

**AMERICAN MATHEMATICAL SOCIETY  
EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES MEETING  
MAY 15-16, 2015**

**MINUTES**

**TABLE OF CONTENTS –PAGE 1 OF 3**

<b>0</b>	<b>CALL TO ORDER AND ANNOUNCEMENTS .....</b>	<b>PAGE</b>
----------	--	-------------

- 0.1 Opening of the Meeting and Introductions .....2
- 0.2 Housekeeping Matters .....2

<b>1I</b>	<b>EXECUTIVE COMMITTEE INFORMATION ITEMS .....</b>	<b>PAGE</b>
-----------	--	-------------

- 1I.1 Colloquium Lecturer .....2
- 1I.2 Gibbs Lecturer .....2
- 1I.3 Secretariat Business by Mail. **Att. #1** .....2

<b>2</b>	<b>EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES ACTION/DISCUSSION ITEMS .....</b>	<b>PAGE</b>
----------	--	-------------

- 2.1 Report on Committee on Meetings and Conferences (COMC). **Att. #2** .....2
- 2.2 Report on Committee on Science Policy (CSP). **Att. #25** .....3
- 2.3 Report on Mathematical Reviews Editorial Committee (MREC) .....3
- 2.4 Report on Committee on Publications (CPub).....3
- 2.5 Report on Committee on the Profession (CoProf) .....3
- 2.6 Report on Committee on Education (COE) .....4
- 2.7 Washington Office Report. **Att. #3** .....4
- 2.8 Report on Long Range Planning Committee (LRPC) .....4
- 2.9 2016 Journal Pages and Prices .....4
- 2.10 2016 Individual Member Dues .....5
- 2.11 2016 Institutional Member Dues .....5
- 2.12 Report on Petitions for Student Chapters. **Att. #4** .....6
- 2.13 Stipend and Expense Allowance for Centennial Fellowship .....6
- 2.14 Approval of Proposals Submitted to Funding Agencies and Foundations .....6
- 2.15 2016 ABC and ECBT Meetings .....6

<b>2C</b>	<b>EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES CONSENT ITEMS .....</b>	<b>PAGE</b>
-----------	--	-------------

- 2C.1 November 2014 ECBT Meeting .....7
- 2C.2 EMS 25<sup>th</sup> Anniversary .....7

**AMERICAN MATHEMATICAL SOCIETY  
EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES MEETING  
MAY 15-16, 2015**

**MINUTES**

**TABLE OF CONTENTS –PAGE 2 OF 3**

<b>2I</b>	<b>EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES INFORMATION ITEMS.....</b>	<b>PAGE</b>
-----------	---	-------------

2I.1	State of the AMS.....	8
2I.2	Changes in Registration Fees for Conferences, Employment Center, MathJobs and Short Course. <b>Att. #12</b> .....	8
2I.3	AMS Presence at the Annual Meeting of SACNAS. <b>Att. #13</b> .....	8
2I.4	Report on Awards from the Epsilon Fund for Young Scholars Program. <b>Att. #14</b> ..	8
2I.5	Report on AAAS Meeting. <b>Att. #15</b> .....	9
2I.6	2015-2016 AMS Centennial Fellowship .....	9
2I.7	AAAS-AMS Mass Media Fellowship .....	9
2I.8	Congressional Fellow.....	9
2I.9	Transforming Post-Secondary Education In Mathematics .....	9
2I.10	Report on Use of Funds Collected for FIMU on AMS Membership Renewal Form. <b>Att. #16</b> .....	10

<b>3</b>	<b>BOARD OF TRUSTEES ACTION/DISCUSSION ITEMS.....</b>	<b>PAGE</b>
----------	---	-------------

3.0	Meeting with Auditors. <b>Att. #28</b> .....	11
3.1	Financial Review .....	11
3.1.1	Discussion of Fiscal Reports.....	11
3.1.2	Capital Expenditures – 2014 and 2015 Capital Purchase Plans .....	11
3.1.3	Capital Expenditures - Approval of Specific Purchases .....	12
3.2	Spendable Income, Operations Support Fund and Other Related Items. <b>Att. #17</b> ...	12
3.2.1	Addition to Operations Support Fund (OSF).....	12
3.2.2	Rebalancing of Economic Stabilization and Operations Support Funds .....	13
3.2.3	Allocation of Operations Support Fund (OSF) Spendable Income .....	13
3.2.4	Appropriation of Spendable Income from Unrestricted Endowment .....	13
3.2.5	Report on Changes in Appropriated Spendable Income and Use of EISF Funds ....	14
3.3	Investment Committee .....	14
3.4	Cash Management and the Operating Portfolio. <b>Att. #18</b> .....	14
3.5	Meeting of the Mathematical Reviews Corporation .....	15

<b>3C</b>	<b>BOARD OF TRUSTEES CONSENT ITEMS.....</b>	<b>PAGE</b>
-----------	---	-------------

3C.1	November 2014 BT Closed Executive Session Meeting.....	15
3C.2	Guidelines for the Appeals for Discounted Subscriptions.....	15
3C.3	Resolutions for Retirees .....	16

**AMERICAN MATHEMATICAL SOCIETY  
EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES MEETING  
MAY 15-16, 2015**

**MINUTES**

**TABLE OF CONTENTS –PAGE 3 OF 3**

<b>3I</b>	<b>BOARD OF TRUSTEES INFORMATION ITEMS.....</b>	<b>PAGE</b>
-----------	---	-------------

3I.1	Status of AMS Self-insurance for Health Plan .....	16
3I.2	Change in Fringe Benefits .....	17

<b>ATTACHMENTS.....</b>		<b>ITEM</b>
-------------------------	--	-------------

1	Secretariat Business by Mail.....	1I.3
2	Report on Committee on Meetings and Conferences (COMC).....	2.1
3	Washington Office Report .....	2.7
4	Report on Petitions for Student Chapters.....	2.12
12	Changes in Registration Fees for Conferences, Employment Center, MathJobs and Short Course.....	2I.2
13	AMS Presence at the Annual Meeting of SACNAS.....	2I.3
14	Report on Awards from the Epsilon Fund for Young Scholars Program .....	2I.4
15	Report on AAAS Meeting .....	2I.5
16	Report on Use of Funds Collected for FIMU on AMS Membership Renewal Form.....	2I.10
17	Spendable Income, Operations Support Fund, and other Related Items .....	3.2
18	Cash Management and the Operating Portfolio.....	3.4
21	Approval of Proposals Submitted to Funding Agencies and Foundations .....	2.14
25	Report on Committee on Science Policy (CSP) .....	2.2
28	Meeting with Auditors (2014 Audited Financial Statements) .....	3.3



**AMERICAN MATHEMATICAL SOCIETY  
EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES MEETING  
MAY 15-16, 2015**

**MINUTES**

A joint meeting of the Executive Committee of the Council (EC) and the Board of Trustees (BT) was held Friday-Saturday, May 15-16, 2015, at the Campus Inn Hotel in Ann Arbor, Michigan.

All members of the EC were present: H el ene Barcelo, Robert L. Bryant, Jes us A. De Loera, Tara S. Holm, Kenneth A. Ribet, Carla D. Savage, and David A. Vogan, Jr. A quorum (four members) was present.

The following members of the BT were present: Robert L. Bryant, Ruth M. Charney, Jane M. Hawkins, William H. Jaco, Robert K. Lazarsfeld, Joseph H. Silverman, and Zbigniew H. Nitecki. Karen Vogtmann was unable to attend the meeting in person, but attended some portions via Skype. A quorum (six members) was present.

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

Jay Younger, Managing Partner & Chief Consultant of the consulting firm McKinley Advisors, was present on Friday, May 15, from 5:00-6:00 PM.

Michael Burns, Managing Director/Shareholder of the auditing firm CBIZ Tofias and Mayer Hoffman McCann P.C., was present for the discussion of item 3.0 on Saturday, May 16, from 2:00-3:00 PM.

President Robert Bryant presided over the EC and ECBT portions of the meeting (items beginning with 0, 1, or 2). Board Chair Ruth Charney 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.

<b>0</b>	<b>CALL TO ORDER AND ANNOUNCEMENTS</b>
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**0.1**    **Opening of the Meeting and Introductions.**

President Bryant 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.

<b>1I</b>	<b>EXECUTIVE COMMITTEE INFORMATION ITEMS</b>
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**1I.1**    **Colloquium Lecturer.**

The EC supported the recommendation of the Colloquium Lecturer Committee to invite Timothy Gowers (University of Cambridge) to deliver the Colloquium Lectures at the 2016 Annual Meeting in Seattle. Gowers has accepted the invitation.

**1I.2**    **Gibbs Lecturer.**

The EC supported the Gibbs Lecturer Committee in its selection of Daniel Spielman (Yale University) to deliver the Gibbs Lecture at the 2016 Annual Meeting in Seattle. Spielman was scheduled to give the 2015 Gibbs Lecture but could not deliver it due to illness.

**1I.3**    **Secretariat Business by Mail. Att. #1.**

Minutes of Secretariat business by mail during the months November 2014 – May 2015 are attached (**#1**).

<b>2</b>	<b>EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES ACTION/DISCUSSION ITEMS</b>
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**2.1**    **Report on Committee on Meetings and Conferences (COMC). Att. #2.**

The ECBT received the attached report on the March 21, 2015 COMC meeting (**Att. #2**), which was presented by Associate Executive Director Stevens. Graham Leuschke, Syracuse University, is the 2015 COMC Chair.

**2.2 Report on Committee on Science Policy (CSP). Att. #25.**

The ECBT received the attached report on the April 14-15, 2015 CSP meeting (Att. #25), which was presented by Associate Executive Director Rankin. Ken Ribet, University of California-Berkeley, is the 2015 CSP Chair.

**2.3 Report on Mathematical Reviews Editorial Committee (MREC).**

The ECBT was informed by Executive Editor Dunne that the 2014 MREC annual meeting was held on October 13, 2014. Reports on this meeting were provided at the November 2014 ECBT and the January 2015 Council meetings. The next MREC meeting is October 12, 2015 in Ann Arbor.

**2.4 Report on Committee on Publications (CPub).**

The ECBT was informed by Publisher Gelfand that the 2014 CPub annual meeting was held September 12-13, 2014. Reports on this meeting were provided at the November 2014 ECBT and January 2015 Council meetings. The January 2015 Council approved the following CPub recommendations:

- Updates to the charges of the [History of Mathematics Editorial Committee](#) and [Mathematical Surveys and Monographs Editorial Committee](#); and
- Consolidation of the three translation editorial committees into a new committee, the Translations of Mathematical Monographs Editorial Committee.

CPub's 2014 Annual Report and 2015 committee membership are available on the CPub web page: <http://www.ams.org/ams/cpub-home.html>. Professor Charles Weibel, Rutgers University, serves as CPub chair for a second term, for the period February 1, 2015 – January 31, 2016.

The next CPub meeting will be on Friday and Saturday, September 18-19, 2015, at the Chicago Hilton O'Hare Airport Hotel. In accordance with CPub's annual review schedule, an evaluation of all non-primary AMS journals (electronic-only, translation, and distributed journals) will be conducted in 2015.

**2.5 Report on Committee on the Profession (CoProf).**

The ECBT was informed by Associate Executive Director Stevens that CoProf held its last meeting on September 13-14, 2014. A report of that meeting is included in the November 2014 ECBT minutes. The 2014 Annual Report of CoProf has been filed with the Council and is posted at [www.ams.org/about-us/governance/committees/CoProf2014RepCouncil.pdf](http://www.ams.org/about-us/governance/committees/CoProf2014RepCouncil.pdf).

The next CoProf meeting is scheduled for September 19-20, 2015, at the Hilton Chicago O'Hare Airport Hotel. The Chair of CoProf for February 1, 2015-January 31, 2016 is Allan Greenleaf of the University of Rochester. For its annual review in 2015, CoProf chose the issue

of identifying appropriate venues for presenting AMS prizes (such as the possibility of presenting some prizes at sectional meetings).

## **2.6 Report on Committee on Education (COE).**

The ECBT was informed by Associate Executive Director Rankin that the next COE meeting will be held October 29-31, 2015 in Washington, DC. Tara Holm (Cornell University) chairs COE again in 2015.

COE held a session at the Joint Mathematics Meetings in San Antonio, Texas entitled “Active Learning Strategies for Mathematics.” The AMS recognizes the importance of active learning strategies and is working with organizations such as Transforming Post-Secondary Education in Mathematics (TPSE Math) to clarify what this means for the mathematical community and to promote best practices in teaching the mathematical sciences. The panel highlighted some of the active learning strategies for which we have evidence of effectiveness. David Bressoud (Macalester College) moderated the panel. Panelists included Stephen DeBacker (University of Michigan, Ann Arbor), Dennis DeTurck (University of Pennsylvania), Rachel Levy (Harvey Mudd College), and Michael Starbird (University of Texas at Austin).

## **2.7 Washington Office Report. Att. #3.**

The ECBT received the attached report (#3) on the activities of the Washington Office, which was presented by Associate Executive Director Rankin.

## **2.8 Report on Long Range Planning Committee (LRPC).**

The ECBT was informed that the LRPC met on Friday, May 14, 2015 and discussed the following topics:

1. support for education initiatives of other organizations in the wider mathematics community
2. functions and services that an AMS department of education and diversity should provide

## **2.9 2016 Journal Pages and Prices.**

The ECBT approved the following numbers of pages and prices for 2016 journal subscriptions:



	<b>2016 pages</b>	<b>2016 list price</b>
<i>Abstracts of Papers Presented to the AMS*</i>	1,100*	\$ 174
<i>Bulletin of the AMS</i>	768	\$ 574
<i>Conformal Geometry and Dynamics</i>	350	\$ 0
<i>Journal of the AMS</i>	1,200	\$ 393
MR Products		
Data Access Fee	NA	\$10,199
MathSciNet	NA	\$ 2,626
<i>Mathematics of Computation</i>	3,000	\$ 720
<i>Memoirs of the AMS</i>	3,800	\$ 890
<i>Notices of the AMS</i>	1,550	\$ 612
<i>Proceedings of the AMS</i>	5,240	\$ 1,542
<i>Proceedings of the AMS, Series B</i>	600	\$ 0
<i>Representation Theory</i>	500	\$ 0
<i>St. Petersburg Mathematical Journal*</i>	1,000*	\$ 2,362
<i>Sugaku Expositions</i>	240	\$ 264
<i>Theory of Probability and Mathematical Statistics*</i>	375*	\$ 902
<i>Transactions of the AMS</i>	8,880	\$ 2,530
<i>Transactions of the AMS, Series B</i>	600	\$ 0
<i>Transactions of the Moscow Mathematical Society*</i>	300*	\$ 639
*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 2016 budget presented at this meeting.		

## **2.10 2016 Individual Member Dues.**

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 (because Article IX, Section 2 of the Bylaws states that these dues "...shall be established by the Council with the approval of the Trustees").

The BT ratified the January 2015 Council's decision that there be a \$4 increase in the dues rate for Regular members whose annual professional income is \$85,000 or more; this puts this rate at \$188 for 2016.

## **2.11 2016 Institutional Member Dues.**

The ECBT approved an average increase of 3% in institutional member dues for 2016.

**2.12 Report on Petitions for Student Chapters. Att. #4.**

The ECBT received the attached report (#4) on the petitions for Student Chapters that have been approved by the Secretariat since the last ECBT meeting. As of April 13, 2015, there were 32 AMS Student Chapters. The report also describes modifications to the procedure for submission and review of petitions for new chapters, which are intended to make the process easier and quicker.

**2.13 Stipend and Expense Allowance for Centennial Fellowship.**

The ECBT approved awarding one Centennial Fellowship for 2016-2017 in the amount of \$89,000, with an expense allowance of \$8,900.

**2.14 Approval of Proposals Submitted to Funding Agencies and Foundations. Att. #21.**

The ECBT reviews proposals that request, or are expected to request, funding of \$100,000 or more from a Federal agency or a private foundation. The attached report on the current status of existing proposals, and plans for the next six months, was received (Att. #21). The ECBT approved the following:

- the planning, preparation, and submission of the renewal proposal for the MRCs
- the planning, preparation and submission of a proposal (or multiple proposals) in cooperation with the National Alliance for Doctoral Studies in the Mathematical Sciences for support of the November 2016 Field of Dreams conference

**2.15 2016 ABC and ECBT Meetings.**

The ECBT approved the following dates and sites for 2016 ABC and ECBT meetings:

ABC	April 8, 2016 (Friday)	by WebEx
ECBT	May 20-21, 2016 (Friday-Saturday)	Providence, Rhode Island
ABC	October 7, 2016 (Friday)	Providence, Rhode Island (or attend by WebEx)
ECBT	November 18-19, 2016 (Friday-Saturday)	Providence, Rhode Island

It was noted that the members of the ABC in 2016 will be: Bryant, Hawkins, Nitecki, Savage, and Vogtmann.

<b>2C EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES CONSENT ITEMS</b>
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**2C.1 November 2014 ECBT Meeting.**

The minutes of the meeting of the Executive Committee and Board of Trustees held November 21-22, 2014, in Providence, Rhode Island, had been distributed separately. These minutes include:

- ECBT open minutes prepared by the Secretary of the Society  
[www.ams.org/about-us/governance/board/ecbt-minutes-1114.pdf](http://www.ams.org/about-us/governance/board/ecbt-minutes-1114.pdf)
- ECBT executive session minutes prepared by the Secretary of the Society

With the following correction, the ECBT approved these minutes:

Item 2E.11: the term mentioned in the third paragraph should be changed to “February 1, 2016 – January 31, 2018.”

See also item 3C.1.

**2C.2 EMS 25<sup>th</sup> Anniversary.**

The ECBT approved the following resolution:

*The American Mathematical Society extends its warmest congratulations to the European Mathematical Society on the occasion of its 25th Anniversary.*

*The AMS commends the EMS for its many accomplishments in fulfilling its mission to further the development of all aspects of mathematics in the countries of Europe by promoting research in mathematics and its applications, assisting and advising on problems of mathematical education, promoting interactions among mathematicians from different nations, fostering communication of mathematics research and scholarship, and concerning itself with the broader relation of mathematics to society. The AMS shares these aspirations, looks forward to continued cooperation, and wishes the European Mathematical Society many years of future success.*

<b>2I EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES INFORMATION ITEMS</b>
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**2I.1 State of the AMS.**

As is tradition, the Executive Director's annual report was delivered orally at the April 2015 Council meeting. The written report is then usually delivered to this ECBT meeting, but it was not yet available.

**2I.2 Changes in Registration Fees for Conferences, Employment Center, MathJobs, and Short Course. Att. #12.**

The Executive Director is authorized to make changes in the registration fees for conferences, Employment in the Mathematical Sciences (EIMS), the Employment Center, AMS Short Courses held at the Joint Mathematics Meetings, MathJobs.org, and MathPrograms.org. Att. #12 reports the changes authorized since the last ECBT meeting.

**2I.3 AMS Presence at the Annual Meeting of SACNAS. Att. #13.**

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). Public Awareness Officer Annette Emerson represented the AMS at the most recent meeting on October 16 – 18, 2014, in Los Angeles, California. Some highlights of the meeting are posted on the AMS web page ([www.ams.org/meetings/sacnas2014-mtg](http://www.ams.org/meetings/sacnas2014-mtg)). A report on the mathematically-related activities at the SACNAS meeting is attached (#13).

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

**2I.4 Report on Awards from the Epsilon Fund for Young Scholars Program. Att. #14.**

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 23 applications for support from the Epsilon Fund and recommended funding all of them. The members of the Committee are: Douglas Norton, Cornelius Pillen (Chair), Tatiana Shubin, and William Yslas Velez. A list of the programs funded for summer 2015 is attached (#14).

**2I.5 Report on AAAS Meeting. Att. #15.**

A report on the AMS-supported activities at the 2015 annual meeting of the American Association for the Advancement of Science (AAAS) is attached (#15).

**2I.6 2015-2016 AMS Centennial Fellowship.**

Upon recommendation of the AMS Centennial Fellowship Committee, Christian Schnell (Stony Brook) and Kyungyong Lee (Wayne State) were offered the 2015-2016 Centennial Fellowships. Both Schnell and Lee accepted the award. The amount of the Fellowships for 2015-2016 will be \$87,000, with an additional expense allowance of \$8,700.

**2I.7 AAAS-AMS Mass Media Fellowship.**

The AMS will sponsor a Mass Media Fellow again in 2015. Applications have been reviewed and selections will be made soon. 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 the AMS Mass Media Fellow for 2015 will be made in the *Notices* and posted on the AMS website.

**2I.8 Congressional Fellow.**

The AMS, in conjunction with the American Association for the Advancement of Science (AAAS), will again sponsor a Congressional Fellow from September 2015 through August 2016. 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 2015-16 will be made in the *Notices* and posted on the AMS website.

The current AMS Congressional Fellow, Boris Granovski, is working in the office of Senator Al Franken (D-MN).

**2I.9 Transforming Post-Secondary Education In Mathematics.**

Transforming Post-Secondary Education in Mathematics (TPSE Math), sponsored jointly by Carnegie Corporation of New York and the Alfred P. Sloan Foundation, aims to effect

constructive change in mathematics education at community colleges, four-year colleges and research universities.

Spearheading the effort are Eric Friedlander (University of Southern California), Jim Gates (University of Maryland), Mark Green (University of California, Los Angeles), Phillip Griffiths (Institute for Advanced Study), Tara Holm (Cornell University), and Uri Treisman (University of Texas at Austin).

TPSE Math convened an informal two-hour workshop at the Joint Mathematics Meetings (JMM) in San Antonio, Texas in January 2015. This followed a similar workshop at the 2014 JMM in Baltimore, Maryland; a three-day, national-scale meeting at the University of Texas at Austin in June 2014; and regional meetings at the University of Maryland, Baltimore County in November 2014 and University of California, Los Angeles, in February 2015. Future regional meetings are in the planning stages, to be held in Chicago and the North Carolina Research Triangle in fall 2015.

The challenges facing mathematics education include the critical need for more effective developmental courses, new demands on math's service mission to fast-changing STEM and non-STEM disciplines, poor coordination among institutions of different levels, and severe financial pressures on public institutions. Many individuals and organizations have recognized these challenges are developing innovative responses.

The meetings and workshops, along with TPSE Math itself, have been organized to hear from some of the organizations most active in understanding and responding to these challenges, and to build stronger coordination that will be needed to scale up successful reforms in a coherent way.

A website has been created for the project at [www.tpsemath.org](http://www.tpsemath.org).

**2I.10 Report on Use of Funds Collected for FIMU on AMS Membership Renewal Form.**  
**Att. #16.**

In May 2011, the ECBT approved changing the designated use of contributions by 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 2012, 2013 and 2014 receipts.

<b>Year</b>	<b>Fund</b>	<b>Amount</b>
2012	IMU Developing Country Fund	US\$14,166
2013	IMU Developing Country Fund	US\$12,134
2014	IMU Developing Country Fund	US\$10,515

IMU support for developing countries is managed by the IMU Commission for Developing Countries (CDC), chaired through 2014 by C. Herbert Clemens. The most recent annual report of CDC activities that has been published, which covers 2013, is attached (#16).

<b>3 BOARD OF TRUSTEES ACTION/DISCUSSION ITEMS</b>
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**3.0 Meeting with Auditors. Att. #28.**

Every four years the entire Board meets with the auditors (in place of the usual Audit Committee meeting with the auditors).

A draft of the audited 2014 financial statements had been provided separately prior to this meeting; copies were distributed at the meeting as well.

Mike Burns, Managing Director/Shareholder from the auditing firm CBIZ Tofias and Mayer Hoffmann McCann P.C, delivered an oral report on the 2014 audit. Staff members were then excused from the meeting, and the BT met privately with Mr. Burns. Mr. Burns then left and staff members returned to the meeting.

The BT voted to accept the draft audited financial statements for the years ended December 31, 2014 and 2013 and delegated to management final resolution of minor edits and issuance of the final statements. The final statements are attached (#28).

**3.1 Financial Review.**

**3.1.1 Discussion of Fiscal Reports. RILEY.**

The BT received and discussed various fiscal reports. As is traditional in the spring of each year, the focus was on the actual results for the year just ended (2014) and the preliminary revenue budget for the upcoming year (2016). It was noted that approval of the entire 2016 budget will be requested at the November 2015 ECBT meeting.

**3.1.2 Capital Expenditures – 2014 and 2015 Capital Purchase Plans.**

It was reported that capital purchases in 2014 totaled \$292,806, compared to a budgeted amount of \$450,000. The largest capital projects were the renovations of the south wing restrooms and the insulation of the north wing floor in Providence, at a total cost of \$166,000.

Capital purchases were under budget primarily because of HVAC (heating, ventilation, and air conditioning) upgrades or replacements that were budgeted but did not occur at the Providence and Pawtucket facilities.

The 2015 capital budget totals \$468,000, and may be over-budget due to building renovations, originally budgeted to occur in prior years, that will occur in 2015.

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

Capital expenditures of \$100,000 or more require BT approval.

A proposal to approve a new accounting system was presented in executive session - see item 3E.1 of the executive session minutes of this meeting.

### **3.2 Spendable Income, Operations Support Fund and Other Related Items.** **Att. #17.**

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. #17**, 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 meeting, the Board approved the staff recommendation that the amount owed to operations<sup>1</sup> from the long-term investment portfolio at December 31, 2014 would remain there and be added to the Operations Support Fund (OSF) unless there were not enough unrestricted, undesignated assets to set aside for this purpose. The total amounts owed to operations from the portfolio at December 31, 2014 was \$2,041,985, but only \$1,931,000 could be transferred to the OSF, because there were not enough undesignated assets to make the total transfer.

At December 31, 2014, the Society's current assets totaled \$19,946,861 and its current liabilities totaled approximately \$16,046,642 resulting in a current ratio<sup>2</sup> of 1.2 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 the same as 2013.

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<sup>1</sup> The amount owed to operations arises as a result of spendable income netted against contributions to endowment and Board designated funds.

<sup>2</sup> The current ratio is the Society's current assets from the balance sheet divided by the current liabilities. It is a liquidity ratio that measures the Society's ability to pay short-term obligations. A ratio under 1 generally suggests that an organization would not be able to pay its short-term obligation if they came due at that point in time.



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 is no additional cash from operations available to invest in the long-term portfolio at this time.

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

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

The amount and direction of the rebalancing required at each year end is principally dependent upon the return on the long-term investment portfolio in any year. This return was approximately 10% for 2014; however, due to the increase of the ESF balance to include \$1,700,000 for the self-funding of flood insurance and the large increase in the post-retirement obligation, the OSF transferred approximately \$950,000 to the ESF at the end of 2014.

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

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

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

The spendable income from the OSF for 2015 and 2016, determined according to the guidelines approved by the BT is \$2,048,000 and \$2,500,000, respectively. The 2015 amount has been previously approved at the 4% spending rate; however, while calculating the spendable income for 2016, the Chief Financial Officer noted that an error was made in the 2015 calculation. If calculated correctly, the 2015 spendable income would have been approximately \$2,147,000. There is no financial need to change the spendable income for 2015 at this time.

The BT approved Chief Financial Officer Riley's recommendation that \$2,500,000 be designated as OSF spendable income for 2016 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 (from item 2E.5 of those minutes):

*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 2016 preliminary revenue budget includes the full amount of 2016 spendable income from unrestricted true endowment funds under the assumption that appropriate projects will be designated to receive the income. The amounts budgeted for 2015 and 2016 are \$241,094 and \$262,400, respectively. The BT will vote on the use of the spendable income for 2016 by specific projects at its November 2015 meeting.

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

The Executive Director has the authority to transfer spendable income that will not be used on an approved project to another approved project, in case additional support is needed. It was reported that, in 2014, a total of \$25,000 was used for Epsilon grants from unused funds that had been allocated for the Young Scholars Math Camp Conference. A total of \$2,776 of unused funds was used to fund the Book Donation Program.

The Endowment Income Stabilization Fund (EISF) was established to subsidize endowment-funded projects when the endowment fund does not generate enough income to cover the expenses of the project. It was reported that, in 2014, the following endowment funds did not generate enough spendable income to cover project expenses: Bôcher (\$745), Cole Number Theory (\$4,184), Exemplary Department Award (\$1,037), and Art Exhibit Prizes (\$207).

### **3.3 Investment Committee.**

Investment Committee Chair Hawkins reported that the Committee met on May 15, 2015 and discussed routine matters such as current portfolio returns and asset allocation. The Committee also reviewed the long-term investment policy and made some minor changes to bring references to benchmarks up-to-date. No business conducted at this meeting required action by the BT.

### **3.4 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 2014.

### **3.5 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:	Ruth M. Charney
Treasurer of the Corporation:	Jane M. Hawkins
Secretary of the Corporation:	Zbigniew Nitecki
Directors of the Corporation:	Robert L. Bryant
	William H. Jaco
	Robert K. Lazarsfeld
	Joseph H. Silverman
	Karen Vogtmann

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

<b>3C BOARD OF TRUSTEES CONSENT ITEMS</b>
---

#### **3C.1 November 2014 BT Closed Executive Session Meeting.**

The minutes of the closed executive session meeting of the Board of Trustees held November 22, 2014, in Providence, Rhode Island, which had been distributed separately, were approved.

#### **3C.2 Guidelines for the Appeals for Discounted Subscriptions.**

The BT approved the following guidelines for 2016:

- Minimum price for MR Data Access Fee (DAF) of \$200 applicable to institutions in countries found in the two poorest World Bank country listing. Staff can provide this level of discount even if the country does not have a national DAF.
- The discounted price for MR DAF for domestic institutions would not be lower than the greater of 40% of a list price DAF or 40% of the institution's mathematical sciences serials budget, not to exceed regular list price for a DAF.

- The discounted price for MR DAF for non-domestic institutions not included in the first category above would not be lower than 40% of a DAF. To the extent possible, information about serials budgets would also be collected, and, if desired, staff would provide information on publishing activity at the institution.
- Allowable prices for MathSciNet (MSN) can be no less than the lowest published price.
- For other AMS journals, the lowest allowable price would be marginal cost, applicable to the most desperate cases.
- Participation is restricted to academic institutions.

### **3C.3 Resolutions for Retirees.**

The BT approved the following proclamations for employees who will retire shortly:

*Be it resolved that the Trustees accept the retirement of **Donald W. Neville Jr.** with deep appreciation for his faithful service over a period of 42 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 Donald their special thanks and heartfelt good wishes for a happy and well-deserved retirement.*

*Be it resolved that the Trustees accept the retirement of **Donna L. Salter** with deep appreciation for her faithful service over a period of 33 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 Donna their special thanks and heartfelt good wishes for a happy and well-deserved retirement.*

<b>3I BOARD OF TRUSTEES INFORMATION ITEMS</b>
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#### **3I.1 Status of AMS Self-insurance for Health Plan.**

The November 2014 BT authorized staff to decide, after quotes were received from the insurance broker, whether it would be financially advantageous to convert to a self-insured plan at the start of the new plan year on March 1, 2015.

Based on the final quotes received for the current fully-insured plan and for the self-insured plan, the self-insured plan resulted in a saving of only 0.4% compared to the fully insured plan. Coupled with the greater uncertainty of the self-insured plan, the insurance broker recommended staying with the current fully-insured, high-deductible plan with a health

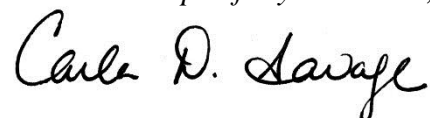
reimbursement account (HRA) for 2015. The Executive Director, Chief Financial Officer, and Director of Human Resources agreed, and will re-evaluate self-insurance for the 2016 plan year.

**3I.2 Change in Fringe Benefits.**

The November 1996 BT authorized the Executive Director to approve changes in benefit plans (except for those changes which would significantly enhance or degrade the Society's financial health or relations with its employees) and asked that these changes be reported to the BT when appropriate.

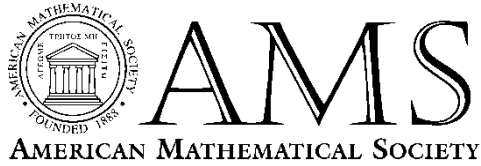
No such changes have been made since the last ECBT meeting.

*Respectfully submitted,*

A handwritten signature in black ink that reads "Carla D. Savage". The signature is written in a cursive, flowing style.

*Carla D. Savage, Secretary  
Raleigh, North Carolina  
June 26, 2015*





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**Carla D. Savage, Secretary**

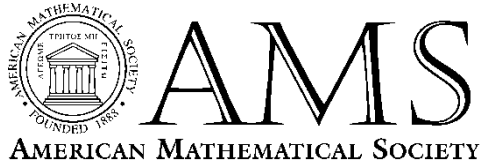
**SECRETARIAT  
Business by Mail  
November 1, 2014**

**MINUTES  
from the Ballot dated October 1, 2014**

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

1. Approve electing to membership the individuals named on the attached list dated September 20, 2014.
2. Approve holding the Fall 2016 Eastern Sectional Meeting on Saturday--Sunday, September 24-25, 2016 at Bowdoin College (proposal attached).
3. Approve the Minutes of the Secretariat Business by Mail from the ballot dated September 2, 2014.

Carla D. Savage



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**Carla D. Savage, Secretary**

**SECRETARIAT  
Business by Mail  
December 1, 2014**

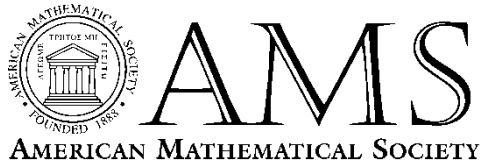
**MINUTES  
from the Ballot dated November 1, 2014**

Votes were 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 20 October 2014.
2. Referred back to Meetings and Professional Services for further information/clarification requested by the Secretariat: the student chapter petition from the University of Missouri-Kansas City.
3. Referred back to Meetings and Professional Services for further information/clarification requested by the Secretariat: the student chapter petition from Syracuse University.
4. Approved the petition from the University of Georgia to establish a Graduate Student Chapter.
5. Approved the Minutes of the Secretariat Business by Mail from the ballot dated October 1, 2014.

Carla D. Savage





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**Carla D. Savage, Secretary**

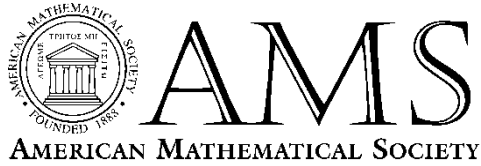
**SECRETARIAT  
Business by Mail  
January 1, 2015**

**MINUTES  
from the Ballot dated December 3, 2014**

Votes were cast by Georgia Benkart, Brian Boe, Michael Lapidus, Carla Savage, and Steven Weintraub. The Secretariat elected to:

1. Approve electing to membership the individuals named on the attached list dated November 26, 2014.
2. Referred back to Meetings and Professional Services for further information/clarification requested by the Secretariat: student chapter petitions from Western Kentucky University and its membership.
3. Approve Stockholm University in Stockholm, Sweden joining the AMS as a new 2015 international institutional member.
4. Approve Ecole Normal Superieure in Paris, France joining the AMS as a new 2015 international institutional member.
5. Approve the Minutes of the Secretariat Business my Mail from the ballot dated November 1, 2014.

Carla D. Savage



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**Carla D. Savage, Secretary**

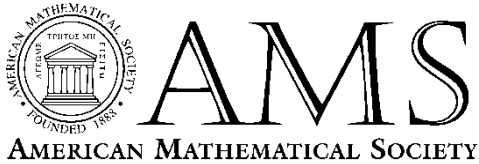
**SECRETARIAT  
Business by Mail  
February 1, 2015**

**MINUTES  
from the Ballot dated January 05, 2015**

Votes were cast by Georgia Benkart, Brian Boe, Michel Lapidus, Carla Savage, and Steven Weintraub. The Secretariat elected to:

1. Approved electing to membership the individuals named on the list dated December 20, 2014.
2. Approved the student chapter petition from Central Michigan University and its membership.
3. Approved a new 2015 AMS Institutional Member Lincoln University located in Lincoln University PA.
4. Approved the Minutes of the Secretariat Business by Mail from the ballot dated December 3, 2014.

Carla D. Savage



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Carla D. Savage, Secretary

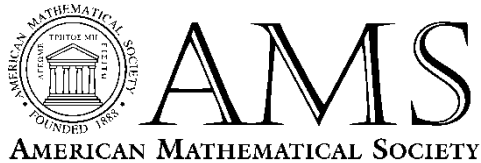
**SECRETARIAT  
Business by Mail  
March 1, 2015**

**MINUTES  
from the Ballot dated February 02, 2015**

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

1. Approve electing to membership the individuals named on the list dated 20 January 2015.
2. Approve holding an AMS Eastern Sectional Meeting at SUNY Buffalo on Sept. 16-17, 2017.
3. Approve holding an AMS Central Sectional Meeting at the University of St. Thomas, Minneapolis MN on Oct. 28-30, 2016.
4. Approve the Minutes of the Secretariat Business by Mail from the ballot dated January 05, 2015.
5. Approve the student chapter petition from SUNY New Paltz.
6. (Old business carried forward from the November 1, 2014 Business by Mail) Approve the student chapter petition from Syracuse University.
7. (Old business carried forward from the November 1, 2014 Business by Mail) Approve the student chapter petition from the University of Missouri Kansas City.
8. (Old business carried forward from the December 3, 2014 Business by Mail) Approve the student chapter petition from the University of Western Kentucky.

Carla D. Savage



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Carla D. Savage, Secretary

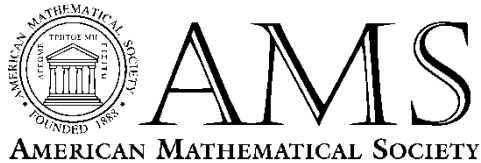
**SECRETARIAT  
Business by Mail  
April 1, 2015**

**MINUTES  
from the Ballot dated March 02, 2015**

Votes were 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 19 Feb 2015.
2. Approved holding the following meeting "in cooperation with" the AMS: Amrita School of Engineering hosts the International Conference on Graph Theory and its Applications, Tamil Nadu, INDIA, December 17--19, 2015.
3. Approved the proposal to host the Fall 2016 SE Sectional Meeting November 12--13, 2016 at North Carolina State University.
4. Approved the Minutes of the Secretariat Business by Mail from the ballot dated February 2, 2015.

Carla D. Savage



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**Carla D. Savage, Secretary**

**SECRETARIAT  
Business by Mail  
May 1, 2015**

**MINUTES  
from the Ballot dated April 01, 2015**

Votes were 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 20 March 2015.
2. Approved the proposal for an Eastern Sectional meeting at Hunter College, CUNY on May 6-7, 2017.
3. Approved the Minutes of the Secretariat Business by Mail from the ballot dated March 02, 2015.

Carla D. Savage



## AMS Committee on Meetings and Conferences

### Highlights of 2015 Meeting

The Committee on Meetings and Conferences (CoMC) held its annual meeting on March 21, 2015, at the AMS Headquarters in Providence. Graham Leuschke, chair, presided over the meeting.

After a round of introductions, there was a discussion of the roles played in AMS meetings by the Secretariat, the Meetings and Conferences Department, and CoMC.

### Reports

- **Secretariat.** Carla Savage reported on the March 20, 2015, Secretariat meeting.

There is one Joint International Meeting currently scheduled. It will be held in Porto, Portugal, on June 10-13, 2015 (with the European Mathematical Society and the Sociedade Portuguesa de Matemática). In lieu of a Joint International Meeting in 2017, the AMS will participate in the Mathematical Congress of the Americas in Montréal on July 23-28, 2017. The Secretariat did not approve the proposed Joint International Meeting with the Indian Mathematics Consortium for December, 2016.

Two Einstein Lectures have been given since the March 2014 meeting of CoMC. The 2014 Einstein Lecture was held on October 25-26, 2014, at San Francisco State University. James H. Simons was the speaker. On March 7, 2015, Simon Tavaré gave the 2015 Einstein Lecture at Georgetown University.

Maria Chudnovsky gave the 2014 Erdős Memorial Lecture at the University of Tennessee, Knoxville, on March 22, 2014. The 2015 lecture will be given by Peter Sarnak at Loyola University Chicago on October 3, 2015.

Ingrid Daubechies has agreed to be the 2015 Maclaurin Lecturer.

Carla Savage asked CoMC for suggestions for the Einstein Lecture and the Erdős Memorial Lecture in 2016.

For the Joint Mathematics Meetings, it was suggested that the AWM-AMS Noether Lecture not be scheduled simultaneously with Special Sessions in the speaker's research area, if the topic of the lecture is known sufficiently far in advance.

- **San Antonio Questionnaire.** The responses to the San Antonio questionnaire, which was completed by about 1700 participants, were reviewed. Penny Pina, the AMS Director of Meetings and Conferences, reported that there were many favorable comments about the JMM. The new JMM app, which was downloaded about a thousand

times, was well received. In the free-response part of the survey, participants suggested that the JMM be scheduled a week earlier in the calendar, complained about the high cost of the meeting, and requested free Wi-Fi everywhere.

- ***Child Care Grants in San Antonio.*** For the 2015 JMM in San Antonio, the AMS and MAA offered reimbursement grants of US\$250 per family to help with the cost of child care for registered participants. The funds could be used for child care expenses from local resources in San Antonio or for any other form of child care (such as hiring a nanny at home, bringing a caregiver to San Antonio, etc.), with the goal of enabling the parent to participate more fully in JMM. About 51 eligible applications were received, and all were awarded grants. Three applicants subsequently withdrew, so that 48 grants were made. A survey of child care grant recipients indicated that they were pleased with this arrangement.
- ***2015 Annual Review – Invited Plenary, Distinguished, and Joint Lectures.*** Rick Durett, Kailash Misra (chair), and Natasa Pavlovic formed the subcommittee that carried out this review. The subcommittee divided its report into three sections: Lectures at the Joint Mathematics Meetings; special named lectures; and AMS lectures at other events. In addition to studying data on attendance at the lectures, the subcommittee solicited comments from the speakers, and they found that most of the lectures were functioning well. Their recommendations included the following: adding joint lectures, such as the AMS-MAA Joint Invited Addresses at JMM, to the list of “special lectures” on the AMS website; making sure that lectures end on time (for the sake of the next speaker); preparing guidelines and advice for specific lectures, such as the AMS Lecture at Mathfest; and having the MacLaurin Lecturer give fewer talks, in order to create a less fatiguing schedule for the speaker. There was a general discussion of the desirability and practicality of videotaping some lectures, such as the Gibbs Lecture, and posting them on the AMS website. The subcommittee also expressed concern about the tendency of the AMS Lecture at the SIAM Annual Meeting to get “lost” in the overall program for the meeting. In response to a request from AMS staff, the members of CoMC brainstormed about possible venues for the Arnold Ross Lecture, and Robin Marek reported that the fundraising for the Lecture is nearing its goal. Finally, CoMC discussed the issue of whether to extend the Maclaurin Lecture Series, which was originally approved for six years.
- ***AMS Travel Grants.*** The AMS travel grant programs remain very popular. For the Graduate Student Travel Grants, the awards are divided between the JMM and AMS Sectional meetings. The ratio of JMM awards to Sectional awards will be adjusted in 2016, in order to make the success rates for the two kinds of applications more nearly equal.
- ***Mathematics Research Communities.*** Funded by the National Science Foundation, this program is in its eighth year. Preparations for the 2015 conferences are underway, and the topics for 2016 have been chosen.



- **AMS Activity Groups.** CoMC first discussed the possibility of having AMS Activity groups at its meeting in March 2011, and a proposal to establish them was approved by the January 2013 Council. The goal was to use electronic communications to facilitate exchanges of information and to support collaborations among AMS members in specific research areas. CoMC discussed some possible explanations for the fact that no Activity Groups have yet been proposed.
- **2015 Summer Research Institute in Algebraic Geometry.** The 2015 Summer Research Institute in Algebraic Geometry will be held in Salt Lake City, Utah, on July 13-31, 2015.

### New Business

- **Meetings in Cooperation with the AMS.** As explained on the AMS website, “the AMS occasionally cooperates with meetings and[/]or conferences of other societies and other groups for specific scientific/engineering purposes. In cooperation, the AMS provides publicity for the events in its publications and on its website.” Carla Savage described some of the issues that such meetings can raise, particularly if they are held in countries where there are policies that violate human rights, and she expressed the Secretariat’s desire for guidance in determining which meetings to approve. CoMC discussed the advantages and disadvantages of holding “meetings in cooperation with the AMS,” and **it chose “meetings in cooperation with the AMS” as the topic for its 2016 annual review.**
- **Venues for Awarding AMS Prizes.** An agreement between the AMS and the Mathematical Association of America limits the number of prizes that may be given at the Joint Prize Session at the JMM. A modification of that agreement will permit the new Chevalley Prize to be awarded at JMM 2016 and 2018. As other new prizes are added, however, it may become necessary to award some prizes in venues other than the Joint Prize Session. CoMC discussed several possibilities, including the Fellows Reception and the AMS dinner at JMM, and it noted that prizes that were not awarded at the Joint Prize Session could still be included in the prize booklet.
- **2016 CoMC Meeting.** The committee approved the suggested date of March 12, 2016 for its next meeting, to be held at the Hilton Chicago O’Hare Airport Hotel.

*T. Christine Stevens*  
*Associate Executive Director*  
*April 8, 2015*



## Washington Office Report April 16, 2015

### Federal Budget

The FY 2016 Federal Budget Request was introduced on February 2, 2015, the date mandated by law. The Request budget levels depend on increasing the discretionary budget caps so budget levels will eventually have to be negotiated with Congress in the appropriations process.

The National Science Foundation (NSF) Request is \$7.724 billion, a 5.2 percent increase over the FY 2015 budget estimate of \$7.344 billion. The Division of Mathematical Sciences (DMS) Request is \$235.47 million, an increase of 1.6 percent over the FY 2014 estimate of \$231.73 million. The DMS dollar level for FY 2016 is the lowest of the disciplines of the Directorate of Mathematical and Physical Sciences. Materials research received the highest dollar request (\$315.80 million, + 2.9% over FY 2015) followed by physics (\$277.37 million, + 0.9%), by chemistry (\$251.20 million, + 3.0%), and Astronomical Sciences (\$246.55 million, + 1.0%). The dollar level of DMS has been the lowest in FY 2014 and FY 2015.

In FY 2016, DMS estimates providing \$10.03 million for CAREER grants, a division priority; \$3.26 million for the BioMaps program; \$5.30 million in Understanding the Brain; \$6.10 million for Cyber-enabled Materials, Manufacturing, and Smart Systems (CEMMSS); \$4.60 million for Optics and Photonics; and \$29.5 million for Mathematical and Statistical Sciences Institutes. Approximately 75 percent of the DMS budget is used to support individual investigators and research group awards.

The overall DMS education portfolio is slated to be reduced by \$5.93 million to a total of \$7.65 million in FY 2016. The reduction reflects placing support for graduate students and postdoctoral research in core programs. Most of the decrease is achieved through the ending of the Enhancing the Mathematical Sciences Workforce in the 21<sup>st</sup> Century program. Support for the Mathematical Sciences Postdoctoral Research Fellowships will remain at \$4.10 million for FY 2016 and the division remains committed to the Research Experiences for Undergraduates (REU) program at \$3.39 million.

The FY 2016 Budget Request for the Advanced Scientific Computing Research (ASCR) program of the Office of Science in the Department of Energy (DOE) is \$620.99 million, a 14.8 percent increase over the FY 2015 enacted budget of \$541.00 million. Included in the ASCR budget is \$49.23 million for the Applied Mathematics activity, a 0.14 percent increase over a FY 2015 budget of \$49.16 million, and \$46.92 million Request for the Scientific Discovery through Advanced Computing (SciDAC) activity, the same level of funding as in the FY 2015 enacted SciDAC budget.

The Applied Mathematics activity supports research and development of applied mathematical models, methods, and algorithms for understanding complex natural and engineered systems related to DOE's mission. Applied Mathematics research underpins all of DOE's modeling and

simulation efforts. The SciDAC program accelerates progress in scientific computing through partnerships among applied mathematicians, computer scientists, and scientists in other disciplines.

## **Open Access**

In a February, 2013 memorandum from the Office of Science and Technology Policy (OSTP), federal agencies with over \$100 million in annual research and development expenditures were asked to submit a draft plan to support increased public access to results of research funded by the federal government. OSTP, in coordination with the Office of Management and Budget (OMB), have reviewed these plans and most of the agencies involved are now making their plans public. Many of the plans are using a model similar to the National Institutes of Health (NIH). The NIH model has a repository, PubMed Central (PMC), which accepts published research articles based on federally funded research. The NIH model requires that the final accepted manuscript of an article based on federally funded research be placed in PMC no later than twelve months after the article has been published in a journal.

This development of agency plans is part of the process on open access contained in Public Law 111-358. Even though the process put forth in Public Law 111-358 is working, this does not stop members of congress from introducing new bills on open access. The Government Affairs Task Force (GATF) has been busy monitoring these bills. At issue in every bill that concerns GATF is the length of embargo period, the amount of time from when a journal article based on federally supported research is published to when a manuscript of the article has to be made freely available to the public. Twelve months is the embargo period for the NIH model.

Several organizations lobbying for open access would like to see embargo periods of six months. The Labor, Health and Human Services, Education and Related Agencies (Labor-HHS) portion of the Omnibus Appropriations Act of 2014 included a rider that expanded the twelve month NIH embargo period to all of the agencies funded through the Labor-HHS bill and meeting the over \$100 million in annual research and development expenditures criteria. GATF would like to have flexible embargo periods based on journal usage characteristics of disciplines. For example, based on usage statistics, mathematics should have a longer embargo period, perhaps twenty-four months to thirty-six months.

Currently two bills on open access have been introduced and the members supporting these bills are trying to get the language placed in appropriations or authorization bills. Even though several of the agency plans use a NIH-like model for the repository and the embargo periods, these open access plans can be evaluated and these agencies can make changes to their plans. On the other hand, if one of these open access bills is passed into law, it would take an act of Congress to make any changes to any open access criteria, like embargo periods, covered in the bill.

The NSF announced on March 18, 2015 its plan for making results of NSF-funded research accessible to the general public. The NSF plan requires funded authors to provide free access to articles and data based on federally funded research. NSF has chosen a twelve month embargo

period, however this period can be changed based on petitions from stakeholders. A distributed system may be the best for NSF since it funds so many different disciplines. An organization of publishers, including AMS, formed to assist open access is the Clearinghouse for the Open Research of the United States (CHORUS). CHORUS is a system for providing links to papers at journal sites.

Last August, DOE announced its public access plan and stated that the Department would use CHORUS to link out to journal articles from its public access portal Public Access Gateway for Energy and Science (PAGES). NSF has decided to use an NSF-branded version of the PAGES interface supported by CHORUS infrastructure to enable public access.

### **Coalitions**

The Washington Office continues to work with coalitions and ad hoc groups including the Coalition for National Science Funding (CNSF); the Government Affairs Task Force (GATF); the Task Force on American Innovation; NDD UNITED; and, small groups representing several professional societies and organizations. Issues of focus by one or more of these coalitions include federal funding for basic research; open access to publications based on federally funded research; caps on defense and non-defense discretionary spending; attacks on the Social, Behavioral and Economic Sciences directorate of NSF; and continuing education of new Members of Congress on the importance of federal support for STEM research and education.

Through CNSF, the Washington Office organized a sign-on letter sent to the Chair of the House Committee on Science, Space and Technology speaking against authorizing NSF funding by directorate. CNSF also wrote a statement, to be sent to congress, recommending a \$7.7 billion FY 2016 NSF budget.

Sam Rankin has been participating in meetings in the House and Senate regarding authorization and appropriations for NSF, as well as meetings regarding a major cut to the NSF Directorate of Social, Behavioral, and Economic Sciences. He has also participated in Hill meetings organized by GATF regarding open access. The GATF meetings are for the purpose of keeping the agency open access process initiated by the Office of Science and Technology, per Public Law 111-358, going and to argue for flexible embargo periods, based on disciplinary journal usage statistics.

Currently, Anita Benjamin, who directs the Annual CNSF Capitol Hill Exhibition, is organizing this year's Exhibition, which will take place on April 29, 2015. This will be the twenty first CNSF Exhibition.

### **Other Activities**

The AMS held its annual Congressional briefing on December 10, 2014 in Washington, DC. Robert Ghrist, Andrea Mitchell University Professor of Mathematics and Electrical/Systems Engineering at the University of Pennsylvania gave the presentation on "The Future of Mathematics: Education & Innovation."

Professor Ghrist cited the numerous and daunting scientific and technological challenges that the United States must solve to guarantee long-term health, prosperity, and peace. He spoke about how mathematics has been a key ingredient in the past to breakthrough solutions -- spawning cryptography, computer science, and data analysis -- and how novel challenges will demand novel mathematics, created and communicated.

Congressman Jerry McNerney opened the briefing with a few remarks about the importance of mathematics. The audience was made up of congressional staff, Congressman McNerney, several scientists and mathematicians.

The Washington Office had a part in organizing several sessions at the January 2015 Joint Mathematics Meetings in San Antonio, TX. These sessions included: a NSF-EHR Grant Proposal Writing Workshop; the Annual Department Chairs Workshop; AMS Conversation on Non-Academic Employment; and, the AMS Congressional Fellowship Session.

## **Education**

The Directorate of Education and Human Resources (EHR) Division of Graduate Education (DGE) FY 2016 Budget Request is \$295.64 million, a \$22.23 million increase, or 8.1 percent over the FY 2015 estimated budget. The Graduate Research Fellowship (GRF) program Request is \$168.75 million, a 1.2 percent increase over the FY 2015 estimated level, and the National Research Traineeship program Request is \$35.38 million, a 25.2 percent increase.

The EHR Division of Undergraduate Education (DUE) FY 2016 Budget Request is \$268.26 million, a \$40.92 million increase, an 18 percent increase over the FY 2015 estimated budget. The Improving Undergraduate STEM Education (IUSE) program Budget Request is \$120.08 million, a 43 percent increase. The IUSE activity serves as an umbrella for agency-wide investments in undergraduate STEM education. The budget increase for IUSE is for increased focus on research experiences as part of the undergraduate STEM experience.

*Samuel M. Rankin  
Associate Executive Director, Washington Office  
April 2015*

## AMS Graduate Student Chapters

Since November 2014, petitions for eight Student Chapters have been approved:

- Central Michigan University
- Georgia State University
- SUNY New Paltz
- Syracuse University
- University of Georgia
- University of Missouri-Kansas City
- University of Wisconsin-Madison
- Western Kentucky University



This brings the total number of student chapters to 32.



*Celebrating “Epic Pi Day” at the University of Houston, March 14, 2015*

Looking ahead, we are working with the Secretariat to refine the process by which new student chapters are approved. Once the Secretariat has approved a petition, the AMS staff will work with the chapter to develop Rules of Procedure and a budget. Christine Stevens, Diane Boumenot, and Jenny Phothisarath are updating the existing template for the Rules of Procedure, which seemed to confuse many of the student groups, thus causing delays in the launching of their chapters. We hope to have a new process in place for the 2015-2016 academic year.

*T. Christine Stevens  
Associate Executive Director  
April 20, 2015*





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

***Fees for Mathprograms.Org***

The following fees have been approved for 2015/16 MathPrograms.org registrations. Academic institutions and nonprofit and government organizations that seek applications from the mathematical sciences community for programs or funding may create a 12-month account. They may use this account to 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. The site also has a mechanism for turning any program into a nomination procedure (instead of applications).

There are 43 accounts currently in the system, mostly aimed at undergraduate and graduate students, in addition to various AMS programs. REU programs, graduate admissions, and a few institute programs account for the majority of the listings.

The fees will be in effect from July 1, 2015 through June 30, 2016. The growth in the number of accounts (up from 33 last year) makes it appropriate to begin to bring the fees for MathPrograms.org closer to those for MathJobs.org. A one-program fee, however, allows smaller programs to benefit from the service. The service is free to applicants.

<b>MathPrograms.org</b>	<i>Summary of recent and planned fees</i>				
	<i>2011/12</i>	<i>2012/13</i>	<i>2013/14</i>	<i>2014/15</i>	<b><i>2015/16</i></b>
<i>Regular account, up to 7 programs, 12 months from date of sign up</i>	\$500	\$525	\$535	\$540	<b>\$575</b>
<i>Regular account, 1 program, 12 months from date of signup</i>	\$250	\$260	\$270	\$275	<b>\$300</b>

***Fees for Mathjobs.org***

The following fees have been approved for 2015/16 Mathjobs.org employer registrations (from July 1, 2015 through June 30, 2016). The service is free to applicants.

Since July 1, 2014, accounts which accept applications have been available worldwide. Previously, employers outside North America had been limited to posting-only accounts. This expansion has been fairly quiet and manageable, and many of the employers outside the U.S. are still using posting-only accounts. There are currently 628 accounts on MathJobs.org

The fee structure allows for one-ad (but otherwise full service) accounts to be purchased by 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.

**Proposed employer fees:**

Regular account (for up to 7 ads), 12 months from date of sign up	<b>\$610</b>
Regular account (for one ad only), 12 months of usage from date of sign-up	<b>\$415</b>
Upgrade from single-ad account to 7 ad account	<b>\$295</b>
Advertising-only account (for up to 7 ads), 12 months from date of sign up	<b>\$495</b>
Advertising-only account (for one ad), 12 months from date of sign up	<b>\$305</b>

<b>MathJobs.org</b>		<i>Previous fees</i>					
		<i>2009/10</i>	<i>2010/11</i>	<i>2011/12</i>	<i>2012/13</i>	<i>2013/14</i>	<i>2014/15</i>
<i>Regular Account</i>	<i>Up to 7 ads</i>	\$500	\$525	\$550	\$585	\$595	\$600
	<i>1 ad</i>			\$385	\$395	\$405	\$410
<i>Upgrade from 1 to 7 ads</i>						\$290	\$290
<i>Ad-only account</i>	<i>Up to 7 ads</i>			\$440	\$475	\$485	\$490
	<i>1 ad</i>	\$250	\$260	\$275	\$285	\$295	\$300

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

The following fees have been approved for the 2015/16 Employment Information in the Mathematical Sciences.

This electronic job ad system, aimed at a general mathematical audience as well as the Ph.D. 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 it 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.

<b>EIMS</b> <i>Summary of recent and planned fees</i>					
	<i>2011/12</i>	<i>2012/13</i>	<i>2013/14</i>	<i>2014/15</i>	<b><i>2015/16</i></b>
<i>60 day listing, unlimited size</i>	215	220	225	230	<b>235</b>
<i>120 day listing, unlimited size</i>	290	300	305	310	<b>315</b>
<i>180 day listing, unlimited size</i>	365	375	380	390	<b>395</b>
<i>“Featured Job” add-on</i>	75	80	80	85	<b>90</b>

***Fees for the Employment Center***

The employer fees listed in the chart below have been approved for the 2016 Employment Center in Seattle, Washington. Applicants pay no fees but are required to have a meeting badge.

Costs of running this program include space and equipment fees, computer rental fees, utilities onsite, and staff time and travel. Also, a significant fee is paid annually to Duke University Math Department for the customized registration system, which is attached to MathJobs.org.

To make the Employment Center more accommodating to those scheduling last-minute interviews, One Day Tables were offered in 2015. In 2016, employers who register late or onsite will only be offered One Day Tables. This cutoff of full service registrations will help to contain costs.

In 2014, a Skype booth was added for use by registered employers. No extra fees were charged. This feature gained some additional usage in 2015.

Electricity has been a popular offering, but very costly. The time has come when it is better to raise fees across the board and provide electricity to every table. Also, the incremental cost of adding “second” tables has grown substantially, so new prices reflect that.

<b>Employment Center</b>	<i>Summary of recent and planned fees</i>					
	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<b>2016</b>
<i>Quiet Area table (1-2 interviewers)</i>	295	285	310	315	320	<b>340</b>
<i>Second Quiet Area table</i>	105	110	125	130	130	<b>175</b>
<i>Committee table (3-6 interviewers)</i>	400	365	385	390	400	<b>430</b>
<i>Second Committee table</i>	105	110	135	140	145	<b>190</b>
<i>Electricity, per table</i>			50	75	85	<b>FREE</b>
<i>One Day table, available on site, seats 3 interviewers</i>					190	<b>195</b>

***Short Course Fees***

The following chart indicates the history of fees for the Short Course since 2006 and the fees that have been set for 2016.

<b>Year</b>	<b>Name of Course</b>	<b>Preregister-member/non</b>	<b>On-site-member/non</b>	<b>S/U/E-prereg*</b>	<b>S/U/E-onsite*</b>
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	\$100/\$140	\$134/\$170	\$48	\$69
	Evolutionary Game Dynamics	\$100/\$140	\$134/\$170	\$48	\$69
2012	Random Fields and Random Geometry	\$102/\$145	\$136/\$175	\$50	\$71
	Computing with Elliptic Curves using Sage	\$102/\$145	\$136/\$175	\$50	\$71
2013	Random Matrices	\$104/\$150	\$138/\$180	\$52	\$73
2014	Geometry and Topology in Statistical Inference	\$106/\$155	\$140/\$185	\$54	\$75
2015	Finite Frame Theory: A Complete Introduction to Overcompleteness	\$108/\$160	\$142/\$190	\$56	\$77
2016	Rigorous Numerics in Dynamics	\$110/165	\$144/\$195	\$58	\$79

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

*T. Christine Stevens*  
Associate Executive Director  
April 17, 2015



## **Report to the AMS on the Mathematics activities at the 2014 SACNAS conference**

**Prepared by Ricardo Cortez**

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), National Mathematics Societies (AMS, MAA, SIAM), and 8 NSF-funded Mathematics Institutes we continue to sponsor a coordinated effort to both increase and sustain the pipeline of underrepresented mathematicians through a strong presence at the SACNAS conference.

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/sacnas2014-mtg>

The 2014 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.

- **Statistics for Undergraduates** taught by Dr. Rudy Guerra of Rice University. The course will include a discussion of statistical modeling and applications, together with a hands-on data analysis project utilizing R, a statistical software program. Dr. Guerra will also talk about careers in statistics.
- **Self-exciting Point Processes and Their Applications** taught by Dr. Nancy Rodriguez of the University of North Carolina at Chapel Hill. Self-exciting point processes are versatile models that can be used to describe a wide range of systems from criminal activity to number of views of different Youtube videos. In the first part of this mini-course we will introduce these type of models and discuss some of their many applications. In the second part students will have the opportunity to test these models on various data sets. For example, we will try to determine which crimes are the contagious-type and which are not

#### **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.

**Schedule:**

<b>Oct. 15</b>	<b>Presentation</b>	<b>Speaker</b>
1:30 pm	Opportunities at SAMSI	
2:05 pm	New Directions in Mathematical Approaches for Traffic Flow Management	Wenlong Jin
3:00 pm	Schemes for Reconstruction of Evolving Functions via Spatio-temporal Trade-off	Jacqueline Davis
3:35 pm	Studying Brain Networks Via Topological Data Analysis	Leyda Almodovar
4:30 pm	Designing Simulations to Investigate Reactions inside Cells	Marcio Duarte Albasini Mourao
6:00 pm	Reception	
<b>Oct. 16</b>	<b>Presentation</b>	<b>Speaker</b>
8:45 am	Mathematics Helps Strawberries, Teachers, Undergraduates, ...	Ulrica Wilson
9:20 am	Using Topology to Understand Bid Data	Elizabeth Munch
9:55 am	How to go from Digital Circuits to Vaccine Discovery	Clemente Aguilar
10:45 am	Opportunities for early career scientists	Juan Meza & Phil Kutzko
11:45 am	Final Remarks	

**CONFERENCE ACTIVITIES**

Prof. Herbert Medina, Mathematics Department, Loyola Marymount University, received the **2014 Distinguished Undergraduate Institution Mentor Award** “for his dedication to excellence in science, mentoring, and teaching while exemplifying the SACNAS mission.”

**SCIENTIFIC SYMPOSIA**

**Discipline-Based Educational Research: Let’s Do the Math!**

This session is intended for all conference participants interested in knowing more about research in mathematics education that is being conducted in mathematics departments. The speakers will discuss studies that range undergraduate learning in calculus to teachers learning the discipline of mathematics.

**Speakers:**

*Math Teachers’ Circles - Teaching Teachers the Discipline of Mathematics*  
 Diana White, PhD, Associate Professor, University of Colorado at Denver



*Does Experience in Rich Task Design Affect Inservice Mathematics Teachers' Mathematical Problem Solving Definitions?*

James Mendoza Epperson, PhD, Associate Professor, University of Texas at Arlington

*A Length is a Length is a Length: Students' conceptions and definitions of measurable quantities*

Carlos Castillo-Garsow, PhD, Assistant Professor, Eastern Washington University

*Measuring Knowledge: Assessing Undergraduates' Understanding of Calculus Concepts*

Guadalupe Lozano, PhD, Director of Development and Evaluation, School of Mathematical Sciences, University of Arizona

## Young Latinas in Math and Computer Science

Hispanics have been historically underrepresented in the STEM areas and among this minority group, women especially so. In this session, five PhD Latinas will present their research in computer science and mathematics. The talks will be directed to a general audience.

### Speakers:

*Deblurring Images with Mathematical Models*

Malena Español, PhD, Assistant Professor, The University of Akron

*Representation Theory of Lie Algebras; a Connection to Tilings*

Pamela Harris, PhD, Assistant Professor, United States Military Academy

*Individual-Based Modeling in Biology and Political Sciences*

Alicia Prieto Langerica, PhD, Assistant Professor, Youngstown State University

*The Effects of Temperature on Sleep Patterns*

Selenne Garcia-Torres, PhD, Ms. , University of Southern California

*Women In Network And Security Research*

Graciela Perera, PhD, Professor, Northeastern Illinois University

## Algebra: Much More Than Arithmetic!

Algebraists are interested in the study of mathematical structures using a variety of mathematical tools and methods. This session will provide SACNAS participants with general talks on a wide range of research topics in algebra, such as representation theory, combinatorics, graph theory, and number theory.

### Speakers:

*Diagram Algebras*

Rosa Orellana, PhD, Full Professor, Dartmouth College

*Kummer's Conjecture: From Gauss to ENIAC and Beyond*

Edray Goins, PhD, Associate Professor of Mathematics, Purdue University

*Noncommutative Invariant Theory*

Chelsea Walton, PhD, NSF Postdoctoral Fellow, MIT

*The closure of a linear space in a product of lines*

Federico Ardila, PhD, Assistant Professor, San Francisco State University

### Combinatorial Algebraic Geometry

What is the shortest distance between two vertices on a graph? Is there geometry behind phylogenetic trees? What is Tropical Geometry? This session will introduce the amazingly active area of Combinatorial Algebraic Geometry and discuss open problems and applications. Faculty, postdocs, K-12 educators and students of all levels are welcome!

**Speakers:**

*Monomial Schemes and Polygamma Functions*

Paolo Aluffi, PhD, Professor, Florida State University

*Combinatorial Aspects of Tropical Geometry*

Maria Cueto, PhD, NSF Postdoctoral Fellow, Columbia University

*Permutation Polytopes*

Mohamed Omar, PhD, Assistant Professor, Harvey Mudd College

*Oriented Matroids*

Edgard Rincon, PhD, Research Fellow, University of Warwick

### On the Discrete Side of Mathematics

This session highlights different aspects of discrete mathematics; namely, finite algebras, combinatorics, graph theory, prime divisors of sequences, and polynomial dynamics. Although these are typically considered topics in “pure mathematics” and usually developed for their beauty and interesting properties, two speakers will discuss applications to coding theory and information security.

**Speakers:**

*Knot  $p$ -colorability and determinants*

Candice Price, PhD, United States Military Academy – West Point

*Boundary cases of Cusick’s Conjecture*

Luis Medina, PhD, Assistant Professor, University of Puerto Rico, Rio Piedras Campus

*Parking functions and mixed graphs*

Amanda Varela-Ruiz, PhD, Postdoctoral Researcher, Harvey Mudd College

*What is the power of 2 that divides your favorite sequence?*

Victor Moll, PhD, Professor, Tulane University

### Abstract Algebra Research Topics for Undergraduates”

Did you take abstract algebra? Are you wondering what you can do with what you learned? Then you will enjoy this session! Presenters will focus on research topics in abstract algebra

that are accessible at the undergraduate level, which you may undertake as capstone projects or undergraduate honors theses.

**Speakers:**

*Subgroups of a Central Product of Groups*

Dandrielle Lewis, PhD, Assistant Professor, University of Wisconsin-Eau Claire

*Applying the Chinese Remainder Theorem to a Lattice Point Geometry Problem*

Aba Mbirika, PhD, Assistant Professor, University of Wisconsin Eau Claire

*Families of Polynomial Mappings Between Groups*

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

*Projects in Algebra and its Application to Areas in the Natural and Social Sciences*

Roselyn Williams, PhD, Associate Professor, Florida Agricultural and Mechanical University

### Applications of Mathematics in Biology

Mathematics has gained recognition as a useful tool for solving biological problems. In this session, the philosophy of applied mathematics is discussed; this is followed by various examples of applications in ecology, epidemiology, and neuroscience. The presenters are young scientists engaged with interdisciplinary research in the field of mathematical biology.

**Speakers:**

*Applied Mathematics through Philosophy of Science*

Iskra Nunez, PhD, Assistant Professor, The University of Texas-Pan American

*Identifying Important Sources of Stochasticity in Neural Network Dynamics*

Deena Schmidt, PhD, Postdoctoral Scholar, Case Western Reserve University

*Modeling the Impacts of Human-Driven Environmental Hypoxia on Pelagic Fish Species in the Great Lakes*

Paul Hurtado, PhD, Postdoctoral Fellow, MBI: Mathematical Biosciences Institute

*Quantifying the Transmission of Avian Influenza Viruses*

Roberto Saenz, PhD, Research-Professor, University of Colima

### Beauty and the Beast: Our Real Life Relationship with Mathematics

Mathematics is often described as a beautiful language yet a beast to master. This session will showcase pure and applied problems in the mathematical sciences such as predicting disease outbreaks, managing patient care, and arithmetic progressions. The speakers will also discuss how they overcame obstacles to succeed in their fields.

**Speakers:**

*Modeling the Effects of Temperature on Human Sleep Patterns*

Shelby Wilson, PhD, Assistant Professor, Morehouse College

*Modeling disease outbreaks using statistical methods*

Monica Jackson, PhD, Associate Professor, American University

*Coloring the Integers with Rainbow Arithmetic Progressions*  
Michael Young, PhD, Alliance Postdoctoral Fellow, Iowa State University

### **Advancing the Next Generation in STEM: Rethinking K-12 Mathematics Teacher Education in the Era of High Stakes Education**

This session showcases innovative research in mathematics teacher education aimed to advance Latin@ and Native youth toward full representation in STEM. The presenters will discuss the promises and tensions K-12 teachers face in an era of high stakes education (i.e., common core, standardized tests) and implications for mathematics learning.

#### **Speakers:**

*Interest convergence or retrenchment: Culturally responsive mathematics teaching and the common core*

Julia Aguirre, PhD, Associate Professor, University of Washington Tacoma

*Empowering prospective secondary teachers to take ownership: Mathematical modeling as leverage for defining mathematical pathways*

Cynthia Anhalt, PhD, Director, Secondary Mathematics Education Program, University of Arizona

*It takes a village! A collaborative perspective on mathematics education reform*

Sandra Crespo, PhD, Associate Professor, Michigan State University

*When professional development is not enough: Secondary mathematics teaching in an era of high stakes education*

Rochelle Gutierrez, PhD, Professor, University of Illinois at Urbana-Champaign

### **Current Research Trends in Mathematics Education: Issues That Matter**

This session will highlight research in areas of curriculum, assessment, and teacher preparation; the influence of the Common Core State Standards; and future trends in mathematics education inferred from student achievement data. Current transformation efforts in K-16 mathematics education require collaboration among curriculum and assessment developers, mathematicians, and mathematics educators.

#### **Speakers:**

*Prospective teachers' development of questioning skills inspired by authentic mathematical classroom dialogue from videotaped lessons*

Christina Eubanks-Turner, PhD, Assistant Professor, Loyola Marymount University

*Mathematical modeling in the curriculum for teacher preparation: A synergistic research collaboration between a mathematician and a mathematics educator*

Ricardo Cortez, PhD, Professor, Tulane University

*Considerations for the mathematical participation of non-dominant students: Implications for teacher education*

Marta Civil, PhD, Professor, University of North Carolina

*An analysis of national assessment data in mathematics student achievement: How does the data inform the current educational transformation?*

Eduardo Mosqueda, PhD, Assistant Professor, University of California, Santa Cruz

### Have You Seen Statistics...Lately? Wow!

Today, statistics is more relevant than it's ever been. Data are everywhere, hugely abundant and the need for statisticians is enormous. This session highlights some areas of application not commonly associated with statistics—national security, geology and geophysics – as well as a widely recognized application, bioinformatics.

#### Speakers:

*Modeling Data from Glaciers to Understand Temperature Profiles*

Snehalata Huzurbazar, PhD, Deputy Director, Statistical and Applied Mathematical Sciences Institute (SAMSI)

*Machine learning in the quest for the cure to HIV: What can the data tell us?*

Christina Ramirez, PhD, Associate Professor, UCLA

*Statistical Issues in National Security: From Aging Systems to Counterterrorism*

Aparna Huzurbazar, PhD, Research Scientist, Los Alamos National Laboratory

*Statistical Projects in Genomics: From Genes to Systems Biology*

Rudy Guerra, PhD, Professor, William Marsh Rice University

### Mathematical Applications in Physiology

This session showcases applications of mathematics in various aspects of physiology and medicine. The speakers will present mathematical models that are currently being developed and used in research applied to cancer, virtual surgery, lung cilia function and regulatory networks. The multidisciplinary and collaborative aspects of the work will be emphasized.

#### Speakers:

*Mathematical modeling of the mucus barrier in human lungs*

Paula Vasquez, PhD, Assistant Professor, University of South Carolina

*Mathematical modeling of iron metabolism*

Anael Verdugo, PhD, Assistant Professor, California State University, Fullerton

*How much data is needed to uniquely identify a model of a biomolecular network? Data identification for unique model selection*

Brandilyn Stigler, PhD, Assistant Professor, Southern Methodist University

*Mathematical virtual surgery*

Joseph Teran, PhD, Associate Professor, University of California, Los Angeles

## Problems in Algebra and Diophantine Equations

Diophantus of Alexandria is known as one of the fathers of algebra. He wrote *Arithmetica* in the 3rd century AD, the most prominent work on algebra in Greek mathematics. Equations found in this text inspired Fermat to propose his eponymous Last Theorem as well as influencing the development of algebra.

### Speakers:

#### *Amenable and Quasidiagonal Groups*

Jose Lugo, PhD, Assistant Professor, College of Coastal Georgia

#### *What's so Special about Mordell Curves?*

Alejandra Alvarado, PhD, Assistant Professor of Mathematics, Eastern Illinois University

#### *Artin's Conjecture in Multiquadratic Fields*

Maria Stadnik, PhD, Assistant Professor, Birmingham-Southern College

#### *On Diophantine $m$ -tuples*

Alain Togbe, PhD, Professor, Purdue University North Central

## **MENTORING SESSIONS**

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

*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.

### **Conversations with Scientists**

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

### **Mathematics Student Presentations**

At the 2014 SACNAS National Convention there were a total of 1,161 student/postdoc research presenters, including 924 undergraduates, 231 graduate students and 6 postdocs. Of these, 71 presented in the mathematical sciences, including 56 undergraduates, 13 graduate students and 2 postdoctoral researchers. 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

- **Roberto Soto** (University of Iowa) *Universal Deformation Rings and Semihedral Groups*
- **Clara Dominguez-Islas** (University of Washington) *A Fixed-Effects Approach for Precise and Robust Estimation in Meta-Analysis.*

### Mathematics & Statistics Undergraduate Poster Winners

- **Roberto Perez** (University of Puerto Rico, Mayaguez) for *On the Cauchy Initial Value Problem for General Linear Diffusion and Schrodinger Type Equations*
- **Richard Mata** (University of California, Santa Barbara) for *Dipole - Dipole Energy of Two Stable, Non-Linear Agglomerates of Magnetic Particles in Ferrofluid*
- **Cristina Soto-Balderas** (Santa Barbara City College) for *Generating an Algorithm to Construct  $\mathcal{H}$ -Shaped Sequences from Primitive Shapes*
- **Vincent Longo** (College of New Jersey) for *The Abelian Sandpile Group of a Type of Series Parallel Graphs: A Subfamily of Thick Cycle Graphs*
- **Crystal Mackey** (Youngstown State University) for *A Closer Look at  $X_0$  in Leamer  $M$ -oids: Two Generator Case*
- **Alyssa Byrnes** (Tulane University) for  *$P$ -adic Valuations of Polynomials*
- **Oscar Leong** (Swarthmore College) for *Ranks of Graphs in  $Z_2$*

### 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
2013	160	276	San Antonio, TX
2014	127	256	Los Angeles, CA

The total attendance at the 2014 SACNAS conference was over 3,680. 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.

Overall, the 2014 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 for partial registration of the following participants:

	Partial registration
Cynthia Anhalt (Arizona)	\$615.00
Julia Aguirre (Washington, Tacoma)	\$615.00
Ricardo Cortez (Tulane)	\$615.00
Victor Moll (Tulane)	\$615.00
Eduardo Mosqueda (UCSC)	\$615.00
Marta Civil (Arizona)	\$615.00
Christina Eubanks-Turner (Loyola Marymount)	\$615.00
<b>TOTAL</b>	<b>\$4,305.00</b>



## Epsilon Awards to Math Camps 2015

<b>Camp Euclid</b> <i>Euclid Lab</i>	\$5,000
<b>Canada/USA Mathcamp</b> <i>Canada/USA Mathcamp</i>	\$5,000
<b>Governor's Institutes of Vermont</b> <i>Governor's Institutes of Vermont</i>	\$5,000
<b>Hampshire College Summer Studies in Mathematics</b> <i>Hampshire College</i>	\$5,000
<b>Joaquin Bustoz Math-Science Honors Program</b> <i>Arizona State University</i>	\$5,000
<b>KSU Math Circle Summer Camp</b> <i>Kennesaw State University</i>	\$5,000
<b>Mathily</b> <i>Smith College</i>	\$8,250
<b>MathPath</b> <i>Swarthmore College</i>	\$5,000
<b>Mathworks Honors Summer Math Camp</b> <i>Texas State University</i>	\$5,000
<b>Michigan Math and Science Scholars</b> <i>University of Michigan</i>	\$5,000
<b>New York Math Circle High School Summer Program</b> <i>Bard College</i>	\$5,000
<b>Program in Mathematics for Young Scientists</b> <i>Boston University</i>	\$5,000
<b>PROTaSM</b> <i>University of Puerto Rico, Mayaguez Campus</i>	\$5,000

<b>Research Science Institute</b> <i>Center for Excellence in Education</i>	\$5,000
<b>Ross Mathematics Program</b> <i>Ohio State University</i>	\$5,000
<b>Stanford University Mathematics Camp (SUMaC)</b> <i>Stanford University</i>	\$5,000
<b>STEM for Scholars</b> <i>University of South Florida</i>	\$5,000
<b>Summer Institute for Mathematics at UW</b> <i>University of Washington</i>	\$9,500
<b>Summer Mathematics Program for High School Students</b> <i>University of Utah</i>	\$9,500
<b>Summer Program in Mathematical Problem Solving</b> <i>Art of Problem Solving Foundation</i>	\$5,000
<b>TexPREP</b> <i>Texas Tech University</i>	\$8,250
<b>Williams College Math Camp</b> <i>Williams College</i>	\$9,500
<b>Young Scholars Program</b> <i>University of Chicago</i>	\$5,000

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<b>Grand Total</b>	<b>\$135,000</b>
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**To: Executive Committee and Board of Trustees (ECBT) of the AMS**  
**From: Andy Magid, Secretary of AAAS Section A (Mathematics)**  
**Subject: Symposia at the 2015 AAAS Annual Meeting**  
**Date: April 21, 2015**

**Overview:** The 2015 AAAS Annual Meeting was held 12-16 February in San Jose. The theme for the meeting – “Innovations, Information, and Imaging” – focused on transformation across all disciplines of science and technology brought about by rapid progress in organizing, visualizing, and analyzing data. There were a variety of presentation formats, especially symposia (of three or more talks) on themes of contemporary interest, as well as individual topical area lectures and plenary lectures. About 10,000 people registered, 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.

Although mathematicians belong to AAAS for a variety of personal reasons, collectively Section A (Mathematics) sees the promotion of mathematics in the scientific community as a major responsibility. We want scientists to be aware of novel and creative applications of mathematics to science and society, and of those breakthroughs in mathematics significant enough to reach the popular and scientific media.

Arranging for mathematics symposia is part of meeting this responsibility. Because this type of activity -- presentations by mathematicians to a scientific, and therefore quantitatively literate, audience -- is unique to the AAAS meeting, Section A leadership, with the support of the mathematics societies, recruits and nurtures symposium proposals. This process begins with a meeting in January of a committee of the mathematics societies, where topics and organizers are identified, and continues through the Section A February meeting, and subsequent formal and informal consultation.

As a consequence, all symposium proposals developed by this process should be viewed as having the support of Section A. There were three such proposals this year: In keeping with AAAS protocol, the Section A Steering Group chose Small gaps between primes as its officially endorsed proposal, but as explained above all three should be regarded as having the Section's endorsement. And of course we hoped that the merit review of these proposals would justify the Section's opinion.

Also as noted above, these symposia are unique presentations for mathematicians. Likewise, they represent unique opportunities for scientists to experience such presentations by mathematicians, and we are glad that the Program Committee found room for all three on the 2015 meeting program.

Below are summaries of the three symposia that were sponsored this year by section A. 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. Andy Magid, who became section Secretary at the close of the 2014 meeting, wrote all of the reports this year.

### **From Art to Mathematics: A Visual Mode of Communication**

Saturday February 14 2015, 10-1130AM

**Organizer:** George W. Hart, Stony Brook University

Recent years have witnessed an explosion of scholarly activity in which mathematics inspires artists to communicate innovative ideas through artistic channels. This symposium showcases three experts who crosscut between the world of mathematics and technology and the world of the practicing artist. They will present examples of their artwork, explain how each work represents or images a mathematical idea, and discuss the relevance of artistic modes of thought to solving practical problems in communicating science. Speakers:

**Henry Segerman**, *Oklahoma State University*

How To Make Sculptures of 4D Objects

**Andrea Hawksley**, *SAP Labs*

Art from Everyday Materials Inspires Interest in Mathematics

**George W. Hart**, *Stony Brook University*

Creating a Community with Geometric Constructions

This was the most popular of the symposia sponsored by the mathematics section, with the room close to its 120 capacity for most of the session, and with substantial media coverage of the visual character of its presentations.

### **Preparing Researchers for the Quantitative Biology of the Future**

Saturday February 14 2015, 830-11:30Am

**Organizers:** Frederick R. Adler, University of Utah, M. Gregory Forest, University of North Carolina

Advances in quantification of biology and medicine will soon render obsolete researchers and practitioners who are not fluent in quantitative assessment of data and mechanistic understanding of biological and medical systems through modeling and simulation. Stakeholder disciplines include genomics, bioinformatics, molecular and systems biology, medicine, statistics, mathematics, and computer science. Speakers, experts in these areas and in STEM education and evaluation, will address the justifications and challenges for quantitative curricular reform. A final panel discussion will identify national actions in the US to overcome cultural obstacles, share methods, and build consensus.

Moderator: Bruce M. Alberts, *University of California*

Speakers:

**Vicki L. Chandler**, *Gordon and Betty Moore Foundation*

Training Biologically Expert Data Scientists Within Today's Academic Culture

**James P. Keener**, *University of Utah*

Building Effective Collaborations in Quantitative Biology

**Susan R. Singer**, *Carleton College*

Preparing Future Quantitative Biologists

*Jun Liu, Harvard University*

The Merger of Statistical and Mechanistic Models in Biological Research

*Louis J. Gross, University of Tennessee*

Quantitative Education for "Fearless" Life Science Graduate Students

The interdisciplinary nature of this symposium contributed to the attendance, which averaged 80-100 for its 3 hours. That this symposium overlapped with the "Mathematics and Art" symposium was an unfortunate decision on the part of the Program Committee, although attendance at neither seemed to be unduly affected.

### **Bounded Gaps between Prime Numbers: Individual Research vs. Crowdsourcing**

Monday February 16 2015 945-1115AM

Studied since antiquity, our knowledge of prime numbers recently took a giant leap forward.

This leap was accomplished both by the old-school method of an individual quietly working out intricate details and the decidedly new-school paradigm of crowdsourcing. What was not known before had been famously conjectured for centuries: infinitely often there are two primes a bounded distance away from each other. A proof was announced a year ago by Yitang Zhang. It was quickly realized that his proof was correct, and then many people chipped away at Zhang's initial bound of  $7 \times 10^7$ . Now, the bound is down to 246. So should mathematics progress with single researchers plugging away, as did Zhang? Or is crowdsourcing really the wave of the future?

**Organizers:** Carl Pomerance, Dartmouth College, Daniel A. Goldston, San Jose State University  
Speakers:

*Yitang Zhang, University of New Hampshire*

Bounded Gaps Between Primes, Finally!

*Terence Tao, UCLA*

Polymath and Small Gaps Between Primes

*Paul P. Pollack, University of Georgia*

Big Doings from Small Gaps

The Program Committee allows each section to designate a symposium proposal which is guaranteed to be selected for the program; this was Section A's. Occurring, as it did, on the final (Monday) morning of the meeting, the attendance, which 35-60 depending on the time, was smaller than our other two sponsored sessions. The quality of the program, of course, was excellent.



## Report on CDC activities in 2013

Herb Clemens & Lena Koch



Salt Lake City/ Berlin, 30 May 2014

Throughout 2013 the Commission for Developing Countries (CDC) has continued to use the funds it receives from the International Mathematical Union (IMU) to support mathematics research and advanced mathematical teaching in developing countries, guided by the basic principles incorporated into its original charge:

- I. Work with and support local mathematical leadership in developing countries.
- II. Leverage resources through partnering and networking with other organizations with goals compatible with the CDC mandate.
- III. Set clear norms of quality, transparency and accountability.

Guided by these principles, the CDC allocated its funds in 2013 for the following purposes:

### A) Project Support

Under this category CDC supported capacity building projects and programs in mathematics and mathematics education, be they international or local initiatives, in developing countries.

### B) Volunteer Lecturer Program

The goal of this program is to offer universities in the developing world lecturers for intensive 3-4 week courses in mathematics at the advanced undergraduate or master's level.

### C) Library Assistant Scheme

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

### D) Grants for Conferences and Individual Research Travel (IRT) Support

The Conference Support Program gives partial support to conferences organized in developing and economically disadvantaged countries. The Program also supports a few major international conferences occurring in developed countries to enable them to invite mathematicians from

developing counties. The funds are for academic use only (travel or living expenses of invited speakers or participants coming from developing countries).

The Individual Research Support Program supports travel costs for research visits (minimum stay is four weeks) by mathematicians based in developing and economically disadvantaged countries.

### **E) Reports on mathematics research and graduate education in emerging nations**

Various CDC members have been working on three reports about the current state of mathematics in Africa, Asia and Latin America and on opportunities for new initiatives to support mathematical development. The reports will be made available in August 2014.

### **Administrative Costs**

Administrative costs are kept to no more than 10% of the CDC operating budget. Since the CDC Administrator salary and many other administrative expenses were covered by the IMU Secretariat budget, such costs were very low in 2013.

### **New CDC administered programs:**

#### IMU-Simons Travel Fellowship Program

CDC has successfully applied for support from the Simons Foundation in New York, USA and will receive annually the amount of USD 25,000 for 2014-2016 for a grant program called "IMU-Simons Travel Fellowship Program". It has been decided to replace the Individual Research Travel Grant Program from 2014-2016 with the IMU -Simons Travel Fellowship Program. The CDC Grant Selection Committee (GSC) is responsible for this program

Details of the program can be found online:

<http://www.mathunion.org/cdc/grants/simonstravelfellowship/>.

#### Abel Visiting Scholar Program

In 2013 the Niels Henrik Abel Board (Norway) and the CDC launched the "Abel Visiting Scholar Program". The Niels Henrik Abel Board gives an annual grant of USD 15,000 to support mathematicians professionally based in developing countries to visit an international research collaborator for a period of one month. The period is extendable for up to three months in the case of matching support from the host institution. The program is designed for postdoctoral mathematicians in the early stages of their professional careers. It is designed to offer the opportunity for a 'research sabbatical,' a necessary complement to teaching and other academic duties for mathematicians desiring to also sustain a viable research program. The Abel Visiting Scholar Program Selection Committee is responsible for this program.

Details of the program can be found online:

<http://www.mathunion.org/cdc/grants/abel-visiting-scholar-program/>.

*Both program funds (IMU- Simons Travel Fellowship Program and the Abel Visiting Scholar Program) are kept separate from the CDC budget. Therefore both programs are not mentioned in detail in this report.*

### **A) Project Support**

#### Proposal from London Mathematical Society (LMS) regarding the MARM Project

The London Mathematical Society proposed a LMS/CDC partnership to support the continuation of the LMS project: Mentoring African Research in Mathematics (MARM)

<http://www.lms.ac.uk/grants/mentoring-african-research-mathematics>

CDC will support the program for two years with USD 15,000 per year. In 2013 the amount of **EURO 11,686.90** has been donated to MARM.

#### AMMSI 2012/2013 Scholarships

The CDC supported in 2013 the request from AMMSI to support the program with the amount of



**USD 22,000** for the academic year 2012/2013. USD 20,000 will be used for scholarships and USD 2,000 for administration. AMMSI is a network of mathematics centers in sub-Saharan Africa that organizes conferences and workshops, visiting lectureships and an extensive scholarship program for mathematics graduate students doing PhD work on the African continent.

The AMMSI scholarship program currently needs continuous international funding to maintain its vital work of providing the continent with its next generation of mathematical leadership. In 2013 the supported students are from Kenya, Senegal, Ghana, Cameroon and Malawi.

More details can be found on the AMMSI website: <http://www.ammsi.org>.

#### CANP South East Asia, Cambodia

The CDC supported the Capacity and Network Project (CANP) held in Cambodia in October 2013 with **EURO 8,000**. The CANP is a program for teacher educators in developing countries and aims to foster the educational capacity of those people responsible for mathematics teachers, and create sustained and effective regional networks of teachers, mathematics educators and mathematicians, and link them to international support.

#### The European Women in Mathematics (EMW) Network Meeting, Germany

The EMW organized its 16th general meeting at HCM Bonn from 2nd to 6th of September 2013. EWM is a network with several hundreds of members and over 30 coordinators in Europe. The EWM general assembly also took place at this occasion. They received the amount of **EUR 2,063** to invite four mathematicians from developing countries (to cover the expenses and the travel to Bonn, Germany).

#### African Women in Mathematics workshop, South Africa

The CDC supported the second “African Women in Mathematics workshop” which took place at AIMS South Africa from July 17-19, 2013. The workshop was part of an initiative by the African Mathematical Union (AMU) through its « Women in Mathematics Committee » (AMUCWMA) and the International Center for Pure and Applied Mathematics (CIMPA/ICPAM). The workshop was supported with a grant of **EURO 2,259.99**.

#### **Volunteer Lecturer Program (VLP)**

The CDC supported eight lecturers under its Volunteer Lecturer Program.

1. Gonzalo Aranda Pino (Universidad de Málaga, Spain) gave a course in "Real Analysis", as part of the Master of Mathematics program of RUPP (Cambodia) from July 1 - August 3, 2013. All cost were covered by the Niels Henrik Abel Board grant.
2. Raymond Greenwell (Hofstra University, USA) gave a course in “Statistics 1”, as part of the Master of Mathematics program of RUPP (Cambodia) from May 27 – June 22, 2013. All costs were covered by USNCM.
3. Mark Gockenbach (Michigan Technological University, USA) gave a course in “Ordinary Differential Equations”, as part of the Master of Mathematics program of RUPP (Cambodia) from April 29 –May 24, 2013. All costs were covered by USNCM.
4. Dr. Guillermo Antonio Lobos Villagra (Universidad Federal de San Carlos (UFSCar), Brasil) has taught at the Universidad Pedagógica Nacional Francisco Morazán in Tegucigalpa, Honduras from October 13 to November 4, 2013 an introductory course in differential geometry. All cost were covered by the Niels Henrik Abel Board grant.
5. Brigitte Lucquin (Université Pierre et Marie Curie Paris 6, France) gave a course in “Approximation of PDE” as part of the Master of Mathematics program of RUPP (Cambodia) from January 21 to February 15, 2013. All cost were covered by the Niels Henrik Abel Board grant.
6. Rüdiger Müller (WIAS Berlin, Germany) gave a course in "Numerical Methods for Partial

Differential Equations" Dec. 2. - Dec. 21st, 2013 at Urgench State University, Urganch City, Uzbekistan. The Niels Henrik Abel board supported this course with EURO 613.13. All other cost will be covered from the CDC 2014 budget.

7. Christophe Petit (Université catholique de Louvain, Louvain-la-Neuve, Belgium) gave a course in "Cryptography and Computer Security" at the Université de Kinshasa (UNIKIN), Kinshasa, République démocratique du Congo from March 30, – April 14<sup>th</sup> 2013. All cost were covered by the Niels Henrik Abel Board grant.

8. Kasso Okoudjou (University of Maryland, College Park, USA) gave a course on "Harmonic analysis, time-frequency analysis, and wavelets" in Benin, Dangbo and Porto-Novo at IMSP from January 8 - January 24, 2014. All cost were covered by the Niels Henrik Abel Board grant.

## B) Library Assistant Scheme

1. KCA UNIVERSITY in Nairobi received Mathematical Reviews of the American Mathematical Society (1971- 1996) from Prof. Dr. G. Helmbert, Innsbruck, Austria.

## C) Grants for Conferences

During the interval 1 January - 31 December 2013, the Grant Selection Committee of the Commission for Developing Countries received a total of 41 applications for financial support, in the three existing categories:

- (i) Conferences in developing countries<sup>1</sup>
- (ii) Conferences in developed countries<sup>2</sup>
- (iii) Individual research travel support

A total of **31 awards were made**, for a total value of **38,550 Euro**.

- (i) Conferences in developing countries

Support was granted in **23 cases** for conferences taking place in the following developing countries:

Country	Number of Awards	Total value of awards (Euro)
Benin	1	€ 1,000
Colombia	1	€ 2,500
Côte d'Ivoire	1	€ 1,500
Honduras	1	€ 1,125
India	6	€ 7,300
Indonesia	2	€ 2,500
Lebanon	1	€ 1,500
Mongolia	1	€ 1,125
Morocco	3	€ 3,300
Pakistan	2	€ 2,200
Palestine	1	€ 1,000

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

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

Tunisia	1	€	1,500
<b>Total</b>	<b>21</b>	<b>€</b>	<b>28,050</b>

## (ii) Conferences in developed countries

Support was granted in **3 cases** for conferences taking place in the following **developed countries**:

Country	Number of Awards	Total value of awards (Euro)
Argentina	2	€ 3,500
Russia	1	€ 1,800
<b>Total</b>	<b>3</b>	<b>€ 5,300</b>

## (iii) Individual research travel support

**Individual research travel support** was granted in **6 cases**, to mathematicians from

Country	Number of Awards	Total value of awards (Euro)
Belarus	1	€ 700
Madagascar	1	€ 700
Serbia	1	€ 1000
Uzbekistan	3	€ 2,800
<b>Total</b>	<b>6</b>	<b>€ 5,200</b>

The Grants Selection Committee had the amount of **45,419 Euro** available for grants:

Income 2013	
CDC allocation to GSC (former CDE) Grants including the support from the Niels Henrik Abel Board*.	€ 45,000
Unspent funds 2012	€ 419
<b>Total fund available 2013</b>	<b>€ 45,419</b>

\*The Niels Henrik Abel Board supported the CDC Grants program with 21,771.70 €.

## Income vs. Expenses Conference Grants

Income	Expenses
€ 45,419	€ 38,550

**Savings Grants 2013 (will be rolled over to 2014): € 6,869**

**E) Research**Regional Reports

The editors of the regional reports continue to work on them. Additional editing within the regions was done until September 1, 2013. The reports should be approved in final form by August 2014 and made available during the MENAO symposium at the ICM 2014 in Seoul, Korea.

**Administration**CDC Meeting, March 2013, Germany

In 2013 the members of the Commission for Developing Countries met in March in Berlin, Germany at the premises of the IMU Secretariat. Most expenses (Euro 12,799.15) were covered from the IMU

Secretariat, WIAS Berlin funds. The cost for the CDC budget was only EURO 1,390.78. The CDC is very thankful for this generous support and would like to express its sincere thanks to the IMU Secretariat and all staff members for their support of the meeting.



### Further Activities: MENAO

In 2010 the 16th General Assembly of the International Mathematical Union, Bangalore, India, passed a resolution #6, to hold a “donors conference” at the next ICM. At the joint meeting of the CDC and the IMU EC in March 2013, IMU and CDC decided to hold the “Mathematics in Emerging Nations: Achievements and Opportunities” (MENAO) symposium on August 12, 2014 in Seoul, Korea, the day before the opening of ICM 2014. The MENAO symposium will feature personal stories from a variety of mathematicians, country-specific development stories – both from the perspective of mathematicians in developing countries and from the perspective of their international partners – as well as an insight into the state of mathematics in Korea and its influence on economic development.

A subcommittee was set up and started working in 2012. No cost occurred in 2013.

### CDC Budget and Finances 2013

	Category	Year	Total Amount (EURO to Ind.)	
<b>Income</b>				
IMU allocation to CDC for 2013	General Income	2013	73,469.70	
Niels Henrik Abel Grant to CDC for 2013	Special Income	2013	34,567.30	
Japanese Mathematical Society Support (retrospectively for 2012)	Special Income	2013	1,227.96	
Swiss Mathematical Society (retrospectively for 2012)	Special Income	2013	525.39	
Additional allocation from IMU (for 2013 and 2014)*	Special Income	2013	100,000.00	
Returned funds from 2012	Income	2013	42.46	
<b>Total Income 2013 CDC</b>			<b>209,832.81</b>	
<b>Savings from 2012</b>				
2012 Savings GCS	Savings		419.00	
Saving CDC 2012	Savings		61,211.00	
<b>Total funds available for 2013</b>			<b>271,462.81</b>	
<b>Expenditure in 2013**</b>				<b>Account Balance in Euro</b>
CDC allocation to GSC (former CDE)	Grants Program CDC	2013	450,00.00	226,462.81
CDC allocation to GSC (former CDE) unspent funds from 2012	Grants Program CDC	2013	419.00	226,043.81
VLP Brigitte Lucquin	VLP Cambodia	2013	1,315.88	224,727.93
VLP Rüdiger Müller	VLP Uzbekistan	2013	613.13	224,114.80
VLP Guillermo Antonio Lobos Villagra	VLP Honduras	2013	3,341.00	220,773.80

VLP Gonzalo Aranda Pino	VLP Cambodia	2013	3,234.22	217,539.58
VLP Congo Christophe Petit	VLP Congo	2013	1,925.26	215,614.32
VLP Kasso Okoudjou	VLP Benin	2013	2,366.11	213,248.21
AMMSI 2012/2013 Scholarships	Project Support	2013	16,446.00	196,802.21
The European Women in Mathematics Workshop Bonn	Project Support	2013	2,063.00	194,739.21
CANP South East Asia Project Support	Project Support	2013	8,000.00	186,739.21
MARM Support 2013 London Mathematical Society	Project Support		11,686.90	175,052.31
Library assistant scheme Kenya	Library assistant scheme	2013	936.00	174,116.31
Expenses for Regional Reports	Research	2013	7,788.53	166,327.78
CDC meeting Berlin	Administrative Cost	2013	1,390.78	164,937.00
Ragni Piene Travel cost	Administrative Cost	2013	332.48	164,604.52
Account Maintenance Charge and bank transfer fees	Administrative Cost	2013	1,380.35	163,224.17
African Women Mathematician Workshop at AIMS in South Africa	Project Support	2013	2,259.99	160,964.18
Total expenditure in 2013**			<b>110,498.63</b>	504,65.55
				504,65.55
<b>Savings 2013</b>			<b>160,964.18</b>	<b>160,964.18</b>

\* This special grant has to be spent (distributed) until 31.12.2014.

\*\*Partially transferred in 2014.

In 2013 CDC received from IMU a special grant of EURO 100,000.00 that has to be distributed by 31.12.2014. It is planned to meet the deadline and distribute those funds by 31.12.2014. The CDC members will take final decisions after the MENAO symposium in August 2014 in Seoul Korea.

CDC's principal source of 'core' income is an annual grant from the International Mathematical Union (IMU) that receives its financial support from IMU member countries as well a generous grant from the Niels Henrik Abel Board (Norway). CDC is also supported part time by a staff member from the IMU Secretariat (WIAS Berlin). As in the past years CDC received a generous donation from the Swiss Mathematical Society and the Japanese Mathematical Society. In 2013 CDC also received a grant from the IMU Secretariat (WIAS Berlin) to hold a meeting (in March 2013) in Berlin. The IMU Secretariat receives an annual subvention from the IMU Secretariat (WIAS Berlin) host country Germany, to run all its administrative business.

CDC would like to thank IMU, IMU Secretariat at the WIAS Berlin, the Niels Henrik Abel Board, the Swiss Mathematical Society and the Japanese Mathematical Society very much for all the support and collaboration.

CDC would also like to thank the Simons Foundation who has given in 2013 a grant for the new established IMU-Simons Travel Fellowship Program, which has been launched in 2014.

More information about CDC can be found on the website: <http://www.mathunion.org/cdc/>.

We look forward to future collaboration.

Herb Clemens, Secretary for Policy CDC  
Lena Koch, CDC Administrator, IMU Secretariat  
May 2014

### List of GSC Supported Activities in 2013

<b>Country and Kind of Support</b>	<b>Name of Conference or Host Country for Individual Support</b>	<b>Amount of Support EURO</b>
Argentina	<u>CIMPA Research School</u> : 'New methods in Harmonic Analysis, Sparse Representations, Compressed Sensing and Multifractal Analysis'. This event will take place between the 5th and 16th of August, 2013 at the Hotel Dora, in Mar del Plata, Argentina.	1,500
Argentina	The 37th Conference on Stochastic Processes and their Applications. This event will take place in Buenos Aires, Argentina from July 28 - August 01, 2014.	2,000
Benin	<u>CIMPA School Benin 2014</u> on Algebraic Number Theory and Applications Duration: 2014-07-06 - 2014-07-19 to be held at the L'Institut de Mathématiques et de Sciences Physiques (IMSP) in Dangbo, Benin.	1,000
Belarus > China	Yury Muranov (Institution: Grodno State University) research visit to Renmin University of China from: 09/15 – 10/14. 2013	700
Colombia	<u>CIMPA Research School and Workshop</u> on Real Algebraic Geometry. This event will take place July 13 – 26, 2014 in Villa de Leyva, Colombia.	2,500
Côte d'Ivoire	<u>CIMPA Research School</u> on Analysis and Probability Theory, Duration: 2014-03-17 - 2014-03-28.	1,500
Honduras	VI Escuela de Matematica de America Latina y el Caribe (VI EMALCA), Duration: 2013.06.27 – 2013.07.05 to be held in Honduras.	1,125
India	<u>CIMPA Research School</u> on Current Trends in Computational Methods for PDEs, held from 2013-06-24 –until 2013-07-19 at the Institute of Science Bangalore, India.	1500
India	<u>CIMPA Research School</u> on Fourier Analysis of Groups in Combinatorics held from the 18th to 30th November 2013 in Shillong, India.	1,150
India	International Conference & Workshop on Fractals and Wavelets held from 2013-11-09 until 2013-11-16 in Cochin, India.	1,150
India	<u>ICPAM - CIMPA Research School</u> "Generalized Nash Equilibrium Problem, Bilevel Programming and MPEC" to be held in New Delhi, INDIA from 2013-11-25 - 2013-12-06.	1,500
India	Thirteenth Discussion Meeting on Harmonic Analysis, Duration 2013-12-16 - 2013-12-19 held in Kelambakkam, Tamil Nadu, India.	1,000
India	Eighth International Conference and Instructional Workshop on Matrix Analytic Methods in Stochastic Models. Duration: 2014-01-06 - 2014-01-10 and to be held at the National Institute of Technology, Calicut, Kerala, INDIA.	1,000
Indonesia	SEAMS SCHOOL ON NUMBERS, MATRICES AND GRAPHS (INDONESIA) Duration: 2013-11-04 - 2013-11-16.	1,500
Indonesia	<u>CIMPA-INDONESIA Research School</u> in Mathematical and Statistical Methods in Mathematical Imaging held in Indonesia. August 25 – September 5, 2014	1,000
Lebanon	<u>CIMPA Research School</u> in the field of differential geometry entitled « Elliptic problems and applications in geometry» from February 24 to March 6, 2012 at the Lebanon University in Beirut.	1,500
Madagascar> Austria	Fanja Rakotondrajao (Madagascar): Research stay at the University of Vienna from March 10 - June 10, 2013.	700
Mongolia	Conference 'Optimization, Simulation and Control' Duration: 2013-07-01 - 2013-07-04, to be held at National University of Mongolia.	1,125
Morocco	Conference GeToPhyMA-2014: The main focus of this research program will be on the interaction between Geometry, Topology and Mathematical Physics. Marrakesh, Morocco during June 03 and June 06, 2014.	750
Morocco	First Euro-Mediterranean Workshop on Meshless Methods held in MOROCCO during 2013-09-23 and 2013-09-25.	750
Morocco	Workshop (05/05 to 08/05) followed by <u>CIMPA School</u> (09/05 to 17/05) on Nonlinear PDE and Applications.	1,800
Palestine	<u>CIMPA Summer School</u> on Analysis of Random Structures. This event	1,000

	will take place August 18 – 28, 2014 at the University An Najah in Nablus, Palestine	
Pakistan	International Workshop on Discrete Structures (IWODS) to be held 2014-03-05 until 2014-03-07.	1,200
Pakistan	Conference on Symmetries, Differential Equations and Applications (SDEA-II). Duration: 2014-01-27 - 2014-01-30 to be held at the Center for Advanced Mathematics and Physics (CAMP) Islamabad.	1,000
Russia	International Conference "Differential Equations. Function Spaces. Approximation Theory" The conference will be held at the Sobolev Institute of Mathematics in Novosibirsk, August 18-24, 2013.	1,800
Serbia	Conference on Constructive Mathematics: Foundations and Practice to be held in Niš, Serbia, on 24-28 June 2013.	1,500
Serbia > India	Ljubica Velimirovic (Serbia): Research visit from 01.-31.December 2013 at the Department of Pure Mathematics, University of Calcutta, to give lectures for researchers in field of Differential Geometry and prepare joint papers with colleagues and professors.	1,000
Tunisia	<u>CIMPA School</u> (International Centre for Pure and Applied Mathematics) coupled with the biennial conference of the ANR (National Research Agency) under the heading "Lévy Processes and Selfsimilarity." This event will take place in Tunis and Hammamet during October 28 and November 9, 2013.	1,500
Uzbekistan>Slovakia	Gayrat Urazboev, research visit at the Comenius University Bratislava, Department of Mathematical Analysis and Numerical Mathematics in Bratislava, Slovakia from February 8 to March 3, 2014.	1,000
Uzbekistan> Germany	Utkir Rozikov for a visiting position at the Ruhr-University Bochum from July 07 – December 06, 2013.	900
Uzbekistan > Spain	Bakhrom Omirov Institute of Mathematics, National University of Uzbekistan: Research visit to the University of Seville.	900

#### 2.4. IMU Special Development Fund

Contributions to the IMU Special Development Fund.

2013

London Mathematical Society, UK 3,774.00 EUR

#### 2.5. Third-Party Donations (monetary contributions)

2013

American Mathematical Society, US	11,378.14 EUR
ICSU	30,000.00 EUR
Mathematical Society of Japan, Japan	1,037.78 EUR
Niels Henrik Abel Memorial Fund, Norway	47,115.40 EUR
Simons Foundation, US	18,661.74 EUR
Swiss Mathematical Society, Switzerland	525.39 EUR

#### 2.6. IMU Bank accounts

International Mathematical Union, Markgrafenstr. 32, D-10117 Berlin, Germany

Berliner Bank

Niederlassung der Deutsche Bank Privat- und Geschäftskunden AG

Hardenbergstr. 32, D-10623 Berlin, Germany

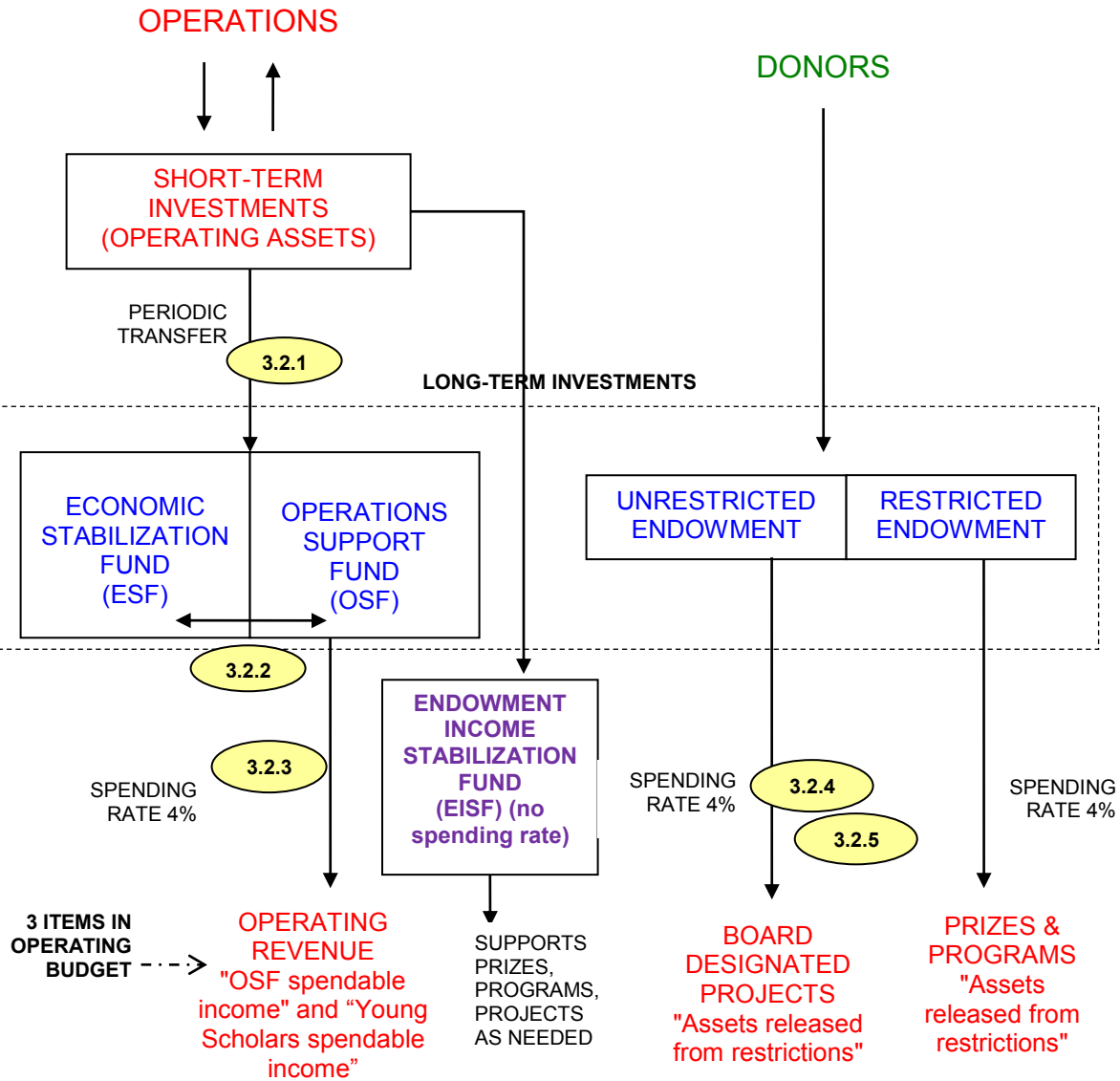
BIC (SWIFT) code: DEUTDEDB110

<u>CHF transfer</u> to account No.:	<u>EUR transfer</u> to account No.:	<u>USD transfer</u> to account No.:
IBAN code:	IBAN code:	IBAN code:
DE58100708480511391501	DE85100708480511391500	DE85100708480511391500



## AMS Long-term Investments Cliffs Notes

(For details, see section D of Fiscal Reports)



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

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

**EISF** = 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:	12/31/14	12/31/13
ESF	\$ 29.4 M	\$25.8 M
OSF	78.4 M	72.2 M
EISF	.5 M	.5 M
Unrestricted	7.9 M	7.4 M
Restricted	6.8 M	6.1 M



**AMERICAN MATHEMATICAL SOCIETY**

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

**Date:** April 17, 2014

**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 2014. Investment earnings results and other pertinent portfolio information for 2014 and the preceding six years are as follows:

	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
Money Market Funds	0.01%	0.01%	0.04%	0.05%	0.16%	1.0%	2.9%
Vanguard Fixed Income Mutual Funds:							
Short Term Corporate Bond Fund	1.86%	1.05%	4.63%	2%	5.3%	14.2%	(4.7%)
GNMA Fund	6.76%	(2.13%)	2.45%	7.8%	7.1%	5.4%	7.3%
Long Term US Treasury Fund	25.37%	(12.94%)	3.56%	29.4%	9.1%	(11.9%)	22.7%
Fidelity Floating Rate Fund (12/04)	2.47%	3.92%	6.81%	1.7%	7.8%	28.9%	(16.5%)
Vanguard Convertible Securities	2.38%	19.46%	14.47%	(6.8%)	19.2%	40.8%	(29.8%)
TIPs (April 2005)						7.4%	(1.3%)
Certificates of Deposit (CD)	0.84%	0.76%	1%	1%	1.3%	2.7%	4.0%
Common Stock	5.0%	14.6%	11.5%	12%	3.0%	23.3%	(24.4%)
Annual total portfolio return	3.35%	2.5%	3.33%	2.2%	4.5%	7.1%	(0.7%)
AMS benchmark – Avg 6 month CD rate per Federal Reserve Bank (Discontinued)	N/A	0.27%	0.44%	0.42%	0.44%	0.8%	3.1%
NEW AMS benchmark -Barclays US 1-5 Year Gov/Cr Bond Index	1.43%	1.32%	2.23%	3.37%			
AMS returns versus CD benchmark	N/A	2.23%	2.89%	1.78%	3.86%	6.3%	(3.8%)
AMS returns versus – Barclays US 1-5 Year Gov/Cr Bond Index	1.92%	1.18%	1.1%	(1.17%)			
Wkly Average Operating Portfolio (in 000's)	\$13,637	\$12,708	\$12,977	\$13,245	\$13,866	\$13,858	\$15,525
Annual Investment Income (in 000's)	\$428	\$263	\$460	\$270	\$626	\$984	(\$105)

At December 31, 2014 operating fund investments equaled \$14,769,094 which is an increase of approximately \$3,554,614 from the previous year. In addition to the operating portfolio investments, there was a decrease in cash available for operations of \$3,702,191 at the end of 2014, due to the removal of cash from the operating account to invest in the operating portfolio.

The return for 2014 was 3.35% for the operating investments as a whole. In the past, the operating portfolio was benchmarked against the average six month Certificate of Deposit (CD) rate per the Federal Reserve Bank. The Federal Reserve is no longer tracking this benchmark. However, the comparison to the average CD rate was not a good benchmark due to the number of mutual fund investments in the operating portfolio. The portfolio is now being benchmarked against the Barclays US 1-5 Year Government/Credit Bond

Index. This new benchmark better reflects the make-up of our portfolio. The returns of the operating portfolio as a whole exceeded this new benchmark by 1.92% in 2014.

The mix of funds in this operating portfolio continues to be an excellent choice due to its diversity. The intermediate or mutual fund portion of the portfolio has experienced a 5.5% return over the past 10 years, which is offset by lower returns from money markets and CD's.

The weekly average balance in the operating portfolio increased in 2014 from \$12,708 in 2013 to \$13,637. In 2013, the average balance was greatly affected by the implementation of Personify and the delays in receiving subscription renewals. In 2014, a greater effort was made to increase the number of CD's in the portfolio, because interest rates increased slightly. This also helped to increase the average balances.

### **History of Authorized Investment Vehicles and Limits.**

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

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

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

### **Recent Portfolio Adjustments.**

Finding suitable banks with higher-than-average rates of returns on certificates of deposits had become increasingly difficult for about four years. However, there was a slight increase in rates in 2014, making them a little more attractive. Accordingly, the

amount invested in certificates of deposit increased from approximately \$950,000 in 2013 to \$1,600,000 in 2014. Money market interest is about as low as it can get at 0.01%.

### **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 1.2 at December 31, 2013, and 1.2 as of December 31, 2014.
3. **Preservation of principal.** Safety is of prime concern in investments of operating capital. Diversifying investment vehicles and monitoring investment maturity dates and market value fluctuations greatly reduces an investment portfolio's exposure to risk. Maximum allowable positions should and have been established for different types of investments.

### **Authorized Investments.**

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

- **Certificates of Deposit.** As in prior years, part of the Society's operating investment portfolio has been invested in certificates of deposit, although it has declined in recent years for the reasons discussed above. The weekly balance in certificates of deposit averaged 9% of the total portfolio during 2013 and 2014, about 12% in 2012, and 16% of the portfolio in 2011.

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

- **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 2014 the balance in money markets was \$4,665,967, or 32% of the entire portfolio, exclusively in Vanguard's Money Market Prime portfolio. Yields on the funds averaged 0.01% in 2014, and will likely not increase significantly anytime soon. There is little risk to principal because the valuation of the initial investment is generally not subject to change because of its short-term duration. Balances in these funds are usually maintained only at levels needed for short-term operating needs in excess of short-term maturities, or for planned investments to be made in the near future (which avoids the administrative costs of 3 month CD's or T-bills), or to take advantage of

rising interest rates, since they generally under-perform alternative authorized investment vehicles.

Issuer	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

- **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 2014 we had \$4,509,743 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.

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

Vanguard High Grade Short-Term Corporate Bond Fund:

Issuer (currently used)	The Vanguard Group
Risk of default	Low, due to quality of underlying debt instruments and borrowers
Risk of market decline investments	Low, due to short duration of underlying
Comments	Share price is usually relatively stable; return is determined by recent interest rates, as underlying debt is short duration
2014 return	1.86%

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.
2014 return	6.76%

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
2014 return	25.37%

- High Yield and Convertible Bond Mutual funds. The Board of Trustees has authorized a maximum investment of 30% of the intermediate-term portfolio investments in any combination of high yield bond and convertible securities accounts.



At December 31, 2014 we had \$2,254,549 or 27% invested in these vehicles, in one convertible securities mutual fund managed by the Vanguard Group. Gains or losses technically are not realized on these funds until they are redeemed, although, for financial statement purposes, the Society records these investments at market.

The initial investment into the fund was \$570,000 in 1998. Also included in the total funds are realized and unrealized gains since 1998. In December 2013, EISF funds of \$249,000 were moved to the convertible securities account in order to invest the funds in the intermediate portfolio.

Issuer (currently used)	The Vanguard Group
Risk of default	Medium to High
Risk of market decline markets	Sensitive to movements in the equity
Maximum Amount	30% of intermediate-term portfolio
Comments	Total returns often parallel those of equity markets
2014 Return	2.38%

- **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 2014 was 2.47%. 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
2014 Return	2.47%

**Summary of Operating Portfolio Investments, December 31, 2014.**

<b><u>Description</u></b>	<b><u>Value at 12/31/14</u></b>	<b><u>Current Board Limit</u></b>	<b><u>Excess over Limit</u></b>
Money Market Funds	<u>\$4,665,988</u>	50% of total portfolio	NA
Certificates of Deposit	<u>1,601,460</u>	\$250,000 per inst.	NA
Treasury Notes		1,500,000	NA
<i>Vanguard Bond Funds:</i>			
GNMA Fund	1,767,470		
Short-Term Corp Bond Fund	1,821,381		
LT US Treasury Fund	<u>920,892</u>		
Subtotal	<u>4,509,743</u>	2,500,000 (1)	NA
<i>High Yield and Convertible Funds:</i>			
Vanguard Convertible	<u>2,254,550</u>		
Subtotal	<u>2,254,550</u>	30% of mutual fund investments	NA
<i>Floating Rate Funds:</i>			
Fidelity Floating Rate High Inc			
Subtotal	<u>1,717,085</u>	2,000,000	NA
Common Stock	<u>\$20,268</u>	Unrestricted gifts	
Total (3)	<u>\$14,769,094</u>		

- (1) Limit is exclusive of reinvested dividends and share price increases. See discussion above.  
(2) The total share of the portfolio owned by the EISF was \$490,634 as of 12/31/14.

# Update on proposals planned or submitted

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## 2015 Summer Institute in Algebraic Geometry

- July 27 – August 13, 2015
- Location: University of Utah
- Proposal to NSF for \$200,000 to \$250,000

During the period 1953 – 1999, the AMS held a series of yearly Summer Research Institutes supported by grants from the National Science Foundation (NSF). Each was a 3-week long institute focused on one (relatively broad) area of mathematics. Typically, the scientific program was arranged by a group of volunteer organizers. The logistics were handled by the AMS Meetings and Conferences Department. The grant provided travel funds for some of the participants, and also covered the expenses of the AMS staff members. Algebraic Geometry was the topic in 1954, 1964, 1974, 1985, and 1995. In 2005, the AMS agreed to continue the tradition of managing a Summer Institute for Algebraic Geometry once every ten years, even though the yearly series had been discontinued. Attendance at these Summer Research Institutes in Algebraic Geometry grew significantly, from 28 in 1954 (which was joint with Several Complex Variables) to 83 (1964), 270 (1974), 310 (1985), 430 (1995) and 518 (2005).

The 2005 Summer Institute was supported in three ways. The grant from the National Science Foundation for the 2005 Summer Institute was \$135,000. Of this, \$103,497.20 was dispersed for participant travel, housing and meal expenses (\$82,572.90 went to junior mathematicians and graduate students). Approximately \$30,000 was used to pay the expenses of AMS staff. The National Security Agency provided \$15,000 (its usual amount of support for an individual conference), and the Clay Foundation reimbursed the expenses of several speakers each week (for a total of around \$20,000).

In January 2012, the Board of Trustees agreed (via email) that the AMS should once again handle the logistics for a Summer Institute in Algebraic Geometry in the summer of 2015. This Summer Institute in Algebraic Geometry will be held on the campus of the University of Utah, on July 13 – 31, 2015. We have received over 900 applications from mathematicians who wish to attend the Summer Institute. We are capping attendance each week at 600 due to limitations of space.

AMS staff members have been working with a group of organizers to make all the arrangements for this event. One of the organizers, Richard Thomas, obtained a grant of \$100,000 from the Clay Mathematics Institute to cover the expenses and honoraria of the plenary speakers, audio-visual expenses for videotaping these talks, and the housing and meals for a group of about 55 young international mathematicians. Another organizer, Tommaso de Fernex of the University of Utah, obtained a grant from the National Security Agency of \$25,000 to cover participant expenses.

The AMS is now holding two grants to help fund the Summer Institute. The Simons Foundation has given us a grant of \$10,000 to fund the travel of 5-6 senior mathematicians who will be seminar organizers and speakers. We submitted a proposal to the National Science Foundation on June 9, 2014, requesting \$248,620. We learned on December 18, 2014, that we were awarded a grant for the full amount of the request. The NSF grant will be used primarily for reimbursing participant expenses, plus the staff time and expenses of the conference coordinator on site. A registration fee will be used to cover coffee breaks, space charges and some additional staff time.

Organizing Committee:

Tommaso de Fernex, University of Utah  
Brendan Hassett, Rice University  
Mircea Mustata, University of Michigan  
Martin Olsson, University of California, Berkeley  
Mihnea Popa, Northwestern University  
Richard Thomas, Imperial College

*Ex officio:*

Nick Woodhouse, Clay Mathematics Institute  
Ellen Maycock, AMS

## **CBMS2015: A Study of Undergraduate Programs in the Mathematical and Statistical Sciences in the United States (submitted)**

- Funding to support the 2015 CBMS Survey and Report
- \$618,000 requested. Revised budget is \$518,574.
- Proposal submitted in March 2014 to the Directorate for Education & Human Resources, National Science Foundation

The proposed project (CBMS2015) carries out a comprehensive stratified random sample survey of the nation's undergraduate mathematical and statistical sciences programs at two-year and four-year institutions in the fall of 2015. A report of the survey findings will be published online in the spring or summer of 2017. The project continues a cross-sectional survey of undergraduate programs that has been done every five years since 1965. The project is coordinated by the Conference Board for the Mathematical Sciences (CBMS) and will be managed by the AMS.

The original budget request was revised to reflect the use of approximately \$105,000 of residual funds available from the NSF grant for CBMS2010. The NSF/DUE program officer is in the process of making a formal funding recommendation. We anticipate receipt of formal award letter very soon.

## **Mathematics Research Communities, 2017-2019**

- Support of Mathematics Research Communities for 2017, 2018 and 2019
- Expected request of approximately \$1,300,000
- Proposal to be submitted to the Infrastructure Program, Division of Mathematical Sciences at NSF

The current funding for the MRCs supports the program through 2016. Informal discussions with NSF about renewal of support have already started. The renewal proposal needs to be submitted in fall 2015 or soon thereafter.

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

## **Joint proposal of the AMS and the National Alliance for Doctoral Studies in the Mathematical Sciences for support of the 2016 *Field of Dreams* conference**

- Expected request of approximately \$150,000
- Likely to be submitted for joint funding by the Education and Human Resources Directorate (DGE and HRD) and Mathematical and Physical Sciences Directorate (DMS) at NSF

The rationale for this proposal is included in the attachment for Item 2E.1. We wish to collaborate with the National Alliance while the Council and Board of Trustees consider the possibility of the AMS becoming an institutional home for the National Alliance. This joint proposal is a modest step in that direction that must be acted on before a final decision about becoming an institutional home can be made. The proposal needs to be submitted in the summer or early fall of 2015.

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

*Donald McClure  
Executive Director  
April 30, 2015*



**American Mathematical Society  
Committee on Science Policy Meeting  
April 14-15, 2015  
Washington, DC**

**Summary**

The Committee on Science Policy (CSP) met over two days with a focus on Capitol Hill meetings between Congressional representatives and meeting attendees to promote mathematics and to urge increased federal funding for the National Science Foundation, specifically a \$7.7 billion budget level for FY2016. In total, the group met with 30 offices. The first day of the meeting was devoted to preparation for Hill meetings. Wednesday was spent making Hill visits.

***Michael Vogelius***

***Director, Division of Mathematical Sciences (DMS)***

***Directorate of Mathematical & Physical Sciences (MPS), National Science Foundation (NSF)***

Michael Vogelius began his presentation with a look at trends in R&D funding over the last 35+ years, recent NSF/MPS divisional budgets and a history of the NSF/MPS-DMS budget. He explained that NSF has been in a flat budget situation and there has been no strong budget growth in recent years.

Vogelius mentioned that the NSF is making an effort to get more Graduate Research Fellowship (GRF) proposals submitted. The AMS has been reaching out to department chairs on GRFs to encourage students to apply. There is a direct connection between number of proposals v. funding and the mathematics community needs to do more to increase the number of proposals submitted. He also mentioned that NSF will be using the Seattle JMM to reach out to undergraduates on this subject.

He also provided information on the institutes that get some level of funding from DMS including Institute for Advanced Study (IAS), IMA, IPAM, American Institute of Math, MSRI, ICERM, SAMSI, MBI – these get most of their funding from NSF.

Vogelius reported that he had been asked by the Society for Industrial and Applied Mathematics (SIAM) to write an article for their newsletter explaining the process for funding the institute program. He would like to submit this article for the Notices as well.

***Mark Marin***

***House Committee on Science, Space and Technology***

***Subcommittees on Energy and Environment***

Mark Marin reported on the America COMPETES Reauthorization Act of 2015 (H.R. 1806). The Bill as would authorize funding for the NSF by Directorate rather than for the agency as a

whole. This is a very controversial aspect of the bill. It would prioritize basic research in the budgets of the Department of Energy (DOE) and NIST as well.

Marin also spoke of House Science Committee Chairman Rep. Lamar Smith (TX-21-R) and his NSF priority areas, which include Mathematical and Physical Sciences (MPS), Computer & Information Science & Engineering (CISE), Biological Sciences (BIO) and Engineering (ENG) for FY2016. NSF Social, Behavioral & Economic Sciences (SBE) and Geosciences (GEO), along with Education & Human Resources (EHR) are not included in the priority list. Smith supports choosing some Directorates for increased investment over what would likely be a flat budget for all.

It was mentioned that the Coalition for National Science Funding (CNSF), among others, has sent a letter to Chairman Smith and members of the House Science Committee opposing funding by Directorate.

***Boris Granovskiy***  
***AMS Congressional Fellow 2014-15***  
***Office of Senator Al Franken (MN)***

Boris Granovskiy and AMS Washington Office Director Sam Rankin presented an orientation for Congressional meetings developed by the AMS Washington Office. Basic information about how to conduct congressional office meetings, the federal budget process, the structure of a Congressional office and insights into Members of Congress and their staffs were presented.

Granovskiy then led the group in preparing for their meetings through role playing. The AMS Washington Office developed the “Ask,” which is a statement of the request of the Member of Congress that was left at each visit, along with other materials. The FY2016 “Ask” was for a \$7.7 billion budget for the National Science Foundation (NSF).

***Constituent Meetings***

On Wednesday, April 15 the group went to Capitol Hill to hold meetings in congressional offices. The AMS Washington Office scheduled meetings for all participants with their respective Congressional representatives. These constituent meetings were conducted in four 2-person teams and one 3-person team.

***Date of Next Meeting***

The 2016 Committee on Science Policy meeting is scheduled for Tuesday, April 12 and Wednesday, April 13, 2016 in Washington, DC.

*Submitted by Anita Benjamin*  
*American Mathematical Society*  
*May 1, 2015*



## Financial Statements

### American Mathematical Society

December 31, 2014 and 2013

# AMERICAN MATHEMATICAL SOCIETY

## *Financial Statements*

### *Table of Contents*

#### *Financial Statements:*

Independent Auditors' Report	1 – 2
Balance Sheets	3
Statements of Activities	4 – 5
Statements of Cash Flows	6
Notes to Financial Statements	7 – 22



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

Attachment 28  
Item 3.0  
Page 3 of 24  
May 2015 AMS ECBT

56 Exchange Terrace ■ Providence, RI 02903  
Tel: 401.626.3200 ■ Fax: 401.626.3201 ■ [www.cbiztofias.com](http://www.cbiztofias.com)

### *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, 2014 and 2013, 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, 2014 and 2013, and the changes in its net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

*Mayer Hoffman McCann P.C.*

May 16, 2015

Providence, Rhode Island

**AMERICAN MATHEMATICAL SOCIETY**

Attachment 28  
Item 3.0  
Page 5 of 24  
May 2015 AMS ECBT

*Balance Sheets*

	<i>December 31,</i>	
	<i>2014</i>	<i>2013</i>
<b>Assets</b>		
Cash	\$ 1,022,196	\$ 4,724,387
Certificates of deposit	1,601,460	951,529
Short-term investments	13,331,743	10,432,357
Accounts receivable, net of allowances of \$294,801 and \$263,224 in 2014 and 2013, respectively	655,752	678,298
Deferred prepublication costs	634,436	555,294
Completed books	1,194,235	1,282,908
Prepaid expenses and deposits	1,507,034	1,213,201
Land, buildings and equipment, net	4,449,507	5,127,278
Long-term investments	<u>126,818,565</u>	<u>115,196,217</u>
<b>Total assets</b>	<b><u>\$ 151,214,928</u></b>	<b><u>\$ 140,161,469</u></b>
<b>Liabilities and Net Assets</b>		
Liabilities:		
Accounts payable and accrued expenses	\$ 3,873,144	\$ 4,006,141
Accrued study leave pay	722,406	685,363
Deferred revenue	11,451,092	11,671,731
Postretirement benefit obligation	<u>7,408,478</u>	<u>6,108,330</u>
<b>Total liabilities</b>	<b><u>23,455,120</u></b>	<b><u>22,471,565</u></b>
Net assets:		
Unrestricted:		
Undesignated	-	1,448,012
Designated	<u>111,171,200</u>	<u>101,007,256</u>
	111,171,200	102,455,268
Temporarily restricted	11,050,480	9,968,645
Permanently restricted	<u>5,538,128</u>	<u>5,265,991</u>
<b>Total net assets</b>	<b><u>127,759,808</u></b>	<b><u>117,689,904</u></b>
<b>Total liabilities and net assets</b>	<b><u>\$ 151,214,928</u></b>	<b><u>\$ 140,161,469</u></b>

**AMERICAN MATHEMATICAL SOCIETY**

*Statements of Activities*

	<i>Years Ended December 31,</i>	
	<b>2014</b>	<b>2013</b>
Changes in unrestricted net assets:		
Operating revenue, including net assets released from restrictions:		
Mathematical Reviews	\$ 11,344,158	\$ 10,868,077
Journals	5,306,814	5,062,348
Books	3,687,814	3,623,632
Dues, services, and outreach	3,893,767	3,839,958
Investment returns appropriated for spending	1,799,700	1,459,970
Other publications-related revenue	631,772	636,881
Grants, prizes and awards	1,592,929	1,233,313
Meetings	1,189,114	1,253,181
Short-term investment income	381,349	262,762
Other	77,375	67,791
	<u>29,904,792</u>	<u>28,307,913</u>
<b>Total operating revenue</b>		
Operating expenses:		
Mathematical Reviews	7,596,576	7,075,759
Journals	1,501,487	1,415,180
Books	3,236,476	3,220,413
Publications indirect	1,418,636	1,168,463
Customer services, warehousing and distribution	1,751,542	1,567,644
Other publications-related expense	157,416	194,186
Membership, services and outreach	4,054,224	4,016,715
Grants, prizes and awards	1,871,237	1,504,294
Meetings	1,154,390	1,254,622
Governance	506,583	553,239
Member and professional services indirect	775,200	740,306
General and administrative	3,989,842	4,317,500
Other	118,363	66,021
	<u>28,131,972</u>	<u>27,094,342</u>
<b>Total operating expenses</b>		
<b>Excess of operating revenue over operating expenses</b>	<b>1,772,820</b>	<b>1,213,571</b>
Nonoperating revenues and expenses:		
Investment returns less investment returns available for spending	8,348,819	16,968,778
Use of board designated funds from Endowment Income		
Stabilization Fund	(6,335)	(31,112)
Use of board designated funds from Retrodigitization Fund	(159,130)	(129,481)
Depreciation of labor for in house software development	(66,701)	(66,701)
Loss on change in paid personal leave policy	-	(935,360)
Postretirement benefit-related changes other than net periodic cost	(1,173,541)	785,425
	<u>8,715,932</u>	<u>17,805,120</u>
<b>Change in unrestricted net assets</b>		

**AMERICAN MATHEMATICAL SOCIETY**

*Statements of Activities (Continued)*

	<i>Years Ended December 31,</i>	
	<i>2014</i>	<i>2013</i>
Changes in temporarily restricted net assets:		
Contributions	\$ 176,795	\$ 1,161,387
Investment returns	1,459,507	2,632,530
Net assets released from restrictions	<u>(554,467)</u>	<u>(608,097)</u>
Change in temporarily restricted net assets	<u>1,081,835</u>	<u>3,185,820</u>
Change in permanently restricted net assets:		
Contributions	<u>272,137</u>	<u>170,000</u>
Change in permanently restricted net assets	<u>272,137</u>	<u>170,000</u>
<b>Change in net assets</b>	<b>10,069,904</b>	<b>21,160,940</b>
Net assets, beginning of year	<u>117,689,904</u>	<u>96,528,964</u>
<b>Net assets, end of year</b>	<b>\$ <u>127,759,808</u></b>	<b>\$ <u>117,689,904</u></b>

**AMERICAN MATHEMATICAL SOCIETY**

*Statements of Cash Flows*

	<i>Years Ended December 31,</i>	
	<b>2014</b>	<b>2013</b>
<b>Cash flows from operating activities:</b>		
Change in net assets	\$ 10,069,904	\$ 21,160,940
Adjustments to reconcile change in net assets to net cash provided by operating activities:		
Depreciation	954,799	766,504
Provision for (recovery from) losses on accounts receivable	31,577	(75,581)
Net realized and unrealized gains on long-term investments	(8,785,695)	(19,313,874)
Net realized gains on short-term investments	(407,479)	(262,762)
Contributions restricted for permanent investment	(272,137)	(170,000)
Loss (gain) on disposal of equipment	15,458	(3,597)
Changes in assets and liabilities:		
Accounts receivable	(9,031)	309,632
Deferred prepublication costs	(79,142)	173,629
Completed books	88,673	101,524
Prepaid expenses and deposits	(293,833)	401,622
Accounts payable and accrued expenses	(95,954)	627,814
Deferred revenue	(220,639)	(704,737)
Postretirement benefit obligation	1,300,148	(548,663)
	<u>1,300,148</u>	<u>(548,663)</u>
<b>Net cash provided by operating activities</b>	<b><u>2,296,649</u></b>	<b><u>2,462,451</u></b>
<b>Cash flows from investing activities:</b>		
Purchases and sales of short-term investments, net	(2,491,907)	3,085,761
Purchases and redemptions of certificates of deposit, net	(649,931)	568,471
Purchases of property and equipment, net	(292,486)	(522,384)
Sales of long-term investments	18,084,786	3,153,656
Purchases of long-term investments	(20,921,439)	(5,287,794)
	<u>(6,270,977)</u>	<u>997,710</u>
<b>Net cash provided by (used in) investing activities</b>	<b><u>(6,270,977)</u></b>	<b><u>997,710</u></b>
<b>Cash flows from financing activities:</b>		
Contributions restricted for permanent investment	272,137	170,000
	<u>272,137</u>	<u>170,000</u>
<b>Net cash provided by financing activities</b>	<b><u>272,137</u></b>	<b><u>170,000</u></b>
<b>Net increase (decrease) in cash</b>	<b>(3,702,191)</b>	<b>3,630,161</b>
Cash at beginning of year	<u>4,724,387</u>	<u>1,094,226</u>
<b>Cash at end of year</b>	<b>\$ <u>1,022,196</u></b>	<b>\$ <u>4,724,387</u></b>



*Notes to Financial Statements**Note 1 - Description of Organization and Summary of Significant Accounting Policies**Description of Organization*

The American Mathematical Society (the "Society") was created in 1888 to further mathematical research and scholarship. It is an international membership organization, currently approximately 27,000 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 disclosures for certain financial instruments, allowances on accounts receivable, releases of donor restrictions, recoverability of deferred publication and completed books costs, useful lives of depreciable assets, deferred revenue, postretirement benefit obligations and accrued paid personal leave.

## AMERICAN MATHEMATICAL SOCIETY

### *Notes to Financial Statements*

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

##### *Operations*

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

##### *Contributions, Gifts and Pledges Receivable*

Contributions are recorded as revenue when received or verifiably promised at estimated fair value. Such amounts are recorded as unrestricted, temporarily restricted, or permanently restricted support depending on the existence and nature of any donor restrictions. Contributions are considered to be available for unrestricted use unless specifically restricted by the donor or grantor. The fair value of promises to give are considered a non-recurring fair value measure. Restricted amounts are reclassified to unrestricted net assets upon satisfaction of the donor restriction. Restrictions related to the acquisition of long-lived assets are considered satisfied at the time the asset is acquired.

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

##### *Cash*

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

##### *Certificates of Deposit*

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

##### *Accounts Receivable*

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

*Notes to Financial Statements**Note 1 - Description of Organization and Summary of Significant Accounting Policies (Continued)**Short-Term and Long-Term Investments*

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

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

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

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

*Fair Value Measurements*

The Society reports investments at fair value on a recurring basis. The framework for measuring fair value provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level I measurements) and the lowest priority to unobservable inputs (Level III measurements). The three levels of the fair value hierarchy are described below:

Level I – Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Society has the ability to access.

Level II – Inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in inactive markets; inputs other than quoted market prices that are observable for the asset or liability; and inputs that are derived principally from or corroborated by observable market data by correlation or other means. If the asset or liability has a specified (contractual) term, the Level II input must be observable for substantially the full term of the asset or liability.

Level III – Inputs to the valuation methodology are unobservable and significant to the fair value measurement.

## AMERICAN MATHEMATICAL SOCIETY

### *Notes to Financial Statements*

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

##### *Fair Value Measurements (Continued)*

The asset or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

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

##### *Deferred Prepublication Costs*

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

##### *Completed Books*

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

##### *Land, Buildings, Equipment and Accumulated Depreciation*

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

<i>Asset Classifications</i>	<i>Estimated Useful Life</i>
Land improvements	10 - 20 years
Buildings and improvements	10 - 35 years
Furniture, equipment and software	3 - 10 years
Transportation equipment	3 - 15 years

*Notes to Financial Statements**Note 1 - Description of Organization and Summary of Significant Accounting Policies (Continued)**Land, Buildings, Equipment and Accumulated Depreciation (Continued)*

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

The Society incurred approximately \$159,000 and \$144,000 in costs for digitization of its backfile of books during the years ended December 31, 2014 and 2013, 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 2015. 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 revenue 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 Organization 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, 2014 and 2013 were \$320,930 and \$306,286, respectively, and are included within membership, services and outreach in the statements of activities.

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

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

	<i>2014</i>	<i>2013</i>
Land and improvements	\$ 422,507	\$ 462,978
Buildings and improvements	7,690,760	7,516,142
Furniture, equipment and software	6,588,420	6,579,857
Transportation equipment	<u>65,625</u>	<u>65,625</u>
	14,767,312	14,624,602
Less accumulated depreciation	<u>(10,317,805)</u>	<u>(9,497,324)</u>
	<u>\$ 4,449,507</u>	<u>\$ 5,127,278</u>

**AMERICAN MATHEMATICAL SOCIETY**

*Notes to Financial Statements*

**Note 3 - Investments**

The following table summarizes the Society's investments as of December 31, 2014 and 2013:

	<b>2014</b>	<b>2013</b>
Fixed income mutual funds	\$ 6,191,591	\$ 5,847,096
Convertible securities mutual fund	2,254,550	2,202,033
Domestic corporate stock	20,269	19,561
Money market mutual funds	<u>4,865,333</u>	<u>2,363,667</u>
Total short-term investments	<u>13,331,743</u>	<u>10,432,357</u>
Fixed income mutual funds	25,104,761	18,896,442
Equity mutual funds:		
Broad U.S. market stock mutual fund	85,474,846	77,981,169
Domestic real estate investment trusts	4,947,069	4,830,042
Non U.S. developed and emerging markets stock mutual fund	<u>11,291,889</u>	<u>13,488,564</u>
Total long-term investments	<u>126,818,565</u>	<u>115,196,217</u>
<b>Total investments</b>	<b><u>\$ 140,150,308</u></b>	<b><u>\$ 125,628,574</u></b>

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

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

**AMERICAN MATHEMATICAL SOCIETY**

*Notes to Financial Statements*

**Note 3 - Investments (Continued)**

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

	<b>2014</b>	<b>2013</b>
Dividends and interest, net of management fees	\$ 2,822,331	\$ 1,747,404
Net realized and unrealized gains	<u>8,785,695</u>	<u>19,313,874</u>
Investment returns	<u>11,608,026</u>	<u>21,061,278</u>
Less investment returns classified as temporarily restricted	<u>(1,459,507)</u>	<u>(2,632,530)</u>
Less investment appropriated for spending:		
Spendable income from Operations Support Fund	(1,776,000)	(1,438,000)
Spendable income from Young Scholars Fund	<u>(23,700)</u>	<u>(21,970)</u>
Sub-total	<u>(1,799,700)</u>	<u>(1,459,970)</u>
<b>Investment returns less investment returns appropriated for spending</b>	<b>\$ <u>8,348,819</u></b>	<b>\$ <u>16,968,778</u></b>

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 2014 or 2013.

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 - 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 \$165,375 and \$12,316 in 2014 and 2013, respectively.



*Notes to Financial Statements*

**Note 5 - Pension and Postretirement Benefits**

The Society has contributory retirement plans (the “Plans”) covering substantially all full-time employees. The Plans are administered by, and related assets are maintained with, Teachers Insurance and Annuity Association and College Retirement Equities Fund. Under the Plans, the Society contributes 9.5% of eligible compensation (with higher amounts for employees earning in excess of the social security second bend point). The Society’s retirement expenses for the Plans totaled approximately \$1,316,405 and \$1,265,368 in 2014 and 2013, 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, 2014 and 2013 consisted of the following components:

	<b>2014</b>	<b>2013</b>
Service cost	\$ 123,856	\$ 166,415
Interest cost	287,931	254,134
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	<u>111,300</u>	<u>198,300</u>
<b>Net postretirement benefit cost</b>	<b>\$ <u>276,829</u></b>	<b>\$ <u>372,591</u></b>

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, 2015 are approximately \$(246,258) and \$166,800, respectively.

**AMERICAN MATHEMATICAL SOCIETY**

*Notes to Financial Statements*

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

The following table reconciles the plan's funded status with the amounts presented in the Society's financial statements at December 31, 2014 and 2013:

	<i>2014</i>	<i>2013</i>
Projected postretirement benefit obligation, beginning of the year (and funded status)	\$ 6,108,330	\$ 6,656,993
Service and interest cost for the year	411,787	420,549
Benefits paid	(212,000)	(131,829)
Actuarial (gain) loss recognized in the year incurred	<u>1,100,361</u>	<u>(837,383)</u>
<b>Projected postretirement benefit obligation, end of year</b>	<b>\$ <u>7,408,478</u></b>	<b>\$ <u>6,108,330</u></b>
<b>Net liability recognized in the balance sheet</b>	<b>\$ <u>7,408,478</u></b>	<b>\$ <u>6,108,330</u></b>

The following table presents additional information relating to the plan for the years ended December 31, 2014 and 2013:

Discount rate	3.8% (2014)	4.7% (2013)
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:

2015	\$ 299,000
2016	322,000
2017	324,000
2018	338,000
2019	363,000
2020 - 2024	2,032,000

*Notes to Financial Statements*

**Note 6 - Designated Unrestricted Net Assets**

The Board of Trustees of the Society has designated components of unrestricted net assets to support certain purposes. All such designated funds within unrestricted net assets are supported by the unrestricted portion of the long-term investment portfolio. The Economic Stabilization Fund is designated to provide support for the Society in future years should an unexpected need arise. The Operations Support Fund is designated to provide current operating support to the Society via use of a 4% spending rate applied to the average of the prior four-year ending values of the fund. The Journal Archive Fund is designated to accumulate funds to support changes that may be necessary for electronic files to be available for future use due to as yet unforeseen technological changes. The Young Scholars Fund was created by the Board of Trustees in 2000 to augment the funds in Epsilon Fund for Young Scholars, a true endowment fund that supports programs for high school mathematics students. 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.

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

	<i>2014</i>	<i>2013</i>
<b>Spending subject to spending policy:</b>		
Operations Support Fund	\$ 78,821,514	\$ 72,202,552
Young Scholars Fund	868,952	812,252
Kathleen Baxter Memorial Fund	263,625	-
<b>Spending subject to Board approval:</b>		
Economic Stabilization Fund	29,007,917	25,840,754
Backfile Digitization Fund	111,389	270,519
Endowment Income Stabilization Fund	490,634	466,598
Journal Archive Fund	<u>1,607,169</u>	<u>1,414,581</u>
<b>Total</b>	<b>\$ <u>111,171,200</u></b>	<b>\$ <u>101,007,256</u></b>

**AMERICAN MATHEMATICAL SOCIETY**

*Notes to Financial Statements*

**Note 7 - Temporarily Restricted Net Assets**

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

	<i>2014</i>	<i>2013</i>
Restricted purpose:		
Prizes and scholarships	\$ 1,156,023	\$ 1,151,639
Lectures and symposia	294,444	185,959
Epsilon awards	97,545	94,369
Graduate student travel program	41,370	34,498
Translation Projects	24,765	24,765
National Mathematical Reviews subscriptions	4,992	5,654
Other miscellaneous	64,755	75,430
Unspent spendable income from unrestricted use true endowment funds	125,851	129,555
Accumulated gains on true endowment gifts	<u>9,240,735</u>	<u>8,266,776</u>
<b>Total</b>	<b>\$ <u>11,050,480</u></b>	<b>\$ <u>9,968,645</u></b>

***Net Assets Released from Restrictions***

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

	<i>2014</i>	<i>2013</i>
Prizes and scholarships	\$ 132,923	\$ 100,605
Lectures and symposia	5,926	9,526
Fellowships	-	62,561
Epsilon awards	66,300	78,030
Book/journal donation project	-	5,011
Graduate student travel	93,128	100,783
National Mathematics Game	23,834	23,785
National Mathematical Reviews subscriptions	8,700	8,300
Other miscellaneous	2,552	14,075
Releases from unrestricted use true endowment funds	<u>221,104</u>	<u>205,421</u>
<b>Total</b>	<b>\$ <u>554,467</u></b>	<b>\$ <u>608,097</u></b>

*Notes to Financial Statements*

**Note 8 - Permanently Restricted Net Assets**

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

These endowments consisted of the following at December 31:

	<b>2014</b>	<b>2013</b>
Endowment without donor designation on use of income	\$ 1,574,376	\$ 1,572,430
Endowment with donor designation on use of income:		
Prizes	1,078,274	926,524
Scholarships and fellowships	257,213	257,213
Symposia and lectures	285,212	270,000
China collaboration	366,757	366,757
Epsilon Fund for Young Scholars	<u>1,976,296</u>	<u>1,873,067</u>
	<b><u>\$ 5,538,128</u></b>	<b><u>\$ 5,265,991</u></b>

**Note 9 - Endowment**

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

**AMERICAN MATHEMATICAL SOCIETY**

*Notes to Financial Statements*

**Note 9 - Endowment (Continued)**

The following table summarizes the changes in endowment net assets for the year ended December 31, 2014:

	<i>Unrestricted</i>	<i>Temporarily Restricted</i>	<i>Permanently Restricted</i>	<i>Total</i>
Endowment net assets, January 1, 2014	\$ 101,007,256	\$ 8,266,776	\$ 5,265,991	\$ 114,540,023
Donor-restricted contributions	-	-	272,137	272,137
Investment income	10,148,519	1,365,259	-	11,513,778
Release of endowment net asset restrictions	(1,965,165)	(391,300)	-	(2,356,465)
Additions from operations	<u>1,980,590</u>	<u>-</u>	<u>-</u>	<u>1,980,590</u>
<b>Endowment net assets, December 31, 2014</b>	<b>\$ <u>111,171,200</u></b>	<b>\$ <u>9,240,735</u></b>	<b>\$ <u>5,538,128</u></b>	<b>\$ <u>125,950,063</u></b>

The following table summarizes the changes in endowment net assets for the year ended December 31, 2013:

	<i>Unrestricted</i>	<i>Temporarily Restricted</i>	<i>Permanently Restricted</i>	<i>Total</i>
Endowment net assets, January 1, 2013	\$ 82,388,405	\$ 6,107,887	\$ 5,095,991	\$ 93,592,283
Donor-restricted contributions	-	-	170,000	170,000
Investment income	18,428,748	2,516,889	-	20,945,637
Release of endowment net asset restrictions	(1,620,563)	(358,000)	-	(1,978,563)
Additions from operations	<u>1,810,666</u>	<u>-</u>	<u>-</u>	<u>1,810,666</u>
<b>Endowment net assets, December 31, 2013</b>	<b>\$ <u>101,007,256</u></b>	<b>\$ <u>8,266,776</u></b>	<b>\$ <u>5,265,991</u></b>	<b>\$ <u>114,540,023</u></b>

*Notes to Financial Statements**Note 9 - Endowment (Continued)**Interpretation of Relevant Law*

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

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

*Funds with Deficiencies*

From time to time, the fair value of assets associated with individual donor-restricted endowment funds may fall below the level that the donor or the Act requires the Society to retain as a fund of perpetual duration. There were no deficiencies of this nature in 2014 or 2013.

*Return Objectives and Risk Parameters*

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

*Strategies Employed for Achieving Objectives*

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

## AMERICAN MATHEMATICAL SOCIETY

### *Notes to Financial Statements*

#### ***Note 9 - Endowment (Continued)***

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

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

#### ***Note 10 - Leases***

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

#### ***Note 11 - Loss on Change in Leave Policy***

In 2013, the Board of Trustees adopted changes to the Society's Paid Personal Leave ("PPL") policy. Under the changed policy, employees may be eligible to receive payment for up to 50 days of accrued PPL upon termination of their employment at any time of the year. Prior to the change in policy, employees could receive a payout of accrued leave of up to 50 days less any PPL taken during the calendar year. The Society recorded a liability for accrued PPL of \$1,463,071 and \$1,496,839 for December 31, 2014 and 2013, respectively, which is included in accounts payable and accrued expenses. A loss of \$935,360 was recorded in 2013 on the statements of activities representing the effect of the change in how the benefit is determined.

#### ***Note 12 - Subsequent Events***

The Society has evaluated subsequent events through May 16, 2015, the date on which the financial statements were available to be issued. There were no subsequent events to be disclosed based on this evaluation.