASSIGNMENTS TO DIVISIONS FOR 2017

Division (Director)	Board Liaisons
Executive Director (Catherine Roberts) Development	Ralph Cohen Karen Vogtmann
Computer Services (Tom Blythe) Information Services Information Technology	Zbigniew Nitecki Joseph Silverman
Editorial (Sergei Gelfand) Acquisitions	Robert Lazarsfeld Joseph Silverman
Finance & Administration (Emily Riley) Facilities & Purchasing Fiscal Human Resources Printing & Distribution	Zbigniew Nitecki Jane Hawkins Karen Vogtmann
Mathematical Reviews (Ed Dunne) Acquisitions Administration Associate Editors Cataloging Copy Editors Information Technology Reviewer Data Services Slavic Languages	Bryna Kra Zbigniew Nitecki
Meetings & Professional Services (Chris Stevens) Education & Diversity Meetings & Conferences Membership Professional Programs Public Awareness	Ralph Cohen Bryna Kra
Publishing (Robert Harington) Production Electronic Prepress Sales & Member Services Creative Services Marketing	Bryna Kra Robert Lazarsfeld
Washington Office (Karen Saxe)	Jane Hawkins Karen Vogtmann

**Mathematics at the 2016 AAAS Meeting
Washington, DC
February 11- 15, 2016**

Symposia:

Section A sponsored three symposia this year, featuring outstanding expository talks by prominent mathematicians and scientists. The three symposia sponsored by Section A this year were:

“Mathematics Making a Difference in Africa”

Applied mathematics is at a promising juncture in the developing world. Developing countries in Africa have recognized the very favorable cost-benefit ratio of mathematics as part of the effort to cope with pressing economic and humanitarian issues, including climate and environmental threats, the spread of disease, and urbanization. Applied mathematics has become a regional priority for research and education, and the last few years have seen the creation of several mathematical research centers in Africa, funded by the World Bank and international organizations and promoted by the Next Einstein Initiative. These innovative centers are now actively engaged in training a cadre of mathematical scientists and partnering with Western institutions of higher education. Speakers in this symposium will discuss recent progress in applied mathematics in Africa, how universities can be effective partners in modeling projects to promote development, and how educational resources and research tools can be shared.

“Mathematics and Music”

Mathematics may be the most abstract of the sciences, and music the most abstract of the arts. Mathematics deals with conceptual and logical truth and appreciates intrinsic beauty. Music can involve a similar appreciation of abstract relationships, though it also evokes mood and emotion through tones and rhythm. Thinkers from Pythagoras to Vincenzo Galilei and Euler have noted the intersections between the disciplines. This symposium considers how mathematics and music overlap: the tuning of chords and how this relates to overtones; the geometry arising from a new framework for the varied array of chord progressions in Western music; and the structural coherence needed to make a piece of music rhetorically viable.

“Massively-Collaborative Global Research in Mathematics and Science”

In recent years, dozens of research projects have emerged that make novel use of computing and communication technologies, dramatically expanding the types of problems that can be considered and leading to breakthroughs in many areas of science. Distributed computing projects can address the design of molecules, improve climate prediction models, analyze astronomical data from radio telescopes, identify prime numbers and elliptic curve factorizations, and develop sustainable water use models, to name a few uses. In addition, contests such as those hosted by InnoCentive or Challenge.gov call for people to work individually or collectively to solve problems posed by industry or government. These projects use the Internet to collaborate across national boundaries, pulling together diverse expertise and “citizen scientists” to implement extensive computer calculations (e.g., running simulations

from high-energy physics or checking mathematical proofs), or to take advantage of “human computing” (e.g., digitizing old texts or studying images from the Hubble Space Telescope by dividing work into micro-tasks or games). This session describes specific projects – protein folding leading to drug development, and the identification of prime numbers with implications for cryptography – accompanied by an overarching discussion of the field of massively-collaborative global research.

Fellows

Section A elected three mathematicians to AAAS fellowship this year. Recognized at the 2016 meeting were

Daniel Goroff, Reinhold Laubenbacher, and Peter Kuchment.

*Submitted by Andy Magid
Secretary, Section A (Mathematics), AAAS
April 2016*

This attachment provides an overview of the considerations and financial implications of moving forward with implementing a fully self-insured health insurance benefit for March 2017.

In November 2014 the BT reviewed a proposal for self-insuring the Society's health insurance benefit and gave approval to move forward with such an arrangement if it would be in the best financial interest of the Society while also maintaining a quality benefit plan for participants. Subsequent claims data did not support the move and the Society has continued to review the feasibility of self-insurance with USI, our broker/consultant, during the planning and preparation process for annual health insurance renewals.

Most recent claims data, through 09/30/2016, indicates that claims are running at a loss ratio of 132.7% for the year. Although our insurer, Blue Cross Blue Shield of RI (BCBSRI) will not provide a renewal quote for the fully insured plan until early December, USI's actuaries estimate a premium increase of +13.5% for the fully insured plan. Premiums have increased every year since 2011, ranging from a low of 3% to a high of 11.5%. The reality of a double-digit renewal makes the current model unsustainable for the long term.

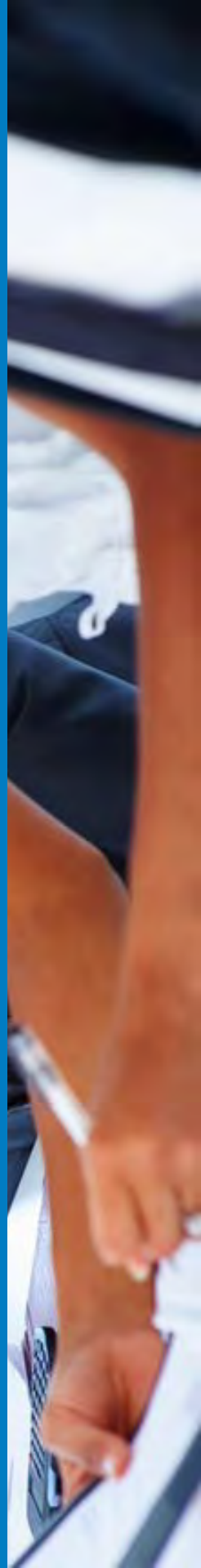
Should quotes for administrative fees and stop loss insurance come in as expected, the cost of providing health insurance under a self-insured arrangement begins to look very attractive with a potential increase in the 4% range, which translates to almost a \$200,000 savings over the fully insured plan option, making it viable to change our funding model for March 2017.

Data and presentation provided by USI
Tammy King Walsh
Director Human Resources
November 10, 2016



Medical Plan Funding Discussion

November 2016 for March 2017 Renewal



Fully-Insured vs. Self-Insured Analysis – 2017/2018

Fully Insured with HRA

- Claim utilization has spiked up to over 100% year to date
- Anticipated renewal of +13.5% (estimate provided by consultant)

Self Insurance with Stop Loss

- Anticipated renewal of approximately +4%
- Includes first year cash costs plus initial claim reserve
 - First year costs on a cash only basis should reduce spend approximately \$250K due to the one-time claim reserve release
 - Need to carry the reserve to fund any runout claims if we were to terminate the plan or convert back to fully insured
- Actual renewal will not be known until firm rates stop loss rates are determined 60 to 90 days prior to renewal

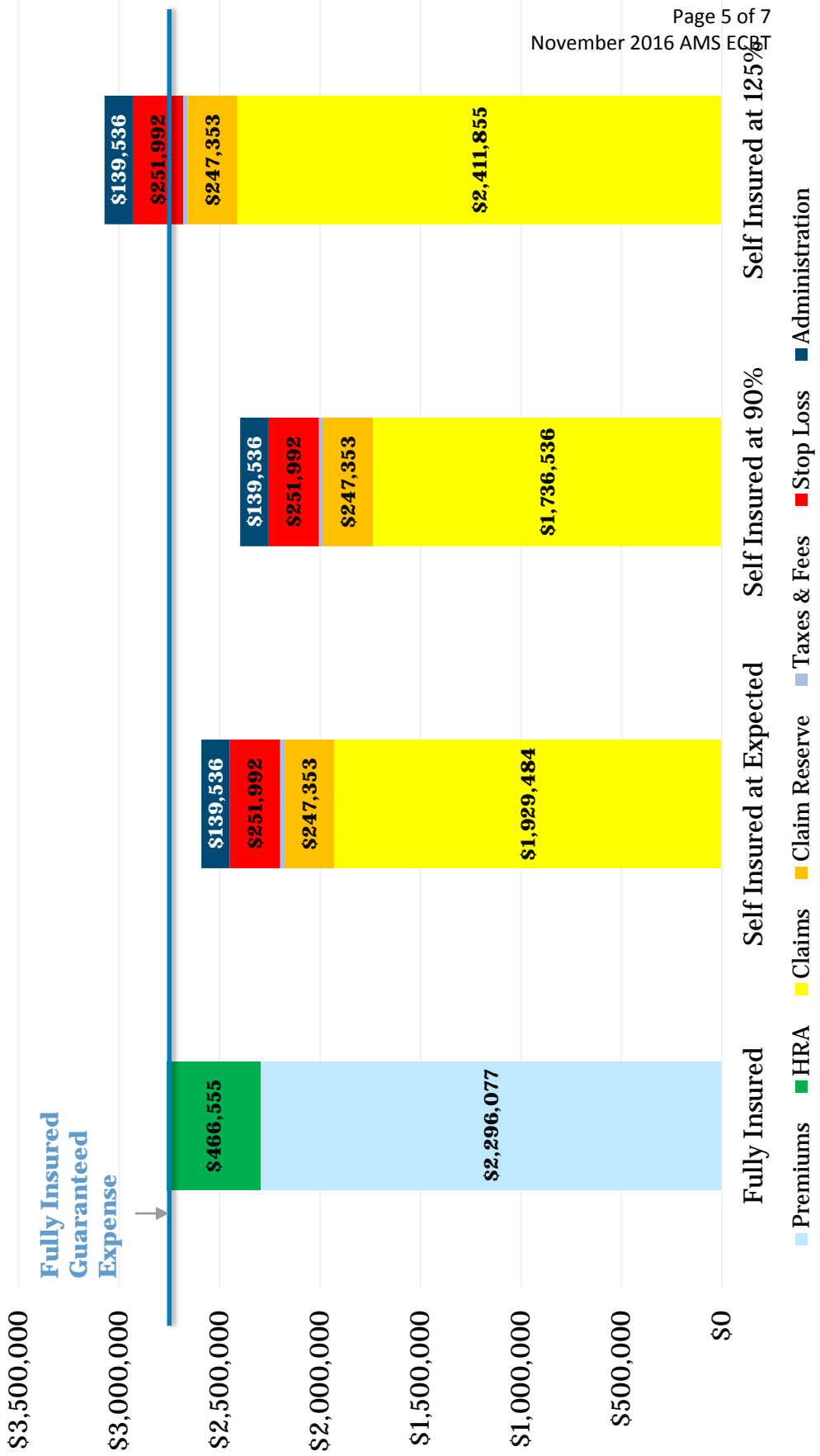
Self-Insured Rate Analysis – 2017/2018

	Approx. Exposures	Monthly Rate	Annual Premium
Fixed Costs			
Medical/Rx Admin Fee ⁽¹⁾	171 \$	68.00	\$ 139,536
Stop Loss Premium ⁽²⁾	171 \$	122.80	\$ 251,992
<i>Subtotal - Fixed Costs</i>			\$ 391,528
Expected Claims			
Expected Claims - Medical & Rx (Immature)	171 \$	921.86	\$ 1,891,651
Claim Reserve			\$ 247,353
Additional Claim Reserve ⁽³⁾			\$ 37,833
<i>Subtotal - Claims</i>			\$ 2,176,837
Additional Fees ⁽⁴⁾			
PCORI Fee (\$2.28 PMPY)	373 \$	0.19	\$ 850
Reinsurance Fee (\$0.00 PMPY)	373 \$	-	\$ -
RI Immunization Fee (\$7.82 PMPY)	224 \$	7.82	\$ 21,020
<i>Subtotal - Additional Fees</i>			\$ 21,871
Total Expected Costs			\$ 2,590,236
Estimated Working Rates			
Employee Only	41 \$	697.32	\$ 343,084
Employee + Spouse	94 \$	1,362.35	\$ 1,536,736
Family	36 \$	1,644.48	\$ 710,416
Total	171		\$ 2,590,236
Estimated Medical/Rx Change for Plan Year 2017/2018:			
			4.0%
2016/2017 (100%) Est. Rates			
	FI Rates	HRA Load	Total Rates
Employee Only	\$ 544.61	\$ 125.60	\$ 670.21
Employee + Spouse	\$ 1,064.00	\$ 245.39	\$ 1,309.39
Family	\$ 1,284.34	\$ 296.21	\$ 1,580.55

Notes:

- (1) Estimated administrative fees based on prior quotes.
- (2) Estimated stop loss fees based on prior quotes and USI BOB for similarly situated clients.
- (3) Assumes a 2% additional claim reserve factor.
- (4) RI Immunization Fee assumes 60% of members are RI residents.

Fully-Insured vs. Self-Insured Analysis – 2017/2018



Self-Insured Plans: Key Advantages

- Lower administrative expense
- Lower taxes & fees
- Greater financial transparency
 - More robust reporting
- Increased design flexibility
 - More flexibility in benefit design options and customization
 - Can pick and choose state mandates
- Improved cash flow
- Claim reserve release
 - AMS holds the claim reserve, not BCBSRI
- Immediate credit for good claims experience

Self-Insured Plans: Issues & Concerns

- **Non-guaranteed aspect of costs – claim fluctuations, volatility**
 - Need to be able to absorb claim spike fluctuations
- **More day-to-day involvement by client and consultant**
 - Need to review and analyze claim data more frequently and in greater detail
- **Budget process changes and requires more time and effort**
- **Proper setup is critical**
 - Ensure documentation is consistent between agreements
 - Ensure stop loss contracts are issued with no gaps in coverage

