AMERICAN MATHEMATICAL SOCIETY
EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES MEETING
MAY 17-18, 2013

MINUTES

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MINUTES

A joint meeting of the Executive Committee of the Council (EC) and the Board of Trustees (BT) was held Friday-Saturday, May 17-18, 2013, at the Campus Inn Hotel in Ann Arbor, Michigan.

All members of the EC were present: Hélène Barcelo, Ralph L. Cohen, Eric M. Friedlander, Tara S. Holm, Bryna Kra, Carla D. Savage, and David A. Vogan, Jr.

The following members of the BT were present: Mark L. Green, Jane M. Hawkins, William H. Jaco, Zbigniew H. Nitecki, Ronald J. Stern, and Karen Vogtmann. Ruth M. Charney was unable to attend.

Also present were the following AMS staff members: Thomas J. Blythe (Chief Information Officer), Graeme Fairweather (Executive Editor, Mathematical Reviews), Sergei Gelfand (Publisher), Robert M. Harington (Associate Executive Director, Publishing), Ellen H. Heiser (Assistant to the Executive Director [and recording secretary]), Robin Marek (Director of Development), Ellen J. Maycock (Associate Executive Director, Meetings and Professional Services), Donald E. McClure (Executive Director), Emily D. Riley (Chief Financial Officer), and Samuel M. Rankin (Associate Executive Director, Washington Office).

President David Vogan presided over the EC and ECBT portions of the meeting (items beginning with 0, 1, or 2). Board Chair Mark Green presided over the BT portion of the meeting (items beginning with 3).

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

0 CALL TO ORDER AND ANNOUNCEMENTS

0.1 Opening of the Meeting and Introductions.

President Vogan called the meeting to order and asked those present to introduce themselves.

0.2 Housekeeping Matters.

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

1I EXECUTIVE COMMITTEE INFORMATION ITEMS

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

Minutes of Secretariat business by mail during the months December 2012 – May 2013 are attached (#1).

2 EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES ACTION/DISCUSSION ITEMS

2.1 Report on Committee on Meetings and Conferences (COMC). Att. #2.

The ECBT received the attached report (#2) on the March 23, 2013 COMC meeting. The Chair of COMC for the period February 1, 2013 – January 31, 2014 is Paul Muhly of the University of Iowa.

2.2 Report on Committee on the Profession (CoProf).

The ECBT was informed that CoProf held its most recent meeting on September 29-30, 2012, at the Hilton Chicago O'Hare Airport Hotel; a report on that meeting is included in the November 2012 ECBT minutes. The 2012 Annual Report on CoProf activities has been filed with the Council and is also posted on the AMS website (http://www.ams.org/ams/cprof-home.html).

CoProf's next meeting is scheduled for September 28-29, 2013, at the AMS Headquarters in Providence, RI. The Committee selected the Society's activities in the area of increased communication and cooperation with other disciplines as the topic of the 2013 review. The Chair of CoProf for the period February 1, 2013 – January 31, 2014 is Abigail Thompson of the University of California, Davis.

2.3 Report on Committee on Publications (CPub).

The ECBT was informed that CPub held its most recent meeting September 28-29, 2012, at the Hilton O'Hare Chicago, IL. A report on that meeting is included in the November 2012 ECBT minutes, and CPub's 2012 Annual Report has been filed in the AMS Committee Report Book as Committee Report Number 121130-011.

The following 2012 CPub action items were approved by the January 2013 Council:

- Revisions to the History of Mathematics Editorial Committee charge; and
- Expansion of the Mathematical Reviews Editorial Committee to include the Executive Director and the Associate Treasurer as ex-officio nonvoting members.

The Annual Report and current committee membership is also available on the CPub homepage (www.ams.org/ams/cpub-home.html). Professor David Marker, University of Illinois at Chicago, will serve as Chair of CPub for the period February 1, 2013 – January 31, 2014.

CPub's next meeting will be held Friday and Saturday, September 27-28, 2013, at the AMS Headquarters in Providence, RI. Managing Editors of AMS primary research journals (*Journal of the AMS, Mathematics of Computation, Proceedings,* and *Transactions*) will also be invited to join CPub at its annual meeting this year. According to its charge, CPub will conduct an evaluation of the AMS Member Journals (*Bulletin, Notices, Abstracts*) for presentation at its 2013 meeting. CPub's last review of the Member Journals was conducted in 2009.

2.4 Report on Mathematical Reviews Editorial Committee (MREC).

The ECBT was informed that MREC has not met since the last ECBT meeting. The next meeting is scheduled for October 14, 2013 in Ann Arbor.

2.5 Report on Committee on Education (COE).

The ECBT was informed that COE hosted a panel discussion at the Joint Mathematics Meetings in San Diego, CA on January 12, 2013 entitled "Mathematics serving students in other disciplines." Panelists included: Mark Kozek, Whittier College; Tom Morley, Georgia Tech; Victoria Powers, Emory University; Tom Roby, University of Connecticut; and Maria Terrell, Cornell University.

The next COE meeting will be October 24-26, 2013 in Washington, DC.

Tara Holm, Cornell University, chairs COE again in 2013.

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

The ECBT received the attached report (#3) on the CSP meeting held March 14-16, 2013 in Washington, DC.

Eric Friedlander, University of Southern California, is the Chair of CSP in 2013.

CSP held a session at the Joint Mathematics Meetings in San Diego, CA on January 11, 2013. The panel discussion entitled "Who will pay for the papers we publish?" was moderated by Don McClure and panelists included David Goss, The Ohio State University; Joachim Heinze, Springer; Robion Kirby, University of California-Berkeley; and Sastry Pantula, NSF-MPS/DMS.

2.7 Washington Office Report. Att. #4.

The ECBT received the attached report (#4) on the activities of the Washington Office.

2.8 Report on Long Range Planning Committee (LRPC).

The ECBT was informed that the LRPC met on May 17, 2013 and discussed the following topics:

- Next steps for strategic planning (see item 2E.1 of the executive session minutes of this ECBT meeting)
- Preparation for a possible presentation to the US President's Council of Advisors on Science and Technology (PCAST). The four societies affiliated through the Joint Policy Board for Mathematics (AMS, ASA, MAA, SIAM) may be invited to make a presentation to a PCAST meeting as early as this July. A working group has been assembled to plan for a presentation. The AMS representatives are Eric Friedlander, Tara Holm, Don McClure, and David Vogan. [It is noted for the record that, subsequent to the ECBT meeting, Eric Friedlander and representatives from some of the other JPBM affiliates were invited to make a presentation to PCAST on July 18, 2013.]

2.9 Report from the President.

President Vogan declined to give a report.

2.10 2014 Journal Pages and Prices.

The ECBT approved the following numbers of pages, and the BT approved the following prices, for 2014 journal subscriptions. See also item 2E.3 and 3E.1 in the executive session minutes of this meeting.

	2014 pages	**2014 list prices**
*Abstracts of Papers Presented to the AMS**	1,050*	$ 167
Bulletin of the AMS	768	$ 534
Conformal Geometry and Dynamics	350	$ 0
Journal of the AMS	1,200	$ 365
MR Products		
Data Access Fee	NA	$9,567
MathSciNet	NA	$2,464
Mathematics of Computation	3,000	$ 669
Memoirs of the AMS	3,200	$ 827
Notices of the AMS	1,550	$ 569
Proceedings of the AMS	4,200	$1,354
Representation Theory	500	$ 0
*St. Petersburg Mathematical Journal**	1,000*	$2,194
Sugaku Expositions	240	$ 245
*Theory of Probability and Mathematical Statistics**	375*	$ 838
Transactions of the AMS	6,600	$2,222
*Transactions of the Moscow Mathematical Society**	300*	$ 594
*the numbers of pages for these journals are not completely within the staff's control, so they are currently the staff's best estimates and were included in the version of the 2014 budget presented at this meeting.		

2.11 <u>2014 Individual Member Dues</u>.

The process for setting individual dues for year x starts in November of year x-2 when the ECBT makes a recommendation to the Council. The Council then acts on that recommendation and sends it back to the BT for final ratification.

The January 2013 Council approved the BT's recommendation that the 2014 "Regular Member" dues rate for those in the high-income category be set at $180 (this represents a $4 increase over the 2013 rate). The income level cutoff remains at $85,000.

The BT ratified the January 2013 Council's decision.

2.12 <u>2014 Institutional Member Dues</u>.

The ECBT approved an average increase of 3% in institutional member dues for 2014.

2.13 <u>Registration Fees for the January 2014 Joint Mathematics Meetings</u>.

The ECBT reviewed budget summaries for the January 2014 Baltimore, Maryland Joint Meetings and exhibits. Based on this information, the ECBT voted to advise the June 2013 Joint Meetings Committee that the member pre-registration fee for this meeting be set at $240 (2%

increase over 2013 fee). [It is noted for the record that the June 2013 Joint Meetings Committee set the member pre-registration fee at $240.]

2.14 Stipend and Expense Allowance for Centennial Fellowship.

The ECBT approved awarding one Centennial Fellowship for 2014-2015 in the amount of $85,000, with an expense allowance of $8,500.

The ECBT asked that the Committee on the Profession consider whether the amount of this Fellowship is appropriate.

2.15 Approval of Proposals Submitted to Funding Agencies and Foundations.

The May 2012 BT approved the following:

Board authorization is required for the planning, preparation, and submission of proposals of $100,000 or more intended for submission to a government agency or private foundation.

Based on approval at the November 2012 ECBT meeting, the following proposals have since been submitted:

1. Mathematics Research Communities, 2014-2016, second renewal, $1,377,171 requested, submitted January 2013.
2. Travel Grants for the 2014 International Congress of Mathematicians, $319,500 requested, submitted April 2013.

The ECBT received a report from the Executive Director describing the following five proposals that are in various stages of planning or preparation:

1. AMS-Simons Travel Grants, first renewal
2. Proposal for support to accelerate the development of MathJax
3. 2015 Summer Institute in Algebraic Geometry
4. Math In Moscow, support for student participants, renewal
5. CBMS2015: A Study of Undergraduate Programs in the Mathematical and Statistical Sciences in the United States.

The ECBT approved preparation and submission of the first four proposals, and planning and preparation of the fifth.

2.16 Online Materials in College/University Education.

The ECBT had a one-hour brainstorming discussion session on the topic of online materials in college/university education. The main foci were:

1. The potential for various forms of online instruction, including massive open online courses (MOOCs), to have a major impact on how mathematics departments operate.
2. In what form can the AMS provide resources that would be helpful to those involved in either developing or using online course materials?
3. MathOverflow has had an impact in facilitating online communication about research topics. Could there be a similar resource for communication about educational resources?

Various opinions were expressed. No formal action was taken, but an idea that was generally supported was that the AMS might consider, at least, serving as some kind of clearinghouse that would provide an avenue of communication for those in the mathematics community involved in online instruction.

2.17 2014 ABC and ECBT Meetings.

The ECBT approved the following dates and sites for 2014 ABC and ECBT meetings:

ABC	April 4, 2014 (Friday)	by conference call
ECBT	May 16-17, 2014 (Friday-Saturday)	Providence, Rhode Island
ABC	October 10, 2014 (Friday)	Providence, Rhode Island
ECBT	November 21-22, 2014 (Friday-Saturday)	Providence, Rhode Island

The members of the ABC in 2014 will be: Hawkins, Jaco, Nitecki, Savage, and Vogan.

2C EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES CONSENT ITEMS

2C.1 November 2012 ECBT Meeting.

The ECBT approved the minutes of the meeting of the Executive Committee and Board of Trustees held November 16-17, 2012, in Providence, Rhode Island, that had been distributed separately. These minutes include:

- ECBT open minutes prepared by the Secretary of the Society (http://www.ams.org/secretary/ecbt-minutes/ecbt-minutes-1112.pdf),
- ECBT executive session minutes prepared by the Secretary of the Society

See also item 3C.1.

2I EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES INFORMATION ITEMS

2I.1 State of the AMS.

As is tradition, the Executive Director's annual report was delivered orally at the April 2013 Council meeting. The written report is then usually delivered to this ECBT meeting, but it was not yet available. [Subsequent to this meeting it was learned that the report is scheduled to be published in the November 2013 issue of the *Notices of the AMS*.]

2I.2 Changes in Registration Fees for Conferences, Employment Center, Mathjobs Short Course. Att. #10.

The Executive Director is authorized to make changes in registration fees for conferences, the Employment Information in the Mathematical Sciences (EIMS), the Employment Center and Short Courses held at the Joint Mathematics Meetings, and for MathJobs.org and MathPrograms.org.

Att. #10 reports the changes authorized since the last ECBT meeting.

2I.3 AMS Presence at the Annual Meeting of SACNAS. Att. #11.

The AMS provides $5,000 toward support of the mathematics program at the annual national meeting of the Society for Advancement of Chicanos and Native Americans in Science (SACNAS). SACNAS is highly effective at nurturing talented undergraduates from within its target communities to successful completion of graduate degrees in science and mathematics. AMS's support for and presence at the SACNAS national meetings has enabled it to build strong ties within this community of scholars committed to excellence.

Public Awareness Officers Annette Emerson and Mike Breen represented the AMS at the most recent meeting October 11–14, 2012, in Seattle, Washington. There was also a session of the game, "Who Wants to be a Mathematician," that was very popular. Att. #11 is a report on the activities related to mathematics at this meeting.

2I.4 Report on Awards from the Epsilon Fund for Young Scholars Program. Att. #12.

In 1999, the Epsilon Fund was created by the Society to provide support for the Young Scholars Program. The Program awards grants, which support student scholarships and program operating costs, to selected summer programs for mathematically talented high school students. This year, the Young Scholars Awards Committee evaluated sixteen applications for support from the Epsilon Fund, and recommended funding for all of them. The members of the Committee are: Brian Hunt, Douglas Norton, Cornelius Pillen and Zvezdelina Stankova (Chair). A list of the programs funded for summer 2013 is attached (#12).

2I.5 Status of Pilot Program of AMS Activity Groups. Att. #13.

The January 2013 Council approved proceeding with a limited pilot program of AMS Activity Groups, for AMS members only. Att. #13 contains a report on the current status of the program.

2I.6 Report on AAAS Meeting. Att. #14.

A report on the AMS-supported activities at the 2013 annual meeting of the American Association for the Advancement of Science (AAAS) is attached (#14).

2I.7 2013-2014 AMS Centennial Fellowship.

The AMS Centennial Fellowship Committee has announced that Xinwen Zhu (Northwestern University) is the winner of the 2013 Fellowship competition. Zhu has accepted the award. The amount of this fellowship for 2013-2014 will be $82,000, with an additional expense allowance of $8200.

2I.8 AAAS-AMS Mass Media Fellowship.

The AMS will sponsor Anna Haensch as its 2013 Mass Media Fellow. Anna will earn her Ph.D. in Mathematics from the State University of New York at New Paltz in May 2013 and will work at National Public Radio this summer.

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

An announcement of the selection of AMS Mass Media Fellow for 2013 will be made in the *Notices* and posted on the AMS website.

2I.9 Congressional Fellow.

The AMS, in conjunction with the American Association for the Advancement of Science (AAAS), will again sponsor a Congressional Fellow from September 2013 through August 2014.

The Fellow will spend a year working on the staff of a Member of Congress or a congressional committee, working as a special legislative assistant in legislative and policy areas requiring scientific and technical input.

The fellowship is designed to provide a unique public policy learning experience, to demonstrate the value of science-government interaction, and to bring a technical background and external perspective to the decision-making process in the Congress.

Applications invited from individuals in the mathematical sciences are currently being reviewed and a selection will be made shortly. An announcement of the AMS Congressional Fellow for 2013-14 will be made in the *Notices* and posted on the AMS website.

The current AMS Congressional Fellow, Carla Cotwright-Williams, has taken a position in the office of the Senate Homeland Security and Government Affairs Committee on the majority staff.

2I.10 NSF-EHR Grant Writing Workshop.

The AMS, in conjunction with the National Science Foundation (NSF)'s Directorate of Education and Human Resources (EHR), organized a workshop at the Joint Mathematics Meetings in San Diego, CA on how to write a competitive proposal to the NSF-EHR. This interactive workshop was well attended and provided information on EHR programs with the goal of preparing participants in writing a competitive proposal.

2I.11 Department of State Science Technology Innovation Expert Partnership. Att. #15.

The AMS has been invited and has agreed to join the U.S. Department of State Science Technology Innovation (STI) Expert Partnership. STI is in the Bureau of International Information Programs at the Department of State. It is a speaker program to provide already traveling experts in STEM fields with additional opportunities to engage with foreign audiences.

An STI Fact Sheet, Memorandum of Understanding and an Amendment to the Memorandum of Understanding are attached (#15).

2I.12 Report on Use of Funds Collected for FIMU on AMS Membership Renewal Form.

In May 2011, the ECBT approved changing the designated use of contributions from AMS members to Friends of the International Mathematical Union (FIMU). Starting in July 2011, the contributions have been designated to "foster mathematics research and scholarship in developing countries." In 2012, the International Mathematical Union (IMU) established a new account named the *IMU Developing Country Fund* to segregate the funds received in response to the new designation.

Prior to July 2011, contributions from members of the AMS were designated for the *IMU Special Development Fund* for support of travel to the International Congress of Mathematicians by mathematicians from developing countries.

The table below summarizes the 2011 and 2012 receipts.

Donations Received	Fund	Amount in US$
January-June 2011	IMU Special Development Fund	3,107.00
July-December 2011	IMU Developing Country Fund	14,259.00
2012	IMU Developing Country Fund	14,666.00

The IMU reports that the funds designated for the *IMU Special Development Fund* ($3,107) will be used to support travel to ICM2014 in Seoul. The funds designated for the *IMU Developing Country Fund* ($28,925) will be used in 2013 and 2014 for the Commission for Developing Countries (CDC) "Capacity & Networking Project (CANP);" see http://www.mathunion.org/cdc/education-and-capacity-building/canp-project/.

CANP aims to enhance mathematics education at all levels in developing countries so that their people are capable of meeting the educational challenges they face. It strives to develop the educational capacity of those responsible for mathematics teachers, and to create sustained and effective regional networks of teachers, mathematics educators and mathematicians, also linking them to international support.

CANP consists of an ongoing series of programs in a different developing region each year. The first program held its first workshop in Mali in September, 2011. The second was in Central America in August 2012. The third will be in South East Asia in 2013 to build on existing developing initiatives in Cambodia and Nepal. The fourth will be in Tanzania (East Africa) in 2014. Each program has, at its center, a two-week workshop of about forty participants, half from the host country and half from regional neighbors.

2I.13 Launch of Award for Impact on the Teaching and Learning of Mathematics.

The January 2013 Council gave final approval to a new award proposed by the Committee on Education (COE). The following description and criteria were approved.

Award Criteria
The Award for Impact on the Teaching and Learning of Mathematics was established by the AMS Committee on Education in 2013. The Award is given annually to a mathematician or group of mathematicians who has made significant contributions of lasting value to mathematics education. Priorities of the Award include recognition of (a) accomplished mathematicians who have worked directly with pre-college teachers to enhance teachers' impact on mathematics achievement for all students, or (b) sustainable and replicable contributions by mathematicians to improving the mathematics education of students in the first two years of college.

The endowment fund that supports the award was established by a contribution from Kenneth I. and Mary Lou Gross in honor of their daughters Laura and Karen.

A**ward Details**
The US$1,000 award is given annually. The recipient is selected by the Committee on Education.

COE plans to make the first award in fall 2013. Details of the nomination procedure are now being finalized. COE expects to administer the award in the same way that the Committee on the Profession administers the Award for Mathematics Programs that Make a Difference.

2I.14 MathJax Consortium.

The MathJax Consortium was established in 2009 by the AMS, SIAM, and Design Science, Inc., with Design Science serving as Managing Joint Venturer. At the end of February 2013, Design Science suspended its participation in the consortium and, by mutual agreement of the three parties, the AMS became the Managing Joint Venturer.

MathJax has become a de facto standard for display of mathematics in standard browsers because it works so well and support of MathML in most standard browsers has lagged. There are currently 16 sponsoring organizations, seven of whom continue support of the MathJax project at the level of $20,000 per year (AMS, SIAM, AIP, CENGAGE, Elsevier, IEEE, and Stack Exchange).

The consortium is currently trying to build on the wide adoption and technical success of MathJax by seeking additional financial support to accelerate software development and broaden the scope of the project (see item 2.15 above).

3 BOARD OF TRUSTEES ACTION/DISCUSSION ITEMS

3.1 Financial Review.

3.1.1 Discussion of Fiscal Reports.

The BT received and discussed various fiscal reports. Approval of the 2014 budget will be requested at the November 2013 ECBT meeting.

3.1.2 Capital Expenditures – 2012 and 2013 Capital Purchase Plans.

Capital purchases in 2012 totaled $350,395, compared to a budgeted amount of $1,675,000. The purchases were under budget primarily due to the delay in the implementation of the Personify association management software system.

The 2013 capital budget totals $1,725,000 and includes the purchase and implementation costs of the Personify association management software system at $1,117,000. The next largest capital item in 2013 is the estimated cost of the Mathematical Reviews computer room renovation at $125,000.

3.1.3 Capital Expenditures - Approval of Specific Purchases.

This agenda item is reserved for requests for authorization to make capital expenditures of $100,000 or more. There were no such requests at this meeting. However, the BT was informed that there may be a request later this year to approve the Mathematical Reviews computer room renovation.

3.2 Spendable Income, Operations Support Fund and Other Related Items. Att. #16.

The Society uses its long-term investments for several purposes, and for that reason it divides its investments into various funds. The following five standing items deal with those funds – additions, transfers and spending.

The description of the way in which the AMS uses its long-term investment portfolio is summarized in the diagram in Att. #16, which has labels showing how the five parts of Item 3.2 are connected to the process.

3.2.1 Addition to Operations Support Fund (OSF).

At its November 2012 meeting, the Board approved the staff recommendation that the amount owed to operations[1] from the long-term investment portfolio at December 31, 2012 would remain there and be divided as follows: $400,000 to create a retrodigitization fund, $500,000 to create an Endowment Income Stabilization Fund (EISF), and the remaining funds added to the OSF. The total added at December 31, 2012 to the OSF was $1,180,485.

At December 31, 2012, the Society's current assets totaled $20,510,109 and its current liabilities totaled approximately $16,440,157 resulting in a current ratio[2] of 1.25 to 1. In the past, the Society has targeted a ratio of 1 to 1 for current assets to current liabilities. The current ratio is slightly higher than the 2011 ratio of 1.2.

Each year, the operating portfolio, current ratio, and other factors are evaluated to determine if additions can be made to the OSF. The last addition was $2,000,000, approved to be added to the OSF at the May 2011 ECBT meeting. There was no recommendation at this time to add additional funds to the OSF, as there are large capital items to be paid during 2013 that will reduce surplus cash reserves.

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[1] The amount owed to operations arises as a result of spendable income netted against contributions to endowment and Board designated funds.

[2] The current ratio is the Society's current assets (assets that are expected to be converted to cash within a year) from the balance sheet divided by the current liabilities (obligations due within one year). It is a liquidity ratio that measures the Society's ability to pay short-term obligations. A ratio under 1 generally suggests that an organization would not be able to pay its short-term obligation if they came due at that point in time.

3.2.2 Rebalancing of Economic Stabilization and Operations Support Funds.

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

The amount and direction of the rebalancing required at each year end is principally dependent upon the return on the long-term investment portfolio in any year. This return was approximately 15.5% for 2012; accordingly, the ESF transferred approximately $2,353,908 to the OSF at the end of 2012.

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

The May 2001 Board of Trustees approved the following:

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

The spendable income from the OSF for 2012 and 2013, determined according to the guidelines approved by the BT, is $1,744,100 and $1,438,000, respectively. The 2013 amount had been previously approved at the 4% spending rate that was adopted for 2013.

The BT approved Chief Financial Officer Riley's recommendation that $1,776,000 be designated as OSF spendable income for 2014 at the spending rate of 4%.

3.2.4 Appropriation of Spendable Income from Unrestricted Endowment.

The May 2001 Board of Trustees approved the following:

> *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.*

The BT was informed that the 2014 preliminary revenue budget includes the full amount of 2014 spendable income from unrestricted true endowment funds under the assumption that

appropriate projects will be designated to receive the income. The amounts budgeted for 2012 and 2013 are $220,300 and $201,000 respectively. The budgeted amount for 2014 will be $217,400. The BT will vote on the use of the spendable income for 2014 by specific projects at its November 2013 meeting.

3.2.5 Report on Changes in Appropriated Spendable Income and on Usage of the Endowment Income Stabilization Fund (EISF).

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.

In 2012, $8,200 of unspent spendable income was used to pay the MathSciNet Data Access Fees (DAF) for underdeveloped countries.

For the 2014 budget, $25,000 in unspent spendable income from the 2013 Young Scholars Math Camp Conference will be budgeted to provide additional funding for Epsilon awards.

There has been no usage of the Endowment Income Stabilization Fund (EISF) so far in 2013.

3.3 Audit Committee. Att. #29.

Audit Committee Chair Jane Hawkins reported that the Committee met on May 17, 2013 with the following representatives from the auditing firm of CBIZ Tofias:

- Michael Burns, Managing Director
- Joyce Masse, Director/Principal

to hear a report on the 2012 audit and to review the audited financial statements for the years ended December 31, 2012 and 2011 (drafts of these documents had been provided separately prior to the meeting to all members of the BT). Several other BT and staff members attended the meeting, and the Audit Committee also met privately with the CBIZ Tofias representatives.

Upon recommendation of the Audit Committee, the BT voted to accept the draft audited financial statements for the years ended December 31, 2012 and 2011 and delegate to management final resolution of minor edits and issuance of the final statements. The final statements are attached (#29).

Professor Hawkins also mentioned that the auditors suggested the Audit Committee conduct a risk assessment (identify the potential and perceived risks involved in AMS operations and take proactive steps to minimize these risks) by following an "emergency risk management protocol." The Audit Committee will begin this process by meeting with the insurance agent for the AMS at their next meeting in November 2013.

3.4 Investment Committee.

Investment Committee Chair Jane Hawkins reported that the Committee met on May 17, 2013 and discussed the following matters:

- current portfolio returns
- asset allocation
- spending rate and spendable income
- alternative investments
- hedge funds

The BT approved the Investment Committee's recommendation to move $1,000,000 from the Cohen & Steers Realty Shares (CSRSX) to the PIMCO Total Return Institutional Bond Fund.

3.5 Cash Management and the Operating Portfolio. Att. #18.

The BT received the attached report (#18) summarizing the Society's cash management policies and short-term investment performance during 2012.

3.6 Report on the Personify Association Management Software Project.

Chief Information Officer Blythe reported as follows:

The Personify back office application went live on January 7, 2013, and Personify eBusiness went live on January 11, 2013. Personify is being used for processing of orders, fulfillment of subscriptions, tracking of inventory, maintenance of committees by the Secretary's office, and other business functions.

Since the last report to the ECBT in November 2012, staff has completed end-user acceptance training and testing of TMA Resources (the Personify vendor) customizations; initial analysis and setup of Personify's automatic notification system for staff, members and customers; creation of the daily workflow for nightly production; customization of Personify's Single Sign-On and web checkout processes for use in the bookstore and other web-based applications; synchronization of data between the Ingres-based publication tracking application (PUBL) and Personify; and development of some reports, including invoices, statements and internal reports.

There are still several areas that need to be addressed before the initial phase of the project can be considered complete, including:

- further automation of the Daily Job Stream workflow for nightly production work
- development of additional reports and queries needed for data analysis, especially in the areas of sales analysis and accounts receivable
- improvement of the journal mailing list process

- creation of a Personify-based membership renewal process
- customization of the subscription renewal process

Completion of the initial phase of the project will result in Personify supporting those functions supported by the Society's old in-house software for order processing and distribution (OPD), customer-member file (CMF), and item and inventory maintenance (ITM). The next phase of the project will be to begin to support new features and functions important to the Society, including meeting registration and housing and Activity Groups.

3.7 Meeting of the Mathematical Reviews Corporation.

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

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

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

President of the Corporation:	Mark L. Green
Treasurer of the Corporation:	Jane M. Hawkins
Secretary of the Corporation:	Zbigniew Nitecki
Directors of the Corporation:	Ruth M. Charney
	William H. Jaco
	Ronald J. Stern
	David A. Vogan, Jr.
	Karen Vogtmann

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

3.8 Meetings of the Membership and Board of Directors of ICM-86.

When the Society managed the meeting of the 1986 International Congress of Mathematicians, a separate corporation (ICM-86) was created for the purpose of holding the assets of the meeting, segregating accounts from regular AMS accounts, etc. After the business of the meeting was concluded, it was decided to keep this presently unused entity alive, in case a separate corporation might be needed some time in the future. It was noted that the cost of dissolution would probably be greater than the cost of the annual corporate registration fees, etc., necessary to keep the corporation alive. There are no taxes or other costs involved.

The meeting of the AMS BT was temporarily adjourned. The AMS Trustees then convened as the membership of ICM-86 and elected the following individuals to five-year terms on the Board of Directors of ICM-86:

Professor Ruth M. Charney
Professor Mark L. Green
Professor William H. Jaco
Professor Ronald J. Stern
Professor Karen Vogtmann

The meeting of the membership of ICM-86 was then adjourned.

A meeting of the Board of Directors of ICM-86 was then convened, and the following officers were elected:

Professor Mark L. Green, Chair
Professor Jane M. Hawkins, Treasurer
Ms. Emily D. Riley, Secretary

The meeting of the Board of Directors of ICM-86 was then adjourned, and the meeting of the AMS Board of Trustees reconvened.

3C BOARD OF TRUSTEES CONSENT ITEMS

3C.1 November 2012 BT Closed Executive Session Meeting.

The BT approved the minutes of the closed executive session meeting of the Board of Trustees held November 17, 2012, in Providence, Rhode Island, which had been distributed separately by Secretary of the Board Zbigniew Nitecki.

3C.2 Procedures for the Appeals for Discounted Subscriptions.

The BT approved the use of the following guidelines for 2014:

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

- For other AMS journals, the lowest allowable price would be marginal cost, applicable to the most desperate cases.
- Participation is restricted to academic institutions.

3C.3 Change in PPL Payout Policy. Att #17.

Staff recommended changes to the Paid Personal Leave (PPL) Policy related to the payout of unused PPL upon separation of employment from the AMS. The changes will streamline the administration of the benefit by making the policy easier to understand, simplifying the method for calculating payout at separation, and putting an end to the current practice of allowing individuals to take PPL up to the annual maximum and then return to work for one day before separating. The Society's liability for health and welfare benefits will be reduced and the revisions will insure equal access to the terms of payout at separation regardless of the reason for separating.

The BT approved the revised Sections 4 and 5 of the PPL policy as shown on page 5 of Att. #17, with the revised policy to become effective at the beginning of the 2014 Payroll Year.

3C.4 Resolutions for Retirees.

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

Be it resolved that the Trustees accept the retirement of ***Lila M. Dann*** *with deep appreciation for her faithful service over a period of 39 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 Lila their special thanks and heartfelt good wishes for a happy and well-deserved retirement.*

Be it resolved that the Trustees accept the retirement of ***Charlotte A. Mello*** *with deep appreciation for her faithful service over a period of 23 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 Charlotte their special thanks and heartfelt good wishes for a happy and well-deserved retirement.*

3I BOARD OF TRUSTEES INFORMATION ITEMS

3I.1 Report on Small Changes 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.

No changes have been made since the last ECBT meeting. But see item 3C.3 above for a change that was considered just slightly outside the Executive Director's authority in this regard.

Respectfully submitted,

Carla D. Savage

Carla D. Savage, Secretary
Raleigh, North Carolina
July 19, 2013

AMERICAN MATHEMATICAL SOCIETY

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SECRETARIAT
Business by Mail
December 1, 2012

MINUTES
from the Ballot dated November 1, 2012

There were four votes cast by Georgia Benkart, Robert Daverman, Michel Lapidus and Steven Weintraub.

1. Approved electing to membership the individuals named on the list dated October 20, 2012.

2. Approved holding a Fall 2015 meeting of the AMS Western section at California State University, Fullerton, on Saturday and Sunday, 24-25 October 2015.

3. Approved Drake Univ, Des Moines, IA 50311, for Institutional membership.

4. Approved the minutes of the Secretariat Business by Mail from the ballot dated October 1, 2012.

Robert J. Daverman

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SECRETARIAT
Business by Mail
January 1, 2013

MINUTES
from the Ballot dated December 3, 2012

There were four votes cast by Georgia Benkart, Robert Daverman, Michel Lapidus and Steven Weintraub.

1. Approved electing to membership the individuals named on the list dated November 20, 2012.

2. Approved expanding the June 11-14, 2015 Joint International Meeting with Portugal to one involving the American Mathematical Societry (AMS), the European Mathematical Society (EMS) and the Sociedade de Portuguesa Matematica (SPM).

3. Approved two petitions, one from Brown University and one from Oklahoma State University, to establish graduate student chapters.

4. Approved FEDRIIMDUT, Federal Univ (FEDRIIMDUT), Dutsin-Mas, Nigeria, for international institutional membership.

5. Approved holding a meeting of the AMS Southeastern Section at the University of North Carolina, Greensboro on November 8-9, 2014.

6. Approved holding a meeting of the AMS Eastern Section at Dalhousie University in Halifax, Nova Scotia, on October 18-19, 2014.

7. Approved the minutes of the Secretariat Business by Mail from the ballot dated November 1, 2012.

Robert J. Daverman

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SECRETARIAT
Business by Mail
February 1, 2013

MINUTES
from the Ballot dated January 2, 2013

There were four votes cast by Georgia Benkart, Robert Daverman, Michel Lapidus and Steven Weintraub.

1. Approved electing to membership the individuals named on the list dated December 20, 2012.

2. Approved the University of Adelaide, Adelaide, Australia, as a new International Institutional Member.

3. Approved the minutes of the Secretariat Business by Mail from the ballot dated December 3, 2012.

Carla D. Savage

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SECRETARIAT
Business by Mail
March 1, 2013

MINUTES
from the Ballot dated February 1, 2013

There were five votes cast by Georgia Benkart, Brian Boe, Michel Lapidus, Carla Savage, and Steven Weintraub.

1. Approved electing to membership the individuals named on the list dated January 20, 2013.

2. Approved Sardar Patel University Vallabh Vijyanagar INDIA, as a new International Institutional Member.

3. Approved holding an AMS Council meeting on April 26, 2014, at a facility near O'Hare airport in Chicago, Illinois.

4. Approved holding an Eastern Sectional Meeting on March 7-8, 2015, at Georgetown University in Washington, D.C.

5. Approved holding an AMS Southeastern Sectional Meeting at the University of Alabama in Huntsville on March 20-22, 2015.

6. Approved the minutes of the Secretariat Business by Mail from the ballot dated January 2, 2013.

Carla D. Savage

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SECRETARIAT
Business by Mail
April 1, 2013

MINUTES
from the Ballot dated March 1, 2013

There were five votes cast by Georgia Benkart, Brian Boe, Michel Lapidus, Carla Savage, and Steven Weintraub.

1. Approved electing to membership the individuals named on the list dated February 20, 2013.

2. Approved a petition from Tufts University to establish a graduate student chapter.

3. Approved a petition from Wesleyan University to establish a graduate student chapter.

4. Approved the minutes of the Secretariat Business by Mail from the ballot dated February 1, 2013.

Carla D. Savage

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SECRETARIAT
Business by Mail
May 1, 2013

MINUTES
from the Ballot dated April 1, 2013

There were five votes cast by Georgia Benkart, Brian Boe, Michel Lapidus, Carla Savage, and Steven Weintraub.

1. Approved electing to membership the individuals named on the list dated March 20, 2013.

2. Approved Shiv Nadar University, in Gautam Budh Nagar UP, India, as a new International Institutional Member.

3. Approved the reciprocity agreement with the Bharata Ganita Parisad in India.

4. Approved the minutes of the Secretariat Business by Mail from the ballot dated March 1, 2013.

Carla D. Savage

AMS Committee on Meetings and Conferences

Highlights of 2013 Meeting

The Committee on Meetings and Conferences (CoMC) held its annual meeting on March 23, 2013, at the Hilton Chicago O'Hare Airport Hotel. Paul Muhly, chair, presided over the meeting

Introductory items

The meeting began with a round of introductions. Time was then devoted to discussing the components that play roles in AMS meetings: the Secretariat, the Meetings and Conferences Department, and CoMC. The history of some decisions made by CoMC was reviewed. Secretary Carla Savage and AMS staff members AED Ellen Maycock and Director of Meetings and Conferences Penny Pina answered questions posed by CoMC members.

Reports

- ***Secretariat.*** Carla Savage reported on the March 22, 2013, Secretariat meeting.

    - **Upcoming Joint International Meetings:**

        - Romania, June 27-30, 2013, in Alba Iulia.
        - Israel, June 16-19, 2014, in Tel Aviv.
        - Portugal, June 11-14, 2015, in Porto (with EMS).
        - Tentative: meeting to be held in India in 2016.

    - **2013-2014 Einstein Lectures.** The 2013 Einstein Lecture will be given by Jon Kleinberg at Washington University in St. Louis, Missouri, on October 12, 2013. The 2014 Einstein Lecture will be held on October 25-26, 2013, at San Francisco State University. James H. Simons will be the speaker.

    - **2013 Erdös Lectures. A** 2013 Erdös Memorial Lecture will be held at Iowa State University on April 27, 2013. The lecturer will be Endre Szemerédi. This was a late addition to the Erdös Lecture Series, intended to be a substitute for the 2014 Lecture. The 2013 Lecture will be held at Temple University on October 12, 2013. The lecturer will be Barry Mazur.

    - **AMS-NZMS Lecture Series**. The first AMS-NZMS Maclaurin Lecturer will be Marston Conder. He will deliver an Invited Address at the Eastern Sectional Meeting to be held in Chestnut Hill, Massachusetts on April 6-7, 2013. He will also deliver colloquia at the University of California, San Diego, University of Washington, University of Chicago, Vanderbilt University, Colgate College and the University of Texas. Conder is officially the 2012 Maclaurin Lecturer, but his visit was delayed until 2013 to allow scheduling a talk at a Sectional Meeting. Terrence Tao is the 2013 Maclaurin Lecturer, visiting New Zealand during summer 2013.

- ***CoMC Focus Group Breakfast.*** Laura De Carli chaired the Focus Group at the 2013 JMM in San Diego. The participants discussed a variety of topics related to the Joint Mathematics Meetings. They came to the JMM to give and attend talks, to have job interviews, to attend committee meetings and to network with colleagues. There was a discussion of the theme "Mathematics of the Planet Earth." Only a few of the Focus Group participants were aware of the initiative, but they felt that there was merit in having a well-considered theme. Participants were very interested in having an app for the JMM.

- ***San Diego Questionnaire.*** The responses from the San Diego questionnaire were reviewed. Once again, the AMS used an electronic survey form and sent email to all participants after the meeting with a link to the survey. Over 2000 participants completed the survey.

- ***Review of the National Meeting (overall program including governance).*** Estelle Basor, Laura De Carli (chair) and Robert McCann formed the subcommittee that carried out this review. The subcommittee studied the survey results from the past seven years and participated in the Focus Group discussion held at the 2013 JMM.

  Overall, the report was very positive. In summary, the report stated:

  > *In our assessment, the JMM does an excellent job at fulfilling the AMS needs for national meetings. Considerable experience, good staff work, and careful planning allow the JMMs to run smoothly. The subcommittee recommends not making any major changes to the overall program of national meetings.*

  The subcommittee recommended that:
  - The AMS invest additional resources in order to provide a smartphone or tablet app for the JMM.
  - The AMS inform the registered participants of special initiatives such as the MPE 2013 with an email before the meeting.
  - Efforts to maintain the standards and the quality of the Exhibits be continued.
  - The AMS contact heads of mathematics departments and ask them to pass information about the JMM on to advisers and students.
  - Ongoing efforts to provide common areas be continued.

Old business

- ***AMS Activity Groups.*** At its March 2012 meeting, CoMC approved a 3-page narrative describing a proposed AMS Activity Groups program, accompanied by an appendix of procedures for establishing and maintaining such groups. CoMC forwarded these materials to the Committee on the Profession (CoProf) for its consideration. CoProf endorsed the idea and recommended sending the narrative to the Council, but without inclusion of the appendix on procedures, and recommended that a small pilot program for AMS members only be started, with minimal regulations and procedures. CoMC concurred. At its January 8, 2013 meeting, the Council approved the recommendation by CoMC and CoProf that a limited pilot program of Activity Groups for AMS members only, otherwise structured as set forth in the narrative, be started. AMS staff members expect the Activity Groups pilot program to be launched during summer 2013.

- ***Handicap accessible venues***. At its meeting of March 24, 2012, CoMC endorsed the following policy and recommended it to the Council.

  > ***All AMS meetings and AMS-sponsored conferences held in the US shall be held in venues that are fully accessible to the physically handicapped.***

  However, members of the Council expressed concern about unintended consequences of such a statement during the January 8, 2013, Council meeting. The Council voted to return the statement back to CoMC for reconsideration.

  AMS Executive Director Don McClure consulted with an AMS attorney about the policy. Based on feedback from the attorney, CoMC endorsed the following statement and recommended it to the Council:

  > ***It is the goal of the AMS to ensure that its conferences are accessible to all, regardless of disability. AMS shall strive, unless it is not practicable, to choose venues that are fully accessible to the physically handicapped.***

  At its meeting of April 20, 2013, the Council approved the recommendation of CoMC to approve the revised statement.

- ***Joint Prize Session at the Joint Mathematics Meetings***. In September 2012, CoProf endorsed the principle that had already been endorsed by CoMC at its March 2012 meeting:

  > ***One principle that could be adopted is to award only prizes and awards at JMM that are highly selective and truly national in scope.***

The following statement was included in the report of the MAA Secretary, Barbara Faires, in the February/March 2013 *MAA Focus*:

> ***Beginning in 2015 with the MAA centennial celebration in Washington, D.C., the Meritorious Service Awards will be given at MAA MathFest.***

New business:

- ***Short Course Subcommittee.*** The AMS Short Course is a long-standing tradition at the Joint Mathematics Meetings. One or two Short Courses are offered during the two days just prior to the JMM each year. The Short Course Subcommittee requested that the charge of the Subcommittee and the Short Course manual be revised and broadened.

  CoMC decided that the charge for the Short Course is clear enough, and that the Short Course Subcommittee is functioning effectively and appropriately. The Short Course Subcommittee has the liberty to interpret the charge broadly. It is acceptable to ask proposers if they wish for their proposals to be considered for another year.

  The AMS Secretary made changes in the charge to the Subcommittee. This involves two points: to eliminate the reference to the Summer Joint Mathematics Meetings and also to indicate that the proceedings *may* be published rather than they *will* be published. The revised charge was then be taken to the Council for discussion. AMS staff members will revise the Short Course manual so that it is up to date and will explore posting the slides from the Short Course lectures on the AMS web site.

  At its meeting of April 20, 2013, the Council considered a revision of the following language that was in the charge of the Short Course Subcommittee:

  > ***The short courses will be held in conjunction with the Annual and Summer Joint Mathematics Meetings. It is expected that the proceedings of such short courses will be published in the series PROCEEDINGS OF SYMPOSIA IN APPLIED MATHEMATICS.***

  The Council approved removing the words "*and Summer*" from the charge. The Council did not approve replacing the word "w*ill*" in the second sentence with "*may*." The revised language in the charge is now:

  > ***The short courses will be held in conjunction with the Annual Joint Mathematics Meetings. It is expected that the proceedings of such short courses will be published in the series PROCEEDINGS OF SYMPOSIA IN APPLIED MATHEMATICS.***

- ***Proposal for a joint AWM-AMS Noether Lecture.*** The Association for Women in Mathematics (AWM) has proposed to the AMS that the long-standing annual Noether Lecture become the AWM-AMS Noether Lecture. CoMC endorsed this proposal and recommended it to the Council.

  At its meeting of April 20, 2013, the Council approved the recommendation of CoMC to accept the proposal of AWM, that the Noether Lecture become the AWM-AMS Noether Lecture.

Information items

- ***New AMS Associate Secretary.*** The Executive Committee and Board of Trustees recommended to the Council that Brian D. Boe, University of Georgia, be named as Associate Secretary for the Southeastern Section, to replace Matt Miller, who resigned due to health reasons. The Council approved this appointment at its meeting of January 8, 2013.

- ***Mathematics of Planet Earth 2013.*** Mathematics of Planet Earth 2013 (MPE2013) is a worldwide, year-long project supported by a large number of mathematics institutes and societies around the globe. Mathematics plays a key role in many processes affecting Planet Earth, both as a fundamental discipline and as an essential component of multidisciplinary and interdisciplinary research. The mission of MPE2013 is to increase the engagement of mathematicians, researchers, teachers, students, and the public with the role of mathematics in issues affecting Planet Earth and its future. In the United States, the launch of MPE2013 occurred at the Joint Mathematics Meetings in San Diego. (*adapted from the home page of MPE2013*)

  More information about the project can be found at http://www.mpe2013.org/.

- ***Mathematical Congress of the Americas.*** The first Mathematical Congress of the Americas (MCA 2013) will take place in Guanajuato, Mexico, August 5-9, 2013. The goal of the Congress is to highlight the excellence of mathematical achievements in the Americas within the context of the international arena and to foster collaborations among researchers, students, institutions and mathematical societies in the Americas.

  The Society is supporting MCA 2013 in several ways:
  - It will support three plenary speakers. This is the customary level of support the AMS provides for a joint international meeting.
  - It will provide the infrastructure and support for the submission of abstracts.
  - It will administer a travel grants program for invited speakers and early career mathematicians to attend the MCA 2013. These travel grants are funded by a grant from the National Science Foundation. A selection committee has determined which applicants will receive funding for their travel.
  - It will help advertise and promote MCA 2013.

- ***Report on MRC program*.** The Mathematics Research Community (MRC) program, funded by NSF, is a program run by the AMS to support young mathematicians as they begin their research careers. The program is now in its sixth year. The conferences in summer 2013 will be:

    - **Complex Dynamics** (20). *Organizers*: Laura DeMarco (University of Illinois at Chicago), Adam Epstein (University of Warwick), Sarah Koch (Harvard University).
    - **Tropical and Nonarchimedean Analytic Geometry** (20). Organizers: Matt Baker (Georgia Institute of Technology), Sam Payne (Yale University).
    - **Geometric Group Theory** (40). *Organizers*: Ruth Charney (Brandeis University), Tullia Dymarz (University of Wisconsin, Madison), Dan Margalit (Georgia Institute of Technology), Kim Ruane (Tufts University), Kevin Wortman (University of Utah).
    - **Regularity Problems for Nonlinear Partial Differential Equations Modeling Fluids and Complex Fluids** (40). *Organizers*: Peter Constantin (Princeton University), Gautam Iyer (Carnegie Mellon University), Igor Kukavica (University of Southern California), Helena Nussenzveig-Lopes (Universidade Federal do Rio de Janeiro), Jiahong Wu (Oklahoma State University).

  The AMS has submitted a proposal to NSF to fund three more years of the MRC program.

2014 CoMC Meeting.

- The committee approved the suggested date of March 8, 2014 for its next meeting, to be held at Hilton Chicago O'Hare Airport.
- For the 2014 meeting, the topic to be reviewed will be: Sectional Meetings.
- The CoMC Focus Group Breakfast will be held on Thursday, January 16, 2014, in Baltimore, Maryland.

Ellen Maycock
Associate Executive Director
April 21, 2013

American Mathematical Society
Committee on Science Policy Meeting
March 14-16, 2013
Washington, DC

Summary

The Committee on Science Policy (CSP) met over the course of three days with a primary focus on Capitol Hill meetings between Congressional representatives and meeting attendees to promote science and the importance of mathematics within science. The first day of the meeting was devoted to preparation for Hill meetings. Friday was spent making Hill visits and committee business and further discussion occurred on Saturday morning.

Sastry Pantula
Director, Division of Mathematical Sciences
Directorate of Mathematical & Physical Sciences, National Science Foundation
Sastry Pantula began his presentation with some guidance for those attending on his own experience making visits to Capitol Hill. In particular, he spoke about the importance of anecdotal evidence to enhance the message brought to Members of Congress. He then spoke about the organization of NSF's Division of Mathematical Sciences (DMS) and encouraged the group to help their recruiting efforts for program officers.

Pantula presented information on recent budgets for the divisions within the Directorate for Mathematical & Physical Sciences (MPS). He highlighted the decline in funding for DMS and spoke about anticipated funding levels for the coming year. He said that although there will be losses throughout NSF's budgets, the agency is determined to honor its commitments to continuing grants.

He went on to discuss the many grant opportunities within DMS and highlighted new programs that were instituted in FY2012, as well as some new and enlarged activities planned for FY2013. He encouraged those attending to take advantage of the programs available, particularly the institutes.

Kei Koizumi
Assistant Director for Federal Research and Development
White House Office of Science & Technology Policy
Kei Koizumi began his presentation by describing the work of the White House Office of Science and Technology Policy (OSTP) and the federal investment in research generally. He continued with a synopsis of the current budget climate taking into consideration the enormous pressures on federal dollars, including the Sequester. He reminded the group that the FY2013 budget has still not been settled and the country is operating on a Continuing Resolution (CR), which means programs are being funded at last year's levels. The President is due to release his FY2014 budget in the next few weeks.

Koizumi explained about the inflexibility of sequestration and described its impact. He looked forward to the anticipated FY2014 budget and the likelihood that there would be a small increase for the National Science Foundation, which would allow the agency to transition its portfolio to include some new Presidential programs. However, between the sequester and the political climate on Capitol Hill that will impact any compromise on the President's budget, it is extremely difficult to know what the ultimate outcome will be.

Nadine Lymn
Director of Public Affairs
Ecological Society of America
Nadine Lymn presented an orientation for Congressional meetings. She offered some basic information about the makeup of Congress and how it operates, about the structure of a Congressional office and about the culture on Capitol Hill.

Lymn provided information on preparing for Congressional office visits, including developing the "Ask," which is a clear and concise statement of the request of the Member. This year's "Ask" was developed by the AMS Washington Office and takes into consideration the most current funding constraints and climate. It emphasized that 'mathematics is a foundational discipline upon which future progress in science, engineering and many other areas depend' and it requested the Member's support of 'adequate and sustained investments in science, engineering and mathematics research and education.'

Richard Yamada
Former AMS Congressional Fellow
U. S. House of Representatives Committee on Science, Space & Technology
Richard Yamada spoke about the importance of the Hill visits the group is to embark on during this meeting and about the value of the personal relationships that can be forged by continued dialogue between Member and constituent.

He talked about the current climate on Capitol Hill and the many pressures on the federal budget. His outlook for increased funding for the NSF was guarded.

Constituent Meetings
Friday, March 15 was devoted to Capitol Hill visits. The AMS Washington Office scheduled meetings for all participants with their respective Congressional representatives. These constituent meetings were conducted in small groups and prepared materials about the importance of mathematics research were left with each office. In total, the group met with 27 offices. A wrap-up session was held at the end of the day to share experiences and discuss the value of the meetings. The group then met informally with Tom Culligan, Legislative Director for Rep. Frank Wolfe (R-VA-10). Rep. Wolfe is chair of the House Commerce, Justice, Science and Related Agencies Appropriations Subcommittee. This committee appropriates the NSF budget.

Other Discussion
Several ideas were discussed regarding work that the committee could undertake including: writing opinion pieces; looking for opportunities and making suggestions for mathematicians to serve in places of influence (i.e. NSF program officers, National Science Board, award selection committees, etc.); writing and/or soliciting articles for the *Notices*; and strengthening international involvement by the AMS.

Date of Next Meeting
The 2014 Committee on Science Policy meeting will be held on March 13-15, 2014 in Washington, DC.

Submitted by Anita Benjamin
American Mathematical Society
April 19, 2013

Washington Office Report
April 19, 2013

Federal Budgets

Over the last year there has been much consternation about budgets, debt limits and deficits. These issues have pitted the two parties against each other making it difficult for Congress to pass any laws pertaining to these issues. The Budget Control Act (BCA), passed in 2011, set up caps on discretionary spending and initiated a sequestration of the budget that further reduces discretionary spending levels.

For the first six months of FY 2013, based on a Continuing Resolution (CR), Federal government budgets operated at essentially FY 2012 levels. Sequestration was supposed to take place on January 2, 2013 with across the board cuts of around 7 percent for non-defense discretionary (NDD) programs and 9 percent cuts to defense discretionary (DD) programs. At the eleventh hour Congress decided to put sequestration off until March 1, 2013 and made discretionary cuts of $85 billion. On March 26, 2013 the President signed into law a CR that funds the government through September 30, 2013. This CR includes sequestration cuts of approximately 5 percent to NDD programs and 7 percent to DD programs. As part of this CR, several FY 2013 appropriations subcommittee bills were acted on separately. The Commerce, Justice, Science and Related Agencies Appropriations Subcommittee (CJS) bill was one of these. The NSF budget is appropriated through the CJS bill.

Under this CR, the National Science Foundation (NSF) received a budget of $7.393 billion. After an across-the board cut of 2.077 percent to help bring discretionary spending under the FY 2013 BCA discretionary cap and a cut of $355.7 million, mandated by sequestration, NSF was allocated a $6.884 billion FY 2013 budget. This budget is $149 million or 2.12 percent less than the FY 2012 enacted budget of $7.033 billion. Given the current political situation, NSF did better than expected. It is surprising that the House and Senate CJS Subcommittee would fund the NSF at $7.393 billion, since this amount is $20 million over the FY 2013 NSF Budget Request.

Cumulative inflation from FY 2003 to FY 2012 is around 27.6 percent while the percentage increase in the NSF budget from FY 2003 to FY 2013 is 28.2 percent. The real growth of the NSF budget over this period is no better than 0.6 percent.

On April 10, the President introduced the FY 2014 Federal Budget Request. This Request to Congress is supposed to happen on the first Monday of February, this year February 4, 2013. NSF has requested a budget of $7.626 billion, $593 million or 8.4 percent over the FY 2012 enacted NSF budget. Given that the FY 2013 NSF budget is $6.884 billion, the FY 2014 NSF Budget Request is $742 million or a 10.8 percent increase.

The NSF Division of Mathematical Sciences (DMS) is allocated an FY 2014 budget of $244.54 million, a 2.8 percent increase over the FY 2012 enacted level. It looks as though most increases to the FY 2014 Mathematical and Physical Sciences directorate budget is through

NSF–wide crosscutting initiatives or through directorate initiatives. Approximately 53 percent of the DMS budget is available for new research grants. The remaining 47 percent of the budget is used primarily to fund continuing grants made in previous years. In FY 2012, DMS received 2,782 proposals and funded 937 for a 34 percent success rate.

The Department of Energy FY 2014 Budget Request allocated $5.15 billion to the Office of Science, a 4.4 percent increase over FY 2012. Mathematics is funded through the office of Advanced Scientific Computing Research within the Office of Science by the Applied Mathematics and Scientific Discovery through Advanced Computing (SciDAC) programs. The Applied Mathematics and SciDAC programs are slated to receive $49.5 million and $46.9 million respectively in FY 2014.

Total federal research spending is up 7.5 percent over FY 2012 in the FY 2014 Budget Request, with basic research up 4.5% and applied research up 10.6 percent over FY 2012. With inflation projected to grow 4 percent from FY 2012 to FY 2014, basic research is up only 0.5 percent in real terms.

Discretionary spending in the Budget Request is under the BCA FY 2014 cap of $1.058 trillion, however, the discretionary spending is not under the FY 2014 sequester level of $966 billion. This will make it difficult to pass this Request in the House without modifications. In the Request, the President has offered alternatives to do away with sequestration. These alternatives include looking at entitlement spending and increasing tax revenues by capping the amount of income tax deductions the wealthy can take. Increasing tax revenues will be a tough, if not impossible, fight in the House.

Open Access

The Government Affairs Task Force (GATF), a coalition of commercial and society publishers, including the AMS, concerned with open access policies being formulated by the federal government, continues to monitor the actions of the Office of Science and Technology (OSTP), federal agencies, and Congress. As required by Public Law 111-358, OSTP has initiated a process by which federal agencies funding research are to develop a plan so that scientific papers based on research supported by a federal agency are made available for free to the public. Each agency can establish how it will provide for open access, including collaborating with other agencies. It would not be surprising for these agencies to favor green open access with an embargo period model. An interagency working group has recently been formed to aid the development of agency open access plans.

Publishers are working to inform the working group of their own efforts regarding open access and offering help and services to the federal agencies. GATF, at this time, is advocating access through a distributed system based on discipline and/or agency characteristics. Through this distributed system the final published version of articles can be accessed via publisher websites. A subgroup of GATF members has made a presentation on this distributed system approach to the interagency working group. The OSTP process requires that federal agencies come up with their open access plans within six months.

Currently in the House and Senate the Fair Access to Science and Technology Research Act of 2013 has been introduced. This bill mandates that a federal agency with over $100 million in extramural research expenditures develop a federal research public access policy. If passed, the legislation would require an author of an article based on research supported by a federal agency, to submit an electronic version of the final manuscript that has been accepted for publication in a peer-reviewed journal to the federal agency supporting the research. This final manuscript must include all changes resulting from the peer-review process and the agency must provide the article free online not later than six months after publication of the article in the peer-reviewed journal. Members of GATF have been making congressional office visits to encourage Members of Congress not to vote for this bill but instead let the process initiated by OSTP be completed. So far, it looks as if this bill will not come up for a vote in the House or Senate.

Coalition Activities

An issue that the Washington Office is beginning to work on through the Coalition for National Science Funding (CNSF) and other organizations is to prevent Congress from doing away with the NSF Directorate for Social, Behavioral and Economic Sciences (SBE). Several members of Congress, including Eric Cantor, Majority Leader in the House, and Lamar Smith, Chair of the House Committee on Science, Space, and Technology, have indicated their intent to do away with SBE. Cutting disciplines from the NSF portfolio should not be a political activity. Allowing this action to happen would set a deleterious precedent.

The Washington Office continues to support the Coalition for National Science Funding (CNSF), planning monthly meetings and organizing Coalition events. The CNSF Annual Exhibition and Reception on Capitol Hill will be held May 7, 2013. This will be the nineteenth Exhibition. AMS will sponsor Philip Gressman from the University of Pennsylvania and his exhibit, "The Boltzmann Equation: Mathematics and Science Collide." Anita Benjamin serves as director of the CNSF Exhibition.

CNSF is currently setting up meetings with staff of freshman Members of Congress and subgroups of CNSF members. The motivation behind these meetings is to inform the staff in these offices of what NSF does and why it is a valuable agency for supporting scientific research and education.

The Washington Office continues to interact with NDD United, an organization established to stop cuts to non-defense discretionary spending, and with the Task Force on American Innovation.

Joint Meetings Activities

At the Joint Meetings, the Washington Office was responsible for the Department Chairs Workshop, the AMS Conversation on Non-Academic Employment session, the AMS Committee on Science Policy session, the AMS Committee on Education session, and the AMS Congressional Fellowship session. The Non-Academic Employment session was moderated by C. Allen Butler, president of Daniel H. Wagner Associates, Inc. Panelists included Erica Klampfl, Ford Motor Company; Kristin Lauter, Microsoft Research; Linda Ness, Applied Communication Sciences; Dale Smith, Fiserv, Inc.; and Charles Toll, National Security Agency.

The session was very well attended. The CSP session, moderated by Don McClure, was a panel discussion titled "Who Will Pay for the Papers We Publish." The panelists were David Goss, Ohio State University; Joachim Heinze, Springer; Robion Kirby, University of California, Berkeley; and Sastry Pantula, NSF-DMS. The COE session was a panel discussion, "Mathematics Serving Students in Other Disciplines." Tara Holm, chair of COE moderated the session with panelists, Mark Kozek, Whittier College; Tom Morley, Georgia Tech; Victoria Powers, Emory University; Tom Roby, University of Connecticut; and Maria Terrell, Cornell University.

The Washington Office with the NSF Directorate for Education and Human Resources organized a grant writing workshop "Writing a Competitive Proposal to NSF – EHR." This workshop was held on the Monday before the meeting and was very well attended. The idea behind the workshop is to improve the success of mathematicians applying for grants through EHR. One of the EHR staff who helped lead the workshop has expressed an interest in holding a similar workshop at the 2014 Joint Meetings.

Other Washington Activities
AMS hosted its Annual Congressional Lunch Briefing on December 4, 2012. Professor James Yorke, University of Maryland presented "Chaos and Avalanches in Science and Socio-Political Systems." David Vogan, President of the AMS, introduced Jim Yorke and moderated the event. Congressman Jerry McNerney attended the event and said a few words.

In March, David Vogan, President of the AMS, provided written testimony to the House Commerce, Justice, Science, and Related Agencies Appropriations Subcommittee (CJS) on behalf of NSF. David provided some nice stories of how modern technologies can be linked to work the NSF supported in the 1970s.

Samuel M. Rankin
Associate Executive Director, Washington Office
April 19, 2013

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

Fee changes for MathJobs.org

The following fees will go into effect for 2013/14 Mathjobs.org employer registrations (from July 1, 2013 through June 30, 2014). Employers located in North America will be allowed to open regular accounts. All employers will be allowed to open advertising-only accounts. The service is free to applicants.

The fee structure allows for one-ad (but otherwise full service) accounts to be purchased by North American employers for a slight discount. This offer is meant to accommodate the needs of smaller schools and to encourage employers from outside academia to try using Mathjobs.org.

A new price has been added to the list to accommodate those who wish to upgrade their account from a single ad to seven ads.

Employer fees:

Regular account (for up to seven ads), 12 months from date of sign up:	**$595**
Regular account (for one ad only), 12 months of usage from date of sign-up:	**$405**
Upgrade from single-ad account to seven ad account	**$290**
Advertising-only account (for one ad), 12 months from date of sign up:	**$295**

Previous fees:

	Regular accounts		Ad-only accounts
	(up to 7 ads)	(one ad)	(one ad)
2012/13	$585	$395	$285
2011/12	$550	$385	$275
2010/11	$525		$260
2009/10	$500		$250
2008/09	$450		
2007/08	$400		
2006/07	$350		
2005/06	$300		

Fee changes for MathPrograms.org

The following fees will go into effect for 2013/14 Mathprograms.org registrations. Academic institutions and nonprofit and government organizations who are seeking applications from the mathematical sciences community for programs or funding may create a 12-month account. They may post program announcements, accept applications and confidential letters of reference, assign access to those who will evaluate the applications, respond to applications, and store the applications in the system.

There are 30 accounts currently in the system, mostly aimed at undergraduate and graduate students, in addition to various AMS programs and the Duke University Department of Mathematics.

The fees will be in effect from July 1, 2013 through June 30, 2014. A one-program fee allows smaller programs to benefit from the service. The service is free to applicants.

Organization fees:

	2011/12	2012/13	**2013/14**
Regular account, up to 7 programs, 12 months from date of sign up:	$500	$525	**$535**
Regular account, 1 program, 12 months from date of signup:	$250	$260	**$270**

Fee changes for Employment Information in the Mathematical Sciences (EIMS)

The following fees will go into effect for the 2013/14 Employment Information in the Mathematical Sciences.

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

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

Lting fees for July through June:

	2010/11	2011/12	2012/13	**2013/14**
60 day listing, unlimited size	210	215	220	**225**
120 day listing, unlimited size	285	290	300	**305**
180 day listing, unlimited size	360	365	375	**380**
"Featured Job" add-on	75	75	80	**80**

Fee changes for the Employment Center

The fees listed in the chart below will be in effect for the 2014 Employment Center in Baltimore, Maryland.

Costs of running this program vary widely from one JMM site to another, due to space charges and other factors. Increased automation has allowed us to manage with fewer staff. However, costly computer rental, electricity and internet access on site, plus an income split with Duke University for the use of the Mathjobs.org software for registration, have increased the cost of running the program.

Improvements are made every year; for instance, additional curtains to divide the interview area into smaller rooms this year were quite popular and made the setting seem less impersonal. However, each year the employer fees cover less and less of the actual expenses. There were 96 employers using the interview tables this year, down from 136 five years ago. Revenue has historically not paid all expenses (revenue from other employment services more than covers them, though) but should use continue to decline, the AMS may want to consider whether there will ultimately be a point at which it no longer wishes to support the interviewing needs of just a few employers.

Applicants pay no fees but are required to have a meeting badge.

Fees have been raised slightly. For those employers who would like power to run a laptop at their own table, outlets are now provided, for a fee. The actual cost for providing electricity to one employer table was $132 in 2013, so that rate is being increased to $75 this year.

Summary of recent and 2014 fees

	2009	2010	2011	2012	2013	**2014**
Quiet Area table (1-2 int)	250	265	295	285	310	**315**
Second Quiet Area table	100	100	105	110	125	**130**
Committee table (3-6 int)	350	365	400	365	385	**390**
Second Committee table		100	105	110	135	**140**
Electricity, per table					50	**75**

2013 Short Course Fees

The following chart indicates the history of fees for the Short Course since 2005 and the fees that have been set for 2014.

*S/U/E: Student/Unemployed/Emeritus

Year	Name of Course	Preregister-member/non	On-site-member/non	S/U/E-prereg*	S/U/E-onsite*
2005	The Radon Transform and Appl. to inverse Probability.	$85/$108	$115/$140	$37	$55
2006	Modeling and Simulation of Biological Networks	$87/$115	$118/$148	$38	$57
2007	Aspects of Statistical Learning	$90/$120	$120/$151	$40	$60
2008	Applications of Knot theory	$94/$125	$125/$155	$42	$63
2009	Quantum Computation and Quantum Information	$96/$130	$130/$160	$44	$65
2010	Markov Chains and Mixing Times	$98/$135	$132/$165	$46	$67
2011	Computational Topology Evolutionary Game Dynamics	$100/$140 $100/$140	$134/$170 $134/$170	$48 $48	$69 $69
2012	Random Fields and Random Geometry Computing with Elliptic Curves using Sage	$102/$145 $102/$145	$136/$175 $136/$175	$50 $50	$71 $71
2013	Random Matrices	$104/$150	$138/$180	$52	$73
2014	Geometry and Topology in Statistical Inference	$106/$155	$140/$185	$54	$75

Ellen J. Maycock
Associate Executive Director
April 10, 2013

Report to the AMS on the Mathematics activities at the 2012 SACNAS conference

Prepared by Ricardo Cortez

The success of Research Experiences for Undergraduate programs (REU) has shown a persistent need for minority undergraduate students to be exposed to areas of active research in mathematics, and in particular to enhance the opportunities available to them to present their research findings at national venues such as the SACNAS conference. Mathematics has always been a part of SACNAS and together with our partnering and sponsoring agencies and organizations such as the National Security Agency (NSA), National Geospatial Intelligence Agency (NGA), National Science Foundation (NSF), American Mathematical Society (AMS), and 8 NSF-funded Mathematics Institutes we continue to sponsor a coordinated effort to both increase and sustain the pipeline of underrepresented mathematicians through a strong presence at the SACNAS conference.

There was funding from NSA and NSF for undergraduate and graduate students to attend the SACNAS conference in Seattle, WA on October 10-14, 2012. Additional funding was provided by AMS support. SACNAS effectively implemented a broad range of educational, and professional and leadership development activities for undergraduate, graduate, post-doctoral and young professionals. These provided critically important opportunities for mathematics students and professionals to establish and maintain contact with a strong network who, as mentors and role models, have and will support them throughout their college and university years and their professional lives. Students' oral or poster presentations, attendance at mathematics focused symposia and mini-courses addressed current research in mathematics. The events were captured beautifully by AMS Public Awareness Officer, Annette Emerson at: http://www.ams.org/meetings/sacnas2012-mtg

The 2012 SACNAS national conference offered the following activities and events:

PRECONFERENCE ACTIVITIES

Undergraduate Mini courses in Mathematics

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

1. **Math Mini Course I: SAGE software workshop**
   Sponsored by Mathematical Sciences Collaborative Diversity Initiative of the Mathematical Sciences Institutes

Speaker: William Stein, PhD, Professor, University of Washington. Dr. Stein, started Sage in 2005 and continues to direct this project. Sage is freely available and freely modifiable mathematics software. Sage has become a very popular alternative to expensive commercial software. Students can plot and perform all sorts of calculations.

2. Math Mini Course II: Inferring gene regulatory networks: an algebraic geometry - systems biology connection

Sponsored by Mathematical Sciences Collaborative Diversity Initiative of the Mathematical Sciences Institutes

- A polytope is the higher-dimensional generalization of a polygon. After discussing some basic facts about them, we'll study the problem of measuring a polytope by counting the lattice points inside it. This problem arises very naturally in several areas of mathematics and leads to some beautiful combinatorics.
- **Speaker**: Brandilyn Stiegler, Assistant Professor , Southern Methodist University

Math Institutes Modern Mathematics Workshop: Session I (Wednesday and Thursday)

Sponsored by Math Institutes

Nine National Science Foundation institutes band together to present this workshop on the latest in cutting-edge mathematics. The workshop features presentations from speakers on behalf of each institute, a keynote lecture, and informational panels describing upcoming programs, how to participate in them, and career opportunities.

Speakers:

Dr. James Nagy (Dept. of Mathematics and Computer Science, Emory Univ.), *Large Scale Scientific Computing Problems in Medical Imaging* (1:00-1:25 pm, Oct 10)

Dr. Paul Hurtado, *Immune-Pathogen Dynamics & Modelling Simple Multispecies Interactions*

Dr. Micah Warren (Princeton Univ.), *Optimal Transport and Geometry*

Dr. Gabriela Martinez Lopez, *Optimization Problems with Probabilistic Constraints*

Dr. Jessica Purcell, *Low-dimensional Topology, Geometry, and Dynamics*

Dr. Rafe Mazzeo (Stanford Univ.), *The World of Modern Geometry - Some Problems and Applications*

Dr. Calistus Ngonghala, *The Role of Stochasticity and Safety Nets in Breaking Disease-induced Poverty Traps*

Dr. Tatiana Toro, *Interactions between Analysis and Geometry*

Mariel Vazquez (**Keynote Speaker**), San Francisco State University, *DNA Unknotting and Unlinking*

Panel of all the Institute Representatives

Mathematics Reception: Reception for all attendees of the Modern Mathematics Workshop and concurrent Undergraduate Minicourses in Mathematics.

CONFERENCE ACTIVITIES

Prof. Erika Camacho, Mathematics Department, Arizona State University, received the ***2012 Distinguished Undergraduate Institution Mentor Award*** for involving "students in her work at the interface of mathematics and its applications to biology and sociology."

SCIENTIFIC SYMPOSIA

From Climate Change to Cancer: How Innovative Statistical Methodology Enables State of the Art Interdisciplinary Research

Applications of innovative statistical methodology are found throughout the scientific disciplines. The speakers will discuss their interdisciplinary work in genetics, biology, atmospheric science, and communications. They will discuss the methodology they have developed and how the problems they work on involve state of the art statistical research.

Chair: Gina-Maria Pomann, North Carolina State University

Speakers:

Monica Jackson, PhD, Associate Professor, American University - *Impact of geography on mammography use in California*

Deborah Nolan, PhD, Professor, University of California Berkeley – *Visualization tools for data scientists: Creating interactive graphics in SVG and geospatial displays on Google Earth*

Juan Restrepo, PhD, Professor, University of Arizona – *Is the World Really Warming Up, and if so, How Could we Measure This?*

Timothy Thornton, PhD, Assistant Professor, University of Washington - *Statistical Analysis of Genetic Data in Admixed Populations*

Problems in Number Theory

Gauss once said, "Mathematics is the queen of the sciences and number theory is the queen of mathematics." Number theory is one of the oldest branches of pure mathematics, and has been studied since ancient times. The speakers will discuss their most recent work in this old but endearing field.

Chairs: Alejandra Alvarado, PhD, Assistant Professor, Purdue University and Edray Goins, PhD, Associate Professor of Mathematics, Purdue University

Speakers:

Pamela Harris, PhD, Assistant Professor, Westpoint Academy - *Kostant's Weight Multiplicity Formula and the Fibonacci Numbers*
Aba Mbirika, PhD, Postdoctoral Fellow, Bowdoin College – *A number theoretic connection to a problem in graph theory*
Lois Simon, PhD, Faculty, Howard University -- *Curves, Sums, and Maximality*
Enrique Trevino, PhD, Visiting Assistant Professor, Swarthmore College - *Character Sums and the least quadratic nonresidue*

Statistics Can Change Your Life: Cure Cancer, Decode Facebook, and Beat the Stock Market

What do medical researchers, Wall Street analysts, and Silicon Valley engineers have in common? They rely on sophisticated statistical tools in order to convert vast amounts of data into useful knowledge. The speakers will discuss statistical approaches to understanding cancer, social networks, and the stock market.

Chair: Daniela Witten, PhD, Assistant Professor, University of Washington

Speakers:

Su-In Lee, PhD, Assistant Professor, University of Washington - *Cure cancer from your laptop*
Tyler McCormick, PhD, Assistant Professor, University of Washington – *Decoding Your Social Network*
Megan Othus, PhD, Assistant Member, Fred Hutchinson Cancer Research Center -- *Statistics and clinical trials: Using math to save lives*
Ali Shojaie, PhD, Assistant Professor, University of Washington - *Beat The Stock Market With Statistics*

Computational and Mathematical Models: Leading the Fight against Infectious Disease

The spread of infectious disease is changing rapidly. The speakers will discuss the use of computational and mathematical models to combat this global issue and provide insight on how these models can be beneficial to public health practitioners, decision makers and government official in preventing the spread of infectious diseases.

Chairs: Joan Lakoski, PhD, Associate Vice Chancellor for Science Education Outreach, Health Sciences, University of Pittsburgh and Phillip Palmer, PhD, Education & Outreach Coordinator, University of Pittsburgh

Speakers:

Shawn Brown, PhD , Assistant Professor , University of Pittsburgh - *Battling Pandemics with Computers: Assisting Decision Making with Modeling and Simulation during a Pandemic*
Rebecca Christofferson, PhD , Postdoctoral Associate , Louisiana State University – *Decomposing the Model: The Importance of Parameter Development*

Sara Del Valle, PhD , Scientist , Los Alamos National Lab -- Contact Patterns between People Depend on Local Demographics - *Estimating Mixing Patterns for the United States*

Sarah Lukens, PhD , Postdoctoral Associate , University of Pittsburgh - *Ensemble Modeling of Symptoms to Human Immune Response of Influenza A Virus*

A Mathematical Invitation to Knot Theory

What is Knot Theory? Is it "pure" or "applied"? The answer is yes! Knot Theory is amazingly active in pure research and its applications range from genetics to harmonics. We will introduce the subject and discuss pure and applied research. All students, postdocs, professionals and faculty are welcome!

Chairs: Dagan Karp, PhD, Assistant Professor, Harvey Mudd College, Robin Wilson, PhD, Assistant Professor, California State Polytechnic University, Pomona and Mariel Vazquez, PhD, Assistant Professor, San Francisco State University

Speakers:

Jorge Calvo, PhD, Associate Professor, Ave Maria University - *Physical Knots*

Christian Laing, PhD, Assistant Professor, Wilkes University - *The writhe of a polygon on the hexagonal closed packing*

Candice Price, MA, PhD Candidate, University of Iowa, Institute for Mathematics and its Applications - *Oriented skein relation for knot Floer homology and a biological application*

Michael Williams, PhD, University of California President's Postdoctoral Fellow, University of California, Santa Barbara - *Knot Theory and Low Dimensional Topology*

Theory and applications of random matrices

The theory and applications of random matrices permeate areas such statistics, electrical engineering, and computer science. This session will illustrate the tools that random matrices contribute to the handling of large dimensional problems. Examples from the biomedical sciences and engineering will be used as illustrations.

Chair: Javier Rojo, PhD, Professor, Rice University

Speakers:

Genevera Allen, PhD, Assistant Professor, Rice University - *Regularized Tensor Factorizations and Higher-Order Principal Components Analysis*

Eduardo Duenez, PhD, Assistant Professor, University of Texas, San Antonio - *Random matrices at the intersection of Lie groups and number theory*

Javier Rojo, PhD, Professor, Rice University - *Applications of random matrices in survival analysis*

Up-to-the-minute Reports on Mathematical Epidemiology

Mathematical models of disease transmission are used to determine levels of infection among populations in real or hypothesized conditions. Their aim is to uncover effective intervention

strategies and to understand the effects of environmental and behavioral factors. This session highlights cutting-edge work and the far-reaching applicability of these models.

Chair: Ricardo Cortez, PhD, Professor, Tulane University

Speakers:
Paul Hurtado, PhD, Postdoctoral Fellow, MBI: Mathematical Biosciences Institute - *Disease Dynamics in Consumer Populations: Consequences of Producer-Mediated Disease Transmission and Progression*

Brisa Sanchez, PhD, Assistant Professor, University of Michigan-Ann Arbor - *Dynamical systems models of multilevel interventions for stroke prevention in minority populations*

Karen Rios-Soto, PhD, Assistant Professor, University of Puerto Rico at Mayaguez - *Epidemic Spread of Influenza Viruses: the Impact of Transient Populations on Disease Dynamics*

Erika Camacho, PhD, Assistant Professor, Arizona State University - *Tracing the Progression of Retinitis Pigmentosa via Photoreceptor Interactions*

Mathematics Teaching that Matters! Re-focusing Teacher Attention to Mathematics Education Needs of Our Students, Communities and Families.

This session showcases cutting-edge research in mathematics teacher education designed to better prepare teachers to meet the mathematics education needs of Latin@, Native American and immigrant youth. The research reports multiple perspectives on effective mathematics teaching voiced from students, families, teachers, and scholars to strengthen mathematics learning and teaching.

Chair: Julia Aguirre, PhD, Assistant Professor, University of Washington-Tacoma

Speakers:
Higinio Dominguez, PhD , Assistant Professor , Michigan State University - *Looking for Mathematical Ideas in the Wrong Places*

Cynthia Anhalt, PhD , Director, Secondary Mathematics Education Program , University of Arizona - *Developing their mathematical voice: Students write letters to preservice teachers about mathematical ideas*

Rochelle Gutierrez, PhD , Professor , University of Illinois at Urbana-Champaign - *Using "Play" to Change Pre-service Teachers' Conceptions of Mathematics and the Abilities of Latin@ Students*

Jose Maria Menendez, PhD , Faculty , Pima Community College - *Teaching Our Children: Latino Parents speak up about mathematics teaching and learning*

KEYNOTE ADDRESS

Dr. Steven Strogatz, Jacob Gould Schurman professor of applied mathematics at Cornell University (Sponsored by SIAM)

BREAKFAST & MATHEMATICS GAME

Who Wants to Be a Mathematician? This session is a fun and exciting contest for undergraduates. All contestants win prizes, with a top prize of $2,000.

Chairs: Michael Breen, PhD, Public Awareness Officer, American Mathematical Society, and Bill Butterworth, PhD, Associate Professor, DePaul University.

PROFESSIONAL DEVELOPMENT SESSIONS

Common Core State Standards for Mathematics: Leveling the Playing Field or Another Set of Obstacles to Overcome for Latin@ and Native American Students?

The Common Core Mathematics Standards are a high profile math education policy adopted in 45 states that will inform k-20 STEM preparation. Will this reform policy support or stall mathematics advancement for Latin@ and Native American youth? This session will discuss the potential consequences for k-20 mathematics education.

Chair: Julia Aguirre, PhD, Assistant Professor, University of Washington-Tacoma and Rochelle Gutierrez, PhD, Professor, University of Illinois at Urbana-Champaign

Panel Members:
Julia Aguirre, PhD , Assistant Professor , University of Washington-Tacoma
Marta Civil, PhD , Professor , University of North Carolina, Chapel Hill
Rochelle Gutierrez, PhD , Professor , University of Illinois at Urbana-Champaign
David Scott, PhD , Professor , University of Puget Sound

MENTORING SESSIONS

Math Institutes Reception (Wednesday 6:30-8:00pm)

Sponsored by the Mathematical Sciences Institutes in North America and the National Science Foundation. Reception for all attendees of the Modern Mathematics Workshop and concurrent Undergraduate Minicourses in Mathematics.

Insights to Success: Real-life adventures of SACNAS scientists

SACNAS supports and encourages our members to complete their undergraduate degrees; get connected to, attend, and complete a meaningful graduate/doctoral program; and go on to a successful doctoral career in the sciences. The panelists represent a spectrum of possible science educational paths and career outcomes, and also serve as role models. The moderator of this session was Prof. Ricardo Cortez, Professor, Tulane University.

Conversations with Scientists

Representing the spectrum of science disciplines, SACNAS professionals renowned for their scientific and mentorship activities gather with student attendees to engage in informal roundtable discussions about careers in the sciences. Conversations are intended to break down the barriers that often exist between students and professionals. Through Conversations with Scientists interactions, mentors share their personal experiences and insights offering students guidance and inspiration regarding educational and career choices. The personal

connections made during Conversations with Scientists set the stage for ongoing mentorship and support throughout the conference. There were two different rooms of roundtables for Mathematics and Statistics.

Mathematics/Statistics Student Oral Presentations

Samantha Tracht, Graduate Research Assistant, University of Tennessee - *Economic analysis of the use of facemasks during pandemic (H1N1) 2009*

Mauricio Del Razo Sarmina, M.Sc., University of Washington - *Two Dimensional Immersed Interface Method for Moving Interfaces: An Implementation with Applications to Biological Interface Problems*

Matthew Oremland, MS, Virginia Polytechnic Institute and State University - *Mathematical Analysis of Agent-Based Models: Discrete and Heuristic Methods*

Claus Kadelka, MSc, Virginia Bioinformatics Institute - *Understanding the Robustness of Gene Regulation via Derrida Values*

Steven Collazos, BS , San Francisco State University - *A Reciprocity Law Arising From Lisonek Quasi-Polynomials To Count Isomorphism Types Of Block Designs*

Juan Ramirez Jr, MS , Graduate Student - *Signal Processing on High-Dimensional Data Through A Low-Dimensional Embedding*

Gina-Maria Pomann, BA , North Carolina State University - *Computationally Efficient Change Detection for Functional Data*

Mathematics Student Poster Presentations

This year there were 92 poster presentations in the mathematical sciences (63 undergraduate, 24 graduate, and 5 postdoc) and 7 graduate oral presentations. This represents a 15% increase over last year. SACNAS considers this opportunity to be an important feature of the conference. All student presentations are judged by at least two professionals and the judges give students helpful supportive feedback about their work and presentation style. This is an important way in which students are initiated into the world of scholarship, preparing them to present at professional conferences within their discipline in the future.

Mathematics & Statistics Graduate Oral Winners

- Matthew Oremland
- Claus Kadelka
- Gina-Maria Pomann

Mathematics & Statistics Undergraduate Poster Winners

- **Raghda Abouelnaga**, University of California, Berkeley, for *Characteristic of the dual space of l_∞*
- **Samuel Cavazos**, University of Texas-Pan American, for *Arithmetic of Free Group Character Varieties*
- **Kyle Dahlin**, University of Hawaii at Manoa, for *Competition Model of Brassica Tournefortii and Native Plants in the Sonoran Desert*

- **Betty Garcia**, University of Texas-Pan American, for *Advanced Factorization Methods*
- **Marissa Loving** and **Katherine Todd**, University of Hawaii at Hilo, for *Non-Stable K-Theory of an Arbitrary Graph Algebra*
- **William Tressel**, Simpson College, for *Within-Host Dynamics of Antibiotic Resistance in Gonorrhea*

CONFERENCE ATTENDANCE

Table 1: Mathematics Representation at SACNAS Conferences

Year	Number of Total Math Students	Total Math Attendance	Location
2002	109	147	Anaheim, CA
2003	129	234	Albuquerque, NM
2004	124	249	Austin, TX
2005	164	312	Denver, CO
2006	169	276	Tampa, FL
2007	152	271	Kansas City, MO
2008	150	269	Salt Lake City, UT
2009	146	235	Dallas, TX
2010	170	293	Anaheim, CA
2011	212	326	San Jose, CA
2012	196	312	Seattle, WA

The total attendance at the 2012 SACNAS conference was about 3,700. This was one of the largest conference attendance in SACNAS history. The overall attendance of mathematics students and professionals in the last several years is shown in Table 1. The table shows the number of conference participants that identified themselves in the area of mathematics. The totals include student participants, postdocs, faculty, teachers and professionals and illustrate our strong commitment not only to maintaining a strong mathematics presence at the SACNAS conference, but also to increase our mathematics attendance at future conferences. Additional statistics on the conference are found in http://sacnas.org/events/national-conf/past/2012.

Overall, the 2012 SACNAS national conference provided a broad range of highly effective educational, mentoring and networking activities that supported and served the minority scientific community at all levels of the higher education pipeline. These activities benefited all conference attendees and certainly impacted mathematics students equally included opportunities to:

- Engage via Scientific Symposia and Keynote Addresses with nationally recognized scientific and mathematic role models and mentors.
- Gain professional skills essential for advancement in the sciences and mathematics, including professional development workshops that focused on communication of scientific and mathematical research methods and findings.
- Receive feedback from faculty judging poster and oral presentations and in the process make meaningful connections with prospective mentors.

- Make informed decisions about their professional future and to establish lasting connections with university, government agency, industry, and research organization representatives.
- Engage in structured mentoring activities such as the Conversations with Scientists and the Mathematics Institutes Reception, where professional scientists, mathematicians and administrators provided essential information to students at all stages of the higher education pipeline, and assisted them to develop an academic and career roadmap that will guide effectively as they navigate their way to professional success in the science and mathematics world.

FISCAL REPORT

The AMS sponsorship was used to fund speakers for one session and student participants as indicated below.

	airfare	lodging	registration	
Ricardo Cortez	498.50	696.96	0.00	
Karen Rios-Soto	717.81	696.96	600.00	
Brisa Sanchez	497.85	348.48	0.00	
Yakubu Abdul	0.00	172.24	0.00	
TOTAL	**1704.16**	**1914.64**	**600.00**	**4,228.80**

Epsilon Awards to Mathcamps 2013

All Girls/All Math	University of Nebraska, Lincoln, NE	$5,000
Camp Euclid	online	$5,000
Canada/USA Mathcamp	University of Puget Sound, Tacoma, WA	$5,000
Hampshire College Summer Studies in Mathematics (HCSSiM)	Hampshire College, Amherst, MA	$7,500
LSU MathCircle Summer Enrichment Program	Louisiana State University	$7,500
MathPath	Mount Holyoke College, South Hadley, MA	$5,000

Mathworks Honors Summer Math Camp	Texas State University, San Marcos, TX	$5,000
Michigan Math and Science Scholars Summer Program	University of Michigan, Ann Arbor, MI	$7,500
New York Math Circle High School Summer Program	NYU Courant Institute of Mathematical Sciences, New York, NY	$7,500
PROMYS	Boston University, Boston, MA	$5,000
PROTaSM (Puerto Rico Opportunities for Talented Students in Mathematics)	University of Puerto Rico, Mayagüez Campus	$10,000
Research Science Institute	Massachusetts Institute of Technology	$5,000
Ross Mathematics Program	The Ohio State University, Columbus, OH	$5,000

Stanford University Mathematics Camp (SUMaC)	Stanford University	$7,500
Summer Program in Mathematical Problem Solving	Bard College, New York	$7,500
Young Scholars Program	University of Chicago, Chicago, IL	$5,000
Grand Total		**$100,000**

Ellen Maycock
Associate Executive Director
February 26, 2013

Report on the Status of AMS Activity Groups

For several years, the AMS Committee on Meetings and Conferences (COMC) discussed the possibility of initiating a program of AMS Activity Groups (AMSAGs). An Activity Group is a group of mathematicians with a common (research) interest, who form a small community based on their particular interest. Both the Society of Industrial and Applied Mathematics (SIAM) and the Mathematical Association of America (MAA) have successfully launched similar programs.

The first proposal for an AMSAG program that was considered by COMC essentially duplicated the program of SIAM. However, over the next two years, the vision of AMS Activity Groups began to take on a very different form. COMC ultimately decided that the AMS would benefit more from a program in which the Activity Groups would be primarily online. In March 2012, COMC approved a proposal, which had a short narrative and an appendix with forms and regulations, for AMSAGs, and recommended that the Committee on the Profession (CoProf) also consider the proposal. At its September 2012 meeting, CoProf endorsed the narrative of the proposal, but recommended that the AMS begin a pilot program with minimal regulations and procedures, for AMS members only. COMC subsequently endorsed the CoProf version of the proposal. The Council approved, at its January 8, 2013 meeting, the proposal from both committees that the AMS proceed with a limited pilot program of Activity Groups for AMS members only, based on the narrative of the proposal (included below).

AMS staff members have investigated possible software programs that would incorporate as many of the features listed in the proposal as possible. *Higher Logic* is a software program that appears to be well suited to the AMSAG program. It is important that it can interface with *Personify*, the new association management software that the AMS has adopted.

The AMS staff members who have been working on this project expect to launch the *Higher Logic* program in late June or July of 2013. The first Activity Groups will be cohorts that have already been identified: math camp directors from the AIM-AMS workshop held in March 2013, and the four groups of 2013 MRC participants and directors. Ellen Maycock, together with Tom Blythe and Diane Boumenot, will work with these groups in order to understand the intricacies of the software and to set up some basic procedures. Members of the Activity Groups will be expected to manage their own AMSAGs. Assuming that these small groups proceed as expected, we will publicly launch of the program in the fall of 2013.

Ellen J Maycock
Associate Executive Director
April 11, 2013

The following proposal was endorsed by the AMS Committee on Meetings and Conferences (March 24, 2012), the AMS Committee on the Profession (September 30, 2012) and the AMS Council(January 8, 2013):

AMS Activity Groups (AMSAGs)

1. Introduction.

Activity groups (also known as "special interest groups" or "focus groups") are groups of mathematicians with a common (research) interest, who form a community based on their particular interest. Our sister organizations the MAA and SIAM have a long tradition of highly successful activity groups. This is a proposal to create AMS Activity Groups (AMSAGs). Examples of possible AMSAGs would be activity groups in representation theory, algebraic geometry, analytic number theory, algebraic number theory, low dimensional topology, analysis, dynamical systems, or any other specialized interest/research area. The primary form of interaction in the group will be electronic. The AMS will provide various web and social networking tools to allow the membership to connect, share information, and form a professional network focused on the theme of the activity group.

2. What an AMS Activity Group would be.

AMSAGs provide a focused forum for AMS members interested in exploring a targeted area of mathematics. The intent is to use electronic communications via various web and social networking software in facilitating exchanges of information and updates on current research trends, and support collaborations and mentoring relationships among AMS members in research subareas. The use of electronic media allows easy communication between members regardless of geographic location. The hope is that this will decrease mathematical isolation and raise awareness of current trends in research and research activity in a broad section of the mathematical community.

Activity group membership is open to both AMS members and nonmembers. The proposed dues structure is that it be either free or at a nominal fee to AMS members. We suggest a more than nominal fee for non-AMS members, perhaps coming after a free trial period. The committee had lengthy discussions on this point. There are two conflicting aspects. Many on the committee felt that an open and free as possible site was important to have a vibrant, open, intellectual atmosphere and to successfully compete with existing (albeit less focused) online math forums. On the other hand, there is a real necessity for the AMS to cover its costs of operation and provide benefit to AMS membership.

However only AMS members can propose an activity group. There will be officers of the group to handle the administrative tasks: a chair and vice chair of the group as well as a secretary. They will monitor the website and posts to it as well as handle membership in the activity group. They can also designate other members of the group to handle specific tasks.

The features of an AMSAG site could include the following:

- A messaging system. This would be a group discussion forum and chat room, perhaps similar in style to Facebook. Members would be able to read and post information, questions, and comments. Posts could be made available by the poster to just the group or to the whole web. An officer of the group would be responsible for editing or deleting posts. There could also be a mechanism for members to send private messages to another member or group of members.
- A resource repository. Members could upload files such as papers in pdf format, scans, programs, pictures, etc. The uploaded file would be submitted with some information describing the file. This information would go into a searchable database.
- A Wiki facility. Members could create Wiki-style pages and have the option of making them visible only to the group or available on the web. There would be templates for standard things like conferences or problems lists.
- A repository for collaborative document editing.
- A space for member profiles. This would make it easier for members to find other mathematicians with similar research interests.
- A space for requesting a mentor or volunteering to act as a mentor. An officer of the group would oversee the matching of mentors to mentees.

Activity Groups are essentially grassroots organizations and fully depend on the membership to organize them and run them. They empower the AMS membership to organize their own activities, as long as they cohere to the rules set by the AMS. The AMS only provides the electronic infrastructure. The AMS does not run or create activity groups. The benefits of the activity group are that it builds a community and provides its members with a wealth of professional networking opportunities. While the primary focus of these groups is electronic, we envision that AMSAGs could also propose Special Sessions or workshops at AMS national or sectional meetings via the normal request channels.

3. Implementation

The schedule for implementation is driven by the ability of the AMS technical staff to adapt and implement software for facilitating the activity groups. The committee has had some initial discussions with the AMS technical staff and this undertaking seems possible. A template for an AMSAG page has to be designed and implemented. There has to be a way to restricting access to the page to members of the activity group. We feel it would be prudent to have at least two test groups run for some period to work out any wrinkles before opening up the formation of and enrollment in AMSAGs to the full AMS membership.

4. Summary

We believe that the formation of AMS Activity Groups is consistent with the AMS mission to promote and support research and education in mathematics. Our hope is that AMSAGs will facilitate more research and scholarly activity in mathematics over a broad spectrum of people. As public discourse in general has become electronically based, AMSAGs keeps the AMS

relevant to the dissemination of scholarly information in mathematics. We believe AMSAGs will also attract new members to the AMS and engage current members so that they will be less likely to let their memberships lapse. It also could be an excellent recruiting tool to engage students early on in areas of their interest and get them to join the AMS and become a lifelong member. The AMS Activity Groups have the potential to sustain and grow the membership of the AMS. It will engage more members in AMS sponsored activities and will strengthen the feeling that being a member of the AMS offers a wealth of benefits, including a close community of mathematicians with similar interest.

To: Executive Committee and Board of Trustees (ECBT) of the AMS
From: Edward Aboufadel, Secretary of AAAS Section A (Mathematics)
Subject: Symposia at the 2013 AAAS Annual Meeting
Date: April 8, 2013

Overview: The 2013 AAAS Annual Meeting featured a variety of presentation formats. In addition to more than one hundred and fifty symposia on themes of contemporary interest, spread over fourteen tracks, there were individual topical area lectures and plenary lectures. There was also a graduate student poster session, with nearly a half-dozen posters in the area of applied mathematics. Nearly 10,000 people attended, including a significant turnout for the Family Science Days program.

The generous support of the AMS continues to be centrally important in enabling Section A to offer programs and speakers that communicate to general scientific audiences and the press (and by extension, the public at large) the nature, excitement, and usefulness of mathematics. The 2013 meeting was held February 14-18 in Boston. The support of the AMS was acknowledged on page 119 in the meeting program.

We appreciate the efforts by the AMS to report on the AAAS meeting, such as at this URL: http://www.ams.org/meetings/aaas2013. Photos from the fifth symposium in this report can be found here: http://annanagurney.blogspot.com/2013/02/photos-from-aaas-boston-symposium.html.

Below are summaries of the five symposia that were sponsored this year by section A. Included with each report is a list of AAAS Sections (other than Section A) that indicated in the program their interest in the symposium. The mathematics section makes up a bit more than 1% of the AAAS membership, so we are certain that the symposia speakers are reaching a broad audience of scientists and the media. All of the reports this year were written by Edward Aboufadel. In addition, Mike Breen's "Who Wants to Be a Mathematician" was featured again as part of the the AAAS' Family Science Days program at the meeting.

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1. Multi-Scale Study of Cancer
Friday, February 15, 2013: 8:00 AM-9:30 AM
Organizers: Mark Alber, University of Notre Dame; Jill P. Mesirov, Broad Institute of Massachusetts Institute of Technology and Harvard University

The speakers were Philip Maini (University of Oxford), Martin Nowak (Harvard University), and Kathleen Wilkie (Tufts University School of Medicine). Discussants were Mark Alber (University of Notre Dame) and Jeremy Gunawardena (Harvard Medical School).

In the first talk, Martin Nowak discussed the idea of targeted cancer therapy: disabling a single oncogenic pathway will eliminate the tumor cells and leave the normal tissues unscathed. In his talk, he gave a review of this approach. (Unfortunately, due to a scheduling conflict, I was not there for Nowak's talk to take notes for this report.)

In the second talk, Philip Maini identified genetic instability as an early event that becomes a driving force in cancer progression. He focused on a "tumor suppression gene" APC and built models of APC inactivation. He compared two probabilistic models – one with chromosomal instability, and one without. In the former, inactivation of APC can occur quickly ("in just weeks") which can accelerate the development of cancer. In contrast, most genetic mutations are "passengers" that accumulate as a constant rate but do not cause cancer. As a consequence of this analysis, and separate medical studies, it is becoming clear that for pancreatic cancer, the disease slowly evolves, perhaps over a long time scale of 20 years or more. This suggests that early detection and treatment is possible. Maini completed his talk with a mathematical analysis of certain drugs that may be able to slow genetic instability.

In the third talk, Kathleen Wilkie explored the question of whether the immune system can recognize cancer cells. Although scientific conclusions about this question have changed between "yes" and "no" over the past century, since 1995, there has been a definitive consensus that the answer is "yes". Wilkie described models of the dynamics between immune cells and cancer cells, starting by recognizing that a predator-prey model would not be appropriate, because immune cells can promote cancer in certain situations. A richer model that she presented was a coupled system of ordinary differential equations which included a cancer-carrying capacity and an immune-carrying capacity. In analyzing this system, a two-dimensional space of parameters was divided into two regions: tumor progression and tumor regression. The take-away idea from this analysis: a patient's response to immune therapy for cancer has to take into account that this therapy might actually increase tumor mass short-term, if we initiate treatment while in the tumor progression region, as immune cells can promote cancer growth, due to inflammation. Longer term, though, immune therapy can be effective.

At the end of the symposium, there was a short panel discussion that included the Discussants. A key observation from the panel was that there are universal behaviors across all cancer patients to observe and analyze, and "under the hood" there are patient-specific behaviors that suggest future studies in patient-specific mathematical modeling.

Attendance at this symposium was robust, with 80 to 100 people in the audience for the last two speakers. The room was full.

Other sections that listed interest in this symposium in the printed program: Medical Sciences (Section N), Dentistry and Oral Health Sciences (R), and Pharmaceutical Sciences (S).

2. Mathematics of Tipping Points: Framework, Applications, and Prediction
Friday, February 15, 2013: 1:00 PM-2:30 PM
Organizers: Mary Lou Zeeman, Bowdoin College; Mary Silber, Northwestern University

The speakers were Mary Silber (Northwestern University), Sebastian Wieczorek (University of Exeter), and Marten Scheffer (Wageningen University).

Mary Silber was the first speaker, and she gave a clear overview of the mathematical structure of tipping points. Tipping points involve a threshold, hysteresis, and a qualitative change in system behavior as the system "jumps" from what part of the hysteresis curve to another. As an example, she presented an energy-balance model for the Earth in which solar radiation is the input (at a rate that depends on the albedo, or reflectivity, of the Earth) and warm body radiation is the output. In the model, if the globe warms and polar ice melts, the Earth becomes less reflective and absorbs more radiation, causing further warming. A key characteristic of tipping points is locality: when a tipping point occurs, moving a system from one attracting equilibrium to another, we cannot tell how far away the new equilibrium is.

Sebastian Wieczorek examined qualitative solutions of the model $\frac{dX(t)}{dt} = f(X(t), \lambda(t))$, where $X(t)$ is the state of the system, and $\lambda(t)$ represents external forces. If λ is constant, the system finds a "quasi-static equilibrium" or QSE. As λ varies, though, in certain situations we can observe behavior known as "rate-induced tipping", where change happens so fast that the system fails to adapt. QSEs can become unstable, and the state of the system can veer away from stability. A 2005 paper on the circulation of fresh water in the North Atlantic appears to fit this description. Wieczorek then considered a specific model of peatland fires in Russia from the summer of 2010, using three state variables: soil carbon content, soil temperature, and atmospheric temperature. A parameter r represented an assumed constant rate of global warming. In this model, the QSE is a space curve and if r increases, the QSE changes and is no longer attracting. Rather, fast changes occur in the state of the system: fires increase quickly, burning off all of the carbon in the soil, followed by the soil temperature quickly dropping to a low value and remaining there for a long time. Wieczorek concluded with an application of the chain rule:

$$\frac{d(QSE)}{dt} = \frac{d(QSE)}{d\lambda}\frac{d\lambda}{dt}$$

He observed that if one of the two derivatives on the right is large, the other can be small and we can still have tipping point behavior, as the QSE changes.

Marten Scheffer, the third speaker, explored the idea of predicting critical transitions. He began by stating some known results of behavior near tipping points; a system become fragile and there are generic early warning signs, such as a correlation between $X(t)$ and $X(t + 1)$ that are not

observed at other times. He then turned a discussion of steady states of forests. He pointed out that rain forests and savannahs develop in the same climate, but that an area is either one or the other. Using a database of the tree cover on every kilometer of earth, he presented a chart of tree cover vs. rainfall and showed that there are areas of high tree cover (i.e. rainforest) and of low tree cover (i.e. savannah), but rarely are there areas that are a mixture, say 60% tree cover. At a tipping point, an area can quickly switch from one to the other, without a significant change in climate. He then asked a different question: not about prediction, but how to characterize resilience of a state. For instance, can you "tip" someone out of a depression? Microcredits can sometimes "tip" a family out of a poverty trap.

Like the first symposium, attendance was strong, with 80 to 100 people in the audience the whole time.

Other sections that listed interest in this symposium in the printed program: Physics (B); Information, Computing, and Communication (T); Statistics (U); and Societal Impacts of Science and Engineering (X).

3. Understanding and Communicating Uncertainty in Climate Change Science
Friday, February 15, 2013: 3:00 PM-4:30 PM
Organizer: Richard L. Smith, University of North Carolina

The speakers were Murali Haran (Pennsylvania State University), Mark Berliner (Ohio State University), and Leonard A. Smith (London School of Economics and Political Science). Andrew Revkin (Dot Earth) was the Discussant.

The first speaker, Murali Haran, examined connections between uncertainty quantification and public policy. Suppose we were working with policymakers to explore this question: What is the probability of a sea level rise of 2 meters by 2100 (1) if we continue with "business as usual" and carbon emissions grow at the same rate, and (2) if carbon emissions are controlled by some policy? In attempting to model both cases, we would need to deal with stochastic uncertainty (e.g. a fair coin still has a 50/50 chance of heads or tails for any particular coin toss) and epistemic uncertainty regarding our knowledge (e.g. we don't know how much exactly the coin weighs). For climate models, uncertainty can arise because models are simplifications, there can be errors in measurements, there are forces on the system unaccounted for, and there is uncertainty about the value of key parameters. However, uncertainty is not the same as "not knowing" and not a reason for inaction. To put his ideas in action, he described an analysis of the Atlantic Meridonal Overturning Circulation (AMOC) – this is heat transport that keeps Europe's climate moderate. He showed how some statistical techniques can be used to reduce uncertainty when studying the AMOC.

Mark Berliner discussed how to work with climate policy makers. He started by noting that business people and community managers are more amenable to understanding risk in policy making than politicians are. He then walked through a "toy example" where the probability of climate change is p, decision makers have \$M to spend to mitigate climate change, and they must decide what part b of \$M to spend today, saving the rest for later if necessary. ($0 \leq b \leq 1$.) There are two types of losses: the money spent and the damage due to climate change. Berliner then said that we can calculate losses as a function of p, and that is the decision support that can be provided, if decision makers indicate what they believe p to be. He then turned to how to consider providing a range of possible values for p based on data and statistical analysis. He concluded his talk with some observations of how people use ideas of causality incorrectly, asking questions like "Does cigarette smoking cause cancer?" A better question to ask is in terms of conditional probabilities: Is $P(\text{cancer} \mid \text{smoking}) > P(\text{cancer} \mid \text{not smoking})$?

Leonard Smith gave a talk with advice for communicating with decision makers, along with a critique of the type of details that are often given. He indicated that decision makers know what they want to know, so never dismiss a question. In discussions with decision makers, the academic mode that is more appropriate is the thesis defense, as opposed to the lecture. "Give them something useful to say to friends and to enemies." He then showed a PDF that can be generated from a web site that indicates the hottest and stormiest summer days predicted for Oxford, UK for the year 2080, based on a climate model. Smith felt this was a poor approach to communicating with decision makers, because there is too much uncertainty in model outcomes to make forecasts at this local a level. Rather, scientists need to communicate the basic concepts about climate change.

The Discussant, Andrew Revkin, picked up on this idea in his brief remarks, observing that importance of science in "trying to understand" rather than in "trying to predict". He wondered if there should be "stress tests" for climate models as there have been for financial firm recently.

This was a very popular session, with over 100 people in attendance, with many standing.

Other sections that listed interest in this symposium in the printed program: Geology and Geography (E); Social, Economic, and Political Sciences (K); Engineering (M); Agriculture, Food, and Renewable Resources (O); Statistics (U); Atmospheric and Hydrospheric Sciences (W); Societal Impacts of Science and Engineering (X); General Interest in Science and Engineering (Y).

4. Compressive Sensing: Sensing Sparse Phenomena in Theory and Practice
Saturday, February 16, 2013: 8:30 AM-11:30 AM
Organizers: Mark Davenport, Georgia Institute of Technology; Emmanuel Candès, Stanford University

The speakers were Mark Davenport (Georgia Institute of Technology), David Brady (Duke University), Anna Gilbert (University of Michigan), Justin Romberg (Georgia Institute of Technology), and Rachel Ward (University of Texas).

Mark Davenport began the symposium with a rationale for and an overview of compressive sensing. He reported that the Large Hadron Collider produces 300 terabits of raw data per second, more than can be collected and stored, so through a triage protocol, "interesting events" are recorded at a rate of 800 gigabits per second. Is there a better approach that involves taking a smaller set of measurements y that are stored and sent, and then reconstructing a larger data set x from the measurements. If we know that x is sparse, then this can be done with compressive sensing. The key objective is to pick a linear operator A in a clever way in order to recover x from $y = Ax$. Davenport then described how this can be done through convex linear programming and orthogonal matching pursuit.

David Brady then turned to a specific application – compressive tomography. He shared many examples of spectroscopic images created through adaptive CT scanning, which has been created to shrink the amount of time a patient needs to be in a CT machine. Basically, the number of measurements is minimized, with post-processing used to reconstruct images. The next step in this research program is compressive 3D imaging.

Anna Gilbert discussed how the concept of compressive sensing is embedded in combinatorial pooling in biology. When studying a set of specimens, the specimens are grouped into different intersecting pools, each pool is assessed, and the results are used to determine the outcome for individual specimens. Two examples are determining which genes are expressed in a genome, and identifying which army recruits have a disease. Gilbert then walked through the underlying linear algebra for combinatorial group testing in a way that should have been clear to a mathematically-adept biologist.

The fourth speaker was Justin Romberg, and he started his talk by comparing compressive sensing to solving over-determined systems of quadratic equations by recasting them as underdetermined linear systems. After walking though some linear algebra related to this question, he described two places where this approach can be applied: recommender systems (e.g. Amazon, Netflix, match.com), and image de-blurring.

The final speaker was Rachel Ward, and she addressed sampling strategies for compressive sensing. In this and other talks, key ideas were the sparseness of the data to be recovered, and the use of the restricted isometry property which characterizes matrices which are nearly orthonormal.

Section A had been working for three years to have a symposium on compressive sensing included in the AAAS meeting, so it was disappointing that attendance throughout the morning was about 20.

Other sections that listed interest in this symposium in the printed program: Physics(B), Engineering (M), and Industrial Science and Technology (P).

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5. Dynamics of Disasters: Harnessing the Science of Networks to Save Lives
Sunday, February 17, 2013: 3:00 PM-4:30 PM
Organizer: Anna Nagurney, University of Massachusetts

The speakers were David McLaughlin (University of Massachusetts Amherst), Laura McLay (Virginia Commonwealth University), and Panos M. Pardalos (University of Florida). Discussants were Jose Holguin-Veras (Rensselaer Polytechnic Institute) and Tina Wakolbinger (Vienna University of Economics and Business).

[This symposium was a late addition to the program, included after the Superstorm Sandy disaster. Although we did not provide travel support to the speakers, Section A did support the symposium originally, so I include this report.]

The first speaker, David McLaughlin started with the statistic that 80% of tornado warnings are false alarms, and one reason for this is the curve of the Earth. Radar is good for detecting meteorological behavior in the sky, but not close to the Earth where tornados are. A solution is to install inexpensive radar equipment on cellphone towers, combined with the appropriate software, to create a distributive-collaborative-adaptive sensing system. This system is being tested in Dallas and elsewhere.

Laura McLay (who writes the operations research blog "Punk Rock OR") was the second speaker. She described studies that address the question of using operations research methodologies to allocate limited public resources for responding to health and fire emergencies during severe weather events. Some studies use the NEMSIS (National EMS) dataset collection of EMS calls, and one study examined how snowfall affects the number and type of calls received. Perhaps unexpectedly, with statistical significance, calls involving cardiac arrest increase after a snowfall, but more surprisingly, only on weekends. In New Hampshire and

Maine, response time to suburban EMS calls increase 16% during a snowstorm. During the 2009 East Coast blizzard dubbed "Snowmaggeddon", crime rates dropped below a typical Christmas day. With information like this, decisions can be made on the staffing of ambulances if severe weather is forecast. Another interesting result: crisis situations lead to emergency crews having a "spring in their step" which makes the system more reliable and efficient, effectively adding an extra ambulance to the system.

Panos Pardalos discussed the vulnerability of evacuation plans, and use a type of analysis called "islanding" to study specific situations. Basically, the idea is to divide a region into subregions and represent the system with a directed network connecting the subregions. This led to a number of graph theory problems involving connectivity under removal of edges, and Dijkstra's algorithm. Pardalos is the director of the Center of Applied Optimization at the University of Florida.

The Discussants reflected on the three talks and used the term "Humanitarian Logistics" several times to describe the content of the talks. For more information: http://www.humanitarianlogistics.org/

Attendance for this late Sunday afternoon symposium was steady at about 40 throughout.

Because this symposium was added late, there is no list of Sections that indicated interest.

STI SCIENCE TECHNOLOGY INNOVATION EXPERT PARTNERSHIP

"Science, engineering, technology and innovation are the engines of modern society and a dominant force in globalization and international economic development."

The First Quadrennial Diplomacy and Development Review
U.S. Department of State
2010

PARTNERS

- American Association for the Advancement of Science
- American Association of Engineering Societies
- American Chemical Society
- American Geosciences Institute
- American Institute of Physics
- American Society of Civil Engineers
- American Society for Microbiology
- American Society of Tropical Medicine and Hygiene
- National Academy of Sciences
- Smithsonian Institution
- U.S. Department of State

WHY SCIENCE, TECHNOLOGY, AND INNOVATION?

Global competitiveness, development, prosperity, and stability depend on national capacity to participate in the interconnected knowledge-based economies of the 21st century. The objective of the *Science Technology and Innovation (STI)* Expert Partnership is to bring the best of American science, engineering, innovation, and technology to foreign audiences. U.S. scientists, engineers, and technology experts form part of an innovative global community that frequently travels around the world for research, education, and business. The *STI Expert Partnership* provides U.S. experts already traveling to a particular destination with additional opportunities to engage foreign audiences on science public diplomacy. Programs will be run by the U.S. Embassies; expert presentations will include lectures, mentoring sessions, roundtable discussions, technology instruction and hands-on demonstrations.

PARTNERSHIP OBJECTIVES

- Discuss shared global challenges in science, technology, and innovation;
- Enhance public appreciation and understanding of science in society;
- Inspire and encourage youth, especially young girls, to pursue careers in science, technology, engineering, and mathematics (STEM); and
- Motivate the next generation of innovators, engineers, and entrepreneurs to develop solutions to our shared global challenges.

Memorandum of Understanding

July 25, 2012

Overview

The Science, Technology and Innovation (STI) Expert Partnership, is being established as a mechanism to help advance the U.S. Department of State's science diplomacy initiative, which is designed to build U.S. relationships abroad in the fields of science, technology, and innovation. The STI Expert Partnership seeks to promote economic prosperity, democratic governance, and social development through increased scientific and technological programming worldwide. With the support of U.S. embassies and our U.S. partners' international networks, the Partnership will expand and multiply the reach of U.S. scientific experts, who are travelling abroad, by identifying new or strengthening existing public diplomacy opportunities for them to engage foreign audiences around the world as STI Experts.

The Cooperating Partners

This is a non-binding Memorandum of Understanding (MOU) between, on the one hand: American Association for the Advancement of Science (AAAS); American Chemical Society (ACS); American Geosciences Institute (AGI); American Society of Microbiology (ASM); American Institute of Physics (AIP); American Society of Tropical Medicine and Hygiene (ASTMH); Association of American Engineering Societies (AAES); American Society of Civil Engineers (ASCE); National Academy of Sciences (NAS), the Smithsonian Institution (SI), and, on the other, the United States Department of State (DOS).

The Partners have reached the following understandings:

I: Purpose

- The Partners, conscious of the benefit of close and systematic cooperation on matters of common interest, including advancing U.S. science, technology and innovation efforts, are desirous of further enhancing and strengthening such cooperation through shared goals.

- The MOU sets forth the understandings and intentions of the Partnership with regard to shared goals which include:

  - Addressing and discussing global challenges in science and engineering with foreign publics;

  - Educating and engaging foreign publics about important scientific and technological issues in relation to global society and the role of innovation in addressing shared global needs and challenges;

  - Strengthening the foundation for expanded international scientific and technological collaboration;

  - Expanding the opportunity to forge international relationships that build science, technology, engineering and mathematics (STEM) capacity in developing nations in support of enhancing scientific literacy;

  - Inspiring within foreign publics a new generation to pursue careers in STEM fields to foster the next generation of entrepreneurs and innovators;

  - Empowering and advancing the status of women and girls through equal opportunities in science and technology, especially access to education and innovative technologies.

II: Internal Organization and Coordination, and External Promotion

- The participating Partners together comprise the Partnership's Steering Committee (referred to as "Committee") as voting members, with the right to attend all Committee meetings, and participate in or create any management committee as deemed necessary by the Steering Committee. Decisions are to be made by

consensus of those participants in a specific action or decision. Prior notification of the any Committee meetings shall be no less than 10 days. The DOS consents to take on the role of Secretariat (e.g. performing necessary administrative functions), unless the Steering Committee chooses an alternative. The DOS, or any other Partner succeeding the DOS in the role of Secretariat, may seek the support of individual Partners in implementing this function.

- Within the framework of this MOU, all Partners will assist in the internal marketing of the Partnership within their organizations, in a manner to be determined by each Partner in its discretion, utilizing their networks and expertise.

- Within the framework of this MOU, Partner logos may appear on documentation, websites etc. which relate to the Partnership; provided that such logos will not be used by the Secretariat or otherwise without the express permission of the relevant Partner, given in each instance in such Partner's discretion; and provided, further, that such usage complies with all usage guidelines prescribed by the relevant Partner.

- Within the framework of this MOU, each non-profit Partner agrees to determine its own screening process for identifying and selecting candidates to be STI Experts. Once STI Experts are selected, the Partner will propose the STI Expert using the approved template and submit the information to the Department via email to sciencediplomacy@state.gov. Four weeks advance request for a proposed STI Expert Partnership program will be the norm, but flexibility for shorter high level programs can also be considered. In turn, the Department will inform appropriate U.S. embassies of program opportunities. If requested in writing, the Department will provide the STI program details for selected STI Experts to the Partner. All final decisions to program STI Experts rest with the U.S. embassies, with the Partner retaining the right to withdraw their STI Expert(s) from their proposed programs should the Partner determine, through its own process, the fit is inappropriate.

- Once an Embassy has approved a STI program and the proposed STI Expert, the Department of State will be responsible for communicating this to the selected STI

Expert. The Department will also work with the STI Expert, the post, and/or host organization on finalizing any outstanding operational/logistical details.

- The Partners intend to disseminate this MOU, once signed, within and throughout their respective organizations.

III: Contact and Communications

- For the purposes of this MOU, communications addressed to the Department of State are to be sent to the attention of the following offices, representatives, and accompanying addresses:
  - U.S. Department of State, Deputy Assistant Secretary for the Bureau of International Information Programs, 2200 C Street, N.W. Washington, D.C. 20522 (current incumbent: Mr. Nicholas Namba)
  - U.S. Department of State, Senior Scientist and Policy Advisor, Office of the Science and Technology Adviser to the Secretary, 2201 C Street, N.W., Washington, D.C. 20520 (current incumbent: Dr. Francis Colón)
  - U.S. Department of State, Deputy Assistant Secretary of State for the Bureau of Oceans and International Environmental and scientific Affairs (current incumbent: Dr. Jonathan Margolis)
- For the purposes of this MOU, communications addressed to the each Partner or participating organization are to be made to the attention of the following offices, representatives, and accompanying addresses:
  - American Association for the Advancement of Science, International Office, 1200 New York Avenue, NW, Washington, DC 20005 (current incumbent: Dr. Vaughan C. Turekian)
  - American Chemical Society, 1155 Sixteenth Street, NW, Washington, DC 20036 (current incumbent: Ms. Caroline Trupp Gil)
  - American Geosciences Institute, 4220 King Street, Alexandria, VA 22302 (current incumbent: Dr. Patrick Leahy)

- Association of American Engineering Societies, 1801 Alexander Bell Drive, Reston, VA 20191 (current incumbent: Mr. Mike Sanio)
- American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, VA 20191 (current incumbent: Mr. Mike Sanio)
- American Institute of Physics, One Physics Ellipse, College Park, MD 20740 (current incumbent: Ms. Jennifer Greenamoyer)
- American Society for Microbiology, 1752 N Street, NW, Washington, DC 20036 (current incumbent: Dr. Jason Rao)
- American Society of Tropical Medicine and Hygiene, 111 Deer Lake Road, Deerfield, IL 60018 (current incumbent: Ms. Karen A. Goraleski)
- National Academy of Sciences, 500 5th St NW, Washington, DC 20001 (current incumbent: Dr. John Boright)
- Smithsonian Institution, 1100 Jefferson Drive SW #3123, PO Box 37012, Q-3123 MRC 705 Washington, DC 20013 (current incumbent: Dr. Leonard Hirsch)

IV: Term of MOU; Partner Withdrawal; Liability

- Unless otherwise modified, extended or previously discontinued, this MOU covers the period from the date of signing for five years. Any Partner may withdraw from participating in this MOU at any time, within its discretion by providing written notice to the Secretariat, such withdrawal to become effective 30 days from the date stated in such notice. Upon withdrawal, the Members should negotiate in good faith toward a resolution on actions to be taken concerning cooperative work, if any, which may be in progress.

- This MOU may be modified only in writing signed by the Partners after unanimous approval by the Steering Committee. Any potential modification shall be communicated to all Partners no less than 10 days in advance of consideration by the

Steering Committee. Authorized representatives of the Partners may implement joint projects within the scope of this MOU.

- The Partners sign this MOU while wishing to maintain their own separate missions and mandates, and their own accountabilities. Each Partner, in deciding to participate in this MOU, accepts full and primary responsibility for any and all expenses or liabilities of any kind it may incur individually arising from this MOU. No Partner is responsible for any expenses incurred by another Partner unless specifically agreed to in advance in writing.

- No Partner is jointly or individually liable for any action or expense or liability incurred by another Partner. Unless specifically provided otherwise, the cooperation between the Partners outlined in this MOU is not to be considered or construed as forming or constituting any legal entity, joint venture, business or legal person. Nothing in this MOU is to be construed as superseding or interfering in any way with agreements or contracts separately entered into between the Partners, either prior to or subsequent to the signing of this MOU. The Partners specifically acknowledge that this MOU is not an obligation of funds, nor does it create any legally binding commitments by any Members or any certification requirements, nor does it create any rights in any third party. The Partners understand that all activities to be undertaken by Partners are subject to the availability of funds.

Signatories to the Memorandum of Understanding on the twenty-fifth of July, two thousand and twelve:

On behalf of the ***U.S. Department of State:***

Tara D. Sonenshine, Under Secretary of State for Public Diplomacy and Public Affairs, U.S. Department of State

Dr. E. William Colglazier, Science and Technology Advisor to the Secretary of State, U.S. Department of State

Daniel A. Clune, Principal Deputy Assistant Secretary of State for the Bureau of Oceans and International Environmental and Scientific Affairs, U.S. Department of State

On behalf of the ***American Association for the Advancement of Science***:

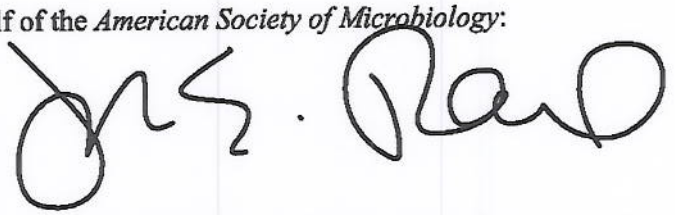
On behalf of the ***American Chemical Society:***

On behalf of the ***American Geosciences Institute:***

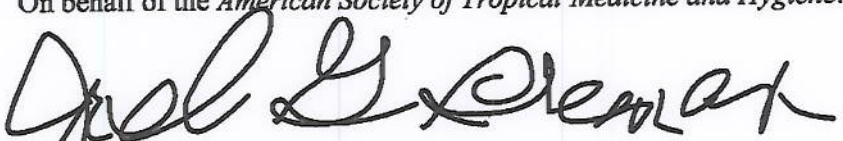
On behalf of the ***American Institute of Physics:***

On behalf of the ***American Society of Civil Engineers***:

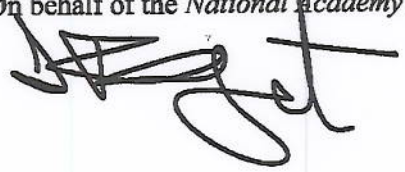
On behalf of the *American Society of Microbiology*:



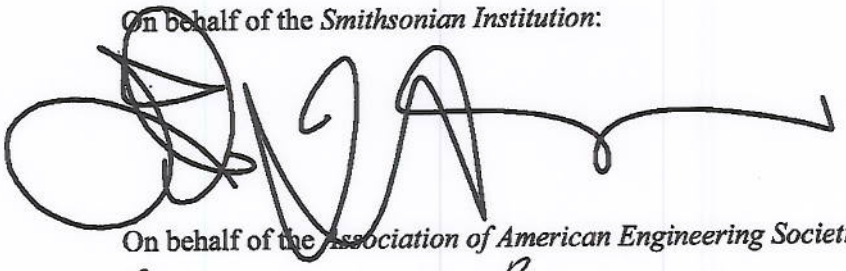
On behalf of the *American Society of Tropical Medicine and Hygiene*:



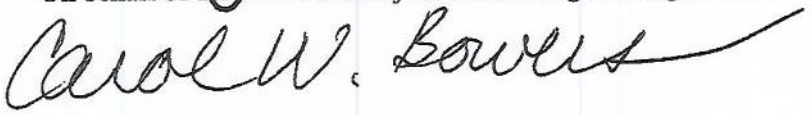
On behalf of the *National Academy of Sciences*:



On behalf of the *Smithsonian Institution*:



On behalf of the *Association of American Engineering Societies:*



AMENDMENT #1
TO
MEMORANDUM OF UNDERSTANDING
REGARDING
THE SCIENCE, TECHNOLOGY AND INNOVATION EXPERT PARTNERSHIP

BACKGROUND:
On July 25, 2012, the Cooperating Partners signed a non-binding Memorandum of Understanding (MOU) for the purpose of establishing the Science, Technology and Innovation (STI) Expert Partnership as a mechanism to help advance the U.S. Department of State's science diplomacy initiative, which is designed to build U.S. relationships abroad in the fields of science, technology and innovation. The STI Expert Partnership seeks to promote economic prosperity, democratic governance, and social development through increased scientific and technological programming worldwide. The STI Expert Partnership is expected to expand and multiply the reach of U.S. scientific experts travelling abroad by identifying new or strengthening existing public diplomacy opportunities for them to engage foreign audiences around the world as STI experts.

PURPOSE OF AMENDMENT:
The Steering Committee of the STI Expert Partnership has unanimously approved the addition of the American Mathematical Society (AMS) and the Society for Industrial and Applied Mathematics (SIAM) as partners in the STI Expert Partnership.

Pursuant to Paragraph IV of the original STI Expert Partnership MOU, the Cooperating Partners hereby amend the original MOU to add AMS and SIAM to the list of Cooperating Partners and to add these partners to the Steering Committee of the STI Expert Partnership.

The original STI Expert Partnership is therefore amended as follows:

1. "The Cooperating Partners" paragraph is amended by adding "American Mathematical Society (AMS), and Society for Industrial and Applied Mathematics (SIAM)" after "the Smithsonian Institution (SI)".

2. Paragraph III, entitled "Contact and Communications" is amended by adding at the end of the second bulleted paragraph the following:

> "► American Mathematical Society, 1527 Eighteenth Street, NW
> Washington, DC 20036 (Executive Director, current incumbent: Dr. Donald E. McClure)
>
> ► Society for Industrial and Applied Mathematics, 3600 University City Science Center, Philadelphia, PA 19104-2688 (Executive Director, current incumbent: Dr. James Crowley)"

3. Paragraph II, entitled "Internal Organization and Coordination, and External Promotion," is amended by adding, after the fourth bulleted paragraph, the following:

- "Once traveling experts are identified by the partner, each partner will submit 1-2 speaker applications per month to the Department of State for possible participation in a program with a U.S. embassy to be considered an active partner."

4. Paragraph IV, entitled "Term of MOU; Partner Withdrawal and Liability," is amended by adding, after the second bulleted paragraph, the following:

- "The addition of future partners, as unanimously agreed upon by a vote of the current partners, will be accepted by amending the MOU with only the signatures of the new partners and the Department of State."

All other terms and conditions of the above-referenced MOU remain unchanged.

This amendment may be signed in counterparts with the last signature date representing the effective date of the amendment.

Signatures:
On behalf of the *U.S. Department of State:*

Dawn McCall, Coordinator for the Bureau of International Information Programs

Dr. E. William Colglazier, Science and Technology Adviser to the Secretary of State

Dr. Jonathan A. Margolis, Deputy Assistant Secretary of State for the Bureau of Oceans and International Environmental and Scientific Affairs

On behalf of the *American Mathematical Society*:
Dr. Donald E. McClure, Executive Director

On behalf of the *Society for Industrial and Applied Mathematics:*
Dr. James Crowley, Executive Director

On behalf of the *American Association for the Advancement of Science*:

On behalf of the *American Chemical Society:*

On behalf of the *American Geosciences Institute:*

On behalf of the *American Institute of Physics:*

On behalf of the *American Society of Civil Engineers*:

On behalf of the *American Society for Microbiology*:

On behalf of the *American Society of Tropical Medicine and Hygiene*:

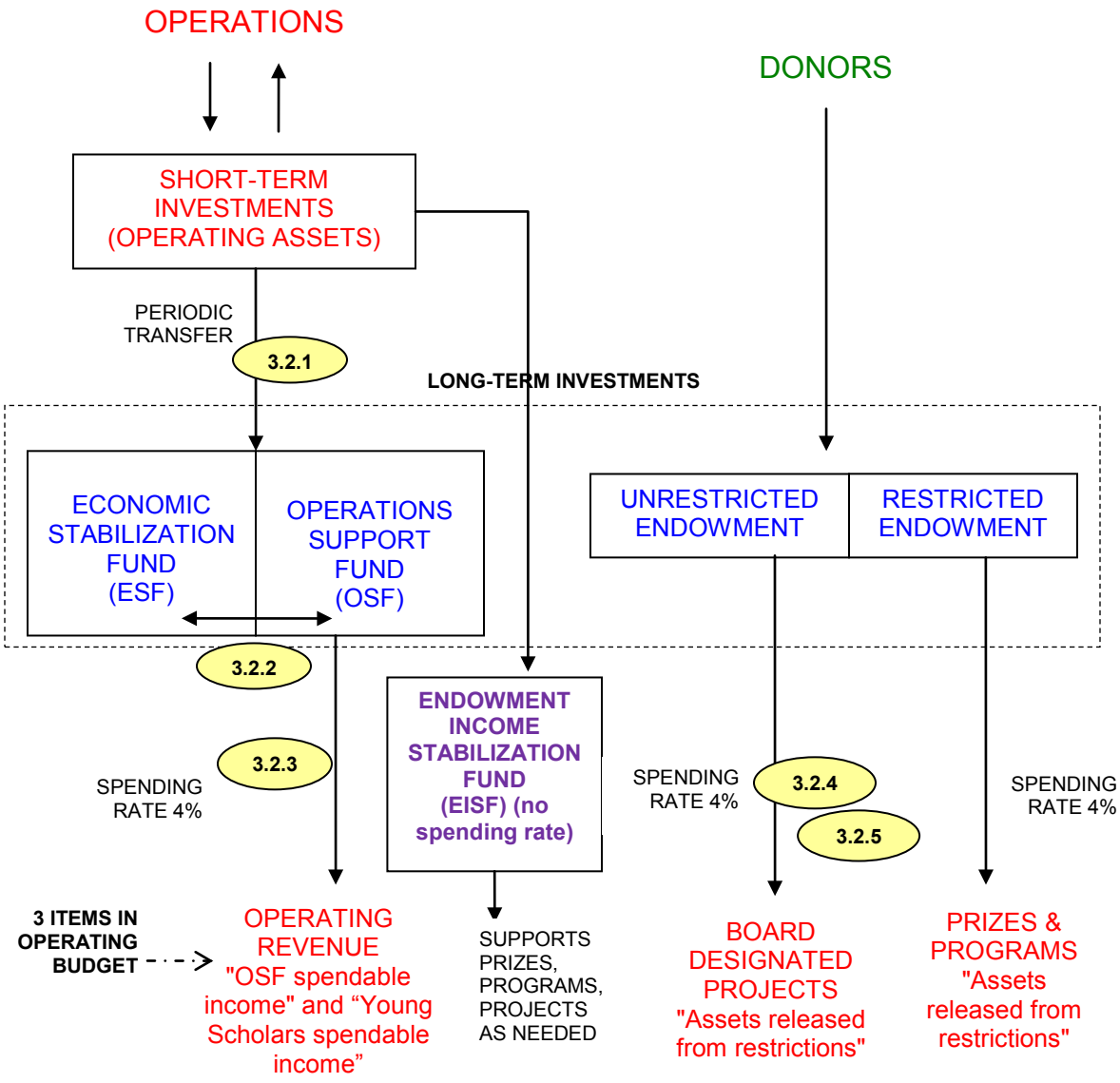
On behalf of the *Association of American Engineering Societies:*

On behalf of the *National Academy of Sciences*:

On behalf of the *Smithsonian Institution*:

AMS Long-term Investments
Cliffs Notes

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



ESF = 75% annual operating expenses + unfunded medical liability (APBO)
OSF = remainder of quasi-endowment (spending on 3-yr rolling average)
Rebalanced annually, December 31
EISF = Created 12/31/12 from amounts the Long Term Portfolio owed to Operations. The fund supplements prizes, programs, board designated projects when endowment funds from 4% spending rate are not adequate. Invested in an intermediate term investment.
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:	*12/31/12*	*12/31/11*
ESF	$ 25.9 M	$24.4 M
OSF	53.8 M	45.1 M
EISF	.5 M	
Unrestricted	6.2 M	5.6 M
Restricted	4.9 M	4.4 M

Rationale for Changes to the PPL Policy

The Director of Human Resources, the Chief Financial Officer and the Executive Director have met several times to formulate a revision of the current policy for payout of accrued unused Paid Personal Leave (PPL) when an employee leaves the Society. Ultimately, we want employees to use their PPL for time off when they are ill or for rest and relaxation, and not for extended leave before retirement. The current policy is problematic, difficult to administer, induces employees to "game the system," and can delay and complicate the process of hiring replacement staff. The problems stem in part from the way that the current payout uses a 52-week look-back period to determine the amount of PPL to be paid.

The revised policy, if approved by the Board of Trustees, will become effective for the 2014 Payroll Year.

In formulating a change, we tried to achieve several goals:

1. The change should not diminish the benefit of the payout to the individual employee.
2. The AMS benefit should be comparable to what other employers do. In this regard, we used a survey of over 1,000 U.S. employers to learn what others do (*Paid Time Off Programs and Practices: A Survey of WorldatWork Members, May 2010*).
3. The revised policy should be simple and equitable.
4. The policy should eliminate the incentive to "game the system."
5. The policy should eliminate unnecessary risk and cost to the Society.
6. The policy should not constrain the ability of the Society to fill the position being vacated.

The revised PPL policy eliminates the 52-week look-back period. It also eliminates completely any dependence of the payout on the time point during the Payroll Year when a separation occurs.

The revised policy has been reviewed by the Society's attorney for HR matters.

Donald McClure, Executive Director
Tammy King Walsh, Director, Human Resources
May 2013

CURRENT AMS PPL POLICY WITH RECOMMENDED CHANGES INDICATED IN SECTIONS 4 AND 5

American Mathematical Society
Paid Personal Leave (PPL) Policy

Paid Personal Leave (PPL) is available to eligible employees for all types of absences for personal reasons, such as vacation, recreation, personal business, brief illnesses, observance of religious days and/or other holidays, and any other personal needs without restriction as to the reason for the leave. Neither jury duty nor bereavement is included in PPL; they are covered by separate policies, which are not affected by PPL.

1. Eligibility

All regular full-time and part-time employees are eligible for PPL benefits.

2. Benefits

PPL is accumulated by eligible employees on a weekly basis at a rate equal to the annual total shown below divided by 52, and is administered on an hourly basis. No accumulation is provided for any pay period in which the employee is in a Leave Without Pay status for the entire pay period.

The following accrual rates apply to all employees, whether exempt or non-exempt, except for the ED, AEDs, division heads, and department heads, or equivalents.

a. During the first year of employment: 33 days per year
b. During the 2nd through 5th years of employment: 38 days per year
c. Upon completion of 5 years of employment: 42 days per year
d. Part-time employees who are appointed to work 20 hours per week or more accumulate a prorated amount of the full-time PPL benefit. The prorated accumulation is equal to the percentage of time the employee is appointed to work multiplied by the applicable full-time annual benefit shown above. A part-time employee changing to full-time will accrue at a rate based on full-time equivalent years of employment.

All employees in the categories of ED, AEDs, division heads, and department heads, or equivalents, regardless of years of service accrue PPL at the rate of 42 days per year.

For the purposes of this policy, years of employment do not include employment prior to a break in service of three years or more.

3. Approval for Absence from Work for Personal Reasons

The authority to approve time off for personal reasons rests with the employee's supervisor (normally a department manager or director), and approval is based on work requirements. Except for office closures and illness and other emergencies, requests for time off must be submitted in advance to the employee's supervisor. Use of Paid Personal Leave may not exceed the employee's total accumulated leave balance.

Each employee is responsible for monitoring his or her own PPL accrual. The employee should work with his or her department manager to schedule PPL (to be used for vacation) at times that are appropriate for

the individual and for the AMS. Apart from the maximum payroll year usage limitations (described below) there is no penalty (loss of accrual) if PPL is not used for vacation. Because there is no such penalty, active employees may not petition to be paid for unused PPL.

Employees are encouraged to use PPL as vacation, rest and relaxation, etc. Managers must provide reasonable opportunities for usage of PPL for vacation, etc., for employees who choose to use PPL in this way and who have sufficient accruals.

Unanticipated absence from work, due to sickness, injury, or other emergency, should be communicated directly with the supervisor or designated representative normally within one hour of the employee's regularly scheduled starting time.

The AMS reserves the right to request proof of disability for any claim of sick time, but such proof is automatically required for a period of disability exceeding five consecutive working days (see the AMS Short-term Disability policy for additional information about disabilities lasting more than five days). Proof normally consists of a written statement of disability from a physician.

4. Maximum Paid Personal Leave Usage

PPL may be accrued without limitation as to the unused balance. However, there is a limit on the amount of PPL that may be used in any 52-week or 53-week payroll year (Payroll Year). The maximum amount that may be used in any Payroll Year is 50 days. ~~For purposes of the usage limitation, payment of a lump sum upon separation from employment is considered usage.~~

The usage limit for part-time employees is prorated based on their average scheduled FTE percentage during the Payroll Year.

5. Lump Sum Payment for Accumulated Paid Personal Leave Upon Separation from Employment

For the purposes of payout ~~U~~upon termination of AMS employment ~~(including retirement and approved total disability) accumulated~~a maximum of 25 days of accrued PPL will be considered "vacation time" and ~~Paid Personal Leave~~ will be paid to the employee in a lump sum at separation. ~~For the purposes of usage limitation at termination the time period will be the previous 52-week period.~~

Any remaining accrued PPL balance will be forfeited; however, an employee who works their regularly scheduled hours in the 30 days prior to their date of separation will also receive the remaining accrued PPL balance, up to a maximum of 25 days, in a lump sum at separation, provided the employee works on the final day of employment. In this case, the term "regularly scheduled hours" means an employee's scheduled hours for work and any approved hours off. To be eligible for this payment, any use of PPL totaling more than three (3) days during the 30-day period prior to separation (not including official AMS Office Closing Days) must be approved by both the department head and the division director. If an employee qualifies for the PPL lump sum payment, any use of PPL (not including official AMS Office Closing Days) that are used in the last 30 days of employment will be deducted from the remaining accrued PPL lump sum payment. Any exceptions to the provisions required for the lump sum payment of PPL must be approved by the Executive Director.

For part-time employees, lump sum payouts at separation are prorated based on their average scheduled FTE percentage during the Payroll Year in which they separate from employment.

Apart from payment upon termination of employment, there will be no payment of PPL in lieu of time off.

6. New Employee Credit

Upon hire, new employees are credited with 10 days of PPL. Weekly accrual of PPL begins with the 13th week of employment. However, if an employee separates from service before the weekly accrual begins, PPL hours available for payout at separation will be prorated based on the number of weeks worked.

7. Holiday Office Closings

AMS offices will be closed on official holidays. (Please refer to **Appendix J** for a complete list of office closings.) Although it may be possible for some employees to work on holidays, most will not. Time off for holidays must be charged against PPL if there is a sufficient balance in the employee's accrual. If there is not a sufficient balance, the employee will not be paid for the holiday.

8. Administration

Accrual rates may be converted from days to hours for administrative purposes. Employees must report PPL usage in hours. This requirement is due to the use of flextime, where the length of a day is not consistent among all employees.

The look-back period for purposes of determining compliance with the 50-day rule will be administered in terms of the Payroll Year. The Payroll Year usage will be compiled for each employee and reported to each supervisor on a weekly basis. Employees should monitor this closely in order to avoid loss of pay due to violation of the 50-day rule. Supervisors should check this report before approving any planned PPL usage (such as for vacation). However, final responsibility for monitoring this balance and compliance with the 50-day rule rests with each employee. While it is unlikely, it is possible that inadequate management of this benefit by employees could result in loss of pay for time off used for vacation, illness or holidays due to the 50-day rule.

NEW SECTIONS 4 AND 5 OF AMS PPL POLICY WITH RECOMMENDED CHANGES INCORPORATED

4. Maximum Paid Personal Leave Usage

PPL may be accrued without limitation as to the unused balance. However, there is a limit on the amount of PPL that may be used in any 52-week or 53-week payroll year (Payroll Year). The maximum amount that may be used in any Payroll Year is 50 days.

The usage limit for part-time employees is prorated based on their average scheduled FTE percentage during the Payroll Year.

5. Lump Sum Payment for Accumulated Paid Personal Leave Upon Separation from Employment

For the purposes of payout upon termination of AMS employment a maximum of 25 days of accrued PPL will be considered "vacation time" and will be paid to the employee in a lump sum at separation.

Any remaining accrued PPL balance will be forfeited; however, an employee who works their regularly scheduled hours in the 30 days prior to their date of separation will also receive the remaining accrued PPL balance, up to a maximum of 25 days, in a lump sum at separation, provided the employee works on the final day of employment. In this case, the term "regularly scheduled hours" means an employee's scheduled hours for work and any approved hours off. To be eligible for this payment, any use of PPL totaling more than three (3) days during the 30-day period prior to separation (not including official AMS Office Closing Days) must be approved by both the department head and the division director. If an employee qualifies for the PPL lump sum payment, any use of PPL (not including official AMS Office Closing Days) that are used in the last 30 days of employment will be deducted from the remaining accrued PPL lump sum payment. Any exceptions to the provisions required for the lump sum payment of PPL must be approved by the Executive Director.

For part-time employees, lump sum payouts at separation are prorated based on their average scheduled FTE percentage during the Payroll Year in which they separate from employment.

Apart from payment upon termination of employment, there will be no payment of PPL in lieu of time off.

AMERICAN MATHEMATICAL SOCIETY

To: Board of Trustees **Date**: April 22, 2013
From: Emily Riley, CFO
Subject: Operating Fund Portfolio Management Report

SUMMARY RETURNS

The purpose of this memorandum is to summarize the Society's cash management policies and report on the operating portfolio's investment income performance during 2012. There are no proposals for changes in authorized investment limits or additional investment vehicles presented.

Investment earnings results by type and in total and other pertinent portfolio information for 2012 and the preceding six years are as follows:

	2012	2011	2010	2009	2008	2007	2006
Money Market Funds	0.04%	0.05%	0.16%	1.0%	2.9%	5.0%	4.8%
Vanguard Fixed Income Mutual Funds:							
Short Term Corporate Bond Fund	4.63%	2%	5.3%	14.2%	(4.7%)	6.0%	5.1%
GNMA Fund	2.45%	7.8%	7.1%	5.4%	7.3%	7.1%	4.4%
Long Term US Treasury Fund	3.56%	29.4%	9.1%	(11.9%)	22.7%	9.4%	1.9%
Fidelity Floating Rate Fund (12/04)	6.81%	1.7%	7.8%	28.9%	(16.5%)	2.7%	6.4%
Vanguard Convertible Securities	14.47%	(6.8%)	19.2%	40.8%	(29.8%	10.6%	13.0%
TIPs (April 2005)				7.4%	(1.3%)	8.9%	0.9%
Certificates of Deposit	1%	1%	1.3%	2.7%	4.0%	5.2%	4.7%
Common Stock	11.5%	12%	3.0%	23.3%	(24.4%)	(1.4%)	22.4%
Annual total portfolio return	3.33%	2.2%	4.5%	7.1%	(0.7%)	5.8%	5.2%
AMS benchmark - Avg 6 month CD rate per Federal Reserve Bank	0.44%	0.42%	0.44%	0.8%	3.1%	5.2%	5.2%
AMS returns versus benchmark	2.89%	1.78%	3.86%	6.3%	(3.8%)	0.6%	0%
Wkly Average Operating Portfolio (in 000's)	$12,977	$13,245	$13,866	$13,858	$15,525	$15,459	$14,578
Annual Investment Income (in 000's)	$460	$270	$626	$984	($105)	$895	$757

At December 31, 2012 operating fund investments equaled $14,800,959 which is an increase of approximately $1,060,000 from the previous year. In addition to the operating portfolio investments, there was a decrease in cash available for operations of $659,000 at the end of 2012.

The return for 2012 was 3.33% for the operating investments as a whole, despite the drop in interest rates on money market funds and certificates of deposit. This 3.33% return was 2.89% over the benchmark used for the operating portfolio, the average annual 6-month CD rate per the Federal Reserve Bank. The decreasing return on the certificates of deposits and money market funds was expected for 2012. These low rates are expected to continue throughout 2013. The weekly average balance in the operating portfolio dropped in 2012 from $13,425,000 in 2011 to $12,977,000. This decrease was partially due to the fact that cash was not invested in the portfolio as quickly as in the past due to the lack of good short term investment options.

History of Authorized Investment Vehicles and Limits.

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

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

The strategy of using an intermediate portfolio has occasionally resulted in greater volatility, but overall has generated an increase in the earnings of our operating fund investments. By shifting a portion of operating fund investments into slightly riskier investment vehicles we have, on average, increased the earnings compared to those that would have been achieved in low risk, short term investments.

Recent Portfolio Adjustments.

Finding suitable banks with higher-than-average rates of returns on certificates of deposits has become increasingly difficult over the past few years. Accordingly, the certificates of deposit portfolio continues to decline and the money market funds have been used to ‘stockpile’ the funds needed to support operations for the near term. However, the money market interest continues to decline as well.

Changes in the Cash Management Environment.

The Federal Reserve has signaled that it is not ready to start raising interest rates until unemployment falls below 6.5%. Many forecasters do not believe this will occur until 2015. Higher rates will return, but not in the near future.

Cash Management at the AMS.

The following rules govern AMS's management of cash:

1. ***Availability and Liquidity***. The placement of investments in the operating portfolio is coordinated with the Society's immediate and estimated future cash requirements, which are based on actual and projected revenue and disbursement streams. Cash needs to be available at the appropriate times to cover the operating expenses of the Society as they are incurred - payroll, payroll taxes and other withholdings, and vendor liabilities comprise the bulk of our cash needs. Adequate portfolio liquidity is the ability to turn investments readily into cash without suffering undo loss of principal.

2. ***Income***. Cash in excess of immediate operating needs should be invested so as to optimize returns. The Society has intentionally accreted such excess cash, so that the ratio of current assets to current liabilities remains at least 1 to1. This ratio was 1.25 at December 31, 2012, and 1.2 as December 31, 2011.

3. ***Preservation of principal***. Safety is of prime concern in investments of operating capital. Diversifying investment vehicles and monitoring investment maturity dates and market value fluctuations greatly reduces an investment portfolio's exposure to risk. Maximum allowable positions should and have been established for different types of investments.

Authorized Investments.

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

- ***Certificates of Deposit.*** As in prior years, a large percentage of the Society's operating investment portfolio has been invested in certificates of deposit, although it has declined in recent years for the reasons discussed above. The weekly balance in certificates of deposit averaged 12% of the total portfolio during 2012, about 16% in 2011, and 28% of the portfolio in 2009.

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

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

Most often we intentionally accumulate the CD portfolio (generally for one-year terms, shorter terms are used to take advantage of rising interest rates) in order to increase the yield on the portfolio, even if slightly. However, the typical CD rates are now so low and the cash flow needs of the Society have been greater in recent years because of planned investments in plant and equipment, that accumulating the money market funds is more efficient to do.

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

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

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

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

- ***Money market funds.*** The Board of Trustees has authorized a maximum investment of 50% of the balance in the operating portfolio at any point in time. At the end of 2012 the balance in money markets was $5,760,017 or 39% of the entire portfolio, principally in Vanguard’s Money Market Prime portfolio. Yields on the funds averaged .04% in 2012, and will likely not increase significantly anytime soon. There is little risk to principal because the valuation of the initial

investment is generally not subject to change because of its short-term duration. However, given the tenuous economic situation domestically, defaults could occur. A few money market funds 'broke the buck' during the worst of the economic crisis. The US Government offered a program to ensure the valuation of money market funds at $1 per share, and large money market managers have signed on to the program. Balances in these funds are usually maintained only at levels needed for short-term operating needs in excess of short-term maturities, or for planned investments to be made in the near future (which avoids the administrative costs of 3 month CD's or T-bills), or to take advantage of rising interest rates, since they generally under-perform alternative authorized investment vehicles.

Issuer	Vanguard and Fidelity
Risk of default	Minimal
Risk of market decline	Very Low
Maximum Amount	50% of operating portfolio balance

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

Issuer	U.S. Government
Risk of default	None
Risk of market decline	None if held to maturity, otherwise value moves inversely to interest rate changes
Maximum Amount	$1,500,000
Comments	Best used just before interest rates decline

In April 2005, $500,000 of inflation-protected Treasury notes (TIPS), which pay a stated rate of interest, plus inflation over the period outstanding (by adjusting the principal), were purchased. These investments have no risk of default and no risk of market decline if held to maturity, which is what was done. In addition to the interest payment received during the five years these were held by the Society, the redemption value received upon maturity was over $575,000 in April 2010.

- ***Fixed Income (Bond) Mutual funds.*** The Board of Trustees has authorized a maximum investment of $2,500,000 in fixed income mutual funds (initial investment, exclusive of reinvested income and share price increases, with appropriate disclosure to Treasurers and Board), and at the end of 2012 we had $4,090,564 invested. The initial investment amount is well below the limit. All of these investments are with the Vanguard Group of Valley Forge, PA. A combination of three funds is used: the High Grade Short-Term Corporate Bond portfolio, the GNMA portfolio, and the Long-Term US Treasury portfolio.

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

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

Since these funds are different in nature, it is helpful to look at their characteristics separately, keeping in mind that the limit applies to the combined total.

Vanguard High Grade Short-Term Corporate Bond Fund:

Issuer (currently used)	The Vanguard Group
Risk of default	Low, due to quality of underlying debt instruments and borrowers
Risk of market decline	Low, due to short duration of underlying investments
Comments	Share price is usually relatively stable; return is determined by recent interest rates, as underlying debt is short duration
2012 return	4.6%

Vanguard GNMA Fund:

Issuer (currently used)	The Vanguard Group
Risk of default	Low – while not backed by the full faith and credit of the US government, it isn't likely that the US government would allow GNMA to default on its obligations
Risk of market decline	Medium, as duration is longer
Comments	Since the GNMA obligations are linked to collateralized mortgage obligations, and mortgage rates tend to change more slowly than other long term rates, this fund is a bit less volatile when interest rates change.
2012 return	2.5%

Vanguard Long-Term US Treasury Fund:

Issuer (currently used)	The Vanguard Group
Risk of default	Low, as most underlying securities are US government direct issues
Risk of market decline	Highly sensitive to interest rate changes, as duration of underlying securities is long-term
Comments	This fund has caused most of the volatility in the Intermediate portfolio; staff mitigates some risk by adjusting investment amount
2012 return	3.6%

- ***High Yield and Convertible Bond Mutual funds.*** The Board of Trustees has authorized a maximum investment of $2,000,000 in any combination of high yield bond and convertible securities accounts. At December 31, 2012 we had $1,634,871 invested in these vehicles, in one convertible securities mutual fund managed by the Vanguard Group. Gains or losses technically are not realized on these funds until they are redeemed, although, for financial statement purposes, the Society records these investments at market. It is not anticipated that further investments in this group of investment vehicles will be made in the near future.

Issuer (currently used)	The Vanguard Group
Risk of default	Medium to High
Risk of market decline	Sensitive to movements in the equity markets
Maximum Amount	$2,000,000
Comments	Total returns often parallel those of equity markets
2012 Return	14.5%

- ***Floating Rate Income funds.*** The Board of Trustees has authorized a maximum investment of $2,000,000 in Floating Rate funds. $1,000,000 was invested in the Fidelity Floating Rate High Income Fund in December 2004. The return for 2012 was 6.8%. Gains or losses technically are not realized on these funds until they are redeemed, although, for financial statement purposes, the Society records these investments at market.

Issuer	Fidelity
Risk of default	Low
Risk of market decline significantly	Low, possibly medium if economy falters
Maximum Amount	$2,000,000
Comments	The fund is expected to have a relatively stable NAV with yield providing most of the return
2012 Return	6.8%

Summary of Operating Portfolio Investments, December 31, 2012.

Description	Value at 12/31/12	Current Board Limit	Excess over Limit
Money Market Funds	$5,760,017	39% of total portfolio	NA
Certificates of Deposit	1,720,000	$100,000 per inst.	NA
Treasury Notes		1,500,000	NA
Vanguard Bond Funds:			
GNMA Fund	1,691,554		
Short-Term Corp Bond Fund	1,523,528		
LT US Treasury Fund	875,482		
Subtotal	4,090,564	2,500,000 (1)	NA
High Yield and Convertible Funds:			
Vanguard Convertible			
Subtotal	1,634,871	2,000,000	NA
Floating Rate Funds:			
Fidelity Floating Rate High Inc			
Subtotal	1,579,334	2,000,000	NA
Common Stock	16,173	Unrestricted gifts	
Total	$14,800,959		

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

Financial Statements

American Mathematical Society

December 31, 2012 and 2011

MHM
Mayer Hoffman McCann P.C.
An Independent CPA Firm
Tofias New England Division

AMERICAN MATHEMATICAL SOCIETY

Financial Statements

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Financial Statements:

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Tel: 401.626.3205 Fax: 401.626.3201
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Independent Auditors' Report

The Board of Trustees
American Mathematical Society
Providence, Rhode Island

We have audited the accompanying financial statements of American Mathematical Society (the "Society"), which comprise the balance sheets as of December 31, 2012 and 2011, and the related statements of activities and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

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

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of American Mathematical Society as of December 31, 2012 and 2011, and the changes in its net assets and their cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

May 17, 2013
Providence, Rhode Island

AMERICAN MATHEMATICAL SOCIETY

Balance Sheets

	December 31,	
	2012	***2011***
Assets		
Cash and cash equivalents	$ 1,094,226	$ 1,753,474
Certificates of deposit	1,520,000	2,064,000
Short-term investments	13,255,356	11,675,319
Accounts receivable, net of sales returns and allowances of $338,805 and $344,066 in 2012 and 2011, respectively	912,349	470,880
Deferred prepublication costs	728,923	765,162
Completed books	1,384,432	1,453,931
Prepaid expenses and deposits	1,614,823	1,677,164
Land, buildings and equipment, net	5,367,801	4,828,711
Long-term investments	93,748,205	81,186,072
Total assets	**$ 119,626,115**	**$ 105,874,713**
Liabilities and Net Assets		
Liabilities:		
Accounts payable and accrued expenses	$ 3,260,488	$ 3,128,240
Accrued study leave pay	803,202	741,400
Deferred revenue	12,376,468	12,515,534
Postretirement benefit obligation	6,656,993	5,994,557
Total liabilities	**23,097,151**	**22,379,731**
Net assets:		
Unrestricted:		
Undesignated	2,261,743	1,739,112
Designated	82,388,405	71,018,071
	84,650,148	72,757,183
Temporarily restricted	6,782,825	5,753,285
Permanently restricted	5,095,991	4,984,514
Total net assets	**96,528,964**	**83,494,982**
Total liabilities and net assets	**$ 119,626,115**	**$ 105,874,713**

See accompanying notes to financial statements.

AMERICAN MATHEMATICAL SOCIETY

Statements of Activities

	Years Ended December 31,	
	2012	***2011***
Changes in unrestricted net assets:		
Operating revenue, including net assets released from restrictions:		
Mathematical Reviews	$ 11,087,637	$ 10,735,499
Journals	4,829,242	4,822,189
Books	4,023,584	3,982,668
Dues, services, and outreach	3,696,895	3,688,175
Investment returns appropriated for spending	1,772,400	1,674,100
Other publications-related revenue	419,591	450,928
Grants, prizes and awards	1,171,264	1,083,719
Meetings	1,229,138	1,034,109
Short-term investment income	460,062	270,132
Other	54,202	47,853
Total operating revenue	**28,744,015**	**27,789,372**
Operating expenses:		
Mathematical Reviews	7,055,203	6,807,854
Journals	1,426,643	1,421,642
Books	3,421,212	3,395,094
Publications indirect	1,138,659	1,062,353
Customer services, warehousing and distribution	1,227,921	1,313,110
Other publications-related expense	204,347	192,610
Membership, services and outreach	3,727,374	3,842,817
Grants, prizes and awards	1,329,423	1,300,955
Meetings	1,130,959	950,212
Governance	472,553	432,498
Member and professional services indirect	704,489	714,527
General and administrative	4,364,657	3,593,104
Other	83,619	60,302
Total operating expenses	**26,287,059**	**25,087,078**
Excess of operating revenue over operating expenses	**2,456,956**	**2,702,294**
Investment returns less investment returns appropriated for spending	9,227,195	(1,874,771)
Effect of capitalization of labor for in house software development	667,014	-
Postretirement benefit-related changes other than net periodic cost	(458,200)	(1,102,350)
Change in unrestricted net assets	11,892,965	(274,827)

See accompanying notes to financial statements.

AMERICAN MATHEMATICAL SOCIETY

Statements of Activities (Continued)

	Years Ended December 31,	
	2012	***2011***
Changes in temporarily restricted net assets:		
Contributions	$ 79,860	$ 172,731
Investment returns less investment returns appropriated for spending	1,562,538	(19,603)
Net assets released from restrictions	(612,858)	(607,763)
Change in temporarily restricted net assets	1,029,540	(454,635)
Change in permanently restricted net assets:		
Contributions	111,477	117,390
Change in permanently restricted net assets	111,477	117,390
Change in net assets	**13,033,982**	**(612,072)**
Net assets, beginning of year	83,494,982	84,107,054
Net assets, end of year	**$ 96,528,964**	**$ 83,494,982**

See accompanying notes to financial statements.

AMERICAN MATHEMATICAL SOCIETY

Statements of Cash Flows

	Years Ended December 31,	
	2012	***2011***
Cash flows from operating activities:		
Change in net assets	$ 13,033,982	$ (612,072)
Adjustments to reconcile change in net assets to net cash and cash equivalents provided by operating activities:		
Depreciation	612,631	633,395
Net realized and unrealized losses (gains) on long-term investments	(9,680,510)	2,229,723
Contributions restricted for permanent investment	(111,477)	(117,390)
Loss on disposal of land, buildings and equipment	4,140	-
Changes in assets and liabilities:		
Accounts receivable, net	(441,469)	382,374
Deferred prepublication costs	36,239	(132,592)
Completed books	69,499	(125,855)
Prepaid expenses and deposits	62,341	(420,252)
Accounts payable, accrued expenses and accrued study leave pay	194,050	79,524
Deferred revenue	(139,066)	(307,354)
Postretirement benefit obligation	662,436	1,224,093
Net cash and cash equivalents provided by operating activities	**4,302,796**	**2,833,594**
Cash flows from investing activities:		
Purchases and sales of short-term investments, net	(1,580,037)	2,131,922
Purchases and redemptions of certificates of deposit, net	544,000	26,000
Purchases of property and equipment	(1,155,861)	(430,220)
Sales of long-term investments	-	32,826,762
Purchases of long-term investments	(2,881,623)	(36,836,211)
Net cash and cash equivalents used in investing activities	**(5,073,521)**	**(2,281,747)**
Cash flows from financing activities:		
Contributions restricted for permanent investment	111,477	117,390
Net cash and cash equivalents provided by financing activities	**111,477**	**117,390**
Net increase (decrease) in cash and cash equivalents	**(659,248)**	**669,237**
Cash and cash equivalents at beginning of year	1,753,474	1,084,237
Cash and cash equivalents at end of year	**$ 1,094,226**	**$ 1,753,474**

See accompanying notes to financial statements.

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

Note 1 - Description of Business and Summary of Significant Accounting Policies

Description of Organization

The American Mathematical Society (the "Society") was created in 1888 to further mathematical research and scholarship. It is an international membership organization, currently with over 30,000 members. The Society fulfills its mission with publications and professional programs that promote mathematical research, increase the awareness of the value of mathematical research to society and foster excellence in mathematics education.

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

Basis of Financial Statement Presentation

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

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

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

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

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

Estimates

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

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

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

Operations

The Society defines operating income as the net increase in unrestricted net assets derived from the activities related to the accomplishment of its mission, such as publications, programs, meetings and conferences, and member services. Investments appropriated for spending by the Board of Trustees are also presented as operating revenue. Investment returns less amounts appropriated for spending and the effect of capitalization of labor for in house software development are presented as a non-operating item. In addition, the Society reports its gains and losses on its postretirement benefit obligation other than net periodic cost as non-operating.

Contributions, Gifts and Pledges Receivable

Contributions received are recorded as unrestricted, temporarily restricted, or permanently restricted support depending on the existence and nature of any donor restrictions. Contributions may include actual gifts or promises to give. Such contributions are considered to be available for unrestricted use unless specifically restricted by the donor or grantor. Contributions and promises to give are recorded at their fair value on the date of the gift. The fair value of promises to give are considered a non-recurring fair value measure. Restricted gifts or promises to give are required to be reported as restricted support in the period received and are then reclassified to unrestricted net assets upon satisfaction of the donor restriction. Restrictions on contributions related to the acquisition of long-lived assets are considered satisfied at the time the asset is acquired.

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

Cash and Cash Equivalents

Cash and cash equivalents are comprised of bank accounts, money market funds, and petty cash. The Society considers as cash equivalents highly liquid investments with maturities at date of purchase of three months or less. The Society maintains its cash in bank deposit accounts which, at times, may exceed federally insured limits. The Society monitors its exposure associated with cash in bank deposits and has not experienced any losses in such accounts.

Certificates of Deposit

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

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

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

Short-Term and Long-Term Investments

Both short-term and long-term investments are carried at fair value. Fair value is determined as per the fair value policies described later in this section.

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

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

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

Fair Value Measurements

The Society reports investments at fair value on a recurring basis. Fair value standards require an entity to maximize the use of observable inputs (such as quoted prices in active markets) and minimize the use of unobservable inputs (such as appraisals or valuation techniques) to determine fair value. Fair value standards also require the Society to classify these financial instruments into a three-level hierarchy, based on the priority of inputs to the valuation technique.

Instruments measured and reported at fair value are classified and disclosed in one of the following categories:

Level 1 - Quoted prices are available in active markets for identical instruments as of the reporting date. Instruments which are generally included in this category include listed equity and debt securities publicly traded on a stock exchange.

Level 2 - Pricing inputs are not quoted prices in active markets, which are either directly or indirectly observable as of the reporting date, and fair value is determined through the use of models or other valuation methodologies.

Level 3 - Pricing inputs are unobservable for the instrument and include situations where there is little, if any, market activity for the instrument. The inputs into the determination of fair value require significant management judgment or estimation.

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

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

Fair Value Measurements (Continued)

In some instances, the inputs used to measure fair value may fall into different levels of the fair value hierarchy and are based on the lowest level of input that is significant to the fair value measurement.

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

Deferred Prepublication Costs

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

Completed Books

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

Land, Buildings, Equipment and Accumulated Depreciation

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

Asset Classifications	*Estimated Useful Life*
Land improvements	10 - 20 years
Building and improvements	10 - 35 years
Furniture, equipment, and software	3 - 10 years
Transportation equipment	3 - 15 years

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

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

Land, Buildings, Equipment and Accumulated Depreciation (Continued)

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

The Society incurred approximately $5,000 and $27,000 in costs for digitization of its backfile of books during the years ended December 31, 2012 and 2011, respectively. The "backfile" consists of books that have been published prior to the last two years. This digitization of the books that existed only in printed form prior to this project will continue through the year 2013. Although the digitization of the backfile does have value to the Society, as electronic products derived from the digitization project may be sold in the future, the value is not estimable. Therefore, the costs for digitization are expensed as incurred.

Revenue Recognition and Deferred Revenue

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

Books and journals revenue is recorded upon shipment, less an estimate for returns.

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

Grant income from government funded arrangements is recorded as income as costs are incurred under the related arrangement. Accounting for grant income from other sources is evaluated with certain grants being recorded as revenue as related costs are incurred.

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

Service Fees

The Society provides various supporting services to other unaffiliated organizations for a service fee. Certain transactions flow through the Society's financial accounts; however, revenues and expenses of such organizations are not included in the financial statements of the Society.

Income Tax Status

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

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

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

Uncertain Tax Positions

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

Functional Expense Allocation

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

Fundraising costs for the years ended December 31, 2012 and 2011 were $194,316 and $76,993, respectively, and are included within membership, services and outreach in the statements of activities.

Reclassifications

Certain reclassifications have been made to the 2011 financial statements to conform with the 2012 presentation.

Note 2 - Land, Buildings and Equipment, Net

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

	2012	***2011***
Land and improvements	$ 462,978	$ 462,978
Buildings and improvements	7,445,532	7,422,021
Furniture, equipment and software	4,585,372	5,140,199
Transportation equipment	65,625	62,384
Software in progress	1,553,159	745,105
	14,112,666	13,832,687
Less accumulated depreciation	(8,744,865)	(9,003,976)
	$ 5,367,801	**$ 4,828,711**

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

Note 3 - Investments

The following table summarizes the Society's investments as of December 31, 2012 and 2011, as well as related strategy:

	2012	***2011***
Certificates of deposit	$ 1,520,000	$ 2,064,000
Fixed income mutual funds	5,669,899	5,301,910
Convertible securities mutual fund	1,634,871	1,428,241
Domestic corporate stock	16,335	14,329
Money market mutual funds	5,934,251	4,930,839
Total short-term investments	13,255,356	11,675,319
Certificates of deposit	155,921	154,939
Fixed income mutual funds	17,697,344	16,036,262
Equity mutual funds:		
Broad U.S. market stock mutual fund	57,986,777	49,808,663
Domestic real estate investment trusts	5,921,299	5,076,568
Non U.S. developed and emerging markets stock mutual fund	11,986,864	10,109,640
Total long-term investments	93,748,205	81,186,072
Total investments	**$ 108,523,561**	**$ 94,925,391**

Short-term and long-term investments, with the exception of certificates of deposit, are classified as Level 1 in the fair value hierarchy because of the Society's ability to obtain quoted prices at the reporting date and redeem its interest on a daily basis.

The Society's long-term investments are segregated into five separate portfolios (including mutual funds), each with its own investment manager and investment objective. The overall investment strategy is determined by the Investment Committee of the Board of Trustees and is approved by the Board of Trustees annually. The primary investment objective of the long-term investment portfolio is an average real total return (net of investment fees and the effects of consumer inflation) of at least 5% over the long term. To achieve this result, the investment portfolio is allocated approximately 75% to equity investments and 25% to fixed income investments. The equity investments are further diversified into domestic, international, and real estate holdings. Additionally, the entire portfolio is diversified across economic sectors, geographic locations, industries, and size of investees.

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

Note 3 - Investments (Continued)

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

	2012	***2011***
Dividends and interest, net of management fees	$ 2,881,623	$ 2,009,449
Net realized and unrealized gains (losses)	9,680,510	(2,229,723)
Investment returns (losses)	12,562,133	(220,274)
Less investment returns classified as temporarily restricted	(1,562,538)	19,603
Less investment appropriated for spending:		
Spendable income from Operations Support Fund	(1,744,100)	(1,645,100)
Spendable income from Young Scholars Fund	(28,300)	(29,000)
Sub-total	(1,772,400)	(1,674,100)
Investment returns (losses) less investment returns appropriated for spending	**$ 9,227,195**	**$ (1,874,771)**

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

Under certain unusual circumstances, mutual funds may alter redemption provisions of their investment vehicles which could impact the liquidity of funds. No such changes to redemption provisions have occurred in 2012 or 2011, respectively.

Management has assessed that fair value approximates carrying value for cash and cash equivalents, certificates of deposit, accounts receivable and accounts payable and accrued expenses given the short-term nature of these instruments.

Note 4 - Endowments

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

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

Note 4 - Endowments (Continued)

Net assets comprising true endowment funds and funds designated by the Board of Trustees to function as endowments were as follows at December 31:

	Unrestricted	*Temporarily Restricted*	*Permanently Restricted*	*Total*
2012				
Donor-restricted endowment funds	$ -	$ 6,107,887	$ 5,095,991	$ 11,203,878
Board-designated endowment funds	82,388,405	-	-	82,388,405
Total endowment net assets	**$ 82,388,405**	**$ 6,107,887**	**$ 5,095,991**	**$ 93,592,283**
2011				
Donor-restricted endowment funds	$ (13,113)	$ 5,016,083	$ 4,984,514	$ 9,987,484
Board-designated endowment funds	71,018,071	-	-	71,018,071
Total endowment net assets	**$ 71,004,958**	**$ 5,016,083**	**$ 4,984,514**	**$ 81,005,555**

The following table summarizes the changes in endowment net assets for the year ended December 31, 2012:

	Unrestricted	*Temporarily Restricted*	*Permanently Restricted*	*Total*
Endowment net assets, January 1, 2012	$ 71,004,958	$ 5,016,083	$ 4,984,514	$ 81,005,555
Donor-restricted contributions	-	-	111,477	111,477
Investment income	11,013,499	1,547,004	-	12,560,503
Release of endowment net asset restrictions	(1,772,400)	(455,200)	-	(2,227,600)
Additions from operations	2,142,348	-	-	2,142,348
Endowment net assets, December 31, 2012	**$ 82,388,405**	**$ 6,107,887**	**$ 5,095,991**	**$ 93,592,283**

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

Note 4 - Endowments (Continued)

The following table summarizes the changes in endowment net assets for the year ended December 31, 2011:

	Unrestricted	*Temporarily Restricted*	*Permanently Restricted*	*Total*
Endowment net assets, January 1, 2011	$ 68,885,038	$ 5,501,573	$ 4,867,124	$ 79,253,735
Donor-restricted contributions	-	-	117,390	117,390
Investment income	(200,670)	(21,390)	-	(222,060)
Release of endowment net asset restrictions	(1,674,100)	(464,100)	-	(2,138,200)
Additions from operations	3,994,690	-	-	3,994,690
Endowment net assets, December 31, 2011	**$ 71,004,958**	**$ 5,016,083**	**$ 4,984,514**	**$ 81,005,555**

Interpretation of Relevant Law

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

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

Funds with Deficiencies

From time to time, the fair value of assets associated with individual donor-restricted endowment funds may fall below the level that the donor or the Act requires the Society to retain as a fund of perpetual duration. Deficiencies of this nature were funded by operations and amounted to $13,113 as of December 31, 2011. In 2012, gains due to the recovery in the financial markets restored $13,113 of the fair value of the assets of affected endowment funds to their required level and have been classified as an increase in unrestricted net assets.

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

Note 4 - Endowments (Continued)

Return Objectives and Risk Parameters

The Society has adopted investment and spending policies for endowment assets that attempt to provide a predictable stream of funding to programs supported by its endowment while seeking to maintain the purchasing power of the endowment assets. Endowment assets include those assets of donor-restricted funds that the Society must hold in perpetuity or for a donor-specified period as well as board-designated funds. Under this policy, as approved by the Board of Trustees, the endowment assets are invested in a manner that is intended to produce an average annual real rate of return of approximately 5% over the long term. Actual returns in any given year may vary from this amount.

Strategies Employed for Achieving Objectives

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

Spending Policy and How the Investment Objectives Relate to Spending Policy

The Society has a policy of appropriating for distribution each year 5% of its true endowment funds' average fair value using an average determined prior to the beginning of the fiscal year of which the spending policy relates based on the prior four fiscal year end balances. The Board-Designated Operations Support Fund's spending is calculated the same way. In establishing these policies, the Society considered the expected return on its endowment. Accordingly, the Society expects the current spending policy to allow its endowment to maintain its purchasing power by growing at a rate, on average over time, equal to planned payouts. Additional real growth will be provided through new gifts and any excess investment return.

Note 5 - Accrued Study Leave Pay

Certain employees of the Society receive vested rights to study leave pay based upon salary and years of service. The Society provides for this obligation over the related years of the employees' service. The provision for the study leave pay charged to expense totaled $127,734 and $66,606 in 2012 and 2011, respectively.

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

Note 6 - Pension and Postretirement Benefits

The Society has contributory retirement plans (the "Plans") covering substantially all full-time employees. The Plans are administered by, and related assets are maintained with, Teachers Insurance and Annuity Association and College Retirement Equities Fund. Under the Plans, the Society contributes 9.5% of eligible compensation (with higher amounts for employees earning in excess of the social security second bend point). The Society's retirement expenses for the Plans totaled approximately $1,247,537 and $1,244,819 in 2012 and 2011, respectively. In addition, the Society offers an employee only plan which allows for additional contributions upon election of said employee.

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

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

Net postretirement benefit cost for the years ended December 31, 2012 and 2011 consisted of the following components:

	2012	***2011***
Service cost	$ 148,782	$ 118,412
Interest cost	260,784	265,066
Amortization of prior service cost, pre-2007 amendment	1,722	1,722
Amortization of prior service credit, post-2007 amendment	(247,980)	(247,980)
Amortization of net experience losses	163,900	89,100
Net postretirement benefit cost	**$ 327,208**	**$ 226,320**

The prior service cost (credit) and net loss (gain) expected to be recognized as components of net periodic postretirement benefit cost for the year ending December 31, 2013 are approximately $246,258 and $198,300, respectively.

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

Note 6 - Pension and Postretirement Benefits (Continued)

The following table reconciles the plan's funded status with the amounts presented in the Society's financial statements at December 31, 2012 and 2011:

		2012		***2011***
Projected postretirement benefit obligation, beginning of the year (and funded status)	$	5,994,557	$	4,770,464
Service and interest cost for the year		409,566		383,478
Benefits paid		(157,185)		(104,412)
Actuarial (gain) loss recognized in the year incurred		410,055		945,027
Projected postretirement benefit obligation, end of year	**$**	**6,656,993**	**$**	**5,994,557**
Net liability recognized in the balance sheet	$	6,656,993	$	5,994,557

The following table presents additional information relating to the plan for the years ended December 31, 2012 and 2011:

Discount rate	3.8% (2012)	4.3% (2011)
Healthcare cost trend rate assumed for next year		Not applicable
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)		Not applicable
Year that the rate reaches the ultimate trend rate		Not applicable

The expected future benefit payments under plan provisions for the next ten years are as follows:

Years ending December 31:		
2013	$	239,809
2014		261,976
2015		286,158
2016		310,340
2017		313,363
2018 - 2022		1,844,913

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

Note 7 - Designated Unrestricted Net Assets

The Board of Trustees of the Society has designated components of unrestricted net assets to support certain purposes. All such designated funds within unrestricted net assets are supported by the unrestricted portion of the long-term investment portfolio. The Economic Stabilization Fund is designated to provide support for the Society in future years should an unexpected need arise. The Operations Support Fund is designated to provide current operating support to the Society via use of a 5% spending rate applied to the average of the prior four-year ending values of the fund. The Journal Archive Fund is designated to accumulate funds to support changes that may be necessary for electronic files to be available for future use due to as-yet-unforeseen technological changes. The Young Scholars Fund was created by the Board of Trustees in 2000 to augment the funds in Epsilon Fund for Young Scholars, a true endowment fund that supports programs for high school mathematics students. At year end in 2012, the Board of Trustees created the Backfile Digitization Fund, expected to be used in 2013 for the digitization of the Society's backfile collection of more than 3,000 published books. In addition, the Endowment Income Stabilization Fund was established to supplement the endowment spendable income when the income does not meet a fund's established goals. In 2013, the spending rate and expected real rate of return will be adjusted to 4% due to long-term market conditions, creating a need for the Stabilization Fund.

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

	2012	***2011***
Economic Stabilization Fund	$ 25,888,951	$ 24,430,891
Operations Support Fund	53,806,003	45,052,391
Backfile Digitization Fund	400,000	-
Endowment Income Stabilization Fund	500,000	-
Journal Archive Fund	1,113,204	920,784
Young Scholars Fund	680,247	614,005
Total	**$ 82,388,405**	**$ 71,018,071**

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

Note 8 - Temporarily Restricted Net Assets

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

		2012		***2011***
Restricted purpose:				
Prizes and scholarships	$	273,529	$	265,089
Lectures and symposia		67,043		55,786
Fellowships		13,815		53,396
Epsilon awards		111,626		109,904
Book/Journal donation project		5,011		10,493
Graduate student travel program		35,281		132,681
National Mathematics Game		2,150		-
Other miscellaneous		32,507		12,481
Unspent spendable income from unrestricted use true endowment funds		133,976		97,372
Accumulated gains on true endowment gifts		6,107,887		5,016,083
Total	**$**	**6,782,825**	**$**	**5,753,285**

Net Assets Released from Restrictions

Net assets released from temporary donor restrictions by incurring expenses satisfying the restricted purposes or by occurrence of events specified by the donors were as follows for the years ended December 31:

		2012		***2011***
Restricted purpose:				
Prizes and scholarships	$	92,870	$	83,878
Lectures and symposia		6,800		46,991
Fellowships		83,109		86,900
Epsilon awards		71,700		71,000
Book/Journal donation project		5,482		-
Graduate student travel program		97,400		69,010
National Mathematics Game		21,000		23,661
Other miscellaneous		10,801		22,213
Releases from unrestricted use true endowment funds		223,696		204,110
Total	**$**	**612,858**	**$**	**607,763**

AMERICAN MATHEMATICAL SOCIETY

Notes to Financial Statements

Note 9 - Permanently Restricted Net Assets

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

These endowments consisted of the following at December 31:

	2012	*2011*
Endowment without donor designation on use of income	$ 1,565,211	$ 1,565,211
Endowment with donor designation on use of income:		
Prizes	878,157	878,157
Scholarships and fellowships	252,130	252,130
Symposia and lectures	280,000	270,000
China collaboration	366,757	366,757
Epsilon Fund for Young Scholars	1,753,736	1,652,259
	$ 5,095,991	**$ 4,984,514**

Note 10 - Leases

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

Note 11 - Customer Concentrations

For the year ended December 31, 2012, two customers comprised approximately 35% of the Society's accounts receivable. For the year ended December 31, 2011, three customers comprised approximately 46% of the Society's accounts receivable.

Note 12 - Subsequent Events

The Society has evaluated subsequent events through May 17, 2013, the date on which the financial statements were available to be issued. There were no subsequent events to be disclosed based on this evaluation.